

Response to Comments

on the Draft Environmental Impact Statement (DEIS), Revised DEIS (RDEIS), and HCP Amendment

Introduction

In December 2016, the U.S. Fish and Wildlife Service (USFWS) and the Department of Natural Resources (DNR), also referred to as the Joint Agencies, released the Draft Environmental Impact Statement (DEIS) for the marbled murrelet long-term conservation strategy. During the 90-day comment period following release of the DEIS, the Joint Agencies received over 5,000 individual comments. Based in part on comments received, the Joint Agencies decided to develop a revised draft EIS (RDEIS) instead of proceeding directly to a final EIS (FEIS). The RDEIS included two new alternatives as well as new and updated environmental analysis.

In September 2018, the Joint Agencies released the RDEIS and draft amendment to the *Habitat Conservation Plan* (1997 HCP) as separate documents. During the comment period, which was extended to 90 days (ending on December 6), the Joint Agencies received over 4,300 comment letters on these documents.

Following an initial review of the comments on both documents, the Joint Agencies developed brief summaries of the comments received. In many cases, the Joint Agencies combined similar or identical comments from different individuals into a single comment summary. The Joint Agencies then wrote responses to each comment summary.

In the following document, comment summaries on the DEIS, RDEIS, and HCP amendment are presented separately. Comments are organized first by subject, then by topic. Each commenter was assigned a number.

The comment responses provided the Joint Agencies an opportunity to further explain their management approach, analysis methods, and policies. These responses should help readers deepen their understanding of the long-term conservation strategy.

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Acronyms

DEIS	Draft environmental impact statement
DNR	Washington State Department of Natural Resources
EIS	Environmental impact statement
FEIS	Final environmental impact statement
GIS	Geographic information system
1997 HCP	State Trust Lands Habitat Conservation Plan
NEPA	National Environmental Policy Act
OESF	Olympic Experimental State Forest HCP Planning Unit
RDEIS	Revised draft environmental impact statement
SEPA	State environmental policy act
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WDFW	Washington State Department of Fish and Wildlife

Terms

Interim strategy	Marbled Murrelet Interim Conservation Strategy
Joint Agencies	DNR and USFWS

List of Commenters

1	Joe Wright	44	Henry
2	Jean Public	45	Jane Vanderhoof
3	Courtenay Schurman	46	Jane Vanderhoof
4	David G. Olsen	47	Bill Richards
5	Suzanne Cunliffe	48	Dennis Bahr
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9	Sharon Ellard	51	Mike Mahaffa
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20	anonymous	62	Andrea Saunders
21	Timothy Manns	63	Kristi Nakata
22	Cam Field	64	Rachel Lindberg
23	John Comstock	65	Sylvia Platt
24	Ann Seiter	66	Eileen McCabe
25	Rod Fleck	67	Pam Borso
26	Rose Marshall	68	Raymond Litzsinger
27	Bill Simpson	69	Claudia Srok
28	anonymous	70	Gail Leeds
29	John Comstock	71	Gail Leeds
30	Phyllis Dolph	72	Sunny Thompson
31	Alan Richards and Ann Musche	73	Jan Rising
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33	Fayette Krause	75	Stephanie Lambert
34	Jean Trent	76	Joline Bennendorf
35	Rich and Sandi Tomlinson	77	Janet Hersey
36	Barbara Johnson	78	Bob Carson
37	Joel Mulder	79	Blaine Snow
38	Dan McDougall-Treacy	80	Devin McMahon
39	April Atwood	81	Shawna Leader
40	Jim Powell	82	Gregory Monahan
41	Pam Drago	83	Susan Kane
42	Mark Dale	84	Beth Burrows
43	Diane Eileen	85	Daniel Weise
		86	Suzanne Thompson

DEIS COMMENT RESPONSES

87	Stephanie Britten	134	Martin Hall
88	Christine McCluskey	135	James Fiero
89	Pam Timmons	136	Claudia Monteiro Canty
90	Sigrid Asmus	137	Amandalei Bennett
91	Pauline Sexton	138	Jana Perinchief
92	Kenneth Hopkins	139	Sharon Sneddon
93	Dana Ward	140	Susan Gilliand
94	Nan B. Grayston	141	Derek Gendvil
95	Nancy Jacobs	142	Mark Blitzer
96	Edwina Nuccio	143	Janis Burger
97	Colleen Hinton	144	Diane Kastel
98	Morty Cohen	145	Jody Green
99	James Wesley	146	Lisa Conley
100	Jill Ericsson	147	Craig Zora
101	Lois Johnston	148	Catherine Jaramillo
102	Priscilla Martinez	149	Barbara Robinson
103	Tracy Feldman	150	Katy Pierini
104	Sandra King	151	Melody Mayer
105	Sara Bhakti	152	Anthony Byrne
106	Susan Clark	153	Paul Franzmann
107	Barbara Petersen	154	Kayoko Stone
108	Jennifer Kauffman	155	Mary Sinker
109	Peter Golde	156	Karen Hempler
110	Beth Golde	157	Jana Beeman
111	Ava Golde	158	Manuela Winter
112	Emily Walker	159	Valery Wilfdflowery
113	John Tuxill	160	Dennis Wingle
114	Emma Ruggiero	161	Anne Kilgannon
115	Diane Boteler	163	Diane Kastel
116	Eric Golde	162	John Atkins
117	Chris Golde	164	Lynn Williams
118	Mary Bicknell	165	Diane Kastel
119	Manuela Winter	166	William Scheidt
120	C. William Bailey	167	John Rowe
121	Wendy Visconty	168	Pacific Seabird Group
122	Don and Lynda Potter	169	Cheryl Mitchell
123	Jean Hedrick	170	Melodie Martin
124	Hellmut Golde	171	Andrew Emlen
125	Sandy Lynch	172	Kevin Jones
126	Martin Kushmerick	173	Livia Jackson
127	Krister Eide	174	American Bird Conservancy
128	Fernette Eide	175	Mount Baker School District
129	Rebecca Herzfeld	176	Delwin Holland
130	Ruth Allen	177	Center for Biological Diversity
131	Mike Volmut	178	Tina Cohen
132	Mike Volmut	179	Denise Jones
133	Martha Hall	180	Susan Jones

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181	Pilchuck Audubon Society	228	The Lands Council
182	Bonnie Heimbigner	229	Pamela Kuhtz
183	Whitney-Bear Bradsher	230	Paul Galant
184	Robert Phreaner	231	Michael and Carlyn Roedell
185	Rosemary Courtright	232	Burlington-Edison Public Schools
186	Michelle Amicucci	233	Andrea Clarke
187	JJ Lindsey	234	Gwendolyn Glass
188	Kathryn Jeffers	235	Christian Martin
189	M. Zukerberg	236	Sally Nole
190	Nicholas Kohnen	237	SadieMay Hoktza
191	Manela Mistry	238	Janet Bird
192	Jodi Backlund	239	Melody J Mayer
193	Tushaun Vony	240	Kathleen O'Shaunessy
194	William Scheidt	241	Manek Mistry
195	Elizabeth Heu	242	Shane Clarke
196	Robert Jeffers	243	Erin Moore
197	Willa Jeffers	244	Cathy Maxwell
198	Janet Strong	245	Carolyn Loren
199	Joe Kane	246	Jean Avery
200	Misty Marek	247	Sally W. Soest
201	Timm Tripp	248	Glenn Riley
202	J Trent	249	Holly G. Graham
203	Querido Galdo	250	Elise Murowchick
204	Tara Leigh	251	Nancy Slocum
205	Jennifer Pittman	252	Celeste Bennet
206	Charles Nafziger	253	Lois Ward
207	Bob and Bonnie Jacobs	254	Stuart Niven
208	Elaine Becker	255	Jean Olson
209	Daniel Stahler	256	Polly Taylor
210	Thad Curtz	257	Michael Strenski
211	Kirk Francis	258	Charles Raymond
212	Susan Digby	259	Kay Van Coevern
213	Peter Loft	260	Maradel Gale
214	John Pauli	261	Joyce Weir
215	Yovonne Autrey-Schell	262	Judith Leconte
216	Linda Murtfeldt	263	Jena Gilman
217	Jack Stewart	264	Gail Jordan
218	Diane Kastel	265	Paprika Fahrenwald
219	Dean Dougherty	266	Eir Cheeka
220	Ralph Timberlake	267	Pat Long
221	Ron Sikes	268	Cheryl Mitchell
222	Peggy J Printz	269	Julie Littlejohn
223	Joe Kane	270	Earth Ministry
224	Susan Thompson	271	Michelle Perez
225	Barbara Orcutt	272	Margaret Kihara
226	Sedro-Woolley School District	273	Carol Eckert
227	Alice Flegel	274	Lizzie Zemke

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275	Jamie K Donaldson	317	Will Miller
276	Janet Strong	318	Arthur (R.D.) Grunbaum
277	Anne Mills	319	Linda Murtfeldt
278	Diane Bachen	320	Leslie Seaton
279	Pam Cahn	321	Tim McNulty
280	Janis Burger	322	Regan Weeks
281	Bert Paul and Martha Paul	323	Art Wang
282	Cathy Brandt	324	Bryony Angell
283	Sally Vogel	325	Greb Goboney
284	Robert Wadsworth	326	Michael Anderson
285	Corinne Peace	327	Matty Whyte
286	Whitney Neufeld-Kaiser	328	Janet Marx
287	Harriet M Cody and Harvey Sadis	329	Mike Ruth
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291	Pat Pearson	333	Kit Rawson
292	Pat Milliren	334	Morry Brown
293	Jeff Reidhead	335	April McMorris
294	Stephen Curry	336	Donald and Linda Lee Parks
295	Ed Bowlby	337	Christine Crubaugh
296	Garrilynn Harvey	338	Judy Heydrick
297	Suzann Daley	339	STEVEN Macdonald
298	Kristin Johnson-Waggoner	340	WDFW
299	Robert Michael Pyle	341	Black Hills Audubon Society
300	Beth Stroh-Stern	342	WildEarth Guardians
301	Cindy Levy	343	Skagit Audubon Society
302	Rae Deane Leatham	344	EarthShare
303	Cheryl Martin	345	Linda Irvine
304	Cathy Maxwell	346	Peggy Bruton
305	Amy Mower	347	Carol Lichtenberg
306	Whidbey Audubon Society	348	Joyce Volmut
307	Kitsap Audubon Society	349	Adrienne Ross
308	National Parks Conservation Association	350	Jessica McDougall
309	Tahoma Audubon Society	351	Anna Hoffman
310	Port Angeles Regional Chamber of Commerce	352	Kevin Orme
311	Wahkiakum County Commissioners (2)	353	Mary Metz
312	Sky Valley Chamber of Commerce	354	Judith Herrigel
313	Board of Clallam County Commissioners	355	Jeanelle Richardson
314	Diana Martin	356	Courtney Straight
315	Tammy Dziadek	357	Judith Oliver
316	Leah Brown	358	Laurel Schandelmier
		359	Jennifer Keller
		360	Andy Zahn
		361	Mark DeLaurier
		362	Hank Henry
		363	Tracy Tardiff

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364	Richard Ellison	408	Elizabeth Johnson
365	Laurel Jones	409	Joe Monks
366	Sue Danver	410	City of Forks
367	Mary Ferm	411	Tom Parks
368	Allie Denzler	412	Spencer Espinoza
369	Robert and Ellen Sieh	413	Harvey W Scott
370	David Gladstone	414	WSSDA – Washington State
371	Brad Kahn		School Directors Association
372	Julia Bent	415	Wahkiakum County
373	Radha Newsom		Commissioners (3)
374	Alice Zelman	416	Hampton Tree Farms
375	Thom Peters	417	Skagit County Board of
376	Virginia H Davidson		Commissioners
377	Erin Gray	418	Murphy
378	Aven Frey	419	Washington Contract Loggers
378	Meaghan Tracy		Association, Inc
380	Kelsey McComas	420	Washington Hardwoods
381	Keiko Budich		Commission
382	Serena Larkin	421	Washington State Association of
383	Blaine Snow		Counties
384	Peter von Christierson	422	Paul Wagner
385	Kathryn Paulson	423	Erik Peterson
386	Dorian Marie Overhus	424	North Olympic Timber Action
387	John Murtfeldt		Committee
388	Susan Markey	425	Skamania County Board of
389	Emily Runnion, Melissa Riley,		Commissioners
	Nicole Ruiz	426	USEPA
390	Brendan McGarry	427	Mary Grafious
391	Chris Karrenberg	428	O. Zoomks
392	Laura Parks	429	John Hopp
393	Sierra Pacific Industries	430	Betty (unreadable)
394	Michael Johnson	431	Martha Paul
395	Washington State School	432	M.D. Ruth
	Directors Association	433	M.D. Ruth
396	Kay Ahlburg	434	Bert Paul and Martha Paul
397	Interfor	435	The Mountaineers
398	Paul Kriegel	436	Thomas Crubaugh
399	Bruce Paul	437	Seattle Audubon
400	Charles L Isaacson	438	Maria Ruth
401	Cinny Burrell	439	Toby Thaler
402	Bill Volmut	440	Brian Wyberg
403	Port of Port Angeles	441	Georgeanne Spates
404	American Forest Resource	442	Sharon L Moore
	Council	443	Anne Mills
405	Ronald Baker	444	Kelly (unreadable)
406	Sultan School District No. 311	445	James A Sundberg
407	Hans Richard Weiss II	446	Jakelyn Hackett

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447	Ruth Windhover	493	Baker to Bellingham Recreation Committee
448	Linda Kunze		
449	Bonnie Shorin	494	Mark Volmut
450	William Yates	495	Laura Hurtado-Webb
451	David L. Wienecke	496	Conservation Congress
452	Bria Hedahl	497	Jo Yount
453	Jennifer Keller	498	Carol Lichtenberg
454	Sean Pender	499	Dave Woodruff
455	William A Recher	500	Olympic Forest Coalition
456	Vanessa E Lopez	501	Washington Forest Law Center
457	Willapa Hills Audubon Society	502	Washington Forest Law Center
458	ConSensation	503	Marbled Murrelet Coalition
459	Jim Hackman	504-1,032	American Bird Conservancy Form Letters
460	Susan Parr		
461	Northwest Watershed Institute	1,033-5,226	Form letters and postcards from Defenders of Wildlife, Audubon Society, and others
462	Samuel Merrill		
463	Kirsten Taeuber		
464	Jack Karrenberg		
465	Enid Phraener		
466	Dave Werntz		
467	Mike Doherty		
468	Dianna Sarto		
469	Phyllis Farrell		
470	Noah Hoffman		
471	Nadine Youssef-Hatch		
472	Skagit Land Trust		
473	Robert Phreaner		
474	Jack Seifert		
475	Thomas Crubaugh		
476	Olympic Peninsula Audubon Society		
477	Sierra Club- WA State Chapter		
478	Arianne Jaco		
479	Coleman Byrnes		
480	May Rathbone		
481	Wanda Browne		
482	Bruce York		
483	Marian Mehegan		
484	Leigh Hiura		
485	City of Sultan		
486	M.D. Ruth		
487	Stephen M Amy		
488	Bob McCarty		
489	Derek Silver		
490	Snohomish County PUD No. 1		
491	Curt Miller		
492	Lois Ward		

DEIS Comment Responses

■ Topic: General

Subtopic: General support for marbled murrelet conservation

► COMMENT

Several commenters expressed general support for marbled murrelet conservation with a long-term conservation strategy, without expressing preference for a particular alternative or providing specific critique of the DEIS. Many cited general concern with ongoing marbled murrelet population decline (refer to topic “Marbled Murrelet Population Decline”) and loss of murrelet habitat.

DEIS Commenters

2, 4, 6, 230, 231, 316, 326, 327, 330, 346, 347, 427, 480, 481, 489, 492, 498

Response

Thank you for your comment.

■ Topic: Alternatives

Subtopic: Range of alternatives

► COMMENT

Commenter says that the Joint Agencies failed to consider all reasonable alternatives as required by NEPA, and must eliminate Alternative B and analyze the conservation alternative.

DEIS Commenters

175, 311, 317, 393, 395, 403, 414, 417, 421, 422, 503

Response

The Joint Agencies maintain that the DEIS, RDEIS, and FEIS all include a reasonable range of alternatives that were screened for their potential ability to meet the need and purpose for the action as described in Chapter 2 (the Joint Agencies’ need and purpose statements in the DEIS were separated by agency for the RDEIS; no changes were made to these statements for the FEIS). This chapter also includes a discussion of alternatives that were considered but not analyzed in detail.

Subtopic: Support for the no action alternative (Alternative A).

► COMMENT

A few commenters called for no action or support Alternative A, citing adequacy of existing protections and the economic impacts to schools and other beneficiaries from the action alternatives.

DEIS Commenters

1, 28, 406, 485

Response

Alternative A represents the interim conservation strategy (interim strategy) for the marbled murrelet. DNR is required by the 1997 HCP to replace the interim strategy with a long-term conservation strategy that is based on scientific findings that reflect a better understanding of marbled murrelet ecology and conservation. The long-term conservation strategy will guide management activities and identify lands for conservation that better provide long-term habitat benefits for the marbled murrelet. Approving a long-term conservation strategy will provide more certainty on protecting strategically located marbled murrelet habitat, as well as ensure sustainable management of state trust lands. Further delay could have consequences for DNR's compliance with federal permits under the 1997 HCP and impact DNR's ability to meet its trust obligations.

Subtopic: Support for Alternative B

► COMMENT

Many commenters expressed specific support for Alternative B, including several school districts and associations, counties, cities, and several industries and individuals. Several commenters note that Alternative B is the only alternative that meets the trust mandate as well as Endangered Species Act criteria. School districts and associations cited specific concerns with school funding, with one commenter noting that Alternative B is the only option that would not require compensation from the general fund.

DEIS Commenters

22, 175, 226, 232, 310, 311, 312, 313, 314, 317, 392- 400, 403, 404, 405, 407-422, 428-430

Response

The impacts of the long-term conservation strategy on the trusts are evaluated in Section 4.11 of the FEIS, "Socioeconomics." Refer to Section 2.4, "Comparing the Alternatives," for a discussion on the major components of each alternative. Section 2.4 includes a discussion on how the alternatives address DNR's objectives for the proposal, including the trust mandate and Endangered Species Act compliance.

Subtopic: Clarify description of Alternative C

► COMMENT

The commenter indicates that the summary of Alternative C on page 2-34 of the DEIS notes that "other high-quality habitat patches" are included in the alternative. However, the bullets say that all current habitat is conserved.

DEIS Commenter

410

Response

The bullet cited in this comment letter appears beneath the sentence "Within each of the nine emphasis areas..." indicating that all current marbled murrelet habitat (forest stands that have a P-stage value of at least 0.25) *within emphasis areas* will be conserved. Outside emphasis areas, patches of marbled murrelet habitat with a P-stage value of 0.47 or greater also will be conserved.

Subtopic: Support for alternatives C, E, or F

► COMMENT

One commenter felt that alternatives C and E were best.

DEIS Commenter

495

Response

Thank you for your comment.

► COMMENT

One commenter called for implementing C and F with no harvest of potential habitat.

DEIS Commenter

98

Response

Thank you for your comment.

Subtopic: Support for Alternative E or modified Alternative E

▶ COMMENT

A few commenters supported Alternative E due to its protection of all high-quality habitat. One commenter noted that additional work is needed to build a public/private partnership to conserve habitat on private timber lands. Some commenters, including USEPA and WDFW, asked that Alternative E be enhanced with additional conservation for the FEIS.

DEIS Commenters

340, 389, 423, 426, 487

Response

Establishing public/private partnerships to conserve habitat on private timber lands is outside the scope of this EIS. A new alternative (Alternative G) was added and analyzed in the RDEIS and FEIS, primarily in response to comments supporting an alternative with additional conservation components suggested by USEPA and WDFW.

Subtopic: Support for Alternative F

▶ COMMENT

Several commenters expressed support for Alternative F. One commenter pointed out benefits to Skamokawa creek fish habitat as well as murrelet habitat.

DEIS Commenters

9, 11, 16, 45, 46, 94, 171, 179, 221, 280, 482, 483

Response

Thank you for your comment.

Subtopic: Modify Alternative F with additional conservation

▶ COMMENT

Several commenters expressed support for a modified Alternative F, reducing harvest of habitat. Many suggested adding conservation recommended by the American Bird Conservancy.

DEIS Commenters

16, 24, 45, 46, 162,163, 167, 169, 172, 180, 209, 225, 271, 272, 275, 296, 315, 321, 426, 459, 504-1,032

Response

Several proposed alternatives that the Joint Agencies received modified Alternative F, including an alternative proposed by the American Bird Conservancy. All of these proposed alternatives contain significantly more marbled murrelet conservation than Alternative F. These alternatives do not accomplish DNR's need and purpose of the proposal, which include obtaining long-term certainty for timber harvest and other management activities on forested state trust lands, consistent with DNR's fiduciary responsibility to the trust beneficiaries as defined by law (the Joint Agencies' need and purpose statements in the DEIS were separated by agency for the RDEIS; no changes were made to these statements for the FEIS). The proposed alternatives are not consistent with project objectives because of impacts to trust beneficiaries from harvest restrictions. Also, under these alternatives mitigation greatly exceeds impacts from DNR's activities proposed under the existing alternatives. Based on their impacts to trust beneficiaries, these alternatives were not considered economically feasible in view of DNR's trust obligations, and thus were not considered reasonable alternatives. Consequently, the Joint Agencies decided not to analyze the proposed alternatives in detail. Refer to "Alternatives Considered but not Analyzed in Detail" in Chapter 2 of the RDEIS and "Commenter Alternatives Not Analyzed in Detail" of the FEIS for more information.

Conservation measures relating to forest health treatments, forest roads, harvest-related infrastructure, salvage and recovery, blasting, crushing and pile-driving, aerial activities, recreation, leases and contracts, waste management, and research activities also were recommended by commenters. Many of these recommended measures were already included in one or more of the existing alternatives, in whole or in part (refer to Section 2.2 of the FEIS). Modifications were made to conservation measures for Alternative H for the FEIS; refer to Section 2.2 of this FEIS. Additionally, the majority of conservation measures recommended in the commenter alternatives were addressed by the HCP amendment (refer to Appendix A, Table A-4 of the HCP amendment, included as Appendix Q to the FEIS).

► COMMENT

Pacific Seabird asked for Alternative F to be modified to include no harvest of any occupied, suitable, and near-suitable habitat in next 50 years; application of 150-meter buffers around all occupied, suitable, and older-forest habitat; and buffers around all special habitat areas and emphasis areas from Alternative E. USEPA also suggested that the Joint Agencies modify Alternative F to add conservation and include analysis of this option in the FEIS.

DEIS Commenters

168

Response

Refer to the response to the first comment in this subtopic.

► COMMENT

American Bird Conservancy made similar recommendations to Pacific Seabird Group to modify Alternative F: add conservation areas from Alternative E and manage them as marbled murrelet management areas; restrict harvest of existing and future marbled murrelet habitat over the next 50 years, including 3,023 acres of high-quality habitat; provide no-touch 150-meter buffers around all occupied sites and old forest as mapped by the 2008 Science Team; prohibiting salvage and recovery in marbled murrelet management areas and special habitat areas; and prohibit blasting within .5 miles of occupied sites, marbled murrelet management areas, and special habitat areas during the nesting season.

DEIS Commenters

174

Response

Refer to the response to the first comment in this subtopic.

► COMMENT

One commenter expressed support for combining alternatives E and F with same level of harvest.

DEIS Commenters

27

Response

Refer to the response to the first comment in this subtopic.

Subtopic: Alternative G**► COMMENT**

WDFW proposed a new alternative to be considered, based on Alternative E but enhanced with additional conservation. Key components of this proposed new alternative include 100-meter buffers on all occupied sites, with management in the buffer limited to light thinning of dense, young forest to promote faster growth; retention of all high-quality habitat patches; provision of key, secure large breeding habitat blocks in southwest Washington; and retention of some “next best” (P-stage .36 and .25) habitat for current nesting and as future recruitment for high-quality habitat in the OESF and southwest Washington. WDFW recommended adding several specific marbled murrelet management areas from Alternative F and “false negative” habitat patches identified by WDFW staff to Alternative E.

WDFW does not support alternatives A or B, and cannot support alternatives C, D, and E as drafted. They are concerned with harvest of high-quality habitat under Alternative F, and

requested more information on how much of the low-quality northern spotted owl habitat would reach P-stage by Decade 5. They also are concerned that Alternative F does not include conservation areas near the Straits of Juan de Fuca.

DEIS Commenter

340

Response

Alternative G, as presented in Chapter 2 of the RDEIS and FEIS, was developed in response to comments received from WDFW and USEPA and includes additional conservation components as recommended in this comment. Habitat conservation along the Straits varies by alternative. Under all alternatives considered (except Alternative B), all occupied sites in the Straits area are protected with 100-meter buffers. Additional conservation along the Straits is considered under alternatives C, D, E, H, and G through inclusion of special habitat areas or emphasis areas (refer to Section 2.3 of the RDEIS and FEIS).

Only Alternative F includes low-quality northern spotted owl habitat as marbled murrelet-specific conservation. The table below shows the acres of low-quality northern spotted habitat included in marbled murrelet-specific conservation under Alternative F, by P-stage in decades 0 and 5.

P-stage	Decade 0 acres	Decade 5 acres
0	60,000	41,000
0.25	6,000	15,000
0.36	2,000	200
0.47	1,000	7,000
0.62	300	6,000
0.89	300	400
1.0	0	0
Total	69,000	69,000

► **COMMENT**

WDFW provided new information on previously unidentified marbled murrelet habitat, and comments on proposed habitat release. WDFW is concerned with the release of low-quality murrelet habitat within the first decade, and suggests that further study of immediate impact of this harvest on the murrelet population be considered. The commenter proposes that a protracted and structured release of harvest over the full term of this HCP amendment be considered and analyzed for impacts.

DEIS Commenters

340

Response

Alternative G in the RDEIS and FEIS includes additional conservation as recommended in this comment and is similarly responsive to comments from USEPA.

Subtopic: Conservation alternative**► COMMENT**

A coalition of environmental groups submitted a proposal called the “conservation alternative.” A majority of the over 5,200 comments received were in support of this alternative. A majority of these comments came in the form of pre-printed postcards (a majority with personal comments added) and form e-mails, but hundreds of individual written comments also were received. Commenters supporting the conservation alternative expressed concern that the DEIS shows a declining population under all proposed alternatives; does not use the most current, best available science; and allows the continued harvest of murrelet habitat. Many of these commenters shared strongly-felt concerns about extinction and shared personal stories about their relationships with the murrelet and its habitat. The conservation alternative would expand on Alternative F, adding emphasis areas and special habitat areas from Alternative E, retaining all current and future habitat, expanding no-touch buffers to 150 meters on occupied sites and on mapped old forest in the OESF (as mapped by the 2008 Science Team), and adding an adaptive management target. Many commenters specifically asked that the conservation alternative be analyzed via a supplemental or revised DEIS prior to choosing a preferred alternative. Many of the commenters supporting the conservation alternative specifically cited the 25,000 acres of habitat that could be harvested under Alternative F as a problem, expressed the urgency of population decline, cited the up-listing of the species by WDFW, and called for the use of best available science (particularly recognizing the Strait of Juan de Fuca as a hot-spot for the population, and increasing conservation in this area).

DEIS Commenters

3, 5, 8, 10, 12-15, 19, 30, 31, 33-35, 39, 40-44, 47-50, 52-70, 72-75, 77-79, 81-88, 90-93, 95-97, 99-119, 121-131, 133-163, 164-166, 170, 173, 177, 178, 181-220, 222-224, 227-229, 234-239, 241- 254, 256-262, 264-270, 273, 274,276 -279, 282-284, 286-295, 297-305, 318- 320, 322-324, 329-339, 341-344, 345, 348-388, 390, 391, 401, 435-448, 450-458, 460- 465, 467-479, 484, 500, 501, 503, 1,033- 5,226

Response

A preliminary analysis of the "Conservation Alternative" and other proposed modifications of Alternative F is presented in Chapter 2 of the FEIS (refer to the section titled *Commenter Alternatives Not Analyzed in Detail*). The commenter’s proposed alternatives do not accomplish DNR’s need and purpose described in Chapter 1 of the FEIS, specifically DNR’s need to obtain long-term certainty for timber harvest and other management activities on forested state trust lands consistent with DNR’s fiduciary responsibility to the trust beneficiaries, as defined by law.

The commenter's proposed alternatives also are not consistent with DNR's objectives because of impacts to trust beneficiaries from the harvest restrictions and because the mitigation imposed greatly exceeds impacts from DNR's activities proposed under the existing alternatives. Based on their impacts to trust beneficiaries, these alternatives were not considered economically feasible in view of DNR's trust obligations, and thus were not considered reasonable alternatives. (The Joint Agencies' need and purpose statements in the DEIS were separated by agency for the RDEIS; no changes were made to these statements for the FEIS.)

► COMMENT

Appendix 2 to the proposed conservation alternative includes a proposal to more aggressively thin and use uneven-age management regimes within uplands with special objectives, outside of conservation areas, and to shorten rotation lengths in uplands with general objectives (page 2 of comment attachment). In addition, the proposal asks that "DNR analyze the economic impacts of the conservation alternative...to determine an optimal approach which finds no or minimal adverse impacts to any trust beneficiaries.... minimizing the revenue difference between Alternative A and the conservation alternative by adjusting the timing and choice of which lands are harvested and at what rates during the next decade" while not changing existing assumptions for alternatives A through F.

DEIS Commenters

410

Response

Harvest levels and rotation lengths are an outcome of the process to calculate the sustainable harvest level. The process of calculating the sustainable harvest level uses optimization modeling to calculate the harvest level and considers the suite of laws, policies, and economic considerations applicable to state trust lands.

Economic considerations such as management costs, timber prices, and interest rates play a role in harvest planning, and these assumptions are the same for each alternative. Adjusting assumptions under the conservation alternative and not under any of the other alternatives would not provide a legitimate comparison of alternatives. However, if the assumptions are not adjusted and the rotation length is shortened, as suggested by the commenter, either the value of timber will be lower or a law or policy would have to be violated.

■ Topic: Marbled Murrelet Population Impacts

Subtopic: Population decline

► COMMENT

Many comments highlighted that the alternatives, based on the Peery and Jones 2016 population viability analysis (Appendix C of the DEIS), show continued population declines for modeled female marbled murrelet populations. Commenters believe there should be an alternative that does not result in projected population declines, and that in the absence of population recovery goals, a precautionary approach should be taken. Some commenters questioned whether the alternatives analyzed are reasonable, given the continued population decline modeled in Appendix C. Many asserted that the population viability analysis was evidence that none of the proposed alternatives will help the murrelet, and many asserted that the population viability analysis shows that the plan will lead to extirpation.

DEIS Commenters

21, 36, 40, 174, 233, 237-244, 246, 249- 251, 253, 254, 257-260, 263, 265, 266, 268, 269, 278, 282, 286, 297, 300, 301, 302, 303, 305, 309, 317, 318-321, 324, 343, 371, 383, 385, 387, 388, 437, 448, 449, 451, 457, 458, 463, 472, 476, 486, 496

Response

The decline of the marbled murrelet population in Washington is influenced by many factors, including loss of murrelet habitat. Refer “Current Population Trends and Habitat Conditions” in Section 3.6 of the FEIS for more information.

The population viability analysis model (Appendix C) was not designed to provide an absolute estimate of population response for a particular alternative. Instead, the model was developed to help understand how marbled murrelet populations might respond to the variations in murrelet habitat proposed under each alternative.

Peery and Jones modeled several population scenarios at the scale of Washington State, and DNR-managed lands only (Appendix C to the RDEIS and FEIS). The model assumed that habitat was the main influence on current population declines. Since only approximately 14 percent of murrelet habitat in Washington occurs on DNR-managed lands (refer to Section 3.6 in the FEIS), the model focused on the relative differences between the alternatives by artificially holding habitat conditions on non-DNR-managed lands constant. Refer to “Effect on Marbled Murrelet Populations” in Section 4.6 of the FEIS for more information.

The “enhancement scenario” on DNR-managed lands shows that all alternatives would reverse the declining population trend line for a population of female birds associated with DNR-managed lands. Other scenarios show varying rates of continued population decline, although no scenario appears to increase the current rate of decline.

The Joint Agencies have not found compelling evidence that additional population modeling would improve the ability to compare the potential impacts of the alternatives. The effect of the preferred alternative on the marbled murrelet population will, however, be evaluated by USFWS in a biological opinion, which will be required once DNR submits its HCP amendment to the USFWS. The proposed action is an amendment to the 1997 HCP and associated incidental take permit, and therefore, must meet the issuance criteria for Endangered Species Act Section 10 permits including to not appreciably reduce the likelihood of the survival and recovery of the species in the wild. DNR's Objective #2 in the need and purpose (refer to Chapter 1 of the FEIS) is to "Provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations."

Refer to Chapter 1 of the FEIS for a discussion of the proposed action and the regulatory and policy framework for this action.

► COMMENT

Noting habitat loss assumed in the first decade, several commenters asked that a supplemental DEIS indicate when the murrelet population may stabilize (no longer decline) in Washington. Does the decline end in the 11th year or continue into the second decade? Can murrelets tolerate another 15 years of population decline and still reach stability at a lower population level, or would they risk extinction?

DEIS Commenters

21, 36, 40, 174, 233, 237-244, 246, 249- 251, 253, 254, 257-260, 263, 265, 266, 268, 269, 278, 282, 286, 297, 300, 301, 302, 303, 305, 309, 317, 318-321, 324, 343, 371, 383, 385, 387, 388, 437, 448, 449, 451, 457, 458, 463, 472, 476, 486, 496

Response

As noted in the Section 4.6 of the FEIS (under the heading "Comparing Modeled Population Responses Among the Alternatives"), population viability analysis modelling results for the Washington population showed no substantial difference in population size or quasi-extinction probabilities. The reason is that (1) the portion of the marbled murrelet population in Washington attributed to DNR-managed lands is 14 percent (refer to Section 3.6 in the FEIS), and (2) habitat conditions on non-DNR-managed lands in Washington does not change over time in the model, so the Washington population continues to decline throughout the 50-year modeling period (refer to p. 33 of Appendix C to the FEIS). The population viability analysis results, which focus solely on habitat changes on DNR-managed lands, indicate significant differences in ending population sizes among the alternatives considered. Under "enhancement" scenarios, the murrelet population on DNR-managed lands begins to stabilize or increase within 10 to 30 years, depending on the alternative (refer to Table 4.6.9 in the FEIS). At the scale of the Washington population, there is

not a substantial difference in ending population size or quasi-extinction risk among the action alternatives. Refer to the first response under this subheading for more information on the population viability analysis.

► COMMENT

If ocean conditions were a driving factor in the Washington murrelet population decline, why does this decline not manifest in Oregon and northern California? Stabilization of populations elsewhere on the coast needs to be addressed, and discussion needs to be added about why Washington is anomalous among the three states with the listed population. An alternative is needed that can stabilize the Washington murrelet population in the first decade.

DEIS Commenters

21, 36, 40, 174, 233, 237-244, 246, 249- 251, 253, 254, 257-260, 263, 265, 266, 268, 269, 278, 282, 286, 297, 300, 301, 302, 303, 305, 309, 317, 318-321, 324, 343, 371, 383, 385, 387, 388, 437, 448, 449, 451, 457, 458, 463, 472, 476, 486, 496

Response

The best available science indicates that marbled murrelet abundance and distribution in nearshore marine waters during the summer breeding season is largely determined by the amount and configuration of nesting habitat available in adjacent landscapes (Miller and others 2012, Piatt and others 2007, Raphael and others 2016). Physical marine habitat indicators appear to have little effect on murrelet distribution, except in Puget Sound, where the marine human footprint (shoreline development, shipping lanes, and etcetera) is also a significant factor (Raphael and others 2016). Another important difference between Washington and other parts of the species' range is the distances that some murrelets will fly between nest sites and foraging areas. A radio-telemetry study in Washington documented an average commuting distance of 33 miles between the nest site and preferred marine foraging areas, with some individuals flying over 70 miles one-way (Lorenz and others 2017). These distances include flights over both land and sea to reach preferred foraging areas. These observations represent the farthest nest-sea commuting distances documented for marbled murrelets, indicating that some murrelets in Washington fly longer distances between inland nest sites and preferred marine foraging areas than murrelets in other parts of the species range (Lorenz and others 2017). Under all alternatives considered in the FEIS, the total amount of marbled murrelet habitat is expected to increase on DNR-managed lands over the term of the 1997 HCP, which eventually will result in increased habitat capacity to support marbled murrelet nesting. Because habitat development is a slow process, there is uncertainty regarding how long it will take for population trends to stabilize, but there are indications that population stabilization is starting to occur in southern Oregon and northern California (Raphael and others 2018).

COMMENT

One commenter asked for more detailed information explaining why murrelets are declining faster in Zone 1 than in the coastal zones. "Perhaps given the different methodology of determining occupied sites, the Straits should have been split off from Puget Sound to better correlate population loss with habitat loss."

DEIS Commenters

317

Response

The factors influencing marbled murrelet populations are described in Chapter 3.6 of the FEIS. The population trends for murrelets in Washington are calculated at the scale of large sampling strata within larger conservation zones, while habitat trends have been reported at the scale of large geographic regions (for example, the Olympic Peninsula) that are adjacent to multiple sampling strata and portions of two conservation zones for marbled murrelets. General correlations that compare murrelet density in the nearshore marine waters and the amount of inland murrelet habitat have shown that areas with greater amounts of inland habitat generally support larger populations of murrelets. Similar correlations regarding inland habitat loss and population declines also have been described. While inland habitat appears to be the strongest factor that influences the marine distribution of marbled murrelets, the marine human footprint (for example, shoreline development and shipping lanes) is also an important factor influencing marbled murrelets in the Straits and Puget Sound (Raphael and others 2016).

► COMMENT

A few commenters focused on the population viability model assumptions and factors. Some noted that the population viability analysis did not adequately capture the influence of controlling variables like food supply in marine waters, or the relationship of fish abundance and inland habitat. Others suggest that model assumptions are unsubstantiated; declines are based on a host of factors, but these factors are not quantified or described. Commenters noted that the report (Appendix C to the RDEIS) does not substantiate the conclusion that the availability of inland habitat is the primary cause of recent population declines. Federal lands also will continue to develop habitat, but this increase is not included in the population viability analysis. One commenter stated there is no demonstrated correlation between increasing or decreasing inland habitat and murrelet population trends, and was critical of the statistical analysis presented in the report. Another pointed out that the report does not provide certainty on whether or not the species will respond to an increase in inland habitat. One commenter suggested that there is not a discussion as to quality of habitat that is regenerated versus natural stands.

DEIS Commenters

317, 397, 403, 404, 417, 421, 496

Response

The scope of the population viability analysis was to estimate the potential and relative effect of habitat management alternatives, using parameters largely under the control of the land management agency (DNR) as a means to compare the alternatives (refer to Appendix C of the FEIS). The model assumed that habitat was the main influence on current population declines. Since only approximately 14 percent of inland murrelet habitat in Washington occurs on DNR-managed lands (refer to Section 3.6 in the FEIS), the model focused on the relative differences between the alternatives by artificially holding habitat conditions constant on non-DNR-managed lands. The model was not designed to provide an absolute estimate of population response for a particular alternative. Refer to “Effect on Marbled Murrelet Populations” in Section 4.6 of the FEIS for more information.

The assumptions made in the population viability analysis are explicitly stated in the methods, and are scientifically based. The authors note that while the population viability analysis model is sufficiently robust and well-parameterized to help assess how the proposed management alternatives may impact murrelet populations, there is uncertainty about how marine stressors could further diminish murrelet populations, regardless of projected increases in the amount and quality of inland habitat.

Subtopic: Population decline in Southwest Washington**► COMMENT**

Commenters noted that the marbled murrelet population in southwest Washington is likely to decline no matter what actions are taken, and communities will suffer as a result of futile conservation efforts.

DEIS Commenters

311, 404, 421

Response

Southwest Washington has long been identified as an important geographic area for the conservation of marbled murrelets (USFWS 1997). DNR has a legal responsibility to minimize and mitigate for impacts to marbled murrelet habitat on DNR-managed lands. Under all alternatives considered except Alternative B, adjusted acres of murrelet habitat in southwest Washington are expected to increase on DNR-managed lands over the next 50 years (refer to Table 4.6.12 in the FEIS). The best available science indicates that marbled murrelet distribution and trend in the breeding season is largely determined by amount and trend of suitable murrelet habitat. As the amount of habitat increases in an area, it may be possible for local marbled murrelet population trends to stabilize and eventually increase (Raphael and others 2016, p. 115).

Subtopic: Murrelet population numbers

► COMMENT

The commenter points out that DNR did not provide actual population numbers or account for uncertainty.

DEIS Commenter

503

Response

The actual number of marbled murrelets nesting on DNR-managed lands is unknown but has been estimated based on current and future habitat capacity in the population viability analysis. The population viability analysis assumes a starting population of 542 female marbled murrelets associated with habitat on DNR-managed lands. Estimates of how the population may change in response to changes in habitat on DNR-managed lands over a 50-year period are provided in Table 4.6.9 of the FEIS. Because there is uncertainty regarding future marbled murrelet population trends, the population viability analysis (Appendix C to the FEIS) applies both risk and enhancement scenarios to express a potential range of population outcomes for the alternatives.

DNR has a legal responsibility to minimize and mitigate impacts to marbled murrelet habitat on DNR-managed lands. Under all alternatives considered, murrelet habitat is expected to increase on DNR-managed lands over the next 50 years (refer to Table 4.6.12 of the FEIS). DNR's research and monitoring and adaptive management obligations are stated in the 1997 HCP (refer to Section 5 of the 1997 HCP) and are not changed by this HCP amendment. Under the proposed HCP amendment, DNR will continue to monitor the amount of marbled murrelet habitat that is located in long-term forest cover over the life of the 1997 HCP.

This is a long-term conservation strategy, covering almost 1.4 million acres of forest land across a wide geographic area. Uncertainty is present. The location of existing conservation based on GIS information known today may change as field work determines different boundaries of components of long-term forest cover. Areas of certainty and uncertainty are explained in Appendix G of the FEIS.

Subtopic: Only small portion of population is affected

► COMMENT

Some commenters pointed out the small portion of the marbled murrelet population that is addressed by the 1997 HCP. One commenter noted that the long-term conservation strategy will only affect about 1 percent of the overall North American population of the marbled murrelet.

DEIS Commenters

403, 424

Response

The range of the marbled murrelet extends along the Pacific coast of North America from central California to southwestern Alaska. The federally-listed marbled murrelet population that occurs in Washington, Oregon, and California is classified by the USFWS as a distinct population segment (75 FR 3424). In Washington, approximately 14 percent of marbled murrelet habitat is located on DNR-managed lands (refer to Section 3.6 of the FEIS).

As part of the approval process for the long-term conservation strategy, described in Section 1.4 of the FEIS, USFWS will be preparing a biological opinion to determine whether DNR's amendment to the 1997 HCP would jeopardize the continued existence of the marbled murrelet. USFWS will consider the current status of the marbled murrelet, the effects of the action on marbled murrelets, the cumulative effects of the proposal, and the results of the population viability analyses (refer to Section 4.6 and Appendix C of the FEIS).

■ Topic: Social and Economic Impacts

Subtopic: Impacts to Pacific and Wahkiakum counties, other rural counties

► COMMENT

Some commenters expressed concern that the alternatives will contribute further stress to the county budget and ability to operate and provide services. Use of the State Forestland Replacement program has been inadequate to offset economic losses from encumbered forestlands. The interim strategy has resulted in financial crisis, and none of the alternatives outlined in the DEIS will rectify this. The commenters cited a recent DNR study that the marbled murrelet population in Wahkiakum County is just 1 to 2 pairs of birds, and questions how habitat protection will save the species in the county. Other commenters expressed concerns about reduced revenues for rural counties, and pointed out that thinning does not bring in enough revenue. Some commenters pointed out that the DEIS does not address how adverse economic impacts will be mitigated.

DEIS Commenters

17, 311, 392, 397, 398, 403, 408, 410, 411-413

Response

The Joint Agencies acknowledge that alternatives C through F would result in declining revenues to Wahkiakum County. DNR is actively working toward appropriate mitigation for those impacts. Alternative H, the Joint Agencies' preferred alternative, was developed to decrease adverse impacts to Pacific, Wahkiakum, and other rural counties. The number of marbled murrelets

nesting in Wahkiakum County is unknown. The Joint Agencies are not aware of the study mentioned by the commenter, but surveys completed under the interim strategy identified 23 occupied marbled murrelet sites on DNR-managed lands in Wahkiakum County.

Subtopic: Impacts to industry and jobs

► COMMENT

Several commenters pointed to the economic impacts to timber harvest and manufacturing industries. One commenter noted that domestic manufacturing facilities rely on non-exportable state timber for supply. Others noted that hardwood manufacturers are particularly threatened due to alternatives that do not allow riparian thinning.

DEIS Commenters

393, 397, 398, 411-413, 416, 418, 419, 420

Response

Section 5.3 of the FEIS, “Forest Management in the Analysis Area,” includes a discussion of incremental reductions in available timber. In summary, DNR-managed forestland produces an average of 17 percent of total harvest volume for counties in the analysis area. Private forestland produces approximately 81 percent, and federal and other public lands produce an average of 2 percent. Private forestlands are expected to continue to provide the majority of timber products to industry into the future, regardless of actions on DNR-managed lands. Pacific and Wahkiakum counties may be significantly impacted by reductions in available timber volume under alternatives C, D, E, F, or G. Pacific County may be significantly impacted by reductions in available timber volume under Alternative H (refer to Section 4.11). Riparian thinning is still allowed under all alternatives, except in areas where the riparian forest is classified as current marbled murrelet habitat.

Subtopic: Mitigating economic impacts: trust land replacement program/land transfer program

► COMMENT

The commenter supports the use of the Trust Land Transfer and State Forestland Replacement programs. The Trust Land Transfer program should be used in Pacific and Wahkiakum counties to the fullest extent possible to compensate for any economic impacts to their budgets from marbled murrelet protection. One commenter noted that the State Forestland Replacement program has not been used successfully for encumbered lands in Pacific or Wahkiakum counties. One commenter asked how economic impacts to the trusts affecting low income communities will be mitigated.

DEIS Commenters

19, 25, 20, 299, 408, 457, 476, 477

Response

The State Forestland Replacement program has been used by DNR in Southwest Washington to mitigate impacts to forestlands encumbered by Endangered Species Act listings. Funding of this program comes from the state. Since its inception, DNR has used the program to dispose of 291 acres in Wahkiakum County (generated revenue to the county of over \$1.7 million) and 108 acres in Pacific County (generated revenue to the county of over \$1.9 million). Funding for the program is dependent on legislative appropriations.

Subtopic: Relationship of trust lands to local revenues/form task force**► COMMENT**

Several commenters expressed concern that the existing system of funding schools or counties through logging from state trust lands is unsustainable. Some commenters suggested that the Commissioner convene a task force or conference to study and make recommendations on alternative sources of funding for beneficiaries and rural economies.

DEIS Commenters

4, 32, 98, 99, 252, 282, 291, 302, 320, 322, 328, 337, 343, 359, 373, 465, 467, 469, 476, 477, 496, 497, 500, 501-503

Response

Chapter 1 of the FEIS recognizes that DNR's proposed action must be consistent with its fiduciary duties as a trust lands manager. These duties are summarized under "State Trust Lands" in Chapter 1 of the FEIS. Changing these duties is outside the scope of this EIS.

In 2018, the Washington State Legislature directed the Commissioner of Public Lands to appoint a marbled murrelet advisory committee to assist in developing a report to the legislature that includes an economic analysis of potential losses or gains from any proposed long-term conservation strategy, and makes recommendations relating to:

- a) Actions that support maintaining or increasing family-wage timber and related jobs in the affected rural communities, taking into account, as appropriate, the role of other market factors;
- b) Strategies to ensure no net loss of revenues to the trust beneficiaries due to the implementation of additional marbled murrelet conservation measures;
- c) Additional means of financing county services; and
- d) Additional reasonable, incentive-based, non-regulatory conservation measures for the marbled murrelet that also provide economic benefits to rural communities.

(Laws of 2018, Ch. 255).

Called the “Solutions Table,” this advisory board has been meeting since May, 2018 and has delivered its [first report](#) to the Washington State Legislature.

Subtopic: More detailed financial analysis needed

► COMMENT

Commenters asked for a more detailed financial analysis of how the alternatives would impact timber counties, including the reduction in revenue because of an emphasis on thinning. Some commenters noted that rural communities have seen loss of sawmills and tax revenues, and one noted that little revenue comes from thinning. Several noted that locking up more resources will worsen these economies. One commenter asked that the socioeconomic impact section be rewritten to consider additional data sources including 2010 census data (Underwood and Cross 2017). A commenter requested more information about the poverty rate, employment, and economic information for Clallam County using the 2010 census. Another commenter noted that the socioeconomic analysis is incomplete and uses limited data, and should be analyzed concurrently with the economic analysis performed for the *Alternatives for Establishment of a Sustainable Harvest Level Draft Environmental Impact Statement* (sustainable harvest DEIS). More information about impacts to timber volumes and other contributing factors to local economic impacts are needed.

DEIS Commenters

313, 314, 317, 392, 410, 411-413, 428-430, 477

Response

The socioeconomic analysis was performed using reasonably available data at a scale in keeping with the landscape-level change expected under the alternatives. County income information using 2015 U.S. Census data was reported in Section 3.10, “Environmental Justice,” of the FEIS. Economic impacts to counties are considered in sections 3.11 and 4.11 of the FEIS. Per the criteria used, no adverse economic impacts were identified for counties other than Pacific and Wahkiakum.

The socio-economic analysis does not attempt to estimate changes to timber supply based on the actual amount of timber harvested, but instead on a change in acres available under the alternatives. This analysis is based on the valid assumption that, over the long run, less timber will be produced if fewer acres are available for harvest. The analysis includes estimated changes in operable acres and bare land value at the scale of western Washington. Because no adverse impacts were found at this scale, the analysis also considered impacts to individual counties and trusts. Impacts to employment are considered at both the analysis area and county scale. However, the Joint Agencies cannot speculate on the effect of the alternatives on individual mills.

The long-term conservation strategy will have implications for DNR’s sustainable harvest calculation. In a separate action, DNR is updating the calculation, with a separate process for environmental review that analyzes potential harvest levels associated with long-term

conservation strategy alternatives. Refer to Section 1.2 of Chapter 1 of the FEIS for more information.

Subtopic: Table 3.11.1

► COMMENT

The commenter requested clarification on the title of Table 3.11.1 and questioned the acreage that does not reflect all of Clallam County State Forest Lands. The commenter also asked whether the data underlying the table was in error and was used in researching socioeconomic element.

DEIS Commenters

410

Response

The Joint Agencies corrected the error found in the table and updated the acreage values per changes made to the underlying data (refer to Appendix O of the RDEIS for more information).

Subtopic: Environmental justice

► COMMENT

Two commenters asked that the environmental justice portion of the DEIS better examine long-term impacts on low-income rural and minority populations, particularly in smaller communities with human populations dependent on harvest and replanting activities.

DEIS Commenters

19,422

Response

As cited in Section 3.10 of the DEIS, USEPA environmental justice guidelines define a poverty area as an area in which at least 20 percent of the residents are below the poverty level. Using U.S. Census data, within the analysis area only Cowlitz County meets this standard. Only a small portion of Cowlitz County is within the analysis area, and this county is considered to have high socioeconomic resiliency (refer to Section 3.11 of the DEIS). Economic impacts to local employment are examined in Section 3.11, which applied a higher threshold for determining adverse economic impacts for Pacific (19.5 percent minority) and Wahkiakum (10.9 percent minority) counties. A higher threshold for impacts was chosen for these two counties, which have between 15 and 17 percent poverty rates, because they are highly dependent on timber-related jobs. Although harvest of non-timber forest products is expected to continue unchanged under a long-term conservation strategy (for example, collection of salal), and these occupations are often associated with minority populations, replanting and other forestry activity which also are associated with these populations would be negatively affected by a reduction in operable acres.

For this reason, adverse impacts to employment are anticipated in these counties under alternatives C through F. A more detailed, long-term economic study looking at impacts to rural and minority populations would require consideration of larger economic trends and forces in these communities. That level of study is outside the scope of this EIS.

Subtopic: Socioeconomic analysis

► COMMENT

A few commenters would like to see a value given to ecosystem services and ecotourism. One commenter noted that ecotourism is economically important to western Washington, and ecosystem protection for tourism needs to be included in the DEIS. Other commenters noted that the economic impact of birdwatching should be considered. Suggested revenue sources include carbon offsets/carbon credits, trust lands transfers and encumbered lands replacement programs, conservation futures, and recreation (including enhancement of non-murrelet habitat for recreation use). One commenter noted that DNR should maximize timber value, not timber volume harvested.

DEIS Commenters

289, 336, 341, 359, 366, 391, 457

Response

The socioeconomic analysis (Section 4.11 of the FEIS) addresses ecosystem services to the extent that data was available to evaluate these services. As summarized in FEIS Table 4.11.7, no measurable impacts were identified for environmental services and non-timber related economic activities for the action alternatives. Also in Section 4.11 of the FEIS, the State Forestlands Replacement program is noted as a potential source of mitigation in Pacific and Wahkiakum counties.

■ Topic: Amount of Existing Conservation

Subtopic: Amount and benefits of existing conservation

► COMMENT

Some commenters are concerned that existing conservation acreage is overstated. These commenters point out that existing conservation includes “stringers” (defined in the response below) which are vulnerable to predation and disturbance. Also, many natural area preserves (NAP) and natural resources conservation areas (NRCA) do not include murrelet habitat (examples include Carlisle Bog, Rocky Prairie, Bald Hills, and significant portions of the Morningstar NRCA). Commenters ask that the existing conservation acreage be revised downward to reflect more realistic numbers. One commenter questioned how the current base of

200,000 acres of existing marbled murrelet habitat (Table 3.6.2 on p. S-5 of the DEIS) relates to the 583,000 acre conservation base?

DEIS Commenters

33, 299

Response

Chapter 2 of the FEIS explains the conservation benefits provided by areas of existing conservation, even where these areas do not directly provide murrelet habitat. These benefits include insulating murrelet habitat from land use and forest management disturbances, and providing contiguity with other structurally complex forest stands.

“Stringers” are narrow areas, predominantly riparian management zones, which are less than 200 meters wide where adjacent uplands have not been designated as long-term forest cover. Stringers are considered part of long-term forest cover. However, they are not assigned credit for mitigation under the alternatives because they are too narrow to provide interior forest. As stated in Chapter 2 of the FEIS, forest stands in riparian management zones can help insulate murrelet habitat from other forest management activities.

Only the forested acres of NAPs and NRCAs were included in the acres reported as “existing conservation” (total is approximately 85,000 acres). NAPs and NRCAs often include mature forest habitat.

For the RDEIS, updated forest inventory information was used to revise the number of acres reported as long-term forest cover and forest inventory data was further updated for the FEIS (refer to Appendix O of each document). The FEIS reports 567,000 acres of long-term forest cover. DNR also used more recent vegetation height data to more accurately measure current vegetation height, which improves estimates of current edge condition and type for the marbled murrelet analysis in Chapter 4 of the RDEIS and FEIS. For a complete description of data updates between the DEIS and the RDEIS, refer to Appendix O of the RDEIS, and for a complete description of data updates between the RDEIS and the FEIS, refer to Appendix O of the FEIS.

The 200,000 acres mentioned in the comment is reported in Figures S.3.1 and 4.6.1 in the FEIS and is 207,000 acres. This acreage reflects current marbled murrelet habitat identified by the P-stage model, not all the forested acres within long-term forest cover, which is 567,000 acres.

Subtopic: Existing conservation is adequate

► **COMMENT**

Several commenters note that DNR already defers a large percentage of its land base and should not set aside more land for additional species protections. Some commenters note that this existing conservation satisfies Endangered Species Act and 1997 HCP requirements. Others note that existing protections will provide enough suitable mature and old-growth habitat within the remaining life of the 1997 HCP. Some commenters state that the inclusion of unoccupied set-

aside areas and marginal habitat will not promote recovery of the murrelet. Some commenters asked whether USFWS has quantified how much habitat statewide it wants preserved. One commenter asked whether, as federal lands grow more habitat, DNR-managed lands could be released to meet trust obligations.

DEIS Commenters

2, 22, 28, 281, 317, 393, 399, 404, 411-413, 417, 421, 425, 431, 434

Response

Consistent with DNR’s obligations under the 1997 HCP, DNR is seeking to amend its 1997 HCP and associated incidental take permit by replacing the marbled murrelet interim strategy with a long-term conservation strategy. Endangered Species Act Section 10 issuance criteria identified in Section 1.2 of the FEIS apply to the amendment process. The FEIS identifies alternatives that represent a range of conservation strategies for the marbled murrelet on DNR-managed land, including existing conservation. The FEIS analyzes these alternatives using more recent science related to marbled murrelet population decline, occupied site survey data, distribution of marine populations, and disturbance impacts, as well as the development of more sophisticated forest inventory data for DNR-managed lands. In developing the alternatives, an emphasis was made to define large, contiguous blocks of interior forest, and more marginal habitat was included only if it served the purpose of reducing edge effects and improving security of higher quality habitat. Refer to Section 4.6, “Marbled Murrelets,” of the FEIS for an evaluation of how these alternatives may affect marbled murrelet populations. Figure 2.4.5 in the FEIS provides a summary of impacts and mitigation by alternative. An alternative may not achieve DNR’s need and purpose if mitigation greatly exceeds impacts, or if impacts greatly exceeds mitigation. (The Joint Agencies’ need and purpose statements in the DEIS were separated by agency for the RDEIS; no changes were made to these statements for the FEIS.)

The 1997 recovery plan for the marbled murrelet (USFWS 1997) lists recommendations for habitat conservation in Washington, including conservation of habitat on DNR-managed lands. The conservation provided by the 1997 HCP compliments existing conservation efforts on federal lands and provides for conservation in areas that lack federal ownership. There is no provision within the proposed alternatives to release additional acres of DNR-managed lands in response to habitat that develops on federal lands in the future.

Subtopic: Old growth/old forest

► COMMENT

Many commenters highlighted the importance of protecting old or old-growth forest. Many were concerned about the harvest of mature and older forest allowed under the alternatives.

DEIS Commenters

11, 16, 29, 30, 38, 44, 51, 80, 82, 118, 144, 170, 172, 233, 240, 264, 282, 299, 325, 460, 465, 496

Response

DNR defines old growth as forests that are in the structurally complex stage of stand development, are at least 5 acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. All forests that meet these requirements are currently deferred from harvest under the *Policy for Sustainable Forests* (DNR 2006, p.33) and will remain deferred regardless of the outcome of this planning process. The acres of potential harvest cited in Section 4.6 of the DEIS do not include stands that meet old-growth forest criteria.

In addition, the alternatives will not change the northern spotted owl or riparian conservation strategies in the 1997 HCP. Many areas being managed as habitat under these strategies are mature forest. Refer to Chapter 2 of the FEIS for more information on long-term forest cover.

► COMMENT

One commenter questioned how many acres of old-growth is deferred, and why stands developing after 1850 are not deferred? One commenter wanted more explanation of what age of old growth is considered marbled murrelet habitat.

DEIS Commenters

488, 496

Response

DNR defines old growth as forests that are in the structurally complex stage of stand development, are at least 5 acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. All forests that meet these requirements are currently deferred from harvest under the *Policy for Sustainable Forests* (DNR 2006, p.33) and will remain deferred regardless of the outcome of this planning process. The proposed alternatives were developed to be consistent with this policy, meaning that no alternative includes harvest of forests that meet this criteria. For more information about identifying mature and old growth forests, visit www.dnr.wa.gov/programs-and-services/forest-resources/habitat-conservation/identifying-mature-and-old-forests.

To determine whether or not a forest is marbled murrelet habitat, DNR uses previous murrelet habitat survey work, habitat relationship studies, and a habitat classification model known as “P-stage” that was first developed by a team of scientists convened by DNR in 2004. Refer to Chapter 2 and Appendix E of the FEIS for more information.

► COMMENT

A few commenters noted that murrelets require true old growth, and additional conservation acreage under alternatives C, D, E, and F would require much longer than the life of the 1997 HCP to develop into old growth.

DEIS Commenters

311, 414, 415, 421

Response

As noted in the preceding response, DNR identifies murrelet habitat using previous murrelet habitat survey work, habitat relationship studies, and a habitat classification model known as “P-stage” that was first developed by a team of scientists convened by DNR in 2004. Appendix E of the FEIS provides a detailed explanation of the P-stage habitat model.

Only stands that are naturally regenerated (and therefore likely contain some scattered legacy trees from previous stands) are included in P-stage habitat (Appendix E, p. E-6 through E-7). Murrelet nest sites and occupancy behaviors have been documented in second-growth forests that contain structural elements similar to old-growth, such as remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe infestations (Evans-Mack and others 2003, Grenier and Nelson 1995).

► COMMENT

One commenter noted that DNR had not achieved the goal of having 20 percent of state trust lands in the OESF in old forest, and wants a commitment to protect all old growth within OESF stated in the strategy.

DEIS Commenters

33

Response

DNR’s proposed action is to develop a long-term conservation strategy for marbled murrelets on forested state trust lands. The long-term conservation strategy will not change other conservation strategies of the 1997 HCP. Old-growth forest, defined as structurally complex stands five acres and larger that originated naturally before the year 1850, is deferred from harvest by the *Policy for Sustainable Forests* (DNR 2006). An exception is made for the OESF to meet research objectives; however, DNR has no such research planned at this time. DNR’s commitment in the 1997 HCP is to achieve and then maintain at least 20 percent of DNR-managed lands in each of the 11 landscapes in the OESF as Old Forest Habitat for northern spotted owls and at least 40 percent of DNR-managed lands in each of the 11 landscapes in the OESF as Young Forest Habitat and better (Young Forest or Old Forest Habitat). Old-growth forests and Old Forest Habitat are not the same. Refer to page IV.88 of the 1997 HCP for a discussion on Young and

Old Forest Habitat. Once the northern spotted owl habitat thresholds are met in a landscape, both Young and Old Forest Habitat would be available for harvest as long as harvest is consistent with other 1997 HCP objectives, including the marbled murrelet strategy as amended, and does not cause the amount of either habitat type to fall below threshold amounts.

■ Topic: Location of Conservation

Subtopic: Protect more habitat near the Strait of Juan de Fuca

► COMMENT

Several commenters called specifically for increased marbled murrelet conservation in locations adjacent to marine waters, and in particular, close to the Strait of Juan de Fuca. These commenters cited Raphael and others 2014, which identified at-sea marbled murrelet population “hot spots” in the Strait of Juan de Fuca, and found that the variation in at-sea abundance was highly correlated with the amount and cohesion of terrestrial (inland) habitat. Many of the commenters supporting the conservation alternative also cited Raphael and others 2014. One commenter asked specifically to protect all inland habitat and buffers in the Straits HCP planning unit, establish at least two marbled murrelet management areas in that area, and adjust short-term harvest to ensure habitat stability/gain for the murrelet within the first decade of the plan. Another commenter recommended that the FEIS discuss the rationale for releasing land in the Straits.

DEIS Commenters

15, 33, 38, 122, 132, 221, 223, 225, 255, 256, 299, 340, 335, 348, 350, 359, 369, 426, 4 37, 451, 455, 458, 472, 473, 476, 481, 486

Response

For the RDEIS and FEIS, DNR-managed lands were segregated into two types of landscapes: high-value landscapes and marginal landscapes. The high-value landscapes were further separated into strategic locations and other high-value landscapes.

Strategic locations are geographic areas within Washington that the Joint Agencies view as having a disproportionately high importance for murrelet conservation. One of the reasons for their importance is proximity to marine waters (within 40 miles), including proximity to marine “hotspots” (Raphael and others 2016), which are areas with higher-than-average murrelet density. One of these strategic location is the OESF and Straits (west of the Elwha River). Habitat conservation along the Straits varies by alternative. Under all alternatives (except Alternative B), all occupied sites in the Straits area are protected with 100-meter buffers. Additional conservation along the Straits is considered under alternatives C, D, E, H, and G through inclusion of special habitat areas or emphasis areas (Refer to Section 2.3 of the FEIS). The OESF and Straits (west of the Elwha River) and the Southwest Washington strategic location contain the most acres of land

contributing to marbled murrelet conservation. Refer to Chapter 2 of the FEIS for more information on strategic locations and the areas conserved under each alternative.

Subtopic: Zoning the OESF

► COMMENT

One commenter asked that the OESF not be “zoned” by the long-term conservation strategy.

DEIS Commenters

403

Response

The OESF is being managed under an "integrated management" approach. Integrated management includes the use of silviculture to achieve integration of revenue production and ecological values at a stand and landscape scale, through practices such as variable density thinning. It includes tailoring riparian buffers to watershed conditions. It also includes the “unzoned” approach to northern spotted owl habitat conservation, in which northern spotted owl habitat can be located anywhere within a landscape and move over time as long as threshold proportions of habitat are maintained. This approach also includes research and monitoring and adaptive management.

The OESF has always had harvest deferrals, starting with 15,000 acres of old-growth forest deferred for 15 years when the OESF was founded. DNR uses deferrals to help meet its ecological objectives per the conservation strategies in the 1997 HCP. For example, many old-growth stands are also Old Forest Habitat that contribute to northern spotted owl habitat thresholds. Because deferrals are not co-located in a single contiguous block but interspersed with more actively managed areas, they help DNR realize an important component of integrated management: a working forest with a full range of forest conditions (DNR 1997).

The Joint Agencies recognize that designation of areas for marbled murrelet conservation would limit management options in the OESF within those areas. In part to address this issue, Alternative H, the Joint Agencies’ preferred alternative, allows thinning in non-habitat within special habitat areas in areas to provide some management flexibility and help DNR preserve the “unzoned” concept for the OESF.

Subtopic: Protect land on east side of Olympic Peninsula

► COMMENT

One commenter called for including additional lands near Dabob Bay Natural Area and Devils Lake Natural Resource Conservation Area (NRCA) in the conservation strategy. They call for delay of a timber sale in this area.

DEIS Commenters

461

Response

Forested natural area preserves and NRCAs are part of long-term forest cover for the marbled murrelet. Areas outside long-term forest cover are available for harvest, subject to the requirements of the 1997 HCP conservation strategies. Under Alternative H, harvest of some marbled murrelet habitat would be delayed until the end of the first decade.

Analysis of the potential environmental impacts of a specific timber sale in the analysis area is outside the scope of this EIS. The long-term conservation strategy is a non-project action under SEPA. Supplemental review of site-specific projects such as timber sales occurs under SEPA (and if a federal project, under NEPA) and any other applicable local, state, or federal law at the time they are proposed. Potential environmental impacts of the timber sale in question were analyzed as part of that sale's SEPA process.

Subtopic: More habitat protection needed in the OESF**► COMMENT**

Some commenters asked for more conservation in the OESF. One commenter asked for information about the percentage of P-stage 1.0 habitat acres that are slated for long-term forest cover, and percent of P-stage 1.0 habitat acres in the entire analysis area. One commenter noted that P-stage 1.0 habitat acres are found mostly in the OESF (Table 3.6.1), and this planning unit needs more conservation. One commenter pointed out that marbled murrelet management areas only have a 50 percent habitat target under Alternative F, which is insufficient for minimizing edge effects.

DEIS Commenters

33, 299, 301

Response

Under all alternatives, DNR will protect *all* P-stage 1.0 habitat (occupied sites) in the analysis area that were identified under the interim strategy. Under all of the action alternatives, DNR will protect approximately 16,000 additional acres of occupied sites that were identified by the 2008 Science Team (refer to Appendix D of the FEIS for more information on how these sites were identified). The analysis area includes the OESF. Edge effects were included in the computation of impacts under Alternative F.

In the FEIS, DNR reported an estimated change in long-term forest cover acres by landscape or strategic location and alternative (Figure 2.4.1.). Acres of long-term forest cover in the OESF and Straits (west of the Elwha River) strategic location are expected to increase under every alternative except B.

■ Topic: Murrelet Habitat

Subtopic: Percent of land with murrelet habitat

► COMMENT

Clarify the following: p. 1-9 cites that 9 percent of land within the analysis area is DNR-managed. Page 3-30 says that DNR manages approximately 14 percent of potential nesting habitat. The same page cites that murrelet habitat makes up approximately 15.5 percent of total DNR-managed land within the analysis area. One commenter asked that Table 2.2.1 show the percentages of the analysis area protected by the alternatives.

DEIS Commenters

33, 317

Response

Page 1-9 of the DEIS reports the total amount of land that DNR manages under its 1997 HCP within 55 miles of all marine waters in western Washington. That total is approximately 1.4 million acres, which is 9 percent of this geographic area.

Page 3-30 of the DEIS (below Table 3.6.1) reports that 15.5 percent of these approximately 1.4 million acres is murrelet habitat.

Page 3-30 of the DEIS (top of page) indicates that the acres of habitat DNR manages in western Washington is only 14 percent of the *total* murrelet habitat in Washington. DNR provided this percentage to stress that most habitat is located on federal lands.

Table 2.2.4 in the FEIS has been edited to include the percentage of DNR-managed lands within the analysis area that would be included in long-term forest cover under each of the alternatives.

Subtopic: Habitat quality/mitigation credit

► COMMENT

One commenter asked how the acres reported in Figure 2.4.5 (impacts and mitigation) compares with Figure 2.4.2 (habitat quality). Another commenter suggested that the restoration of low-quality habitat over time does not adequately mitigate the loss of higher quality habitat. One commenter suggested that stringers are functioning as nesting sites and should be counted as part of available habitat. Another commenter questioned the premise that habitat in one location can mitigate loss of habitat in another location.

DEIS Commenters

33, 301, 422, 496

Response

Figure 2.4.2 reports all long-term forest cover acres under each alternative, and the amount by which these acres increase over time. Figure 2.4.5 serves a different purpose. It reports only murrelet habitat acres, and these acres are adjusted by quality. Meaning, each acre is multiplied by its P-stage value to calculate both take (impacts) and mitigation (habitat growth). Appendix E describes the methodology used to adjust habitat acres by their P-stage quality for purposes of calculating impacts and mitigation.

Due to the susceptibility of lands in a “stringer” configuration (refer to Chapter 7 of the FEIS for a definition of stringer) to predation and other adjacent edge effects, these lands were not given mitigation credit. They were included as a component of marbled murrelet conservation on DNR-managed lands because can provide limited nesting opportunities for murrelets when surrounded by mature forest.

The long-term conservation strategy is designed to respond to the conservation needs of the marbled murrelet across the analysis area (all lands that DNR manages under its 1997 HCP within 55 miles of marine waters in western Washington). Impacts and mitigation are distributed strategically across this area by emphasizing protection of all known occupied sites, and through the conservation of large blocks of existing habitat in strategic locations. The combination of existing long-term forest cover and additional murrelet-specific conservation areas added by the alternatives ensure that 78 to 89 percent of current marbled murrelet habitat will remain on the landscape and provide nesting opportunities while additional habitat develops over time.

Subtopic: Protect high-quality habitat/no harvest of habitat**► COMMENT**

Many commenters, including most who commented with support of the conservation alternative, pointed to the harvest of murrelet habitat as a concern under all the alternatives. Many consider this harvest as the biggest deficiency with Alternative F. "Release of 25,000 acres of habitat for harvest under the most protective Alternative (F) is inimical to the long-term survival of the declining population." Many commenters asked that no high-quality habitat be harvested. Several noted that maintaining available habitat on state trust lands in the near term is important for species recovery.

DEIS Commenters

18, 32, 35, 38, 39, 90, 104, 108, 124, 132, 142, 145, 155, 163, 167, 172, 174, 235, 237, 238, 250, 251, 253, 254, 259, 260, 262, 263, 264, 267, 268, 269, 270, 274, 276, 277, 282, 286, 295, 297, 300, 301, 303, 305, 308, 309, 324, 329, 335, 336, 337, 343, 359, 367, 370, 371, 372, 383, 389, 437, 440, 441, 455, 456, 458, 463, 464, 466, 471, 473, 487

Response

Harvest of potential marbled murrelet nesting habitat, defined using the P-stage habitat classification model, is an environmental impact that DNR proposes to mitigate with the conservation of additional habitat acres through time. Section 4.6 and Appendix C of the FEIS detail the modeling of potential impacts of this harvest to the marbled murrelet population. Eighty eight percent of the habitat proposed for harvest under Alternative F is low-quality habitat, and no acres of occupied sites (highest quality habitat) or old growth are proposed for harvest. Both the total acres of marbled murrelet habitat and the overall quality (P-stage value) of habitat increase under all alternatives through the life of the 1997 HCP. Note that additional high-quality habitat identified in the field as old growth is already protected pursuant to DNR's old growth policy (DNR 2006).

Subtopic: Release of marginal habitat justified**► COMMENT**

Research has shown that restricting management of marginal habitat is not valuable as a long-term conservation tool. Murrelets are an old-growth dependent species (commenter cites Nelson and Hamer 1995) and most state trust lands lack the biologically necessary attributes critical to marbled murrelet habitat.

DEIS Commenters

404

Response

Appendix E of the FEIS provides a detailed explanation of the P-stage habitat model. Only stands that are naturally regenerated (and therefore more likely to contain some scattered legacy trees from previous stands) are included in P-stage habitat (Appendix E, p. E-6 through E-7). Murrelet nest sites have been documented in second-growth forests with structural elements similar to old-growth, such as remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe infestations (Evans-Mack and others 2003, Grenier and Nelson 1995).

Per the *Policy for Sustainable Forests* (DNR 2006), DNR defers harvest of old-growth forests, which are defined in western Washington as a stand that is at least 5 acres in size, with a natural origin date prior to 1850, and in the most structurally complex stage of stand development.

Subtopic: Adequacy of buffers**► COMMENT**

Several commenters called for larger buffers to reduce predation by jays and crows on murrelet nests. Several commenters suggested that buffers of up to 100 meters are too narrow to protect nests from predation, microclimate impacts, and windthrow. Other commenters reference the

conservation alternatives proposal of 150-meter buffers as more adequate (refer to subtopic “Conservation Alternative”). USEPA questioned the adequacy of 50-meter buffers on sites 200 acres or greater within OESF. Other commenters questioned the need for buffers at all.

DEIS Commenters

233, 268, 285, 301, 319, 323, 329, 366, 422, 426, 437, 458, 465

Response

Occupied site buffers are used to minimize edge effects from adjacent timber harvest that can result in windthrow, microclimate changes, and increased predation risk. These effects are most severe within 50 meters (165 feet) of hard edges and diminish with increasing distance from the edge. While 150-meter wide buffers would provide additional protection for occupied sites from severe windthrow events, the best available science regarding edge effects to marbled murrelet habitat features (for example, platform trees, platform density, and predation risk) have demonstrated that edge effects are most profound within 50 meters of a hard edge and are essentially immeasurable beyond 100 meters from a hard edge. Severe windthrow events can extend beyond 100 meters from edges, but these events are relatively uncommon, and usually occur in locations with specific geographic features that funnel prevailing winds. Other environmental factors, such as changes in temperature and moisture gradients, can extend beyond 100 meters from an edge, but these factors have not been linked directly to changes in murrelet habitat features or nest success beyond 100 meters from hard edges. A review of the science of how edges can affect murrelet habitat is presented in Appendix H of the RDEIS.

Subtopic: Forest fragmentation/edge effects

► **COMMENT**

Several commenters expressed concern with ongoing forest fragmentation. One commenter asked whether DNR had done a study of the size of unfragmented forest necessary for marbled murrelet survival. Another commenter suggested that alternatives A and B do not adequately ameliorate edge effects associated with habitat fragmentation.

DEIS Commenters

248, 285, 305, 329, 458

Response

Plissner and others (2015) reviewed murrelet literature and found that nest success was not significantly associated with patch size alone. However, many studies have shown that habitat fragmentation can result in reduced nesting success along man-made edges as a result of increased predation risk (Plissner and others 2015, p. 51). A literature review by the Oregon Department of Forestry (ODF) in 2019 found that the relationship between murrelet nesting success and landscape characteristics is complicated, and available information does not indicate a consistent trend; however, many studies indicate higher nesting success away from hard edges

(ODF 2019). Interior forest patches that are not influenced by edge effects are recognized as important for providing secure nesting opportunities for marbled murrelets. The Joint Agencies included edge effects in the analytical framework used to calculate impacts (harvest) and mitigation (habitat growth). The area of nesting habitat in interior forest patches is one of the evaluation criteria analyzed in the Chapter 4.6 of the FEIS.

► COMMENT

Commenters argue that murrelets are an edge species. Citing Horton 2008, one commenter stated that murrelet activities increase with high-contrast edges where there was abundant old growth and late seral forests in large patches. The DEIS does not identify or examine any new long-term studies about the interrelationship between edge effects, fragmentation, and corvid behavior, nor about corresponding marbled murrelet responses. The commenter questions the effectiveness and necessity of including unoccupied habitat in special habitat areas and emphasis areas because reducing edge effects and fragmentation will not impact likelihood of survival or recovery. Another commenter noted that Chen's studies on interior forest conditions and edge effects (Chen and others 1993) should not be broadly applied, and that roads do not necessarily create an edge effect.

DEIS Commenters

404, 421, 422

Response

A literature review by the Oregon Department of Forestry (ODF) in 2019 found that the relationship between murrelet nesting success and landscape characteristics is complicated, and available information does not indicate a consistent trend; however, many studies indicate higher nesting success away from hard edges (ODF 2019). Malt and Lank (2009) conducted a study of nesting depredation using artificial nests and demonstrated that predator disturbance was more likely at hard edges than in interior habitats (ODF 2019). Marbled murrelets are known to locate their nests throughout forest stands and fragments, including along various types of natural and man-made edges, but there is no evidence to suggest that marbled murrelet preferentially select for nest sites along man-made edges (McShane and others 2004, p. 4-87). These studies are the basis for conserving existing habitat and non-habitat areas within special habitat areas. A review of the science of how edges can affect murrelet habitat is presented in Appendix H of the FEIS.

Subtopic: Amount of baseline habitat

► COMMENT

The commenter asked why figures S-1 and 4.6.1 show approximately 200,000 acres as a starting baseline of habitat for all alternatives, and why Figure 2.4.2 shows different baseline habitat amounts for each alternative.

DEIS Commenters

340

Response

Figures S-1 and 4.6.1 both show the entire amount of murrelet habitat that exists in the analysis area today. This amount is the same for each alternative.

By contrast, Figure 2.4.2 shows the amount of murrelet habitat included in long-term forest cover under each alternative. Because long-term forest cover is different under each alternative, the baseline would be different for each and also would be different from the amount shown in figures S-1 and 4.6.1.

Subtopic: Northern spotted owl low-quality habitat as murrelet habitat**► COMMENT**

The commenter requests that DNR include a table of the amount of modeled northern spotted owl low-quality habitat that would be murrelet habitat by each P-stage category in Decade 0 and Decade 5, by HCP planning unit.

DEIS Commenter

340

Response

Only Alternative F includes low-quality northern spotted owl habitat as marbled murrelet specific conservation. The table below shows the acres of marbled murrelet-specific conservation included in Alternative F because it is low-quality northern spotted habitat, by P-stage in decades zero and five.

P-stage	Decade 0 acres	Decade 5 acres
0	60,000	41,000
0.25	6,000	15,000
0.36	2,000	200
0.47	1,000	7,000
0.62	300	6,000
0.89	300	400
1.0	0	0
Total	69,000	69,000

■ Topic: Impacts and Mitigation

Subtopic: Stringers

► COMMENT

The commenter asked for further clarification of why stringers are not given mitigation value, but at the same time are afforded “existing conservation value.”

DEIS Commenters

340

Response

Stringers (areas 200 meters wide or less, predominately riparian management zones, where adjacent uplands have not been designated as long-term forest cover) are a component of existing conservation because they can provide limited nesting opportunities for murrelets when surrounded by mature forest. Due to the susceptibility of lands in a “stringer” configuration to predation and other adjacent edge effects, these lands were not given mitigation credit.

Subtopic: Minimizing and mitigating to the maximum extent practicable

► COMMENT

The commenter says that the DEIS does not analyze whether the alternatives provide “minimization and mitigation to the maximum extent practicable.” No alternative combines all of the conservation areas to the maximum extent that can be practicably done to offset take (impacts). If DNR cannot afford to reduce timber harvest, the Endangered Species Act requires that it affirmatively demonstrate why. DNR also does not provide a sufficiently specific analysis of the impacts of impacts or mitigation.

DEIS Commenters

503

Response

The Joint Agencies applied the need and purpose when designing the alternatives for the DEIS (the Joint Agencies’ need and purpose statements in the DEIS were separated by agency for the RDEIS; no changes were made to these statements for the FEIS). Setting aside all potential habitat was rejected as not practicable, given the obligations of DNR to manage state trust lands for trust beneficiaries as well as for resource conservation. The socioeconomics analysis in the FEIS demonstrates the economic impacts to beneficiaries and local economies of reducing timber harvest under each alternative. Further reduction of harvest beyond the range analyzed would

exacerbate these adverse impacts, and would not be practicable. Impacts to marbled murrelets and mitigation for these impacts are fully analyzed in Section 4.6 of the FEIS.

The method used to compute impacts and mitigation is detailed and applies adjustments for habitat quality, geographic location, and edge effects from roads and timber harvest, and for habitat that develops later in time (refer to Appendix H of the FEIS). The Joint Agencies report acres of mitigation minus impacts for strategic locations that are recognized as important for marbled murrelet conservation (refer to Table 4.6.5 of the FEIS). The Joint Agencies also account for changes in habitat quality over time. Only habitat that develops during the first decade in interior forest patches is given full mitigation credit.

NEPA and SEPA require agencies to analyze a reasonable range of alternatives and include appropriate and feasible mitigation measures for each action alternative. Each of the alternatives analyzed in the FEIS include minimization and mitigation measures (refer to the conservation measures in Chapter 2 of the FEIS). Therefore, the Joint Agencies submit that this NEPA requirement has been met.

The commenter may be referring to the Endangered Species Act Section 10 incidental take permit issuance criteria, which requires USFWS to determine whether the impact of the taking would be minimized and mitigated to the maximum extent practicable (refer to Chapter 1 of the FEIS for a description of the Section 10 issuance criteria). Information contained in the FEIS will be available to the USFWS when determining whether the Section 10 permit issuance criteria has been met (refer to the USFWS approval process described in Chapter 1 of the FEIS).

Subtopic: Fragmented habitat as mitigation

► COMMENT

The commenter says that the DEIS should not count highly fragmented, low-quality murrelet habitat areas as mitigation for logging high-quality habitat. The alternatives do not effectively differentiate among the forests in terms of their location or value to the marbled murrelet.

DEIS Commenters

503

Response

The DEIS did not assume equivalency between low-quality and high-quality habitat in the computation of impacts and mitigation and neither does the FEIS. Section 4.6 and Appendix H explain in detail how impacts and mitigation are calculated, demonstrating that there is no equivalency assigned between one acre of high-quality habitat and one acre of low-quality habitat. Mitigation values are adjusted for quality, as explained in the FEIS. The formula does not value “highly fragmented, low-quality habitat” the same as high-quality habitat. Fragmentation, which is expressed as P-stage value discounts for edge and the exclusion of stringer habitat, as well as discounts for distance from marine waters and how far into the future the habitat develops

and counts towards mitigation, are used in the calculation of impacts and mitigation. The use of these factors responds to the “Revised HCP Handbook” cited in the commenter’s letter that “care should be given to compare and document the value of what is lost and the expected value of measures to replace what would be lost.” The Joint Agencies strongly believe that this care has been taken, as is expressed in the analytical framework (FEIS Appendix B) used to estimate potential impacts and mitigation, the addition of conservation measures, and the overall design of the long-term conservation strategy alternatives.

Subtopic: Mitigation and uncertainty

► COMMENT

The commenter points out that the DEIS should not count uncertain protections as mitigation. The commenter requests that DNR explain whether all areas of long-term forest cover will be protected from logging, and only count as mitigation those areas unequivocally protected as a condition of the 1997 HCP.

DEIS Commenters

175, 311, 317, 393, 395, 403, 414, 417, 421, 422, 503

Response

This is a long-term conservation strategy, covering almost 1.4 million acres of forest land across a wide geographic area. Uncertainty is present. The location of existing conservation, based on GIS-information known today, may change as field work determines different boundaries of components of long-term forest cover. Both the areas of certainty and uncertainty are explained in the EIS (refer to Chapter 4 and appendices D, E and G of the FEIS). Mitigation credit is only provided for forested habitat with a P-stage value and is discounted for edge and time over the 50-year planning period. Additional areas of long-term forest cover are considered part of the long-term conservation strategy, as these areas provide habitat connectivity or habitat security, even if they are not credited as murrelet habitat.

► COMMENT

Commenter says that mitigation should only count permanent habitat preservation as mitigation and should ensure that mitigation precedes any allowed take. Under the alternatives, mitigation does not precede take and there is no specific implementation schedule for the mitigation strategy.

DEIS Commenters

503

Response

Conservation measures, which minimize disturbance, would be implemented immediately. Habitat growth, which mitigates other incidental take, will be implemented as it occurs naturally through time. Alternative H includes metering, which delays harvest of up to 5,000 adjusted acres until the end of the first decade following implementation to allow for habitat development in long-term forest cover and resulting in no net loss in adjusted acres of habitat. The acres of metering increased from 3,500 acres in the RDEIS to 5,000 acres in the FEIS as a result of data updates conducted for the FEIS (refer to Appendix O of the FEIS).

Subtopic: Natural areas as mitigation**► COMMENT**

Commenter asks that DNR not count existing natural area preserves (NAP) and natural resources conservation areas (NRCA) as mitigation.

DEIS Commenters

175, 311, 317, 393, 395, 403, 414, 417, 421, 422, 503

Response

NAPs and NRCAs are permit lands covered by the 1997 HCP. Mitigation is calculated based on the new acres of habitat that will grow through time in these areas, adjusted by the P-stage value of those acres. Only when this habitat occurs and develops on NAPs and NRCAs will it be counted as mitigation.

Subtopic: Take-to-mitigation ratio**► COMMENT**

The commenter expressed concern that the DEIS assumes that a 1:1 take-to-mitigation ration fully offsets impacts and fails to provide spatially or temporally specific analysis of the impacts of the taking. The commenter requests that the Joint Agencies distinguish between long-term forest cover and mitigation, and only consider habitat to be mitigation if it provides actual conservation benefits to marbled murrelets that offset the impacts of the authorized take.

DEIS Commenters

503

Response

Mitigation value is discounted based both on the spatial location of the new habitat and when it becomes habitat. A 1:1 ratio is not assumed. Actual acres of new habitat exceed what is given credit as mitigation, because stringers are not given mitigation credit and a temporal discount is

applied to habitat that develops in later decades. Take (impact) of habitat is assumed to occur in the first decade of the strategy, as is explained in Section 4.6 of the FEIS. Impacts to marbled murrelets and mitigation for these impacts are also analyzed in Section 4.6 of the FEIS.

■ Topic: Conservation Areas

Subtopic: *Emphasis areas*

► COMMENT

The commenter recommends that DNR strike permission to clearcut (variable retention harvest) areas within emphasis areas and either retain consistency with Table 2.4.1 or more clearly explain where and when clearcuts (variable retention harvest) are permitted within emphasis areas, especially in the table cited.

DEIS Commenters

33

Response

Table 2.4.1 of the DEIS and FEIS is accurate and internally consistent with the description of emphasis areas (Section 2.2 of the FEIS). Table 2.4.1 states that variable retention harvests within long-term forest cover would not be permitted. Emphasis areas include both long-term forest cover and areas available for general management. The description of emphasis areas in Section 2.2 of the FEIS states that active forest management, including variable retention harvest, of non-habitat is allowed within emphasis areas when such activities do not delay achievement of future habitat goals for the emphasis area.

Subtopic: *Marbled murrelet management areas*

► COMMENT

Commenter requests clarification on what management activities will be allowed in these areas (per Table 2.4.1, is clearcutting allowed?) Per page 2-15, clearcutting appears to be prohibited in marbled murrelet management areas except where the 2008 Science Team permitted it within the OESF. Is this correct? Clarify what the 2008 Science Team report (Raphael and others 2008) allows and prohibits. Clarify why all the 2008 Science Team report recommendations were not included.

DEIS Commenters

33, 496

Response

Alternative F applies the recommendations from the 2008 Science Team report (Raphael and others 2008). Marbled murrelet management areas would be managed for habitat enhancement. As stated in Table 2.4.1, no variable retention harvest would be allowed in long-term forest cover, which includes marbled murrelet management areas, under Alternative F. Thinning, salvage, reforestation, and other limited management would be allowed within marbled murrelet management areas but outside habitat, and non-timber land uses would continue pursuant to existing policy and conservation measures. Some variable retention harvest is possible in marbled murrelet management areas in the OESF as long as habitat conditions are met (50 percent remains habitat, 2/3 of area remains as tall trees [security forest]).

Subtopic: Occupied sites**► COMMENT**

Regarding detections of occupancy noted in the DEIS, commenter requests that DNR clarify and better quantify how many occupied sites are certain and how many are assumed. How much of the analysis area has been surveyed to protocol?

DEIS Commenters

422, 496

Response

Occupied sites on DNR-managed lands were documented through surveys, using survey protocols that were available at the time. These sites are included in all alternatives, including the no action alternative. Work by the Science Team (Raphael and others 2008) identified approximately 16,000 additional acres of occupied sites, and these sites are included in all of the action alternatives. A summary of the area surveyed and the total acres of occupied sites is included in Appendix D of the FEIS.

■ Topic: Conservation Measures**Subtopic: Thinning****► COMMENT**

Commenter requests that DNR prohibit variable density thinning in occupied site buffers, as thinning increases the possibility of windthrow, alters microclimate, and facilitates easier penetration by predators. Indicate the maximum and minimum percent that will be followed under all alternatives. Clarify what habitat enhancement thinning means, if not variable density thinning. Define “commercial thinning” within the marbled murrelet management areas and the

maximum percent of harvest envisioned (also, how commercial thinning differ from variable density thinning).

DEIS Commenter

33

Response

Definitions for variable density thinning and commercial thinning are provided in Chapter 7 of the FEIS. The Joint Agencies clarified specific measures for thinning allowed in each type of conservation area in Table 2.2.5 of the RDEIS and FEIS.

Subtopic: General

► **COMMENT**

One commenter expressed confusion around what activities would be allowed in conservation areas, citing too much “wiggle room” and too-permissive standards for routine operations. Another commenter requested more explicit requirements for consultation with USFWS on these activities.

DEIS Commenters

299, 496

Response

Conservation measures were updated for the RDEIS and FEIS and are explained in Section 2.2 of each document.

Subtopic: Roads

► **COMMENT**

Commenter requests that DNR not allow road construction through occupied sites and their buffers under alternatives B, E, or F.

DEIS Commenters

33

Response

Road construction through occupied sites and occupied site buffers is expected to be a rare event and is only permitted in situations when no other route is feasible. In these cases, DNR would consult with USFWS to minimize impacts to marbled murrelets. Over the past 20 years, DNR has constructed only one new road through an occupied site in response to a landslide destroying a road that provided access to rural residential homes.

Subtopic: Tailholds, rigging, guy lines

► COMMENT

Commenter advises that DNR delete permission for tailholds and rigging and guy lines and landings in occupied sites and buffers.

DEIS Commenters

33

Response

As described in Chapter 2 of the FEIS, under alternatives A through G, tailholds, guylines, and rigging in occupied sites would be installed outside the marbled murrelet nesting season. In occupied sites, occupied site buffers, and special habitat areas, impacts to platform trees from tailholds, guylines, and rigging would be avoided when possible.

Under Alternative H, installation of tailholds, guylines, and rigging in occupied sites would occur outside of the nesting season, and would avoid impacts to platform trees when possible. Installation of tailholds, guylines, and rigging in occupied site buffers or in special habitat areas would avoid platform trees when possible. In addition, if installation would occur within an occupied site buffer or within 328 feet of an occupied site in a special habitat area during the nesting season, work would be performed during the limited operating period (two hours after sunrise to two hours before sunset [USFWS 2012]).

Subtopic: Blasting

► COMMENT

Commenter requests a 0.5-mile blasting buffer from occupied sites and marbled murrelet conservation areas during the nesting season (part of the conservation alternative).

DEIS Commenters

162, 169, 174

Response

Blasting within a distance of 0.25-mile of occupied sites will be restricted during the nesting season. Minimization measures such as avoiding blasting during the nesting season or application of limited operating periods would apply to these activities.

Subtopic: Salvage

► COMMENT

Some commenters asked for more prohibitions on salvage. Some suggested that salvage be prohibited in marbled murrelet management areas and special habitat areas. Another suggested that the strategy prohibit salvage logging in areas of 20 acres or less, as these openings substitute for clearcuts planned in long-term forest cover or in the OESF and any other HCP planning unit.

DEIS Commenters

169, 174

Response

The proposed conservation measures for all action alternatives would allow salvage after a disturbance event in marbled murrelet conservation areas only with a site-specific restoration plan approved by the Joint Agencies and under other specific parameters intended to protect and recover habitat.

Subtopic: Recreation

► COMMENT

Commenter says that murrelet-encumbered lands in timber-dependent counties should be re-evaluated for passive recreation outside murrelet conservation areas. Motorized trails should not be permitted in special habitat areas, or occupied sites and buffers, including the half-mile buffer within emphasis areas. One commenter noted recreation impacts should be carefully addressed in habitat to avoid conflict with habitat protection, and that improving late-successional forest conditions may provide additional recreation opportunities outside the nesting season. The Baker-Bellingham Recreation Advisory Committee asked that flexibility be given to allow undesignated trails to become designated trails where they can work within the strategy. This committee also noted concern with the restrictions on new recreation under alternatives C and D, wanted more information on the consultation process for recreation under alternatives B and E, and were concerned that alternative F removes too much land from the recreation inventory.

DEIS Commenters

340, 477, 493

Response

A wide variety of recreational activities occur on DNR-managed lands. Existing recreation is covered under the HCP as a *de minimus* use, and DNR regularly consults with USFWS for new activities that could potentially impact marbled murrelet habitat. The action alternatives propose three approaches to avoid, minimize, and mitigate the impacts from new or expanded recreation

activities for the murrelet, described in Table 2.2.8 in the FEIS. Refer to Appendix A, Table A-4 in the HCP amendment for conservation measures specific to the amendment.

■ Topic: Other Impacts

Subtopic: Impacts on other listed species

► COMMENT

Commenter asks if “overall abundance and distribution of species, including listed and sensitive species, would remain stable or increase on DNR-managed lands” apply to the murrelet (p. 2-57 of the DEIS).

DEIS Commenters

33

Response

This statement applies to non-murrelet species. Impacts to murrelets are analyzed in Chapter 4.

Subtopic: Carbon sequestration

► COMMENT

Commenter notes that, per some researchers, carbon sequestration and in situ carbon sinks are greatest in mature, old-growth forests and that sequestration will not be increased through variable density thinning. Commenter requests a quantifiable estimate of soil disturbance impacts on carbon release associated with thinning stands fifty years and younger and with disturbance related to other operating procedures.

DEIS Commenters

33

Response

The Joint Agencies agree that mature and old-growth forests in western Washington will continue to be the largest reservoir of sequestered carbon through the life of the 1997 HCP. DNR policies do not allow harvest of old-growth forests, and those policies are unchanged by the alternatives. The Joint Agencies are not aware of any studies in the peer-reviewed literature quantifying changes in soil carbon resulting from soil disturbance associated with forest thinning operations, and findings from a recent global meta-analysis were uncertain (James and Harrison 2016). Furthermore, the alternatives do not increase soil disturbance impacts nor change DNR’s current thinning practices. Section 4.1 of the FEIS did not find any impacts to soils under the alternatives.

Subtopic: Impacts to DNR operations

► COMMENT

One commenter asked what constitutes "routine operations," and whether variable retention harvest is included in that. Commenter asked that if variable retention harvest is not allowed in long-term forest cover, that it be clearly stated on p. S-11. Another commenter was concerned about limitations on DNR's access to operable lands.

DEIS Commenters

33, 410

Response

Examples of routine operations allowed within long-term forest cover include thinning, forest health treatments, road construction and reconstruction, blasting, trail maintenance, and non-timber harvest land uses such as leases. Each of these activities would be subject to specific conservation measures that differ by alternative and depending on when and where the activity would occur. Consideration of operational impacts is part of the decision-making process before the Board of Natural Resources when evaluating the action alternatives. Conservation measures were updated for the FEIS; refer to Chapter 2 for more information. Also refer to DNR's HCP amendment (Appendix Q to the FEIS).

Subtopic: Recreation impacts

► COMMENT

The commenter expressed concern with how the alternatives limit recreation opportunities in east Snohomish County. The commenter suggested educating recreation users and preserving or creating nesting trees.

DEIS Commenters

312

Response

Conservation measures addressing recreation impacts are based on science that supports the fact that nesting murrelets are disturbed by recreational activities, and recreation can expose nesting birds to predators. Existing and ongoing recreation activities would continue within conservation areas. Preserving or creating individual nest trees would not be as effective as providing a larger area of protected interior forest in which disturbance is limited.

Subtopic: Climate change analysis

► COMMENT

One commenter noted that “The partial inclusion of climate change effects, attributed to modeling difficulties, is not acceptable. In fact, conservative impacts of likely climate change factors should be used. Climate change science forecasts severe species stress and significant species extinction. These factors cannot be under-represented.” Another commenter questions data inputs and assumptions behind the climate change analysis. Other commenters asked for more analysis of climate change on nesting habitat and species persistence.

DEIS Commenters

172, 317, 449, 503

Response

It is unclear if the first commenter is referring to the climate change chapters or to the population estimates. The data presented in the climate chapter uses the best available science. The Joint Agencies are unaware of any study in the peer-reviewed literature that documents severe species stress and significant species extinction risk for marbled murrelet under a changing climate. As noted in the FEIS, the science indicates an intensifying of natural disturbance regimes, such as wildfire and drought. But the location, disturbance extent, and timing of such events is unknown. Using the most recent species assessment, the FEIS also summarizes results published by Case and others (2015), in which the marbled murrelet received an overall climate sensitivity score of “high,” in part because of the species’ habitat affinity to older forest conditions with complex forest structure. Taken together, disturbance projections and habitat sensitivity suggest risk to marbled murrelet habitat from natural disturbances likely will increase. Outside of Alternative B, all other alternatives increase current and future murrelet habitat, thereby reducing current and future species habitat risk and stress. Any additional species stress related to food availability in the marine environment is the same across all alternatives and likely is not influenced by DNR forest management.

► COMMENT

The commenter believes the analysis in the DEIS fails to sufficiently incorporate the impacts of climate change.

DEIS Commenters

503

Response

Climate change is analyzed as an element of the affected environment, and is acknowledged as a source of potential impacts under the cumulative effects analysis in Chapter 5 of the FEIS. Setting

aside more mature and maturing forest, which is proposed under all alternatives, is not anticipated to exacerbate climate change impacts or contribute to climate change. Using the most recent species assessment, Section 3.2 of the FEIS also summarizes results published by Case and others (2015), in which the marbled murrelet received an overall climate sensitivity score of “high,” in part because of the species’ habitat affinity to older forest conditions with complex forest structure. Taken together, disturbance projections and habitat sensitivity suggests risk to murrelet habitat from natural disturbances likely will increase. Outside of Alternative B, all other alternatives increase current and future murrelet habitat, thereby reducing current and future species habitat risk and stress.

Subtopic: Cumulative impacts of OESF management

► COMMENT

One commenter recommended that the FEIS discuss the potential cumulative impacts to marbled murrelet habitat associated with proposed research in the OESF to test natural disturbance-based landscape management approaches.

DEIS Commenters

426

Response

Analysis of the potential environmental impacts of a specific, proposed research project in the analysis area is outside the scope of this EIS. The long-term conservation strategy is a non-project action under SEPA. Supplemental review of site-specific projects such as research projects occurs under SEPA (and if a federal project, under NEPA) and any other applicable local, state, or federal law at the time they are proposed.

Cumulative impacts to marbled murrelets are not expected from potential research activities because experimental treatments would occur only in areas that are either non-habitat or areas that have been released for harvest under one of the alternatives considered in this FEIS. Impacts of harvest removal and edge effects are accounted for in the analytical framework used to assess impacts and mitigation for the alternatives. Management and research activities in areas of long-term forest cover have restrictions to reduce impacts to marbled murrelet habitat (refer to Table 2.2.5 in Chapter 2 of the FEIS). If any proposed project is expected to affect marbled murrelets in ways not analyzed and permitted by USFWS, DNR will consult with the USFWS and DNR's Forest Practices Division to obtain a research permit.

Subtopic: Impacts to northern spotted owls

► COMMENT

Commenters noted that Alternative F trades murrelet protection for northern spotted owl protection, and that this alternative will open up 47,000 acres of northern spotted owl habitat to logging.

DEIS Commenters

496

Response

Alternative F does not open up more acres of northern spotted owl habitat to logging, compared to the no action alternative (Alternative A). Alternative F conserves all high-quality northern spotted owl habitat and low-quality habitat that otherwise might have been available for some harvest.

Subtopic: Impacts to elk

► COMMENT

One commenter stated that the discussion of impacts to elk forage did not highlight the vital role forage areas play, and the critical role elk play in local communities. Commenter indicated that declining elk herds in the OESF as a concern, and cites an Olympic Natural Resource Center conference summary from 2001.

DEIS Commenters

410

Response

Reduced timber harvest can have a population effect on elk, since lands managed for commercial timber production produce optimal forage for elk. Effects on elk can largely be mitigated if proposed blocks of older forest are interspersed with early seral stage areas. This would be the case under all alternatives, although to varying degrees. It is a matter of scale. Table 4.5.2 of the FEIS states that "Foraging habitat for deer and elk may be locally reduced where larger blocks of long-term forest cover would be added, particularly under Alternative F. However, foraging habitat would continue to be present at the analysis area scale." The Joint Agencies have no evidence to support changing this conclusion. Potential local impacts are acknowledged, but on the scale of the analysis area, and considering that harvest will continue to occur in OESF, throughout the analysis area on DNR-managed lands, and on privately-held timber lands, the Joint Agencies have not identified a significant impact to elk. WDFW relies primarily on trends in bull elk harvest as a gauge of elk population status in the game management units within the OESF. With the exception of the Hoko Game Management Unit (WDFW area designation

located in far northwestern Clallam County), bull elk harvest has been stable or increasing in this area in recent years, according to WDFW staff. The alternatives do not propose new conservation in the Hoko Game Management Unit.

■ Topic: Missing or Expanded Analysis

Subtopic: Analyze impact of US Navy Growler training

► COMMENT

Several commenters asked for more analysis of U.S. Navy Growler (low flying aircraft) training over the Olympic Peninsula, expressing concern that these activities will disturb nesting marbled murrelets. One commenter asked that the impacts of Navy activities be analyzed in a supplemental DEIS. One commenter called for a revised DEIS to analyze the direct, indirect, and cumulative impacts of military operations on the Olympic Peninsula to the murrelet, and provided estimates of “take.” This commenter states “the ‘take’ of marbled murrelet from the expansion of military activities in the long-term forest cover DEIS zone is unknown and likely significantly underreported in current NEPA/SEPA processes associated with military training and testing activities. Comprehensive and adequate cumulative impacts analysis have not been carried out.”

DEIS Commenters

33, 172, 174, 247, 305, 500, 503

Response

The Joint Agencies recognize the potential for noise to impact nesting murrelets (refer to Chapter 4 of the FEIS). Although decisions regarding naval activities are outside the scope of this EIS, a discussion of noise impacts generated by these activities has been added to Chapter 5 of the FEIS.

The U.S. Navy EIS and the associated Biological Opinion for aircraft training over the Olympic Peninsula is available at <https://www.nwtteis.com/Documents/2015-Northwest-Training-and-Testing-Final-EIS-OEIS/2015-Final-EIS-OEIS>. In the Biological Opinion, USFWS completed a detailed analysis of the effects of aircraft noise on nesting marbled murrelets and concluded that marbled murrelet responses to the type and duration of aircraft overflights proposed by the Navy are likely to be brief periods (minutes) of increased vigilance and alerting behaviors. Over 99 percent of training flights will be spent at high altitudes where marbled murrelet habitat will not be exposed to high-amplitude aircraft noise. The closest approach of aircraft to marbled murrelet nesting habitat will be at 2,000 feet or greater above ground level (USFWS 2016, p. 212).

Subtopic: Implications of state up-listing of the marbled murrelet to "endangered" in November 2016

► COMMENT

Many commenters noted that the up-listing of the marbled murrelet from state threatened to state endangered should influence the conservation strategy. One commenter asked that the new state endangered status should be noted on page 3-33, Appendix L, and in the summary. Another commenter stated that the implications of a state endangered listing must be fully analyzed in the EIS, including addressing factors affecting its endangered status and a review of recovery plan goals.

DEIS Commenters

174, 241, 256, 266, 299, 301, 305, 329, 337, 364, 368, 433, 437, 448, 455, 463, 464, 478

Response

State up-listing by WDFW occurred after the DEIS was sent to print. On page 5-9, the DEIS anticipated this up-listing. This up-listing also is described in Section 3.5 of the FEIS. As stated in Appendix L, federally listed species, such as the marbled murrelet, are not included in the appendix but are described in the EIS. State up-listing of the marbled murrelet does not require additional action by DNR under its 1997 HCP or incidental take permit. WDFW is responsible for writing a recovery plan for species it lists as state endangered. That plan has not yet been completed.

Subtopic: Inadequate consideration of other factors affecting murrelet population, including impacts of marine conditions/food supply

► COMMENT

Several commenters noted that the DEIS does not adequately consider other factors that limit the recovery of the species and make growing nesting habitat on DNR-managed land over 100 years unlikely to substantially impact recovery. Several other commenters noted that marine conditions are likely to impact the population, and that DNR should consider food abundance and quality when determining how much habitat protection is needed.

DEIS Commenters

175, 311, 317, 393, 395, 403, 414, 417, 421, 422, 503

Response

Recent analysis indicates that the amount and distribution of inland habitat are the primary factors influencing the abundance and trends of murrelet populations (Falxa and others 2016). Changing marine conditions also play a role, and these are acknowledged in the cumulative effects analysis.

However, marine conditions are outside the scope of what the 1997 HCP can address. The 1997 HCP applies to forested uplands, not aquatic lands. The alternatives all would increase the amount of nesting habitat available on DNR-managed lands through the life of the 1997 HCP, which some population viability analysis scenarios show could have a positive impact. Per the Implementation Agreement, the 1997 HCP will run for 70 years from the effective date with the option of three, ten-year renewals (page B.7 of the Implementation Agreement).

► COMMENT

One commenter noted that DNR does manage some aquatic lands and these should be part of the analysis.

DEIS Commenters

422

Response

DNR does manage seven marine aquatic reserves. These reserves play an important role in providing habitat for forage fish, which support offshore populations of marbled murrelets and other seabirds. Where population data has been collected at these reserves, significant declines in both forage fish and marbled murrelets have been observed (DNR 2010a). No changes are proposed to the management of these reserves related to marbled murrelets. Fluctuations in forage fish populations and marine conditions are outside the scope of what the long-term conservation strategy on DNR-managed lands can address.

Subtopic: Indirect and cumulative effects analysis

► COMMENT

The commenter points out that the DEIS analysis fails to adequately consider indirect and cumulative effects, including the effects of harvest scheduling choices; road installation, use and abandonment; corvids; U.S. Navy Growler jet training; and offsite logging and fragmentation.

DEIS Commenters

503

Response

The potential effects of timber harvest and associated activities on DNR-managed lands were reviewed under the *Final EIS on Alternatives for Sustainable Forest Management of State Trust Lands in Western Washington* (DNR 2004), as well as the *Washington Forest Practices Rules Final DEIS* (DNR 2001). More recently, the *Alternatives for Establishment of a Sustainable Harvest Level for Forested State Trust Lands in Western Washington DEIS* (DNR 2016) also examined the impacts of different harvest scheduling choices on the affected environment. These

analyses do not need to be repeated for the long-term conservation strategy DEIS, RDEIS or FEIS. The long-term conservation strategy FEIS does address the multiple indirect impacts to nesting murrelets from a variety of audio-visual disturbances (refer to Section 4.6 of the FEIS), and provides conservation measures to minimize or avoid disturbance from such activities, including road construction and abandonment (refer to Section 2.2 of the FEIS).

The cumulative effects discussion in the DEIS did not specifically address U.S. Navy Growler training; however, a detailed analysis of the Navy's training program is presented in the Navy's EIS, available at <https://www.nwtteis.com/Documents/2015-Northwest-Training-and-Testing-Final-EIS-OEIS/2015-Final-EIS-OEIS>. Also, a discussion on the U.S. Navy's training program has been included in the cumulative effects analysis in Chapter 5 of the FEIS. Disturbance from low-flying aircraft associated with DNR management is analyzed in the FEIS (refer to Section 4.6 and Appendix H), and conservation measures are proposed to address these impacts. The cumulative effects analysis (Chapter 5) includes discussion of forest management by private and federal landowners, non-forest land uses, changes in the marine environment, and other potential impacts. Issues associated with forest fragmentation are mitigated by the focus on large, contiguous blocks of forested habitat and the use of buffers around occupied sites to reduce disturbance and edge effects, including increased predation risk from corvids.

■ Topic: Process

Subtopic: Sequencing of long-term conservation strategy with sustainable harvest calculation

► COMMENT

A few commenters expressed concern about the sequencing of the long-term conservation strategy and the sustainable harvest calculation, asking how the long-term conservation strategy can be incorporated into the sustainable harvest calculation and how the economic impacts from a financial analysis will be used by the long-term conservation strategy. Some asked that DNR complete the long-term conservation strategy first so that it can inform the sustainable harvest calculation.

DEIS Commenters

33, 299, 308, 328, 436, 348, 402, 410, 439, 494, 500

Response

DNR is completing the long-term conservation strategy and sustainable harvest calculation for fiscal years 2015 through 2024 in parallel processes because these two projects are related. The alternatives for the long-term conservation strategy designate varying amounts of state trust lands for murrelet conservation, which will affect the total amount of land available for harvest and the overall sustainable harvest level. The Board of Natural Resources will make decisions regarding

both the long-term conservation strategy and the sustainable harvest level at the end of these processes. If a sustainable harvest level is set prior to the adoption of the long-term conservation strategy, the sustainable harvest level will be adjusted.

In the *Alternatives for Establishment of a Sustainable Harvest Level DEIS*, DNR analyzed four sustainable harvest level alternatives, along with a no action alternative that reflects the previous level set by the Board of Natural Resources in 2007. Each action alternative combined a long-term conservation strategy, arrearage approach, and riparian thinning level as a basis for calculating a sustainable harvest level. The action alternatives include the long-term conservation strategy alternatives that conserve the fewest as well as the most acres. These combinations result in the widest range of harvest levels, within the legal and policy objectives under which DNR manages state trust lands.

The financial analysis (Appendix P to the RDEIS and FEIS) was specific to the sustainable harvest calculation. This analysis considered the potential financial impacts of 38 scenarios on trust beneficiaries, each scenario representing a different combination of long-term conservation strategy, arrearage, and riparian thinning options. The financial analysis was intended to inform the Board of Natural Resources' decision about the sustainable harvest level.

Subtopic: Public meeting process

► COMMENT

One commenter was critical of covering both the marbled murrelet strategy and the sustainable harvest calculation in combined public meetings, which conflated the issues and did not leave enough time for commenters to ask questions. They support hearings encouraging testimony from the public. Others were pleased with the public meetings and outreach efforts. One commenter asked for more time to comment.

DEIS Commenters

26, 32, 308, 473, 477, 483, 493

Response

Many stakeholders in DNR's management of state trust lands are concerned about both marbled murrelet conservation and the sustainable harvest calculation. It was efficient for staff and many stakeholders to combine the public meetings for these parallel processes (refer to the previous response under this subtopic). Both DNR and USFWS staff spoke to multiple attendees at all four public meetings, and meetings were not ended until the public appeared to be done asking questions and getting the information they needed. An extended, 90-day comment period was held, exceeding NEPA and SEPA requirements of 45 and 30 days, respectively.

Subtopic: Public comment requirements of the Endangered Species Act

► COMMENT

The commenter states that the DEIS is deficient in that it is solely focused on meeting NEPA and SEPA requirements without meeting the public comment requirements of the Endangered Species Act. DNR has not presented a draft HCP to the public for comment. No analysis is provided of how the proposed alternatives may or may not meet Endangered Species Act Section 10 approval criteria.

DEIS Commenters

329

Response

The DEIS presented a reasonable range of alternatives and the Joint Agencies solicited public comment on these proposed alternatives. These comments were considered in developing the HCP amendment. The RDEIS included the Joint Agencies' preferred alternative (Alternative H) and a proposed HCP amendment based on Alternative H. Both the RDEIS and the proposed amendment were available for public review from September until December, 2018 and the FEIS is now available. Issuance criteria are not directly addressed in the FEIS, but will be addressed in USFWS's final decision documents. However, the evaluation criteria to assess impacts and mitigation, population viability, and projected changes in the amount and distribution of marbled murrelet habitat on DNR-managed lands are presented in Section 4.6 of the FEIS and are relevant to the issuance criteria.

Subtopic: Promptly adopt long-term conservation strategy

► COMMENT

One commenter called for moving promptly to approve a long-term conservation strategy.

DEIS Commenters

499

Response

Thank you for your comment.

■ Topic: Endangered Species Act

Subtopic: Endangered Species Act obligations are met by way of the alternatives

► COMMENT

Commenter suggests that because the alternatives were jointly formulated by the Joint Agencies, they are legally sufficient to meet DNR’s legal obligations under the Endangered Species Act.

DEIS Commenters

403

Response

The alternatives represent a range of approaches to long-term marbled murrelet habitat conservation. For a discussion of how each alternative addresses the purpose of this process, refer to Section 2.4 of the FEIS.

Subtopic: Incidental take

► COMMENT

One commenter noted that it is ecologically unthinkable to suppose that “incidental take” cannot harm murrelet species recovery. Loss of any genetic diversity as a result of take exacerbates species decline. Another commenter stated that no alternative deals with increases in take. Another commenter suggested that USFWS define a limit on incidental take.

DEIS Commenters

364, 389, 432

Response

Incidental take is defined in Chapter 1 of the FEIS. Pursuant to Section 10(a)(1)(B) of the Endangered Species Act, DNR can only obtain an incidental take permit with the completion of an HCP that meets the Section 10 issuance criteria. The issuance criteria includes a determination from USFWS that the take will not appreciably reduce the likelihood of survival and recovery of the species in the wild (refer to Chapter 1 of the FEIS). Incidental take that is limited in scope and duration does not necessarily preclude recovery of a listed species.

► COMMENT

Commenters noted that none of the action alternatives result in an increase in incidental take. One commenter pointed to Section 25.3(c) of the Implementation Agreement. This section indicates that HCP amendments that do not increase the level of incidental take already permitted in the incidental take permit do not require an amendment to the permit; no additional mitigation will be necessary unless the proposed HCP amendment increases the level of incidental take.

DEIS Commenters

404, 415, 416, 417, 422

Response

In 1996, DNR applied to USFWS for an incidental take permit to take marbled murrelets and other Endangered Species Act-protected species in association with its land management activities. DNR proposed, and USFWS approved, a five-step interim strategy for murrelet habitat identification and protection. The strategy involved collecting scientific information; preserving, on an interim-basis, all murrelet habitat in westside HCP planning units; and ultimately, DNR submitting its proposal for a long-term conservation strategy for the murrelet to USFWS for approval (DNR 1997, p. IV.39-40).

Pursuant to the interim strategy, DNR can release up to 74,286 acres of unsurveyed, suitable, but mostly low-quality murrelet habitat for harvest. This habitat was expected to support fewer marbled murrelets, with lower reproductive success than higher quality habitat, and constitute roughly five percent of the potentially occupied sites on DNR-managed lands. Approximately 31,000 acres of this habitat has been harvested since implementation of the interim strategy.

In contrast to low-quality habitat, the interim strategy restricted harvest of most high-quality marbled murrelet habitat in the westside HCP planning units. The purpose was to preserve high-quality habitat for possible future protection under the long-term conservation strategy. High-quality habitat preserved under the interim strategy constitutes those areas that are estimated to support approximately 95 percent of the nesting murrelets on DNR-managed lands.

The long-term conservation strategy had not been developed at the time of incidental take permit consideration, and therefore its implementation was not evaluated in the 1997 Biological Opinion. The 1997 Biological Opinion states that “any take resulting from implementation of [the long-term conservation strategy] would require a permit amendment.” Any change which increases the level of incidental take would require an incidental take permit amendment. Several actions may result in amendment proceedings, including new listings, land transactions, adjustments to conservation strategies, and increases in levels of take. The types and procedures for amendments are specified in Section 25 of the Implementation Agreement for the 1997 HCP. The take of high-quality habitat under the long-term conservation strategy would be new take that results from implementation of the long-term conservation strategy.

The Joint Agencies have determined that the take of high-quality habitat contemplated in the HCP amendment was neither proposed by DNR in the 1997 HCP, nor permitted by USFWS in the

1997 incidental take permit. Each agency concludes that the take of high-quality habitat contemplated in the HCP amendment would exceed currently permitted take, and, therefore, an HCP and incidental take permit amendment is required.

Subtopic: Extirpation and take

► COMMENT

The commenter says that there is no biological justification for authorizing additional take for a species that is on a fast path to extirpation.

DEIS Commenter

329

Response

Section 10 of the Endangered Species Act authorizes USFWS to issue incidental take permits to non-federal entities if specified issuance criteria have been met. DNR has a legal responsibility to minimize and mitigate for impacts to marbled murrelet habitat on DNR-managed lands and to ensure adequate funding is available to implement their plan. Under all alternatives considered, nesting habitat is expected to increase on DNR-managed lands over the next 50 years (Refer to Table 4.6.10 in the FEIS).

Subtopic: Species recovery requirements/Endangered Species Act criteria

► COMMENT

One commenter asked what other states were doing to conserve the species, and whether the Endangered Species Act requires recovery of all species everywhere. Others questioned whether USFWS criteria could be met by all of the alternatives.

DEIS Commenters

309, 424

Response

The marbled murrelet is listed as endangered by the State of California under the California Endangered Species Act. The California forest practices rules include provisions to avoid take and jeopardy pursuant to the California Endangered Species Act. California State Parks have developed and implemented marbled murrelet management plans aimed at protecting nesting murrelets, and reducing predation risk in State Parks. In Oregon, the marbled murrelet is State-listed as a threatened species, and state agencies (Oregon Department of Forestry) have relied on marbled murrelet surveys to avoid take of occupied habitat on state-managed forest lands. The Oregon Department of Forestry is currently in the process of developing an HCP for marbled murrelets and other federally-listed species that occur on state-managed lands in western Oregon.

The Joint Agencies maintain that they have analyzed a reasonable range of alternative in the DEIS, RDEIS, and FEIS. Section 10 issuance criteria will be used to evaluate DNR's HCP amendment at the conclusion of the NEPA process, prior to issuance of the record of decision.

Subtopic: Jeopardy

► COMMENT

The commenter says the alternatives risk jeopardy by impeding recovery and continuing species decline. Commenter also states that consideration of an alternative likely to avoid jeopardy is required.

DEIS Commenters

503

Response

A jeopardy analysis will be conducted by USFWS after a formal application to amend the 1997 HCP is submitted by DNR and the FEIS is published.

Subtopic: Alternatives do not meet Endangered Species Act

► COMMENT

A few commenters stated that the alternatives do not comply with Endangered Species Act requirements to monitor, minimize, and mitigate impacts of incidental take from harvest, and are not consistent with recovery or maintenance of stable murrelet populations in Washington.

DEIS Commenters

177, 270, 308, 309

Response

One of the objectives of the HCP amendment is to provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations (refer to Chapter 1 of the FEIS). The criteria used to measure this objective are detailed in Chapter 4 of the FEIS. As noted in the FEIS (Chapter 4), population viability analysis modeling results for the Washington population showed no substantial difference in population size or quasi-extinction probabilities. This result is due to two factors: (1), the portion of the marbled murrelet population in Washington attributed to DNR-managed lands is only 14 percent (refer to Section 3.6 in the FEIS), and (2) habitat conditions on non-DNR-managed lands in Washington do not change over time in the model, so the Washington population continues to decline throughout the 50-year modeling period (Appendix C to the FEIS, p. 33). The population

viability analysis results that focus solely on habitat changes on DNR-managed lands indicate significant differences in ending population sizes amongst the alternatives considered (refer to Table 4.6.9 in the FEIS). In addition, USFWS must find that the HCP amendment meets the Endangered Species Act Section 10 issuance criteria, including that the amendment minimizes and mitigates to the maximum extent practicable and will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

■ Topic: Other

Subtopic: Need and purpose

► COMMENT

One commenter asked that the portion of the purpose statement, “a significant amount of protection for the murrelet” should be added to the “need” statement. The commenter found the need and purpose statements deficient because of their focus on fiduciary responsibility to the trusts.

DEIS Commenters

33, 503

Response

The Joint Agencies’ need and purpose statements in the DEIS were adopted by the Board of Natural Resources and USFWS to guide the development of the alternatives. These statements were informed by an extensive scoping process. They reflect the multiple management objectives and requirements that apply to state trust lands and the commitments of the 1997 HCP.

The need and purpose statements were separated by agency for the RDEIS. No changes to these statements were made for the FEIS.

Subtopic: Use best available science/more recent than 2008 Science Team report

► COMMENT

Many commenters, including most supporting the conservation alternative (refer to comments under that topic), called for the use of best available science and/or more current science to design a conservation plan. Several noted that the 2008 Science Team Report is dated, and pointed to deficiencies in the DEIS with regard to using best available science. These deficiencies included not protecting upland habitat in the Strait of Juan de Fuca pursuant to Raphael 2014 (also cited as 2015 or 2016), which indicated this area as a “hot spot” for at-sea populations.

DEIS Commenters

33, 43, 61, 95, 110, 114, 116, 122, 142, 143, 155, 161, 173, 255, 265-267, 274, 299, 305, 309, 335, 348, 359, 363, 369, 471, 473, 494

Response

The best available science was used throughout the development and analysis of the alternatives. The 2008 Science Team Report was referenced repeatedly in the DEIS and is the basis for several components of the long-term conservation strategy, including the P-stage model, the addition of occupied sites to all action alternatives, and the location of conservation areas under Alternative F. However, the 2008 Science Team report was not the only source of best available science used to develop the alternatives and analyze their impacts. Many sources of current science also were used throughout the DEIS (refer to Chapter 6 of the DEIS; also refer to literature cited in the appendices). Appendix E cites Raphael (with an alternate date of 2015; this date has been corrected to 2014) as a source used in developing the methodology to estimate the location and quality of marbled murrelet habitat for these alternatives.

Habitat conservation along the Strait of Juan de Fuca varies by alternative. Under all alternatives considered (except Alternative B), all occupied sites in the Strait area are protected with 100-meter buffers. Additional conservation along the Strait is considered in alternatives C, D, E, H, and G through inclusion of special habitat areas or emphasis areas (refer to Section 2.3 in the FEIS).

Subtopic: State's role in recovery and habitat protection**► COMMENT**

Several commenters called for more leadership on the part of DNR or Washington State to contribute to species recovery, citing uncertainties at the federal government level and the responsibilities of the state to protect habitat and environmental values of forestlands. Some commenters stated that the alternatives were inadequate because they fail to outline a recovery plan.

DEIS Commenters

5, 6, 21, 33, 142, 146, 150, 329, 364

Response

The proposed action is an amendment to DNR's 1997 HCP and associated incidental take permit to replace the interim conservation strategy for the marbled murrelet with a long-term conservation strategy. DNR expects that the HCP amendment will make a significant contribution to maintaining and protecting marbled murrelet populations; however, the 1997 HCP was not designed to be a species recovery plan.

Subtopic: Range of alternatives

► COMMENT

Some commenters stated that the NEPA/SEPA analysis does not analyze a full range of alternatives, including analyzing an alternative that would result in recovery or one that has no harvest of habitat. One commenter suggested that the FEIS clarify that Alternative B does not meet the need and purpose, and that more conservation should be added to Alternatives E and F to create a "maximum conservation" alternative. Other commenters found that none of the analyzed alternatives are acceptable and more conservation must be added. One commenter suggested that Alternative A was not "no action" because it releases 36,000 acres for logging.

DEIS Commenters

18, 32, 308, 426, 449, 478, 491, 494, 496, 503

Response

The Joint Agencies received several comment letters proposing new alternatives for consideration in this NEPA/SEPA process. These commenter-submitted alternatives were considered but not analyzed in detail as described in Chapter 2 of the FEIS. These alternatives contained significantly more marbled murrelet-specific conservation than Alternative F, which was found to have significant adverse impacts to trust beneficiaries when compared to all other alternatives analyzed in detail (refer to Section 4.11 and Figure 2.4.5 of the FEIS for more information). Based on the analysis of impacts to trust beneficiaries, these commenter-submitted alternatives were not determined to be economically feasible and thus are not reasonable alternatives pursuant to 43 CFR 46.420(b).

The need and purpose statements in the DEIS make clear that the long-term conservation strategy must meet both Endangered Species Act requirements and DNR's fiduciary responsibilities to the trust beneficiaries. The range of alternatives explored were guided by the need and purpose, including Objective #2: "Provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations." The Joint Agencies maintain that the range of alternatives meet NEPA requirements. (The Joint Agencies' need and purpose statements in the DEIS were separated by agency for the RDEIS; no changes were made to these statements for the FEIS.)

Alternative A is the no action alternative, and any harvest that would take place under that alternative would be the result of strictly applying the interim strategy. DNR has been putting potential habitat on hold over and above the interim strategy while a long-term conservation strategy has been under development. If Alternative A was adopted as the long-term conservation strategy, some of this habitat would be released for harvest.

Subtopic: Update Policy for Sustainable Forests with current climate change science

► COMMENT

One commenter asked that the *Policy for Sustainable Forests* be updated to reflect current science on climate change, carbon sequestration, and greenhouse gas emissions in forest landscapes.

DEIS Commenters

319

Response

Updating the *Policy for Sustainable Forests* is outside the scope of this EIS.

Subtopic: Need explicit criteria and monitoring of habitat loss and population

► COMMENT

One commenter asked for monitoring to provide evidence of population recovery before further cutting of mature forest that functions as marbled murrelet habitat.

DEIS Commenters

329

Response

Monitoring of the marbled murrelet population is ongoing under the *Northwest Forest Plan* monitoring program (for example, Falxa and Raphael 2016), and is expected to continue into the future. DNR has a legal responsibility to minimize and mitigate for impacts to marbled murrelet habitat on DNR-managed lands. Under all alternatives considered, nesting habitat is expected to increase on DNR-managed lands over the next 50 years (refer to Table 4.6.10 in the FEIS). DNR's research and monitoring and adaptive management obligations are stated in the 1997 HCP (refer to Section 5 of the 1997 HCP) and are not changed by this amendment. Under the proposed HCP amendment, DNR will continue to monitor the amount of marbled murrelet habitat that is located in areas conserved as long-term forest cover over the life of the 1997 HCP.

Subtopic: Need more genetic information about marbled murrelets

► COMMENT

One commenter pointed to the need for more genetic information about local and regional marbled murrelet populations, which could help inform habitat conservation. The habitat gaps in

alternatives A through F present a risk of declining genetic diversity caused by localized inbreeding.

DEIS Commenters

329

Response

The best available information regarding population genetic structure indicates that there is no strong evidence of either inbreeding or low genetic variation in marbled murrelets. Marbled murrelets sampled off the Oregon and Washington coasts do not differ genetically from marbled murrelets sampled from mainland Alaska and British Columbia (Piatt and others 2007, p. 42). Maintaining and improving the distribution of marbled murrelet nesting habitat is an important consideration in the development of a long-term conservation strategy and is represented in the FEIS by an analysis of "strategic locations" for marbled murrelets (refer to Chapter 2 of the FEIS).

Subtopic: Allow renewable energy development on specific ownership

► **COMMENT**

One commenter asked that specific tracts of DNR-managed lands be excluded from Alternative F, if that is chosen as the preferred alternative, and that future renewable energy facility development be permitted on its lands.

DEIS Commenter

490

Response

The Joint Agencies have selected Alternative H as the preferred alternative. This alternative excludes the tracts referred to by the commenter. The proposed action is an amendment to an existing HCP; therefore, any potential future transactions affecting DNR-managed lands would need to comply with the existing plan and its Implementation Agreement. Adding future renewable energy facility development to the list of permitted actions under DNR's 1997 HCP is outside of the scope of this EIS.

Subtopic: Security forest

► **COMMENT**

Commenter asks how the 80-foot tall standard was chosen for security forest.

DEIS Commenter

496

Response

As stated on page 2-11 of the DEIS, security forest provides additional protection to nesting habitat from wind, predators, and other types of disturbances. These functions are generally associated with forests over 80 feet tall, because once stands reach this height, the crowns of trees begin to overlap with adjacent stands, and edge effects are minimal or non-existent (refer to Malt and Lank 2009, Van Rooyen and others 2011).

Subtopic: Build nest platforms**► COMMENT**

Commenter suggests that DNR build platforms in timber stands and cavities in cliffs to speed murrelet population recovery.

DEIS Commenters

312, 317

Response

No known science currently supports this approach as a successful method to increase marbled murrelet populations.

Subtopic: Northern spotted owl habitat definitions**► COMMENT**

The commenter requests that a definition of northern spotted owl low-quality habitat be included in Table 2.2.3; only what is not low-quality is currently described in the footnote.

DEIS Commenter

340

Response

The footnote to Table 2.2.3 does not define low-quality northern spotted owl habitat. However, low-quality habitat is defined in a footnote to Table 2.4.1. Low-quality habitat includes the following DNR-mapped habitat classes as of 2015: sub-mature; movement, roosting, and foraging; movement; and young forest marginal and dispersal habitat per the definitions in the 1997 HCP and DNR's 2008 *South Puget HCP Planning Unit Forest Land Plan*.

Subtopic: Modeling

► COMMENT

The commenter says that weaknesses of the modeling used to support the DEIS must be described.

DEIS Commenters

503

Response

Use of the P-stage model to identify and value marbled murrelet nesting habitat is fully explained in Appendix E to the FEIS. Uncertainty, and how uncertainty is addressed within this model, as well as how this model compares as a habitat classification tool to other available tools, is fully explained in this appendix. As this appendix carefully explains, predictions of the P-stage model cannot be perfectly accurate. The Joint Agencies “conclude that there is an unknown level of uncertainty in P-stage predictions of current and future habitat, but also that the general applicability of P-stage model predictions outweigh their uncertainty” (p. E-13).

Subtopic: Implementation documents

► COMMENT

The commenter says that the DEIS must provide an implementation schedule, draft implementation agreement, monitoring plan, adaptive management plan, or plan to respond to unforeseen circumstances during the 50-year plan.

DEIS Commenters

503

Response

Several of these elements are addressed by the HCP amendment submitted by DNR under the RDEIS and updated and submitted with the FEIS. The Joint Agencies will respond to unforeseen circumstances as described in the 1997 HCP Implementation Agreement.

Subtopic: White Paper on DNR trust duties

► COMMENT

A memorandum submitted on behalf of several commenters argues that DNR and the Board of Natural Resources have discretion to adopt a long-term conservation strategy that uses best available science, fully complies with the Endangered Species Act, and meaningfully contributes to the conservation and recovery of the marbled murrelet. It argues that the Skamania decision

does not preclude DNR from managing its forests in compliance with federal law and conservation goals. A second memorandum that responds to the “White Paper on the Department of Natural Resources’ Trust Obligations to Counties and their Taxing Districts” (2016) also was submitted by commenters. This second memorandum argues that the Skamania decision does not mean that DNR must maximize its revenues from state trust lands.

DEIS Commenters

501, 502

Response

Chapter 1 includes an overview of the regulatory and policy framework, which applies to DNR’s management of state trust lands. Taken together, these laws and policies require DNR to make decisions in the best interest of the trusts, consistent with legal requirements and environmental law.

Subtopic: Miscellaneous comments

► **COMMENT**

Commenters indicated that impacts from the following are not adequately addressed in the DEIS: air quality and pollution from harvest, landslide events, wind and fire events, undesignated/illegal land use activities, road construction and fragmentation from roads, climate change, or thinning risks. Impacts to northern spotted owls must be analyzed. Commenters also say that September 30 should be end of the murrelet nesting season. Appendix E has an error in P-stage analysis in predicting occupancy, which is compounded in the Peery model.

DEIS Commenters

175, 311, 317, 393, 395, 403, 414, 417, 421, 422, 503

Response

The DEIS focuses on impacts to the affected environment from the long-term conservation strategy. Impacts from harvest and related activities, which are ongoing in the analysis area, have been previously addressed in other environmental documents, which are referenced throughout the DEIS. Risk of landslides are discussed in Section 4.1 of the FEIS. Lands identified as potentially unstable would continue to be managed under current regulations, policies, and procedures, which are designed to minimize landslide risks. For these reasons, landslide risk is not expected to increase compared to current conditions, even on the 24,000 additional acres made available for active management under Alternative B (as compared to the no action alternative) (refer to Section 4.1 of the FEIS). Natural disturbances including wind and fire are discussed in sections 4.2 and 4.6 of the FEIS. Habitat degradation from roads is described in Appendix H to the DEIS, and habitat degraded by roads is accounted for in the analytical framework used to calculate impacts and mitigation. Impacts from roads also are analyzed in

several sections in Chapter 4, including Section 4.8, “Forest Roads.” Potential impacts to northern spotted owls are addressed in Section 4.5 of the DEIS.

The use of September 23 as the murrelet nesting season end date in the conservation measures is consistent with the guidance issued by USFWS in its 2012 document, “Marbled Murrelet Nesting Season and Analytical Framework for Section 7 Consultation in Washington” (USFWS 2012a). Appendix E acknowledges that some areas modelled as non-habitat were found to be occupied sites, and the commenter is suggesting that the P-stage model therefore may under-estimate murrelet habitat on DNR-managed lands. However, as described in Appendix E, the P-stage model performed better at predicting occupied sites on DNR-managed lands than the Maxent model developed for the *Northwest Forest Plan*.

As described in Appendix E, the P-stage model is based on DNR’s site-specific forest inventory data and allows for projections of forest growth over time. As acknowledged in Appendix E, the Joint Agencies conclude that there is an unknown level of uncertainty in P-stage predictions of current and future habitat. However, the general applicability of the P-stage model predictions outweigh their uncertainty for this conservation planning effort.

Part 2: Response to Comments on the Revised Draft Environmental Impact Statement (RDEIS)

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Acronyms

DEIS	Draft environmental impact statement
DNR	Washington State Department of Natural Resources
EIS	Environmental impact statement
FEIS	Final environmental impact statement
GIS	Geographic information system
1997 HCP	State Trust Lands Habitat Conservation Plan
NEPA	National Environmental Policy Act
OESF	Olympic Experimental State Forest HCP Planning Unit
RDEIS	Revised draft environmental impact statement
SEPA	State environmental policy act
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WDFW	Washington State Department of Fish and Wildlife

Terms

Interim strategy	Marbled Murrelet Interim Conservation Strategy
Joint Agencies	DNR and USFWS

List of Commenters

■ Individual Comment Letters

C1	Leigh McKeirnan	C42	Isa Werny
C2	Jean Public	C43	Allison Howes
C3	Yuri Davis	C44	Judith Lyle
C4	Julie O'Donald	C45	Liz Spoerri
C5	Eric Burr	C46	Louie Patue
C6	Doug Davis	C47	Suzanne West
C7	Austin Sedy	C48	Marcelle VanHouten
C8	Suzanne Phillips	C49	Marcelle VanHouten
C9	Tim Colton	C50	Jane Weiss
C10	Kaelek Janislampi	C51	Nick Etheredge
C11	Jamie Herrera Beutler	C52	Julie Etheredge
C12	Bernie Max	C53	Christy Bear
C13	Wesley Ether	C54	Lynne Olson
C14	Janet Hendrickson	C55	Joan Yiu
C15	James McMeehan	C56	Jane L. Paige
C16	Aline Seroussi	C57	Tom Lang
C17	Gayle Chan	C58	Colleen Clement
C18	Barbara Bengtsson	C59	Phil Ritter
C19	Kristi Weir	C60	Kuciej
C20	Tome Weir	C61	Joan Miller
C21	Pamela Ng	C62	Jeanne Kleyn
C22	Meredith Fulbert	C63	Carlyn Roedell
C23	Jess Wallach	C64	Cynthia Monge Eaton
C24	Claire Waltham	C65	Eldon Olson
C25	Stacy Oaks	C66	Alicia Mariscal
C26	Margaret Bone	C67	American Forest Res. Council
C27	KS Jeanne Chan	C68	Lynn Ritter
C28	Katie Armistead	C69	Karen Hall
C29	Katherine Chesick	C70	Linda Raczmarck
C30	Govinda Rosling	C71	Craig Batson
C31	Lily Frenette	C72	Phil Etheredge
C32	Scott McClay	C73	M. VanHauten
C33	Mary Manous	C74	Linda Wilkinson
C34	Arthur Obst	C75	Sheryl Schmeling
C35	Susan Sola	C76	Maureen Zimmerman
C36	Chris Cottrell	C77	Mary K. Fleck
C37	Victoria Grayland	C78	Susan Zwinger
C38	Patrick Boonfetz	C79	Derek Buchner
C39	A. Brandteller	C80	Bryony Angell
C40	Rod Fleck	C82	Jan Hagnosz
C41	Michelle Mentzer	C83	Gary Bloxham

RDEIS COMMENT RESPONSES

C84	Gary Saeris	C131	Laura Lundgren
C85	Jonathan Shakes	C132	Rosemarie Jansen
C86	David Chapin	C133	Marvin Dawson
C87	Gwen Hanson	C134	Esther Garvett
C88	Emily Lewis	C135	Susan Saul
C89	Mark Norelius	C136	Kate Lunceford
C90	S. Villsenor	C137	Ireland
C91	Marcy Golde	C138	Sally Lider
C92	Dennis Paulson	C139	David Parent
C93	Mt. Baker School District	C140	Janet Robertson
C94	Gregory Smith	C141	Betty Pope
C95	Julia Robinson	C142	Robert Kaye
C96	Isabell Aranesov	C143	Deborah Kaye
C97	Linda Hagedorn	C144	Eric Burr
C98	Martine Smets	C145	Jay Adams
C99	Kris McCall	C146	Laura Lundgren
C100	Alice Zelman	C147	Vince L.
C101	Alice Zelman (2)	C148	Maureen Hayden
C102	Laura Rivendall	C149	Linda Carroll
C102	Sally Stern	C150	Arlene Golladay
C103	Burlington Edison School District	C151	Marcy Golde
C104	Andrea Fisher	C152	Lainye Heiles
C105	Judy Heydrick	C153	Esther Gavett
C107	Bonnie Shipman	C153	Mark McDonald
C108	Deejab Sherman Peterson	C154	Anna McDonald
C109	Willard Westre	C155	Carol Lichtenberg
C110	Ronald Sherman Peterson	C156	Gary Iohm
C111	M.J. Meyer	C157	Sarah Richards
C112	Gary Smith	C159	Rebecca Canright
C113	Berni Max	C160	Amy Hansen
C114	Wesley Jensen	C161	Mark Canright
C115	Jennifer McDonald	C162	North Cascades Audubon
C116	Grace Wright	C163	Frederic Webster
C117	Refer to Form Letter # 1 List	C164	Jean Trent
C118	Celeste Bennett	C165	Jesse Mallory
C119	Bernie Max	C166	Robert York
C120	Bernie Max	C167	Chris Cottrell
C121	Bernie Max	C168	Richard Hiatt
C122	John Lee	C169	Jody Ward
C123	Michelle Wainstein	C170	Paula Stevens
C124	Pam Pritzl	C171	Sarah Cooke
C125	Scott Messick	C172	Andrea Bennett
C126	Rich Lague	C173	Whidbey Audubon Society
C127	Art Eash	C174	Michael J. Swanson
C128	Jane Leavitt	C175	Frances O'Reilly
C129	Ed Bowen	C176	Todd Wentworth
C130	Jack Stansfield	C177	Pierre LaBarge

RDEIS COMMENT RESPONSES

C178	Karl Peterson	C224	Wahkiakum Board of County
C179	Pacific Seabird Group		Commisioners
C180	Pauline Sterin	C225	John B. Nolan
C181	David Hofeditz	C226	Norman Gaston
C182	Gordon Wood	C227	Kyle Leader
C183	Peggy Printz	C228	Glenn Marshall
C184	Pam J. Trautman	C229	Trevor Faucett
C185	Black Hills Audubon	C230	Laura Abernathy
C186	Mary Hollen	C231	Kathryn L. Waters
C187	Philip Wegener	C232	Ellen Murphy
C188	Robert Kummer	C233	Kathleen Lavalle
C189	Vincent Ho	C234	Ellie Lathro
C190	Christian Martin	C235	Judith White
C191	Denise McEwan	C236	Fay Flanery
C192	Jane Brandt	C237	Jennifer Zeisig
C193	Felice Kelly	C238	Laya Shriaberg
C194	Heather Koon Swanson	C239	Pamela Myers
C195	Sedro-Woolley School District	C240	Gary Willis
C196	Hood Canal Environmental Council	C241	Gerry Millman
C197	Thillai Nayagi Fab	C242	David Cleavenger
C198	Eileen Ryan	C243	Jeanette Johnson
C199	Susan D. Bennett	C244	Art Wang
C200	Katharine H. Poinier	C245	Tom Gordon
C201	Diana Mongeau	C246	Michael Savatgy
C202	Shelley Sutton	C247	Marjorie Leone
C203	Sultan School District	C248	Alex Callen
C204	Jocelyn van der Put	C249	Diane Smith
C205	Jonathan Padrnos	C250	Daniel Murphy
C206	Alan Richards and Ann Musche	C251	Polly Jones
C207	Jennifer Lutz	C252	Mark Johnson
C208	Marguery Lee Zucker	C253	Prinster
C209	Kayley Willbrandt	C254	Teresa Williams
C210	Jan Golick	C255	Mary Carlson
C211	Refer to Form Letter #2 List	C256	Martha Dyck
C212	Margot Boyer	C257	Christine Louise Brown
C213	Fayette Krause	C258	Louis Roth
C214	Yvonne Kuperberg	C259	Sharon Sneddon
C215	Paul Bigelow	C260	Philip Calise
C216	Joe Mabel	C261	Laurel Schoenbohm
C217	Andrew Emlen	C262	Henry M. Lagergren
C218	Steve Uyenishi	C263	Ted Vawter
C219	David Hurst	C264	Barry Ulman
C220	Linda Bainbridge	C265	Mark
C222	Yourgos Papnikolaon	C266	Margarette Grant
C223	Sara Papanikolaon	C267	Mary Oconnell
		C268	Ken Lambert
		C269	Amelia Becke

RDEIS COMMENT RESPONSES

C270	Deborah Midkiff	C317	Virginia White
C271	Maia Halvorsen	C318	Port of Port Angeles
C272	Kitsap Audubon	C318	Rick Pearson
C273	Diana Weigel	C319	Norman T. Baker, PhD
C274	Sennett	C320	David Standal
C275	Washington State School Directors' Association	C321	Jenny Cunningham
C276	Robert Feuchter	C322	Karen Sullivan
C277	Van G. Decker	C323	Ann Anderson
C278	Scott Horngren	C324	Dan McDougall Treacy
C279	Gordon Wood	C325	Taylor Goforth
C280	Douglas King	C326	Katherine Stella
C281	George Giffen	C327	Janet Marx
C282	Jennifer Keller	C328	Llyn DeDanaan
C283	Regan Weeks	C329	Julie Jaman
C285	Jean M. Avery	C330	Board of Clallam County Commissioners
C286	Wylie Suda	C331	Thomas Marshall
C287	Coleman Byrnes	C332	Harriet Reyenga
C288	Elizabeth Fuchs	C333	Lara Reutter
C289	Sue Toy	C334	William Plumley
C290	Rainier Audubon	C335	Kathy Barker
C291	Kenneth A. McGill	C336	Scott G. Walker
C292	Laurel Black	C337	Pilchuck Audubon
C293	Lorie Oblad	C338	Peter von Christerson
C294	Washington Contract Loggers Association	C339	Mark Volmut
C297	U.S. Environmental Protection Agency	C340	Luther Allen
C298	Pacific County Commissioners	C341	Rebecca Caldwell
C300	City of Forks	C342	Paige E. Heggie
C301	Keith B. Berlin	C343	Estella Mixson
C303	Kendra Smith	C344	Carol Boyer
C304	Tina Davis	C345	Paul Allen
C305	Washington Department of Fish and Wildlife	C346	Judith Ridgley
C306	Ed Bowen	C347	Melinda Mueller
C307	Roseburg Forest Products	C348	Lindsay A. Hucke
C309	Marcy Golde	C349	John and Karolyn Burdick
C310	Sally Stern	C350	Jamie Sayegh
C311	Gretchen Kilka	C351	Mary Keffer
C312	Brita Kiffney	C352	Judith P. Oliver
C313	Justin Hamilton	C353	Denise Wilk
C313	Timberland Regional Library	C354	Lewis County
C314	Jaqueline McClenny	C355	Aubrey Stargell
C314	Marie Lise Bouscaren	C356	Shary B.
C315	Connie and JD Gallant	C357	Ellen Meyer
C316	Allen Fleming	C358	Lisa Fitzner
		C359	Catherine Collins
		C360	Robert Kendall
		C361	Tor Linbo

RDEIS COMMENT RESPONSES

C362	North Olympic Timber Action Committee	C406	Victoria de Monterey Richoux
C363	Murphy Company	C407	Grays Harbor Audubon
C364	Joe Monks	C409	American Bird Conservancy 2
C365	Okympic Park Association	C410	Skamania County
C366	Sea Shepperd	C411	Eric Dudley
C367	North Cascades Conservation Council	C412	Tom Swenson
C368	Wahkiakum County	C413	Marbled Murrelet Coalition
C369	Washington State Association of Counties	C414	Refer to Washington Env. Council Form Letter List
C370	Carolyn A. Loren	C415	Judith Akins
C371	Betsy Schultz	C416	Skagit Audubon
C372	C. Frederick Matthaei	C417	Lynne Jensen
C373	Linda Nelson	C418	Andrew Orahoske
C374	John Dunn	C419	Mindy Hiley
C375	Joyce Volmut	C420	Michael Maddox
C376	Joan Whittaker	C421	David Galle
C377	Katie McCarver	C422	Laura Schandelmier
C378	Kathy Paris	C423	Conservation Congress
C379	Chris Arbak	C424	James Mulcare
C380	Fred Loffer	C425	Stephen R. Feldman
C381	Scott Species	C426	T.J. Thompson
C382	Olympic Peninsula Audubon	C427	Sharon Gauthier
C383	Sharon Lyson	C428	Vincent Lucas
C384	June M. Coloff	C429	Cindy Flanagan
C385	Chama Archimede	C430	Marcy Golde
C386	Prof. Nathalie op de Beeck	C431	Tahoma Audubon
C387	Martha Cross	C432	Quackenbush
C388	Karin Hill	C433	Hampton Lumber Mills
C389	Cathy M. Brandt	C434	Michelle Cell Duerre
C390	Sarah Diggs	C435	Sara Van Fleet
C391	Cathy Taylor	C436	Carol Eggen
C392	Christine Southwick	C437	WildEarth Guardians
C393	Nina Kocourek	C438	Tiffany Snyder
C394	Paul Wagner	C439	Shelley Evans
C395	Nancy Schutt	C440	Sequim School District
C396	Robert Wadsworth	C441	American Forest Res. Council (2)
C397	People and Otters	C442	Sierra Club
C398	Samantha Novak	C443	Rachel Bjork
C399	American Bird Conservancy	C444	Susie Schaefer
C400	Vashon Maury Island Audubon	C445	Lynn Graves
C401	Sue A. Patterson	C446	Peter Holman
C402	Gary Mozel	C447	Cynthia Easerson
C403	Darrington Area Res. Advocates	C448	Douglas Santoni
C404	Robert Morgan	C449	Sherill Ann Miller
C405	Thomas Branch	C450	Refer to Washington Audubon Society Form Letter List
		C451	Citizens of Ebey's Reserve

RDEIS COMMENT RESPONSES

C452	Skagit County Commissioners	C501	Van Maxwell
C453	Luba Pekisheva	C502	Selina Sweet
C454	Buse Timber and Sales	C503	Sarah McCoy
C455	Shelly Spalding	C504	Larry Lawton
C456	James McEntire	C505	Virginia Metcalf
C457	John R. Bridge	C506	Stephen Bailey
C458	Northwest Watershed Institute	C507	Sherrie Morts
C459	Michael Ruth	C508	Angie Dixon
C461	Susan Parr	C509	Kim Adelson
C462	Maria Ruth	C510	David Mayer
C463	Cascade Forest Conservancy	C511	Donna Hanson
C464	Carla Mingione	C512	Sharon Wilson
C465	Darrel K. Whipple	C513	Cheryl Mitchell
C466	Skagit Land Trust	C514	Lynn Tennefoss
C467	Willapa Hills Audubon	C515	Pamela Webster
C468	Emily Larson	C516	Elizabeth Kuehn
C470	Linda Carroll	C517	Suzann Daley
C471	Cathea Stanley	C518	David Richman
C472	Celeste Maris	C519	Patrick Conn
C473	Robert Jamieson	C520	Lynne Cooper
C474	Jacquelyn Miller	C521	Eleanor Mattice
C475	John Pasqua	C522	Mary Jokela
C476	Kevin Head	C523	Jennifer Kauffman
C477	Virgene Link	C524	L. Z. Gregory-Raffel
C478	Scott Lewis	C525	Susan Thiel
C479	Joyce Weir	C526	Dr. John Farnsworth
C480	Susan Atteberry	C527	Sherry Hansen
C481	Kathryn Sposato	C528	Barbara Citko
C482	Thom Peters	C529	Daniel Molotsky
C483	Charlotte Gerlof	C530	Beth Scott
C484	Julie Beffa	C531	Rachel Rogge
C485	Abigail Ann Fanestil	C532	Janet Bird
C486	Evelyn Lewis	C533	Sara Eldridge
C487	Linda Murtfeldt	C534	Michelle Zachry
C488	Cheri Streimikes	C535	Audra Knowles
C489	Mary Masters	C536	Maureen Traxler
C490	Gary Albright	C537	Liz Campbell
C491	Felicia Dale	C538	Lelia Cosimbescu
C492	Lenore Bussing	C539	Hal Urbanek
C493	Robert Martin	C540	Delia Scholes
C494	Raul De La Rosa	C541	Sherry Buckner
C495	Steve Knutzen	C542	Bea Harrison
C496	Gary Brooks	C543	Cynthia Burrell
C497	Kathryn Vennum	C544	Ed Newbold
C498	Peny Bolton	C545	M Marsh
C499	Linda Kroege	C546	Elizabeth Pomper
C500	Karen Hattman	C547	Sierra Pacific Industries

■ Form Letter #1 (C117)

A. R.	Elizabeth Erpelding-Garratt	Jonathan Gottlieb
Alexander Helford	Elizabeth Tuminski	Jörg Gaiser
Allen and Martha Fleming	Felicia Dale	Josefina Lopez
Alta Dauel	F. H.	Julia Buck
Angela Keo	Fleming L	Juliann Lamsek
Anna Pedroso	Forest Shomer	K. Anderson
Annie Cubberly	Frances Barbagallo	K. D.
Annie McCuen	F. T.	K Danowski
Antonio Di Bello	Georg Westgall	K. F.
Art Bogie	Georgann Sherwoodg	K. M.
Ashley Thompson	Gwendolyn Knechtel	Karen Ziomek
B. Coniglio	Harris Mammen	Katherine G Harnois
Barbara DuBois	Hartmut Peters	Kathleen Gylland
Barbara Klar	J Dilworth	Kathleen Nelson
Benjamin Peterson	Jack Pauw	Kathleen Robertson
Beryl Cochran	James Bartlett	Kathryn True
Beth All	James Cronin	Kathy Repp
Betty Barats	James Hinson	Kathy Slettebak
Bill O'Brien	Jane Henderson	Kenneth Loehlein
Carol Boyer	Janet Forman	Kim McDonald
Carol Fahrenbruch	Janet Mcdonagh	Kurt Cruger
Catherine Macan	Janet Robertson	Laura Abernathy
Charlotte Gardiner	Janice Bragg	Laurel Parshall
Cheri Dzubak	Janiene Licciardi	Laurie Storm
Chris Karrenberg	Jannike Allen	Linda and Gordon Bainbridge
Craig Zora	Jean Pasche-Lambert	Linda Bainbridge
Cynthia Cannon	Jean Schwinberg	Linda Fielder
Dan Nguyen	Jeanne Barrett	Linda Murtfeldt
Dana Ohler	Jeff Freels	Liz Campbell
Danielle Lion	Jen Perlaki	Luba Pekisheva
Dannie Sayers	Jennifer Valentine	Lyle Anderson
Darice Hermann	Jerrold Campbell	Lynne Smith
David Dunneback	Jerry Brines	M. C.
Denise Schafte	Jill Hein	Marjorie Curci
DG Sifuentes	JL Angell	Mark George
Diana Urbon	John and Jane Aspnes	Mark Vossler
Diane Brown	John Barger	Mary Bell
Diantha Weilepp	John Butler	Mary Blackstone
Dolly Sutherland	John Gussman	Mary Condon
Doug Franklin	John Koriath	Mary S.
Dr. Frye	John Martinez	Maxi Backhouse
Dr O'Halloran	John Walker	Melinda
Earl McCarter	Jon Houghton	Melissa Lockhart
Eileen Ryan	Jon Longsworth	Melody Fitzpatrick

Melody Mayer
 Michael Fawns
 Michael Garrity
 Michelle Hamilton
 Michelle Oroz
 Mike Lyman
 Monica Bonualas
 Nancy Rabin
 Natalie Boydston
 Noel Barnes
 Pam Rogers
 Pamela Beth Wise
 Pamela Evans
 Patrice Roberts
 Paula Rustan
 Pauline, Allen
 Philip Chanen
 Pierre LaBarge
 Rachel Rothberg
 Randy Godfrey
 Richard Lazeres
 Richard/Gail
 Osmun/Pawellek

Robert Feuchter
 Robert Jeffers
 Robert Kaye
 Robert Kirby
 Robert K Sextro
 Robert Shippee
 Robyn Pape
 Robyn Thomas
 Rodney Hemmila
 Ronald Coleman
 Ronald MacArthur
 Rosemary Ward
 Rosmarie Jansen
 S. Jacky
 Sally Bogan-Kirk
 Sally Sheck
 Sandra C.
 Sarah Bakker
 Sarah Collmer
 Sarah Remme
 Severin Schurger
 Shirley Snider
 Silvia Santos

Stephanie Harlan
 Stephen Curry
 Stephen Snell
 Steve Adam
 Steve Biggio
 Steven Harper, Ph.D.
 Steven Knoll
 Susan Hailey
 Tamar Sautter
 Tamela Hansen
 Tami Hansen
 Terri Vasko
 Terri Wilde
 Thomas Craighead
 Thomas Gilmore
 Tom Weir
 Tonya Coyne
 Tonya Stiffler
 TR Speer
 V. L.
 Warren Gold
 William Scheidt
 Yara Mello

■ Form Letter #2 (C211)

Alexandra Loeb
 Alexis Chittenden
 Amelia Brower
 Amy Hansen
 Amy Heyneman
 Amy Martin
 Ana de Give
 Andrea Sreiber
 Andreas Niesen
 Angelina Newman
 Ann Pryich
 Annie Prevost
 Annie Thoe
 Arti Chandra
 Barbara Bonfield
 Barbara Citko
 Barbara Rosenkotter
 Barbara Wallesz
 Bonnie Wade

Brian Larson
 Briana Bell
 Bronwen Evans
 Carolyn Marquardt
 Cathy Wisel
 Charlene Mackenzie
 Charles Gustafson
 Chase Gunnell
 Christian Martin
 Craig Feyk
 D. Bar
 David Kerlick
 David Kessler
 David Swedin
 Debbie Ramos
 Diana Mongeau
 Diane Smith
 Donna Nickerson
 E O'Halloran

Elizabeth Shapiro
 Elyette Weinstein
 Eric Buhle
 Esther Faber
 Eugene Kiver
 Felice Kelly
 Forest Shomer
 Fred Koontz
 Gail Maciejewski
 Genevieve Shank
 Gina Massoni
 Ginger Fitzhugh
 Gordon Wood
 Hal Glidden
 Hans Kleinknecht
 Heather Goretski
 Heather Hutchison
 Heather Koon Swanson
 Helene McCormick

Henry Lagergren
 Hollis Palmer
 Howard Apollonio
 Howard Armstrong
 Ingrid Eisenman
 Jacqueline Williamson
 James Mulcare
 Jamie K Donaldson
 Jana Hobbs
 Jean Cassill
 Jennica Prescott
 Jennifer Purcell
 Jessica Paige
 Jodi Broughton
 John Donofrio
 John Pearce
 John Stark
 Joseph Rajewski
 Judy Chapman
 Julia Hurd
 Katelynn Manz
 Katherine Nelson
 Kathleen Kemper
 Kathryn Watkins
 Kathy O'Halloran
 Katie Talbott
 Lawrence Stocks
 Leslie Parks
 Leslie Saelens
 Lise Grace
 Llyn De Danaan

Lois Ward
 Lorraine Doerr
 Mallory Clarke
 Margaret Brownell
 Margaret Webster
 Marian Wineman
 Marjorie O'Neill
 Mark Blitzer
 Mark Canright
 Mark DeLaurier
 Matt Johnson
 Michael Felber
 Michael Gamble
 Michael Markley
 Michelle Obermeyer
 Miguel Ramos
 Mitchel Huber
 Nora Davidson
 Pamela VourosCallahan
 Paula Rustan
 Paula Shafransky
 Peggy Printz
 Peter Guerrero
 Peter Impara
 Philip Fischer
 Philip Wegener
 Randall Potts
 Rebecca Canright
 Rebecca Sayre
 Renetta Van Diest
 Rich Curtis

Richard Johnson
 Richard Johnson
 Richard Ward
 Rimbos Peter
 Ruth Woods
 Sandra Ciske
 Sara King
 Shari Tallarico
 Sharon London
 Shary B.
 Sheila Sondik
 Sondra Collins
 Stan Isley
 Stephanie Colony
 Stephanie Miller
 Stephen Eichelberger
 Susan Harris
 Suzann Daley
 Teresa Logan
 Thom Lufkin
 Tracy Ouellette
 Travis Scott
 Trinidad Alcaraz
 Veronica Fairchild
 Virginia Haver
 Vivian Gross
 Walter Kuciej
 Wendell Tripp
 Wendy Novini
 William Koopman
 William Young

■ Washington Environmental Council Form Letter (C414)

A. Dulfer
 A. M.
 Aaron Allred
 Aaron Clark
 Abby Bratt
 Abigail Fanestil
 Abigail Houghton
 Abigail Rome
 Adam Hess
 Adele Kapp
 Adina Parsley

Agnieszka Beletsky
 Aileen Taylor
 Ailsa Hermann-Wu
 Aimee Faz
 Aisha Farhoud
 Al Bergstein
 Al Steiner
 Alan Lish
 Alana Hendrickson
 Albert Marshall
 Aldora Perez

Alethea Putnam
 Alex Aikens-Helford
 Alex Macdonald
 Alex Torres
 Alexandra Loeb
 Alfonso Perez
 Alfred Ferraris
 Alfred Higgins
 Alice Felix
 Alice Kurtz
 Alice Steijn

RDEIS COMMENT RESPONSES

Alice West	Anita Garrison	Barbara Glenewinkel
Alison Eckels	Anita Gwinn	Barbara Gregory
Allan Nicholson	Anita Jahns	Barbara Harper
Allen Elliott	Ann Clarkson	Barbara Harris
Allen Gibbs	Ann El-Moslimany	Barbara Ierulli
Allison Ostrer	Ann Kinney	Barbara Jannicelli
Allison Rensch	Ann Kuter	Barbara Klar
Alta Dauel	Ann Mcgill	Barbara Orr
Alys Kehhedy	Anna Bjork	Barbara Rehman
Amanda Bott	Anna Drummond	Barbara Rosenkotter
Amanda Overstreet	Anna Gullickson	Barbara Trypaluk
Amanda Rudisill	Anna Jandreau	Barbara Wilson
Amanda Virbitsky	Anna Shuey-Bakker	Barclay Hauber
Amelia Becke	Annabelle Herbert	Barry Adelman
Amelia Turnell	Annapoorne Colangelo	Barry Gurdin
Amy Cramer	Anne Brink	Barry Truman
Amy Henry	Anne Doane	Barry Ulman
Amy Heyneman	Anne Elkins	Bartholda Manderville
Amy Huang	Anne Hepfer	Barton Wolfe
Amy Lindemuth	Anne Martin	Bay Renaud
Amy Loken	Anne Ross	Beatrice Greenwald
Amy Mower	Annette Fallin	Beau Ryba
Amy Scott	Annette Mcdonald	Ben Rall
Ana Verlaine	Annie McMahan	Benjamin Peterson
Andra Heide	Annie Palmer	Berl Nussbaum
Andrea Faste	Anthony Anderson	Bernadette Methven
Andrea Pellicani	April Atwood	Bernadine Turner
Andrea Speed	April Brown	Bernardo Mujica
Andrea Tiffany	Arden Green	Beth Darlington
Andrea Zinn	Arlene Baker	Beth Eisenbeis
Andreas Enderlein	Arn Slettebak	Beth Hall
Andrei Smarandoiu	Arnold Jolles	Beth Lee
Andrew Feldman	Arnold Strang	Beth Levin
Andrew Jackson	Arthur Bogie	Beth Levine
Andrew Kiefer	Arthur Grunbaum	Beth Stanberry
Andrew Lees	Arvia Morris	Bethleen Petewon
Andrew Magallon	Arwen Dewey	Betsy Schultz
Andrew Martin	Asphodel Denning	Betty Barats
Andrew Stubblefield	Audrey Meade	Betty Williams
Andrew Wilks	Autumn Gonzalez	Beverly Antonio
Andy Tatom	Avril Harville	Beverly Foster
Angela Jensen	Barb Drake	Beverly Poncia
Angela Kelly	Barb Kuchno	Bill Burk
Angela Perstein	Barb Scavezze	Bill Holt
Angela Smith	Barbara Blackwood	Bill Yake
Angela Torres	Barbara Bonfield	Billie Mann
Angeline Johnson	Barbara Cardarelli	Birgit Hermann

RDEIS COMMENT RESPONSES

Blake Wu	Candace Volz	Chandira H.
Blaze Bhence	Candice Cassato	Charleen Ounsworth
Bob Brucker	Candie Glisson	Charles Alexander
Bob Farrell	Carey Durgin	Charles Ellenberger
Bob Morse	Carl Kohls	Charles Kirk
Bob Page	Carl Tyndall	Charles Woodliff
Bob Schuessler	Carla Decrona	Charlie Graham
Bob Shippee	Carla Morin	Charm Miller-Davis
Bonnie Barfield	Carla Rei	Chasity Hungerford
Bonnie Rohrer	Carlo Voli	Cheri Hill
Bracha Leib	Carol Collins	Cheri Streimikes
Bradley Stevens	Carol Doty	Cherie Warner
Brandie Deal	Carol Erland	Cheryl Dzubak
Brandon Juhl	Carol Hedlin	Cheryl Henley
Brenda Michaels	Carol Munsey	Cheryl Mcallister
Brenda Olsen	Carol Price	Cheryl Tropser
Brenda Psaras	Carol Stanley	Cheryn Zimmer
Brenda Romano	Carol Whitehurst	Chris Cottrell
Brenda Sullivan	Carole Burger	Chris Drumright
Bret Polish	Carole H.	Chris Guillory
Brian Ainsley	Carole Henry	Chris Lima
Brian Baltin	Carole Pappas	Chris Nolasco
Brian Durheim	Caroline Bowdish	Chris Scholl
Brian Ferguson	Caroline Sevilla	Chris Smith
Brian Gingras	Carolyn Boatsman	Chris Strickwerda
Brian Mccormick	Carolyn Cruso	Chris Tauson
Brian Resh	Carolyn Dennison	Chris Thoma
Bridget Irons	Carolyn Knoll	Chris Washington
Bridgett Heinly	Carolyn Massey	Christie Hedman
Bridgette Hartung	Carolyn Pettis	Christina Dyson
Brie Gyncild	Carolyn Roos	Christina Muller-Shinn
Brita Mjos	Carolyn Treadway	Christine Mcvarish
Bronwen Evans	Carolyn Vaughan	Christopher Buckley
Bruce Donnell	Carolyn Villanova	Christopher Pringer
Bruce Sutherland	Carrie Campbell	Christy Giesick
Bruce Von Borstel	Carrie Heron	Cindy Curran
Bruce York	Cassandra Newell	Cindy Hatcher
Bryan Bell	Cathea Stanley	Cindy Johnson
Bryan Bremner	Catherine Carter	Cindy Stein
Bryn Clothier	Catherine Lambeau	Cindy Wilson
C. Day	Cathie Ernst	Cj Gainer
C. G.	Cathy Barton	Cj Joyce
C. Simurro	Cathy Bledsoe	Claire Jackson
C. Kasey	Cathy Gully	Claire Morency
Cameron Vail	Chad Evans	Claire Simonich
Camie Rodgers	Chad Hayes	Clark Crowe
Candace Laporte	Chad Leming	Claudette Ashley

Claudia Devinney	Daniel Gutierrez	Dean Sigler
Claudia Martinez	Daniel Jaffee	Dean Webb
Claudia Mason	Daniel Polley	Deanna Pena
Claudia Miranda	Daniel Rosenfeld	Deb Brown
Clayann Lankford	Daniel Stahler	Deb Lincoln
Clayton Jones	Daniel Suffin	Debbi Pratt
Clivonne Corbett	Danielle C.	Debbi Weiler
Clyde Hiland	Danielle Custer	Debbie Bremner
Co Ward	Danielle Graham	Debbie Ramos
Cochran Widge	Danielle Kelly	Debbie Spear
Codi Hamblin	Danielle L'Ecuyer	Deborah Dahlgren
Colin Lindsay	Danielle Rowland	Deborah Fexis
Colleen Curtis	Danne Neill	Deborah Gandolfo
Colleen K.	Dan-Thanh Nguyen	Deborah Kaye
Colleen Mcdonald	Darcia Hurst	Deborah Lipman
Colonel Meyer	Darcy Thomas	Deborah Parker
Connie Cranford	Darren Gray	Deborrah Murphy
Corey Breuer	Dave Baine	Debra Lane
Corey Message	Dave Gertsen	Debra Rehn
Cornelia Shearer	Dave Mckee	Debra Scheuerman
Cornelia Teed	Dave R.	Debra Vandegrift
Courtney Franklin	Dave Searles	Dee Sifuentes
Courtney Thiel	Daviann Mcclurg	Deena Sadek
Craig Britton	David Arntson	Deirdre Arntz
Craig Swanson	David Cordero	Dena Shelangoski
Curry Stephen	David Cotton	Denee Scribner
Cynda Cleveland	David Doering	Denise Bunge
Cynthia Burrell	David Edwards	Denise Carmosino
Cynthia Hoover	David Gross	Denise Parsons
Cynthia Marrs	David Hermanns	Denise S.
D. Smith	David Heywood	Dennis Bahr
Dagmar Fabian	David Hirst	Dennis Feichtinger
Daimhin Graves	David Kessler	Dennis Schaef
Daisy Uy	David Landskron	Dennis Steussy
Dale Russ	David G. Laramie	Derek Benedict
Damon Mills	David Middleton	Desdra Dawning
Dan Cumberledge	David Neevel	Desiree Nagyfy
Dan Esposito	David Nowlis	Diana Bohn
Dan Schneider	David Ringle	Diana Nielsen
Dan Snyder	David Schiesl	Diana Saxon
Dana Bleckinger	David Shokenu	Diane Adam
Dana Linder	David White	Diane Bisset
Danelle Mann	David Williams	Diane Diprete
Daniel Abbott	David Winkel	Diane Dong
Daniel Buchanan	Dean Drugge	Diane Falk
Daniel Draheim	Dean Fanara	Diane Kaczmarcyk
Daniel Gallo	Dean Onesimo	Diane Kokowski

RDEIS COMMENT RESPONSES

Diane Luck	Ed Jocz	Ellis Woodward
Diane Marks	Ed Moye	Elsie Lamb
Diane Moan	Ed Rivera	Elyette Weinstein
Diane Rose	Edie Turnbull	Emilie Silva
Diane Sullivan	Edith Gish	Emily Boliver
Diane Weinstein	Edith Lackland	Emily Krieger
Diann Sheldon	Edna Mullen	Emily Levine
Dianne Hurst	Edward Day	Emily Rothman
Dick Dierks	Edward Kaeufer	Emily Sagovac
Dixie Edwards	Edward Laurson	Emily Van Alyne
Don Ferkingstad	Edward Macan	Eric Edwards
Don Johnson	Edward Whitesell	Eric Esposito
Don Thomsen	Eileen Juric	Eric Fosburgh
Don Williams	Eileen Massey	Eric Robson
Donald Garlit	Ej Wilkes	Eric Voorhies
Donald Harland	Elaine Donovan	Erica Sohl
Donald Munn	Elana Levinson	Ericka Kohn
Donald Setzer	Eleanor Dowson	Erik Johnson
Donna Barrett	Elena Ayele	Erik Larue
Donna Bookheimer	Elena De Fanis	Erin Garcia
Donna Glaser	Elena Fetter	Erinn Carey
Donna Hamilton	Elena Knox	Erline Towner
Donna Saunders	Eliot Kaplan	Ernest Bellavita
Donna Smith	Elizabeth Beuthel	Ernetta Skerlec
Donna Snow	Elizabeth Boutin	Estella Mixson
Donna Yancey	Elizabeth Clemmey	Ester Deel
Donny Seals	Elizabeth Edlund	Esther Garvett
Dora Weyer	Elizabeth Garratt	Eugene Majerowicz
Dore Richman	Elizabeth Jonach	Eugenia Patterson
Doria Mcgahey	Elizabeth Kelly	Eusebio Vestias
Dorothy Dunlap	Elizabeth Lengel	Eva Cosgrove
Dorothy Jordan	Elizabeth Nedeff	Eva Doelker-Heim
Dorothy Knudson	Elizabeth Peck	Evan Beattie
Dorothy Wendler	Elizabeth Seltzer	Evan Krichevsky
Dorothy Wilkinson	Elizabeth Stucki	Evan Robertson
Doug Gemmell	Elizabeth Tickman	F. H.
Doug Swanson	Elizabeth White	F. R.
Douglas Cooke	Elke Hoppenbrouwers	F. T.
Douglas Scheel	Ella Cote	Fay Forman
Douglas Sedon	Ella Melik	Fay Payton
Dr Breneman	Ellaine Janicki	Faye Bartlett
Dr. Fielder	Ellen Atkinson	Felicia Bruce
Dr Scholz	Ellen Gutfleisch	Felicity Devlin
Dwayne Munar	Ellen Homsey	Felicity Hohenshelt
E O'Halloran	Ellen Madsen	Feryne Wooldridge
Earl Mccarter	Ellen Mccann	Fiertz Carol
Ed Bennett	Ellesa Hunter	Fiona Stuart

RDEIS COMMENT RESPONSES

Florence Harty	Gina Bates	Heather Hartman
France D'August	Gina Gatto	Heather Murawski
Frances Buchanan	Gina Pantier	Heather Tillman
Frances Marquart	Gina Schneider	Heather Van Vorous
Francis Schwinger	Ginger Brewer	Heidi Ahlstrand
Francisco Peralta	Gisela Zech	Heidi Colkitt
Frank Asturino	Glen Deardorff	Heidi Klee
Frank Belcastro	Glenn Franko	Helen Greer
Frank Mastri	Glenn Garner	Helen Jones
Frank Rouse	Gloria Fischer	Helen Read
Frank Shuri	Gloria Kim	Helen Stuehler
Frank Tuminski	Gloria Lionz	Helena Lin
Fred Brodsky	Gloria Mcclintock	Helene Steinhardt
Fred Karlson	Goldie Silverman	Henry Bernard
Fred Struck	Gordon Baldwin	Henry Sanchez
Freddie Sykes	Gordon Hait	Hilarie Ericson
Frederic Webster	Gordon Wood	Hilary Capstick
Gabrielle Karras	Grace Padelford	Hilary Mcdevitt
Gail Atkins	Greg Black	Hillary Tiefer
Gail Maciejewski	Greg Espe	Holiday Sloan
Gail Mcdonough	Greg Goodwin	Holli Smith
Gail Sklar	Greg Herzberg	Holly Bevagna
Gail Sullivan	Greg Meyer	Holly Gadbaw
Gail Wallace	Greg Weber	Holly Graham
Gary Albright	Gregory Bowling	Holly Hewitt
Gary Brill	Gregory Brown	Ian Wood
Gary Dirks	Gregory Fite	Ignacio Cobos
Gary Herwig	Gregory Monahan	Ira Kriston
Gary Mccuen	Gregory Penchoen	Irene Svete
Gavin Bornholtz	Gregory White	Iris Moore
Gavin Tierney	Gretchen Bishop	Iris Rockkind
Gay Santerre	Guadalupe Yanez	Iris Sin
Gayle Booker	Gudrun Murti	J. Anderson
Gayle Khaled	Guy Perkins	J. Angell
Genevieve Miller	Gwen Howard	J. Day
Georgann Ge	Gwen Nolte	J. H.
George Fuller	H. Guh	Jack Burg
George Neste	H. Terry	Jack Stansfield
George Norris	Harlan Solomon	Jack Waytz
George Penfield	Harold Watson	Jackie Stewart
Georgia Carver	Harriet Jernquist	Jackie Stolfi
Georgina Wright	Harriett Cody	Jacob Bale
Gerald Penningroth	Harry Brownfield	Jacob Salzer
Gerald Walsh	Harvinderjit Saran	Jai Boreen
Giles Sydnor	Hayley Mills-Lott	James Adams
Gill Fahrenwald	Heather Davidson	James Bates
Gina Abernathy	Heather Grube	James Feit

RDEIS COMMENT RESPONSES

James Giles	Janice Dilworth	Jennifer Macdonald
James Hipp	Janice Gloe	Jennifer Riker
James Jachimiak	Janice Jack	Jennifer Szolnoki
James Lanz	Janice Schuch	Jennifer Westra
James Mulcare	Janice Wilfing	Jered Cargman
James Murphy	Janie Anderson	Jerome Onufer
James Nichols	Janiese Loeken	Jerry Brines
James Rueckel	Janine Vinton	Jerry Campbell
James Smith	Jared Howe	Jerry Charlson
James Soares	Jason Bowman	Jerry Chilson
James Taylor	Jason Husby	Jerry Kessinger
James Thoman	Jason Nardell	Jerry King
James Thompson	Javier Rivera	Jerry Rivers
James Wesley	Jay Lazerwitz	Jesse Gore
James Whitefield	Jean Berolzheimer	Jesse Mallory
James Woodruff	Jean Heaps	Jessica Boyington-Lewis
James Zeman	Jean Leed	Jessica Cresseveur
Jamie Donaldson	Jean Mendoza	Jessica Drummond
Jamie Fillmore	Jean Pauley	Jessica Friedmann
Jan Degrandchamp	Jeanene Lorey	Jessica Levin
Jan Demorest	Jeanette Richoux	Jessica Mitchell
Jan Golick	Jeanie Birchall	Jessica Wardlaw
Jan Mcdonagh	Jeanine Cardiff	Jill Gustafson
Jan Mcmillan	Jeanne Schlatter	Jill Yetter
Jan Mickelson	Jeannie Keyes	Jim Danzenbaker
Jan Repp	Jeannine Clark	Jim Davis
Jan Weisel	Jeannine Lish	Jim Erckmann
Jana Doak	Jeff Colton	Jim Melton
Jane Ahrens	Jeff Hedge	Jim Roberts
Jane Henderson	Jeff Kulp	Jim Steitz
Jane Leavitt	Jeff Martin	Jim Wingate
Jane Lyon	Jeff Renner	Ji-Young Kim
Jane Middlesworth	Jeff Reynolds	Jo Harvey
Jane Millard	Jeffery Mcconaughey	Joan Andersson
Janet Alderton	Jeffrey Hemenez	Joan Balfour
Janet Fraidstern	Jeffrey Norman	Joan Bennett
Janet Hedgepath	Jen Messina	Joan Bowers
Janet Heinle	Jen Perlaki	Joan Caiazzo
Janet Hurt	Jenna Carodiskey-Wiebe	Joan Devries
Janet Peterson	Jennie Thompson	Joan Hunt
Janet Riordan	Jennier Valentine	Joan Robbins
Janet Robinson	Jennifer Davis	Joan Walker
Janet Saupp	Jennifer Fairchild	Joan Wright
Janet Uffer	Jennifer Hickey	Joann Koch
Janet Wynne	Jennifer Kardiak	Joanna Chesnut
Janette Cunningham	Jennifer Kauffman	Joanna Stiehl
Janice Banks	Jennifer Kim	Joanne Beeson

RDEIS COMMENT RESPONSES

Joanne Grossi
Joanne Kelly
Joanne Parrent
Joanne Roberts
Jody Gibson
Joe Ginsburg
Joe Goldufsky
Joe Mabel
Joe McCain
Joe Salazar
Joe Wiederhold
Joel Carlson
Joel Green
Joel Hencken
Joel Libman
Joerg Gaiser
Johanna Bensalel
Johanna Daggett
John Astaunda
John Bierlein
John Bremer
John Corso
John Craighead
John Dubois
John Dunn
John Edison
John Fenker
John Guros
John Jumonville
John Knoten
John Lambert
John Larese
John Lee
John Lippiello
John Marshall
John Martinez
John Mixon
John Murtfeldt
John Papandrea
John Pasqua
John Rybicki
John S.
John Sarna
John Schaechter
John Schenck
John Springer
John Staunton

John Teske
John Thompson
John Wienert
Jon Krueger
Jonah Hister
Jonathan Mitchell
Jonny Hahn
Jordan Glass
Jose De Arteaga
Joseph Demarco
Joseph Manning
Josh Diamond
Joshua Morris
Joy Gardner
Joyce Grajczyk
Joyce Heyn
Joyce Montenegro
Joyce Wilkerson
Judith Akins
Judith Carter
Judith Cohen
Judith Demarsh
Judith Embry
Judith Ferrell
Judith Fisher
Judith Gordon
Judith Hance
Judith Laik
Judith Schwab
Judith Starbuck
Judith Stone
Judith Thierry
Judy Brennan
Judy Fairless
Judy Jensen
Judy Moran
Judy Palmer
Judy Ratner
Judy Savard
Judy Vandermaten
Julene Weaver
Juli Shields
Julia Cranmer
Julia Hurd
Julia Mclaughlin
Julia Montgomery
Juliann Pinto

Julie Bush
Julie Holtzman
Julie Stohlman
Julie Taylor
Julie Whitacre
Juliet Vaneenwyk
June Cattell
June Chaus
June Hurst
Justas Vilgalys
Justin Chernow
Justin Small
Justine King
K Danowski
K. F.
K. O.
Kacey Donston
Kaija Jones
Kaitlin Fitch
Kamori Cattadoris
Kandace Loewen
Karen Ahern
Karen Berger
Karen Berntsen
Karen Curry
Karen Flood
Karen Gilles
Karen Hattman
Karen Kirschling
Karen Korec
Karen Levins
Karen Stickney
Karen Vayda
Karen Verrill
Karen Wolf
Kari Hasbrouck
Kari Peterson
Karl Koessel
Karla Taylor
Karol Rice
Karriann Rizzieri
Kat Thomas
Kate D.
Kate Skolnick
Kateri Snow
Katherin Balles
Katherine Babiak

RDEIS COMMENT RESPONSES

Katherine Bos	Keith Cowan	Kristin Blalack
Katherine Chesick	Keith D'Alessandro	Kristin Felix
Katherine Dander	Kelley Anderson	Kristin Gonzalez
Katherine Hinson	Kelley Coleman-Slack	Kristin Johnson-Waggoner
Katherine Holmes	Kelley Scanlon	Kristin Stewart
Katherine Kaffer	Kelly Larkin	Kristin Sykes-David
Katherine Millman	Kelly Moore	Kristina Lamons
Katherine Nelson	Kelly Riley	Kristina Weir
Katherine Repp	Kellyann Morander	Kristo Klove
Katherine Tylczak	Ken Box	Kristyn Macphail
Katherine Wright	Ken Clark	Kylie Loynd
Kathie Caflisch	Ken Loehlein	L Bowman
Kathie Takush	Ken Mincin	Lael Bradshaw
Kathleen Gylland	Ken Zafren	Lajeanne Leveton
Kathleen Kemper	Kenneth Zirinsky	Lakota Crystal
Kathleen Laney	Kent Minault	Lanie Cox
Kathleen Lee	Keren Kumar	Lara Backman
Kathleen Lowney	Kergan Street	Lara Post
Kathleen Lyons	Kerry Moore	Larry Mahlis
Kathleen Reynolds	Kevin Anderson	Larry Powell
Kathleen Snyder	Kevin Bostrom	Lars Henrikson
Kathleen Wheeler	Kevin Chiu	Lascinda Goetschius
Kathleen White	Kevin Hughes	Laura Ackerman
Kathlene Croasdale	Kevin McDaniel	Laura Finkelstein
Kathryn Alexandra	Kevin O'Halloran	Laura Goldberg
Kathryn De Wees	Kevin Rose	Laura Hanks
Kathryn Kaffer	Kevin Walsh	Laura Huddleston
Kathryn Lambros	Kevin Willson	Laura Hutton
Kathryn Ryan	Kim Forrest	Laura Lundgren
Kathryn Schetzer	Kim Hanke	Laura Newton
Kathryn Vennum	Kim Lechtenberg	Laura Ramon
Kathy Bradley	Kim Seater	Laura Ray
Kathy Govreau	Kimberly Crane	Laura Ross
Kathy Grieves	Kimberly Mcdonald	Laura Zerr
Kathy Kane	Kimberly Schmidt	Lauren Mendez
Kathy Ruhl	Kimberly Swenson-Zakula	Lauren Murdock
Kathy Shimata	Kimberly Teraberry	Lauren Sewell
Kathy Sparks	Kimberly Vacchiery	Lauren Thompson
Kathy Sugarman	Kimberly Wiley	Laurette Culbert
Katrin Sippel	Kindy Kemp	Laurie Denis
Katz Ro	Kirk Rhoads	Laurie Geller
Kay Cook	Kirk Taylor	Laurie Gogic
Kay Hudson	Kjirsten Collier	Laurie Storm
Kay Reinfried	Krista Murtfeldt	Lavaughn Standridge
Kay S.	Krista Topp	Lawrence Crowley
Kc Young	Kristen Boyles	Lawrence Magliola
Keels Bailey	Kristen Klooster	Lawrence Stocks

RDEIS COMMENT RESPONSES

Leah Helmer	Lisa Bedker-Madsen	Lynne Firestone
Lee Hickok	Lisa Ehle	M. Arveson
Lee Zuhars	Lisa Halpern	M. Dulin
Leeann Chastain	Lisa Hunkler	M. Fritchie
Leila Mohseni	Lisa Johnson	M. Keogh
Lennon Bronsema	Lisa Karas	M. McClellan
Lenore Reeves	Lisa Kavas	M. Steere
Leonard Elliott	Lisa Lybarger	Madeleine Sosin-Rocha
Leonard Obert	Lisa Mazzola	Madria Everson
Leroy Farmer	Lisa Scharin	Maggie Shields
Leslie Johnson	Liz Campbell	Mair Mcnamara
Leslie Moulton	Lizabeth Dewitt	Mana Iluna
Leslie Sweeney	Lloyd Hedger	Mandy Pa
Leslie Zondervan-Droz	Lloyd Johnston	Mara Price
Leticia Bland	Lloyd Smith	Mara Wolfgang
Lewisa Goggin	Lois Hanson	Maradel Gale
Lezlie Popik	Lois Johnston	Marc Veizan
Libby Erie	Lois White	Marcia Gowing
Lin Provost	Lorena Havens	Marcia Guderian
Linda Avinger	Lori Bellamy	Marcia Kutz
Linda Carroll	Lori Erbs	Mardi Gleason
Linda Dodson	Lori Gudmundson	Margaret Alic
Linda Ellingboe	Lori Mulvey	Margaret Graham
Linda Erickson	Lori Northrup	Margaret Leavitt
Linda Fighera	Lori Stefano	Margaret Rinaldi
Linda Gibbs	Lorraine Brabham	Marge Schwartz
Linda Gusch	Lorraine Dumas	Margery Spears
Linda Hoff	Lorraine Foster	Margie Heller
Linda Lindquist	Lorraine Hartmann	Margo Robinson
Linda Long	Lorraine Johnson	Marguerite Winkel
Linda Marble	Lorraine Thompson	Marguery Zucker
Linda Marcuse	Lory Garrett	Maria Bouret
Linda Martens	Lou Mathews	Maria Mendes
Linda Mckillip	Lou Rowan	Marian Cruz
Linda Orgel	Louann Ballew	Marian Wineman
Linda Petrulias	Lozz Starseed	Marianne Cartwright
Linda Rudman	Luanne Swainson	Marianne Corona
Linda Shirey	Lucille Worley	Marie Michl
Linda Shultz	Lucy Kelly	Marie Veek
Linda Studley	Lucy Ostrander	Marilee Corey
Linda Townill	Lydia Garvey	Marilee Meyer
Linda Wasserman	Lydia Sherwood	Marilyn Brenneman
Linda Wright	Lynda Erickson	Marilyn Levine
Lindalee Mceachrontaylor	Lynn Brevig	Marilyn Mosley
Lindsay Ward	Lynn Rabenstein	Marilyn Riley
Lindsey Effner	Lynn Skibinski	Marisa Landsberg
Lisa Agard	Lynne Bannerman	Marjorie Millner

RDEIS COMMENT RESPONSES

Mark Blandford	Mary O'Connell	Melissa Paige
Mark Blitzer	Mary Riley	Melissa Rees
Mark Canright	Mary Solum	Melissa Thirloway
Mark Caso	Mary Sprute	Melodie Martin
Mark Foltz	Mary Thoma	Mia Heavyrunner
Mark G.	Mary Thorbeck	Mia Spangenberg
Mark Grenard	Mary Venos	Michael Betz
Mark Grzegorzewski	Mary Walker	Michael Dianich
Mark Johnston	Mary Walter	Michael Essex
Mark Koritz	Mary Wellington	Michael Halloran
Mark Levin	Mary Zack	Michael Hildreth
Mark Molloy	Maryann Linehan	Michael Hill
Mark Myers	Maryanna Foskett	Michael Lampi
Mark Russell	Maryellen Redish	Michael Maghakian
Mark Scott	Matt Lennon	Michael Martin
Mark Sharlock	Matt Peters	Michael Savatgy
Mark Weiss	Matt Shuh	Michael Siptroth
Mark Wirth	Matthew Boguske	Michael Tucker
Marki Brown	Matthew Coomer	Michael Zeigler
Marleen Neus	Matthew Genaze	Michele Ham
Marlene Miller	Matty Whyte	Michele Langston
Marna Herrington	Maureen Ellis	Michele Nihipali
Marquam Krantz	Maureen Hildreth	Michele Paxson
Marsha Adams	Maureen Kelly	Michele Reynolds
Marta Kosaly	Maureen Lang	Michele Villeneuve
Martha Bartlett	Maureen Mcdonald	Michelene Manion
Martha Kenney	Maureen O'Neal	Michelle Anderson
Martha Taylor	Maureen Parriott	Michelle Ash
Martin Becker	Maureen Sullivan	Michelle Hoff
Martin Fanrak	Max Kaehn	Michelle Joe
Martin Watts	Maxine Clark	Michelle Johnson
Marty Hertz	Maxine Dunkelmann	Michelle Macy
Mary Bissell	Maya Kurtz	Michelle Nelson
Mary Browne	Mayellen Henry	Michelle Pavcovich
Mary Butler	Mba Von Hirschmann	Michelle Rossee
Mary Cormier	MD Edwards	Michelle Sewald
Mary Cutrera	Md Hogan	Michelle Stepp
Mary Devany	Meg Inrie	Michelle Trosper
Mary Engh	Megan Mollman	Michelle Wainstein
Mary Ferm	Melanie Kenoyer	Miguel Ramos
Mary Grimmer	Melba Dlugonski	Mike Bessler
Mary Guard	Melinda Burks	Mike Conlan
Mary Hicklin	Melinda Parke	Mike Fegan
Mary Jeppesen	Melissa Elder	Mike Kaminski
Mary Keeler	Melissa Kokaly	Mike Lyman
Mary Knight	Melissa Michaels	Mike Thompson
Mary N.	Melissa Mosher	Mike Zens

RDEIS COMMENT RESPONSES

Milton Nelson	Natalie Niblack	Patrice Johnson
Mindy Hiley	Natalie Van Leekwijck	Patricia Auer
Miriah Reynolds	Natasha Brenner	Patricia Cannon
Miriam Stone	Nathan Rice	Patricia Deluca
M'Lou Christ	Navneal Mangat	Patricia Fleetwood
Molly Sutor	Neal Umphred	Patricia Metcalf
Mona Callahan	Necole Cook	Patricia Richards
Mona Mcneil	Neil Rader	Patricia Wilson
Monica Bonualas	Neilia Pierson	Patrick Annabel
Monica Dunn	Nezka Pfeifer	Patrick Boot
Monika Holm	Nicholas Lenchner	Patrick Conn
Monique Maas	Nick Barcott	Patrick Hickey
Mr. Dahlgren	Nick Charles	Patrick Hook
Mrs. Bush	Nick Engelfried	Patti Angevine
Ms. Heath	Nicolas Humphrey	Patti Harter
Ms Shankel	Nicole Fountain	Paul Bigelow
Ms. Zentura	Nina Finley	Paul Blackburn
Myrna Torrie	Nina French	Paul Eisenberg
Namita Dalal	Noah Hanmer	Paul Martin
Nanalee Gage	Noel Crim	Paul Metzner
Nancy Blackadder	Nolen Scott	Paul Pierot
Nancy Colton	Nona Ganz	Paul Potts
Nancy Downing	Nora Roman	Paul Runion
Nancy Ellingham	Norm Conrad	Paul Sarvasy
Nancy Gutierrez	Norma Torrey	Paula Crockett
Nancy Hartman	Norman Baker	Paulette Forest
Nancy Hauer	Nova Berkshires	Pe Crawford
Nancy Hayden	Omar Siddique	Peggy File
Nancy Henderson	Onie Kahn	Peggy Fugate
Nancy Kerwin	Oren Sachs	Peggy Gardner
Nancy Lewis	Owen Gustafson	Peggy Willis
Nancy Mattson	P. Jacquelyn Schmidt	Penelope Honniball
Nancy Mckee	P. Nunez	Penny Derleth
Nancy Miller	Pam Borso	Penny Mcginty
Nancy Nelson	Pam Durkalski	Penny Pickles
Nancy O.	Pam Engler	Penny St John
Nancy Peele	Pam Evans	Percy Hilo
Nancy Peterson	Pam Larsen	Perry Gx
Nancy Quackenbush	Pamela Barber	Pete Compton
Nancy Rupp	Pamela Clark	Peter Altman
Nancy Vandenberg	Pamela Cornish	Peter Capen
Nancy Wagner	Pamela Green	Peter Gunther
Nancy White	Pamela Keeley	Peter Harrell
Nanette Oggiono	Pamela Rains	Peter Kahigian
Nannette Taylor	Pamela Rogers	Peter Lynch
Naomi Berkowitz	Pat Nordby	Peter Michaels
Natalie Cizmas	Pat Siggs	Peter Sakura

RDEIS COMMENT RESPONSES

Peter Von Christerson	Rich Lague	Ron Macarthur
Peter Wood	Rich Moser	Ronald Sikses
Phebe Schwartz	Richard Frichette	Ronlyn Schwartz
Phyllis Dolph	Richard Friesenhengst	Rosalie Lafitte
Phyllis Elmendorf	Richard Frye	Rose Lagerberg
Phyllis Hatfield	Richard Huey	Rose O'Brien-Ochs
Polly Kaczmarek	Richard Johnson	Rose Thygesen
Polly Taylor	Richard Osmun	Roseanne Rohrer
Priscilla Martinez	Richard Perkowski	Rosemary Ward
Priscilla Skerry	Richard Weiss	Roxi Smith
Probyn Gregory	Rick Dennison	Ruben De Anda
Querido Galdo	Rick Hatten	Russ Ziegler
R. Larson	Ricky Taylor	Russell Fnley
R. McClain	Rita Meuer	Russell Robinson
R. Mesavage	Rita Santamaria	Ruth Falcon
R. Wood	Robert Anderson	Ruth Hooper
Rachel Lee	Robert Applebaum	Ruth King
Rachel Schriber	Robert Astyk	Ruth Riordan
Rae Newman	Robert Brown	Ryan Draper
Raegan Goff	Robert Corpus	Ryan Driscoll
Raemie Bruno	Robert Gigliotti	Ryan Murtfeldt
Rally Ershig	Robert Haslag	Ryan Schrader
Ralph Miner	Robert Jehn	S. Anderson
Randal Jeter	Robert Jensen	S. Davis
Randy Harrison	Robert Kaminski	S. Knoll
Randy Self	Robert Kaplan	S. Nam
Ranell Nystrom	Robert Martin	Sabrina Barton
Ravinder Bajwa	Robert Meyer	Sadie Holt
Ray Couture	Robert Rice	Sallie Shippen
Rayna Holtz	Robert Sargent	Sally Goodson
Rebecca Deardorff	Robert Scott	Sally Hinshaw
Rebecca Glass	Robert Wallace	Sally Hodson
Rebecca Herzfeld	Robert Walling	Sally Hulsman
Rebecca Levinson	Roberta Newman	Sally Maish
Rebecca Mcdonough	Robin Hennes	Sally Neary
Rebecca McMahan	Robin Kory	Sally Stroud
Rebecca Nimmons	Robyn Chance	Sam Garbi
Rebecca Ponzio	Robyn Reichert	Samantha Blake
Rebecca Teeters	Robyn Wagoner	Samantha Solomon
Rebecca Trainor	Rochelle Howe	Sammy Low
Reidar Dittmann	Rocky Reuter	Samuel Durkin
Rein Attemann	Roger Clark	Sandi Hogben
Rena Zaman-Zade	Roger Schmidt	Sandra Ciske
Renee Milkie	Roger Vortman	Sandra Costa
Rev. Burg	Roland Trenouth	Sandra Couch
Reynard Loki	Rolf Friis	Sandra Dal Cais
Rhonda Freeman	Ron Katz	Sandra Ellwanger

RDEIS COMMENT RESPONSES

Sandra Franz	Sharon Miller	Stephen Friedrich
Sandra Johnson	Sharon Olson	Stephen Koepp
Sandra Joos	Sharon Pederslie	Stephen La Serra
Sandra Perkins	Sharon Sheldon	Stephen Noseworthy
Sandra Schomberg	Sharon Steinhart	Stephen Pacios
Sandra Smith	Sharon Vatne	Stephen Rosenblum
Sandra Thomas	Sharon Wright	Stephen Sachs
Sandra Wilson	Shary B.	Stephen Tan
Sandy Kuhns	Sharyn Pennington	Stephen Wood
Sandy Williams	Shawn Firth	Steve Graff
Sanja Futterman	Shawn Rose	Steve Iverson
Saphira Rain	Shawn Tuthill	Steve Lovelace
Sara Bhakti	Shawna Leader	Steve Lucas
Sara Burgess	Shearle Furnish	Steve Ongerth
Sara Dubois	Sheila Harper	Steve Rauworth
Sara Fogan	Sheila Siegel	Steve S.
Sarah Collmer	Shelley Hartz	Steve Schildwachter
Sarah Cooke	Shelley Simcox	Steve Sheehy
Sarah Reese	Shemayim Elohim	Steve Uyenishi
Sarah Salter	Sheri Kelly	Steve Williams
Sarah Sercombe	Sheri Rollison	Steve Wilson
Sarah Stewart	Sherry Williams	Steven Berman
Scott Fortman	Sheryl Post	Steven Biggio
Scott Messick	Sheryl Sparling	Steven Fenwick
Scott Morrison	Shirley Boyce	Steven Gary
Scott Species	Shirley Hoh	Steven Gregory
Sean Edmison	Sierra Sanchez	Steven Kranowski
Sean Odell	Silvia Delossantos	Steven Thwaites
Selim Uzuner	Skot Mcdaniel	Steven Vogel
Serena Mccullough	Sonja Aikens	Steven Woolpert
Seth Rolland	Sophie Deruiter	Sue Jarrard
Sha Davies	Stacey Buroker	Sue Stoeckel
Shannon Markley	Stacey Mcrae	Susan Adams
Shannon Milhaupt	Stacey Smith	Susan Betourne
Sharon Anderson	Staci Evans	Susan Curry
Sharon Berlin	Stacia Haley	Susan Gottfried
Sharon Budde	Stacie Hartman	Susan Gray
Sharon Claassen	Stan Isley	Susan Hathaway
Sharon Conn	Star Scott	Susan Haywood
Sharon Douglass	Stella Chao	Susan Ingham
Sharon Fasnacht	Stephan Donovan	Susan Marone
Sharon Fetter	Stephanie Breiding	Susan Nickerson
Sharon Holford	Stephanie Clark	Susan Ostlie
Sharon Hurley	Stephanie Colony	Susan Porter
Sharon Jones	Stephanie Holman	Susan Ring
Sharon Koogler	Stephanie Lambert	Susan Sandwell
Sharon Longyear	Stephen Dutschke	Susan Seniuk

RDEIS COMMENT RESPONSES

Susan Severino	Terri Stromberg	Trina Eanes
Susan Tallarico	Terri Wilde	Tyler Otto
Susan Thiel	Terry Nightingale	Tyra Pellerin
Susan Vernon	The Cornwell	Ulle Ko
Susan Vogt	Theodore King	Urmila Padmanabhan
Susan Vossler	Theresa Carey	Valerie Holland
Susan Wepking	Thomas Cox	Valerie Snyder
Susan Wilkie	Thomas Dorn	Valli Hale
Susan Wilson	Thomas Guaraldi	Vanessa Jamison
Susan Worden	Thomas Hammond	Vernon Batty
Susannah Gelbart	Thomas Hernandez	Veronica Fairchild
Susie Bolser	Thomas Lawrence	Veronica Ramirez
Susie Cassens	Thomas Libbey	Vicki Elledge
Susie Fishman	Thomas Swoffer	Vicki Halbakken
Suska Davis	Thora Nelson	Vicki Pardee
Suzann Daley	Tiffany Hayden	Vicki Zarrell
Suzanne Ellis	Tiffany Witmer	Vickie Woo
Suzanne Geraci	Tika Bordelon	Vicky Matsui
Suzanne Hamer	Tim Rettmann	Vicky Miller
Suzanne Natrass	Timothy Beitel	Victor Escobar
Suzanne Phillips	Timothy Holley	Victoria Hall
Suzanne Taylor	Timothy Mullen	Victoria Holzendorf
Suzy Holstein	Tina Brown	Victoria Urias
Sydney Harris	Tina Hillinga	Vidette Buchman
Sylvia Black	Tina Mckim	Vik H.
Sylvia Duncan	Todd Gray	Vincent Lopez
Sylvia Kantor	Todd Martin	Virgene Link-New
T. Bell	Tom Csuhata	Virginia Clark
T. Hogan	Tom Harper	Virginia Davis
T. Leurquin	Tom Harris	Virginia Huang
T. Thompson	Tom Moreland	Virginia James
T.R. Speer	Tom Sanger	Virginia Linstrom
Tabitha Thomasson	Tom Strawman	Walter Hunner
Taen Scherer	Tomdog Klisuric	Walter Ramsey
Takako Ishii-Keifer	Toni Reading	Wayne Cosby
Tamara Saarinen	Toni Reineke	Wendy Bowman
Tami Fosmark	Toni Stiffler	Wendy Fischer
Tammy Lettieri	Tonia Addison-Hall	Wendy Walker
Tamsen Benson	Tonya Morrison	Wesley Banks
Tara Kerr	Tori Reyes	William Belknap
Teresa Allen	Tracey Bonner	William Davison
Teresa Bryan	Tracey Katsouros	William Goell
Teresa Dix	Traci Fairbanks	William Hoffer
Teresa Lyman	Tracy Fleming	William Justis
Teresia Lafleur	Tracy Kessler	William Koopman
Teri Wikowsky	Tracy Wang	William Lewis
Teri Wright	Travis Miller	William MCGunagle

William O'Brien
 William Persky
 William Young
 Willow Russell
 Wilma Hackman
 Winifred Lowsma

Wm Davis
 Yazmin Gonzalez
 Ying Zhang
 Yonit Yoge
 Yvette Gould

Yvonne Hardgrave
 Yvonne Leach

■ Washington Audobon Society Form Letter (C450)

A.L.
 Adam Levine
 Adam Martin
 Adina Parsley
 Alice Russell
 Alice Steijn
 Alice Tobias
 Alice West
 Alissa Andersson
 Allyson Brown
 Amanda Bott
 Amy Hansen
 Amy Heyneman
 Amy Mower
 Andrea Speed
 Andrew and Camille
 Magallon
 Angela Bellacosa
 Angela Wright
 Anita Gwinn
 Anita Scheunemann
 Ann Bradshaw
 Ann Casey
 Ann Palmer
 Ann Ross
 Ann Staley
 Anna Markholt
 Anne Cross
 Anne Elkins
 Anne Elrod
 Anne Van Sweringen
 Annette Fallin
 Annette Pinkerton
 Annie Palmer
 Annie Spear
 Annie Wei

Anthony Buch
 April Atwood
 April Dawn
 Arlene Roth
 Artemis Celt
 Arti Chandra
 Astrid V. D. Geest
 Audrey Meade
 Baker Smith
 Barb Townsend
 Barbara Blackwood
 Barbara Bonfield
 Barbara Delgiudice
 Barbara Gregory
 Barbara Gross
 Barbara Mandula
 Barbara Meredith
 Barbara Ocskai
 Barbara Rosenkotter
 Barbara Tountas
 Barbara Yetter
 Becky Johnson
 Ben Rall
 Benjamin Vang-Johnson
 Benjamin Wagner
 Beth Reprince
 Betty Morgan
 Betty J. Van Wicklen
 Beverly A. Hartung
 Beverly Johnston
 Beverly Vonfeld
 Bhavana Lymworth
 Bill Klein
 Blythe Horman
 Bob Triggs
 Brandie Deal

Brandon Herman
 Brenda Carter
 Brenda Dewey
 Brenda Lewis
 Brenda Michaels
 Brenda Olsen
 Brenna Berquam
 Brian Ferguson
 Bronwen Evans
 Bruce White
 C. Canonica
 Candace Laporte
 Carla Happel
 Carol Born
 Carol Else
 Carol Gelfand
 Carol Mock
 Carol Stanley
 Carol Stevens
 Carol Williams
 Carole Cropley
 Caroline Garland
 Carolyn Acosta
 Carolyn Wood
 Carrie Campbell
 Catherine Conolly
 Catherine Links
 Cathleen Burns
 Cathy Allen
 Cece P.
 Cecly Corbett
 Charles Carney
 Charles Gould
 Charles Hartik
 Cheryl Biale
 Chris Battis

RDEIS COMMENT RESPONSES

Chris Guillory	Dennis Merz	Erik Johnson
Chris Nolasco	Desiree Nagyfy	Erik LaRue
Chris Stay	Di Anna Lyn Rutter	Erika Anderson
Chris Strickwerda	Diana Covington	Erin Thompson
Chris Woods	Diane Falk	Ernetta Skerlec
Christian Courte	Diane Shaughnessy	Fay Payton
Christina Bromme	Diane Smith	Fayette Krause
Christina Dyson	Diane Weinstein	Fiona Segrettu
Christine Ostopoff	Diane Yorgason-Quinn	Florinda Stroe
Christopher Bain	Diann MacRae	Frances Blair
Christopher Marrs	Dianne Miller	Frank Mastri
Christopher Wells	Dianne Murray	Frank Stieber
Cigdem Capan	Don Thomsen	Franklin Retherford
Claire Morency	Donna J. Nickerson	Fred Karlson
Clarice Arakawa	Donna Yancey	G. West
Claudia Butler	Dora Weyer	Gail Atkins
Clive Ellard	Dori Bailey	Gail Goldberg
Colleen Curtis	Dorothy Hall	Gary Dirks
Connie Nelson	Doug Brown	Gary Wagar
Corrinna Sunderland	Dougals Taylor	Gena DiLabio
Craig Swanson	Dr. E. O'Halloran	Gene Wheeler
Craig Zimmerman	Dru Druzianich	Gene Wolery
Cynthia Daily	E. Wait	Genevieve Shank
D Robinson	Earl Olsen	George Fuller
Dale Russ	Edgar Meyer	Gerri Gunn
Dan Finn	Edwin Sobey	Gilbert Ward
Dan Schneider	Edwyna Spiegel	Gill Fahrenwald
Danene Park	Eileen Correia	Gina Schneider
Daniel Sandvig	Eilyne Lewis	Ginelle Walker-Ward
Darcy Varona	Eleanor Dowson	Glen Anderson
David and Ann Cordero	Eleanor Israel	Glenn Fain
David Dalton	Elena Rumiantseva	Gloria Baldi
David Edwards	Elicia Spotts	Gloria Fischer
David Gardner	Elisabeth Wright	Gloria McClintock
David Hand	Elizabeth Hickman	Gloria Skouge
David Nowlis	Elizabeth Johnson	Grace Padelford
David Peha	Elizabeth Rodrick	Graham Duncan
David Shokenu	Elizabeth Seltzer	Greg Carriere
David Winkel	Elizabeth Watson	Greta Rizzuti
Dayle Carter	Ellen Iskes	Guy Chan
Dean Fanara	Ellen Kohjima	Gwendolyn Mroszczak
Debbi Pratt	Ellen Newmark	Hallie Sloan
Debbie Thorn	Ellen Scherer	Harrison New
Debby Mayberry Jensen	Emiko Kamitsuna	Harry Gerrecke
Debra Hoyt	Emily Bishton	Heather Van Vorous
Debra Vandegrift	Emma Amiad	Heidi Klee
Dennie Carcelli	Eric Fosburgh	Helen W. Read

RDEIS COMMENT RESPONSES

Helene Steinhart	Jo Turpin	Karen Ahern
Holly Gadbow	Joan Handelsmann	Karen Berntsen
Howard Lazzarini	Joann Riley	Karen Byrd
Ilene Kazak	Joanna Leary	Karen Collins
Irene Christofferson	Joanne Romann	Karen Edwards
J. Chu	Joe Nichols	Karen Hodges
J.T.	Joe Wiederhold	Karen Jaquish
Jack Stansfield	John Burrows	Karen Olson
Jacqueline Williamson	John Daviso	Karen Pickering
Jai Boreen	John English	Karen Rowland
James Feit	John Farrell	Karen Wosilait
James French	John Guros	Kasie Michel
James Greene	John L. Flynn	Kate Frangos
James Mulcare	John Leaver	Katherine Kozisek
James Murphy	John McGovern	Katherine Masotti
James Pierson	John Miller	Kathleen Borba
James Smith	John Scholten	Kathleen Donehower
Jan Demorest	John Simanton	Kathleen Hunt
Jan Jasper	Joni Dennison	Kathleen Jonsson
Jana Doak	Jose de Arteaga	Kathleen Wheeler
Jane Beaven	Joseph Barreca	Kathleen Williams
Jane Leavitt	Joseph Franetic	Kathryn Alexandra
Janet Glenn	Joslyn Pine	Kathryn De Wees
Janet Schairer	Joy Zadaca	Kathy Bungarz
Janet Wynne	Joyce Lewis	Kathy Govreau
Janette Teevan	Jozef Lesaffre	Kathy Hudson
Janice Brookshier	Jud Bruton	Kathy Sipos
Jay Joslin	Jude Green	Katy Deutermann
Jean Davis	Judith Bluhm	Kayleigh Somers
Jeanene Lorey	Judith Cohen	Kaylouse Cook
Jeanne Miller	Judith DeMarsh	Keith Cowan
Jeff Host	Judith Wheeler	Kelley Slack
Jeff Renner	Judy Childers	Kelly Keefer
Jeffery McConaughy	Judy Davis	Kenneth Jones
Jennifer Fairchild	Judy Farrell	Kerry Kovarik
Jennifer Field	Judy Hallisey	Kevin B. Wilson
Jennifer Gerber	Judy Palmer	Kevin Chiu
Jennifer Gilbert	Judy Riggs	Kevin Hughes
Jennifer Gindt	Julia McLaughlin	Kim O'Keefe
Jennifer MacDonald	Julia N. Allen PhD, DVM	Kimberly Crane
Jennifer Romans	Julie Griffith	Kimberly Seater
Jennifer Woodbridge	Julie Jones	Klaudia England
Jerry Kessinger	June MacArthur	Kristi Mandt
Jill Hawtrey	K. Fabiane	Kyle Leader
Jim Wingate	K. Youmans	L. Bowman
Jl-Young Kim	Kara Duffy	Lael Bradshaw
Jo Harvey	Kara Pomeroy	Lakota Crystal

RDEIS COMMENT RESPONSES

Larry Clifford	Marcia Kutz	Maxine Clark
Laura Huddleston	Marcy Anholt	McKenzie Murray
Laura Ross	Margeurite Eliasson	Meg Casey
Laurel Cheap	Margie Morgan	Meghan McCutcheon
Laurette Culbert	Margo Margolis	Melissa Rees
Laurie Chinn	Marguerite Winkel	Melodie Martin
Laurie Dils	Maria Magana	Merry Colony
Laurie Mattson	Marianne Gordon	Meryle Korn
Lawrence Magliola	Marianne Larkins-Strawn	Mia Heavyrunner
Lawrence Stocks	Marie Schultz	Michael Betz
Lawrence Wyman	Marie Weis	Michael and Barbara Hill
Leeann Chastain	Marilyn Heuser	Michael Little
Leofaht Lieber	Marilyn Missimer	Michael Zeigler II
Leonard Bordeaux	Marina Pita	Michelle Timm
Leslie Dearman	Marissa Bird	Miguel Ramos
Leslie Parks	Mark Beringer	Mike Acker
Liann Sundquist	Mark Canright	Mike Keary
Liliana Schena	Mark Egger	Mike MacGuire
Linda Avinger	Mark Joy	Miriam Baum
Linda Bock	Mark Koehnen	Miriam Israel
Linda Boyd	Mark Levengood	Molly Sutor
Linda Miller	Mark Salamon	Monica Colgan
Linda Nicoletto	Mark Stephens	Monica McKeown Gallicho
Linda Thompsen	Mark Stepich	Monique Maas
Linda Wasserman	Marlene Hache	Morgan Girling
Lindell Haggin	Marsha Adams	Myrna Torrie
Lisa Critchlow	Marsha Hicks	Nadine Wallace
Lisa Crum-Freund	Martha Campbell	Nai Sinh Saechao
Lisa Mazzola	Martha Cross	Nance Nicholis
Lisa Vandermay	Martha Defoe	Nancy Hansen
Lisa Winters	Mary Clarke	Nancy Lewis
Liza Martin	Mary Fournier	Nancy Rasmussen
Lloyd Hedger	Mary Garrett	Nancy White
Lonnie Somer	Mary Guard	Natalie Carney
Lori Erbs	Mary Jeffrey	Nathaniel Williams Jr.
Lori Nelson	Mary Knight	Nichole Gutierrez
Lou Ann Lomax	Mary N.	Nick Barcott
Lozz Starseed	Mary Solum	Nina Bohn
Lucia Faithfull	MaryAnn Mabbott	Nina French
Lyle Collins	Maryann Murphy	Nina Thomas
Lyle Wirtanen	Mary Anne Thorbeck	Nolan Scott
Lynn Brevig	Mary Ellen Smith	Noreene M. Ignelzi
Lynn Erckmann	Mary Jane Gibson	Norm Mundhenk
Mara Price	Mary Jo Wilkins	Norman Baker
Marc Cordova	Mason Griffith	Norman Moldestad
Marc Daniel	Matthew Boguske	Nova Berkshires
Marcia Flynn	Matthew Olson	Ore Lee Peters

RDEIS COMMENT RESPONSES

P. Perron	Rick Machin	Sara Hoerlein
P. R.	Rick Romito	Sarah Bauman
Pablo Bobe	Rick Williams	Sarah Wachtel
Pam Jenkins	Ricky Taylor	Selim Uzuner
Pamela Barber	Rita Pissens	Sharla Ansonge
Pamela Bendix	Rita Scholliers	Sharmayne Busher
Pamela Desmond	Rob Switalski	Sharon Anderson
Pamela W. Elicker	Robert Bamford	Sharon Cox
Pamela Larsen	Robert Lindberg	Sharon Fetter
Pat Lowe	Robert Phreaner	Sharon Miller
Patricia Boynton	Robert Thrasher	Sharon Nicodemus
Patricia Henderson	Robin Carlson	Sharon Pederslie
Patricia Hilleary	Robin Kramer	Sharon Stroble
Patricia Pickering	Robin Reinhart	Sharren Davis
Patricia Wilson	Robin Rudd	Shawn Crowley
Patrick Herman	Roger Oborn	Shawn O'Grady
Paul Hess	Ron MacArthur	Shawn Tuthill
Paul Meijer	Ronald Ramey	Sheri Staley
Paul Weiss	Ronda Snider	Sheryl Sparling
Paula Shafransky	Ronlyn Schwartz	Shirley Hoh
Paulette Doulatshahi	Ronna Scott	Shirley Jordan-Wold
Peggy Murphy	Rosalie Clarke	Simone Maes
Penny Derleth	Rose Daugherty	Stacia Haley
Penny Platt	Rosie Sharpe	Stacie Hartman
Philip Condit	Russ Ayers	Stephanie Butler
Philip Lane	Ruth Darden	Stephanie Johnston
Phyllis King	Ruth Neuwald Falcon	Stephanie Serrano
Quentin Kreuter	Ruth Riordan	Stephen Curry
Rachel Gaspard	Ryan Ennis	Stephen Green
Raeann Scott	S. F.	Stephen Marek
Randall Potts	Sabina Astete	Stephen Willie
Randi Byrd	Salle Certo	Steve Noble
Randy Corbett	Sallie Rose Madrone	Steve Uyenishi
Ranell Nystrom	Sally Hadson	Steve Wilson
Rebecca Canright	Sally Hurst	Steven Christian
Rebecca Frank	Sally Radford	Steven Gary
Rebecca Glass	Samantha Solomon	Sue Stoeckel
Rebecca McDonough	Samantha Wilk	Sunday Kraushaar
Rebecca Nimmons	Sammy Low	Susan Bradshaw
Rebekah Baldwin	Sandra Embrey	Susan Dain-Owens
Reider Dittman	Sandra Perkins	Susan Hampel
Richard Bergner	Sandra Rodgers	Susan Kilgore
Richard Fisher	Sandra Russell	Susan Leavitt
Richard Hurst	Sandra Wilson	Susan McLaughlin
Richard Johnson	Sanja Futterman	Susan Nienstedt
Richard Randall	Sara Cate	Susan Sandwell
Rick Huey	Sara Fogan	Susan Vennerholm

RDEIS COMMENT RESPONSES

Susan Wilson
Suz Garcia
Suzanne Hamer
Suzanne Paterson
T. Hibben
Taggart Howland
Taylor Roads
Teresa Allen
Teresa Bryan
Teresa Dix
Teresa Lyman
Teri Anderson
Terri Pigford
Terry Ayers
Terry Cook
Terry Gates
Thalia Lubin
Theodore King
Theresa Bugni
Thomas Holley
Thomas Sheridan

Thomas Swoffer
Tim Durnell
Tim McGruder
Timothy Manns
Tina Brown
Todd Guthrie
Tom Rarey
Toni Howard
Toni Schwellinger
Torah Wolf
Tracey Loyd
Traci Olsson
Tracy Ouellette
Travis Miller
Trina Cooper
Val Schroeder
Valentina Mazza
Valerie Emery
Valerie Romero
Vanessa Pustek
Vicky Matsui

Victoria Dometre
Victoria Ziebarth
Virginia Winfield
Vivian Bartlett
Vivian Gross
Walther Seeldner
Wayne Huseby
Wendy Oakes
Wendy Weikel
Wendy Ysasi
Wesley Banks
William Bartley
William Conger
William Koopman
William Recher
Wilma V Brandwijk
Wings Wings
Yvette Larose
Yvonne Leach

RDEIS Comment Responses

■ Topic: Supports the Long-term Conservation Strategy

► COMMENT

The commenters support having a conservation strategy. Many cited concerns with ongoing population declines and loss of forest habitat to logging.

RDEIS Commenters

C4, C61, C63, C65, C66, C77, C102, C116, C131, C133, C146, C147, C150, C181, C189, C197, C202, C298, C227, C231, C243, C239, C245, C265, C285, C286, C92, C110, C215, C216, C230, C238, C262, C319, C333, C338, C340, C341, C342, C345, C346, C349, C371, C378, C377, C379, C385, C388, C391, C393, C398, C402, C411, C457, C464, C468

Response

Thank you for your comment.

► COMMENT

One commenter expressed dismay about the delay in developing a final long-term conservation strategy. Delays notwithstanding, the commenter supports the current process to develop an appropriate long-term conservation strategy.

RDEIS Commenter

C442

Response

Thank you for your comment.

■ Topic: Alternative Specific

Subtopic: Against Alternative A

► COMMENT

Because of murrelet population declines, DNR should not select Alternative A, which would propose no changes in management.

RDEIS Commenters

C204, C205

Response

Alternative A is the "no action" alternative, an alternative required under both NEPA and SEPA when preparing an EIS. The no action alternative represents continued management under the existing direction or in the absence of the proposed action. For this proposal, selecting Alternative A would mean continuing to manage under the interim strategy for the marbled murrelet and would not meet DNR's and USFWS' respective need and purpose of the long-term conservation strategy.

Subtopic: Support Alternative B**► COMMENT**

Alternative B best meets DNR's Objective #1, Trust Mandate. The difference in long-term forest cover between alternatives B and F is 158,000 acres, which would impact trust beneficiaries upwards of \$800,000,000. Alternative B leaves more acres available for operations and a higher total value of timber sales, and shows a positive trend for bare land value.

RDEIS Commenter

C369, C547

Response

Thank you for your comment.

► COMMENT

DNR erroneously concludes that Alternative B harms the marbled murrelet while Alternative H favors it. Both alternatives protect occupied sites; however, Alternative H protects a greater number of acres, including forested areas that are not currently habitat and some areas that will never become habitat during the life of the 1997 HCP. Additionally, both alternatives B and H meter (delay) the harvest of habitat during the first two decades of the plan.

RDEIS Commenter

C369

Response

It is true that Alternative H conserves more acres than Alternative B. Both alternatives conserve occupied sites; however, only Alternative H provides buffers on occupied sites. Alternative B conserves known occupied sites, but these sites are not protected with buffers. All other

alternatives buffer occupied sites. Occupied sites left unbuffered are likely to incur more loss due to windthrow and erode in size over time.

Occupied site buffers are important because they provide current or future security forest around occupied sites, lessening edge impacts within the occupied sites and potentially increasing nest success for marbled murrelet using those occupied sites. They also can protect the occupied sites from predation, wind, and other disturbances.

Alternative H also includes special habitat areas, which are areas of current and future marbled murrelet habitat and security forests. All areas within special habitat areas, including current habitat, future habitat, and security forest, serve important roles in maintaining and creating secure landscapes for marbled murrelet nesting. Refer to Text Box 2.2.2 in the FEIS for a definition of security forest.

Alternative H is the only alternative that includes intentional metering (delay) of harvest of some murrelet habitat outside long-term forest cover during the first decade of the planning period to give forests within long-term forest cover time to develop into higher-quality habitat. Refer to Section 2.3, “Profiles of the Alternatives,” in the FEIS for a description of each alternative.

► COMMENT

Page 4-62 of the RDEIS states that there is no substantial difference in population size or quasi-extinction probability among action alternatives; therefore, the trust beneficiaries request Alternative B be adopted.

RDEIS Commenter

C369

Response

As noted in the RDEIS (Section 4.6), population viability analysis modelling results for the Washington population of marbled murrelets showed no substantial difference in population size or quasi-extinction probabilities. This result is due to two factors: (1) only 14 percent of the marbled murrelet population in Washington is attributed to DNR-managed lands (refer to Section 3.6 in the FEIS), and (2) habitat conditions on non-DNR-managed lands in Washington do not change over time in the model, so the Washington population continues to decline throughout the 50-year modeling period (refer to Appendix C, p. 33). The population viability analysis results, which focus solely on habitat changes on DNR-managed lands, indicate significant differences in ending population sizes amongst the alternatives considered (refer to Table 4.6.9 in the RDEIS).

The Joint Agencies identified Alternative H as the preferred alternative. Alternative H most closely meets the direction provided by the Board of Natural Resources to DNR staff in developing a preferred alternative, and meets USFWS’ need and purpose for taking action on a permit decision. The board’s direction is to minimize impacts to murrelets, offset impacts,

address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. Alternative B does not buffer occupied sites and, as demonstrated in Table 4.6.5 of the FEIS, the impacts of Alternative B exceed the estimated mitigation provided. Alternative B also performs the poorest in the population viability analysis. Refer to Section 2.4 of the FEIS for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal.

► COMMENT

Several commenters expressed support for Alternative B, stating that it best minimizes impact to the trusts, meets trust obligations/mandate, impacts the least amount of state trust lands, complies with both the Endangered Species Act and the 1997 HCP, and meets the need and purpose of the long-term conservation strategy. Some commenters expressed that adopting any alternative other than Alternative B would be a breach of DNR's trust responsibilities. One commenter suggested enhancement of murrelet habitat on conservation land.

RDEIS Commenters

C275, C352, C355, C369, C403, C410

Response

The Joint Agencies identified Alternative H as the preferred alternative. Alternative H most closely meets the direction provided by the Board of Natural Resources to DNR staff in developing a preferred alternative, and meets USFWS' need and purpose for taking action on a permit decision. The board's direction is to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. Alternative B does not buffer occupied sites and as demonstrated in Table 4.6.5 of the FEIS, the impacts of Alternative B exceed the estimated mitigation provided. Alternative B also performs the poorest in the population viability analysis.

In its HCP amendment, DNR did not include a method of enhancing murrelet habitat. Alternative H does allow thinning in non-murrelet habitat in some special habitat areas for enhancement of northern spotted owl habitat; such thinning may enhance habitat for the marbled murrelet, but this is unproven at this time. Refer to Section 2.4 of the FEIS for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal.

► COMMENT

Commenters support Alternative B because it provides revenue for school districts and other beneficiaries in perpetuity. Other beneficiaries include counties, fire districts, ambulance and hospital services, roads, libraries, and public health services. Alternative B also provides jobs, has the least impact on revenue and jobs, and provides the most revenue to trust beneficiaries. Commenters suggest that until more is known about limiting factors affecting marbled murrelets,

Alternative B is appropriate because it best meets conservation strategy objectives and DNR's trust obligations.

RDEIS Commenters

C225, C228, C234, C278, C293, C298, C301, C355, C362, C364, C394, C412, C440, C454, C456, C403, C10

Response

DNR identified Alternative H as its preferred alternative because it most closely meets the direction provided by the Board of Natural Resources to DNR staff in developing a preferred alternative. Refer to Section 2.4 for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal. Alternative B does not buffer occupied sites. As demonstrated in Table 4.6.5 of the FEIS, the impacts of Alternative B exceed the estimated mitigation provided, and Alternative B performs the poorest in the population viability analysis.

► COMMENT

Commenters expressed that existing conservation, including DNR's policy on old growth and areas conserved for Endangered Species Act compliance, are sufficient and that additional conservation is not necessary and would violate DNR's trust obligation. Setting aside additional lands would affect revenue to school districts and additional conservation would include second-growth forest with limited value to marbled murrelets. Commenters urge the Board of Natural Resources (board) to adopt Alternative B. Because the marbled murrelet is an old-growth species and Alternative B protects old-growth and occupied sites, Alternative B is appropriate.

RDEIS Commenters

C103, C195, C352, C403

Response

Alternative H most closely meets the direction provided by the Board of Natural Resources to DNR staff in developing a preferred alternative. The board's direction is to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries.

Alternative H includes special habitat areas, which are areas of current and future marbled murrelet habitat and security forests. All areas within special habitat areas, including current habitat, future habitat, and security forest, serve important roles in maintaining and creating secure landscapes for marbled murrelet nesting. Refer to Text Box 2.2.2 in the FEIS for a definition of security forest. Alternative B does not buffer occupied sites. As demonstrated in Table 4.6.5 of the FEIS, the impacts of Alternative B exceed the estimated mitigation provided, and Alternative B performs the poorest in the population viability analysis.

► COMMENT

Commenters state that Alternative B complies with the Endangered Species Act because it protects areas that are or could become murrelet habitat, including old-growth forests and occupied sites. Commenters state that marbled murrelets are an old-growth species.

RDEIS Commenters

C275, C369, C403

Response

Alternative H most closely meets the direction provided by the Board of Natural Resources to DNR staff in developing a preferred alternative. The board's direction is to minimize impacts to murrelets, offset impacts, and address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. Alternative B does not buffer occupied sites. As demonstrated in Table 4.6.5 of the FEIS, the impacts of Alternative B exceed the estimated mitigation provided, and Alternative B performs the poorest in the population viability analysis.

Murrelet nest sites and occupancy behaviors have been documented in second-growth forests that contain structural elements similar to old growth, such as remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe infestations (Evans-Mack and others 2003, Grenier and Nelson 1995). Only stands that are naturally regenerated (and therefore likely contain some scattered legacy trees from previous stands) are included in murrelet habitat (refer to Appendix E of the FEIS).

► COMMENT

In the RDEIS, all of the alternatives show a significant increase in quality and quantity of habitat by the end of the planning period, which means all of the alternatives meet DNR's Objective #2. Since all alternative meet Objective #2, Alternative B does this and best meets DNR's Objective #1.

RDEIS Commenter

C547

Response

It is true that all of the alternatives show an increase of habitat from current conditions by the end of the planning period. However, Alternative H most closely balances impacts (harvest) and mitigation (habitat growth) (refer to Figure 4.6.5 in the FEIS). Alternative H is based on direction from the Board of Natural Resources to DNR staff to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best meets DNR's need and purpose of the proposal by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS'

need and purpose for taking action on a permit decision. Alternative B does not buffer occupied sites. As demonstrated in Table 4.6.5 of the FEIS, the impacts of Alternative B exceed the estimated mitigation provided, and Alternative B performs the poorest in the population viability analysis. Refer to Section 2.4 for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal.

► COMMENT

DNR's Objective #3 is best met by Alternative B because it allows the most land for active management.

RDEIS Commenter

C547

Response

Thank you for your comment.

► COMMENT

Alternative B best meets all the DNR objectives. It is believed to go above and beyond the pledge of the 1997 HCP, but it is supported.

RDEIS Commenter

C547

Response

Alternative H is based on direction from the Board of Natural Resources to DNR staff to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. Alternative B does not buffer occupied sites. As demonstrated in Table 4.6.5 of the FEIS, the impacts of Alternative B exceed the estimated mitigation provided, and Alternative B performs the poorest in the population viability analysis. Refer to Section 1.1 of the FEIS for a discussion on the respective need and purpose of DNR and USFWS for the proposed action. Refer to Section 2.4 for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal.

Subtopic: Against Alternative B

► COMMENT

Alternative B should be eliminated from consideration in the FEIS because it fails on its face to meet the Section 10 issuance criteria of the Endangered Species Act.

RDEIS Commenter

C413

Response

The Joint Agencies agreed to explore a range of alternatives in the EIS. The need and purpose of each agency is clearly stated in Chapter 1. The alternatives presented in the RDEIS and FEIS represent a range of approaches to marbled murrelet habitat conservation to meet the need and purpose for both agencies. The range of alternatives is believed to be reasonable, and the analysis is presented to understand the environmental consequences of each alternative. After conducting the analysis, all alternatives may not meet both agencies' need and purpose statements (refer to Section 1.1 and Chapter 2 of the FEIS). Alternative B is included in the RDEIS and FEIS as an alternative for the Board of Natural Resources to consider, but the Joint Agencies' preferred alternative is Alternative H.

Subtopic: Supports Alternative F

► COMMENT

Several commenters expressed a preference for Alternative F and protecting as much habitat as possible. Commenters state that Alternative F does the most to support marbled murrelets, provides habitat needed to buffer against climate change impacts including fire and extreme wind or rain events, conserves and grows more habitat (170,000 acres) compared to Alternative H (43,000 acres), and results in a larger marbled murrelet population compared to Alternative H. One commenter noted that forests that are set aside will sequester carbon, act as a gene pool, and help both wildlife and people survive hotter, more extreme conditions.

RDEIS Commenters

C9, C105, C114, C144, C152, C159, C164, C166, C170, C177, C180, C187, C188, C246, C249, C250, C251, C252, C442, C253, C254, C255, C256, C257, C258, C260, C261, C263, C266, C267, C271, C273, C274, C281, C314, C315, C331, C348, C357, C60, C383, C409, C445, C461, C453, C213

Response

While Alternative F includes more conservation, Alternative H most closely meets the direction provided by the Board of Natural Resources to DNR staff in developing a preferred alternative. The board's direction is to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries.

Subtopic: Supports Alternatives F and/or G**► COMMENT**

Several commenters expressed a preference for alternatives F and/or G because they include more conservation than other alternatives, meet the murrelet's minimum requirements, are better for marbled murrelet survival, increase the size of the population, include no net loss of habitat, provide better resilience to climate change and human caused natural disturbance, better protect nest sites and interior habitat, and make a significant contribution to recovery. Commenters called for protection of all nest sites and both current and future quality habitat and also questioned why either Alternative F or G was not the preferred alternative.

RDEIS Commenters

C118, C124, C140, C149, C162, C185, C193, C198, C213, C220, C283, C289, C290, C312, C316, C317, C322, C351, C367, C396, C400, C406, C415, C416, C417, C422, C436, C443, C460, C463, C466, C467

Response

Alternative H most closely meets the direction provided by the Board of Natural Resources to DNR staff to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries.

Alternative H protects all occupied sites, including the 16,000 acres of occupied sites identified by the 2008 Science Team, and includes 100-meter buffers on those sites. This alternative balances impacts (harvest) and mitigation (habitat growth) and also increases the amount of interior forest in long-term forest cover over the analysis period. Refer to Section 2.4 of the FEIS for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal.

Subtopic: Against Alternative F or G

► COMMENT

Several commenters expressed that alternatives F and G are insufficient to protect the marbled murrelet and buffer forests. Specifically, Alternative F does not significantly restrict logging and timber management or account for the continued population decline that happened during the lengthy delay in adopting a long-term conservation strategy; even under Alternative F, populations decline for several decades.

RDEIS Commenters

C151, C244, C290, C322, C389, C462

Response

Alternative F is the most conservative of the alternatives under consideration for the long-term conservation strategy. Alternatives that include greater amounts of conservation than Alternative F were proposed in the comments on the DEIS. Those proposed alternatives do not accomplish DNR's need and purpose, which includes obtaining long-term certainty for timber harvest and other management activities on forested state trust lands consistent with DNR's fiduciary responsibility to the trust beneficiaries, as defined by law. DNR determined that the proposed alternatives that conserved more habitat than Alternative F are not consistent with DNR's objectives for the proposal because of impacts to trust beneficiaries from harvest restrictions and because the mitigation imposed greatly exceeds impacts from DNR's activities proposed under the existing alternatives. USFWS concurs that the proposed mitigation under these alternatives would greatly exceed the impacts from DNR's activities. Based on analysis of impacts to trust beneficiaries, these alternatives were not considered economically feasible in view of DNR's trust obligations, and thus not considered reasonable alternatives pursuant to 43 CFR 46.420(b). Refer to "Commenter Alternatives Not Analyzed in Detail" in Chapter 2 of the FEIS for more information.

► COMMENT

Alternatives G and F do not meet DNR's trust obligation and are not reasonable alternatives. Setting aside potential conservation areas for all alternatives while the long-term conservation strategy is in development also violates DNR's trust obligation.

RDEIS Commenter

C224

Response

The interim strategy is required as part of DNR's 1997 HCP and allows DNR to remain compliant with the federal Endangered Species Act while managing state trust lands and developing a long-term conservation strategy.

Subtopic: Clarification of Alternative G**► COMMENT**

Alternative G, developed in response to comments on the DEIS, predominantly from WDFW and USEPA, advocates for 100-meter, non-managed buffers around all occupied areas. This is not made clear on p. 2-51 of the RDEIS. In its comments on the DEIS, WDFW clearly specified 100-meter, non-managed buffers around all occupied areas.

RDEIS Commenter

C305

Response

The Joint Agencies developed Alternative G in response to comments received on the DEIS, including comments from WDFW and USEPA. In developing this alternative, DNR did not include WDFW's suggestion of non-managed buffers. Thinning is allowed in occupied site buffers to enhance or maintain security forest with windfirm canopies. DNR has clarified this issue in the FEIS; refer to Section 2.3, "Profile of the Alternatives," of the FEIS for more information.

Subtopic: Supports Alternative G**► COMMENT**

Several commenters expressed support for Alternative G because of the level of protection it provides for marbled murrelet habitat. This alternative maximizes population survival but reduces financial impacts to trust beneficiaries as compared to Alternative F, and does not overly impact the timber industry. Suggested modifications to Alternative G include releasing for harvest areas of marginal habitat that do not provide key buffering for higher quality habitat or occupied sites now or in the future, and reducing impacts to Wahkiakum County.

RDEIS Commenters

C100, C101, C132, C204, C209, C205, C209, C297, C305

Response

Alternatives F and G include more conservation than Alternative H and provide more support for marbled murrelets. Although Alternative G would have lower impacts to trust beneficiaries than Alternative F, those impacts are still higher than Alternative H.

Alternative H most closely meets the direction provided by the Board of Natural Resources to DNR staff to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries.

▶ COMMENT

Alternative G appears to be the best alternative.

RDEIS Commenter

C397

Response

Thank you for your comment.

Subtopic: Support Alternative H**▶ COMMENT**

Commenter supports Alternative H.

RDEIS Commenters

C118, C140, C317, C351

Response

Thank you for your comment.

Subtopic: Against Alternative H**▶ COMMENT**

Alternative G is not as good as Alternative F but better than Alternative H.

RDEIS Commenter

C442

Response

Thank you for your comment.

► COMMENT

The RDEIS does not demonstrate that the preferred alternative meets the purpose statements regarding long-term certainty for management and obligations under the Endangered Species Act. The RDEIS also does not demonstrate that the preferred alternative will do more to satisfy the stated need than alternatives that entail less timber harvest.

RDEIS Commenter

C413

Response

The purpose of an EIS is to analyze adverse impacts to the environment of the proposal, including impacts from a reasonable range of alternatives. The Board of Natural Resources has the discretion to select an alternative within the range analyzed that they believe best meets the need and purpose of the proposal. Refer to Section 2.4 for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal. Ultimately, the USFWS is required to determine if the Board of Natural Resources' selected alternative meets Section 10 issuance criteria under the Endangered Species Act and will either issue, issue with conditions, or deny the permit amendment.

► COMMENT

Several commenters expressed opposition to Alternative H because it does not consider the portion of each counties' economy that is timber based. They believe this alternative would cause hardship to counties dependent on timber revenue such as Clallam County, and would harm rural economies and jobs across western Washington. They also fear that Alternative H will cause a lumber shortage and make prices rise. Commenters believe that Alternative H does not meet DNR's duty of undivided loyalty to the trusts and does not meet Objective #2 as stated in the RDEIS, in which DNR expects "to make a significant contribution to maintaining and protecting marbled murrelet populations."

One commenter encouraged DNR to work on doing this strategy right and in a collaborative process, rather than going forward with Alternative H, which they claim has flaws that raise questions about DNR's compliance with its fiduciary trust management obligations.

RDEIS Commenters

C228, C229, C241, C292, C293, C300, C301, C369, C422, C454

Response

Potential impacts at the county level are included in Section 4.11 of the FEIS. In addition, DNR has conducted an analysis of the potential impacts of the HCP amendment on taxing districts (refer to Appendix R in the FEIS).

Alternative H was developed to meet direction from the Board of Natural Resources to DNR staff to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries.

► COMMENT

Several commenters are opposed to Alternative H for a number of reasons. It does not protect habitat and will not support marbled murrelets; it includes too much harvest of mature and old-growth forest; it has too little mitigation; it allows a net loss of 1,000 acres of habitat in the North Puget Planning unit over 50 years; it does not incorporate the best available science for marbled murrelet recovery; it does not consider habitat loss from fire, wood piracy, storms, road building, or climate change; it only increases conservation by 10,000 acres; it reduces forest cover around occupied sites and buffers in the Straits, preventing expansion of geographic distribution and inhibiting habitat growth; and it protects less habitat than Alternative F or what was recommended in the 2008 Science Team Report.

RDEIS Commenters

C105, C124, C127, C135, C138, C144, C145, C149, C159, C176, C194, C204, C205, C213, C220, C253, C257, C269, C283, C314, C315, C325, C329, C343, C344, C375, C384, C404, C406, C409, C417, C421, C422, C439, C444, C450, C461, C453, C470, C471, C472, C473, C474, C475, C476, C477, C478, C480, C481, C482, C483, C484, C485, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C523, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C536, C537, C538, C539, C540, C541, C542, C543, C545, C546

Response

DNR's current policy (DNR 2006) is to defer from harvest all old-growth forests. DNR defines old growth as forests that are in the structurally complex stage of stand development, at least five acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. The long-term conservation strategy will not alter this policy.

Alternative H is based on direction from the Board of Natural Resources to DNR staff to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best meets DNR's need and purpose by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered

Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS' need and purpose for taking action on a permit decision.

Alternative H protects all existing occupied sites and captures existing habitat within 20 special habitat areas that are distributed across strategic locations. Strategic locations are geographic areas within Washington that the Joint Agencies view as having a disproportionately high importance for murrelet conservation. Strategic locations include North Puget, Southwest Washington, and the OESF and Straits (west of the Elwha River). The OESF and Straits (west of the Elwha River) and the Southwest Washington strategic location contain the most acres of land contributing to marbled murrelet conservation.

Of the 20 special habitat areas, 19 contain an occupied site. All the special habitat areas include current habitat, future habitat, and security forest. Alternative H also applies 100-meter buffers on all occupied sites and increases the amount of interior forest habitat in long-term forest cover.

Special habitat areas are part of long-term forest cover, which is defined as DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation. Refer to Table 2.2.1 in the FEIS for the total acres of long-term forest cover under Alternative H.

Alternative H does allow some harvest of low and high-quality murrelet habitat *outside* long-term forest cover. However, DNR will delay (meter) the harvest of some of this habitat during the first decade to give forests within long-term forest cover time to develop into higher-quality habitat to achieve no net loss of adjusted acres of habitat over the first decade. Alternative H was designed to have a smaller conservation footprint than Alternative F to more closely balance impacts (harvest) and mitigation (habitat growth), per direction from the Board of Natural Resources.

Alternative H accounts for uncertainties that were not addressed in the analytical framework. Those uncertainties include the possibility of natural disturbances impacting habitat protected in long-term forest cover in the future such as windthrow, fire, and disease. To account for the possibility of these natural disturbances occurring, the mitigation in Alternative H exceeds impact by 809 adjusted acres (refer to Table 4.6.5 in the FEIS; refer to Appendix T of the FEIS for more information on mitigation for natural disturbance).

The best available science was used throughout the development and analysis of the alternatives. The 2008 Science Team Report was referenced repeatedly in the DEIS, RDEIS, and FEIS, and is the basis for several components of the long-term conservation strategy, including the P-stage habitat classification model and the addition of occupied sites to all action alternatives. However, the 2008 Science Team report was not the only source of best available science used to develop the alternatives and analyze their impacts. Many sources of current science also were used throughout the DEIS and RDEIS and carried through the FEIS. (Refer to Chapter 6, "Literature Cited," of the FEIS; also refer to literature cited in the appendices.)

► COMMENT

In the North Puget HCP planning unit, Alternative H experiences a net loss of 1,072 adjusted acres after 50 years. If Alternative H is adopted, this loss of habitat would create a larger gap in the geographic distribution of habitat on DNR-managed lands. This gap is concerning due to that planning unit's proximity to the San Juan Islands, where marbled murrelet density at sea is relatively high. Commenters feel a long-term conservation strategy should result in a net increase of habitat instead.

RDEIS Commenter

C115, C117, C122, C151, C153, C154, C162, C173, C179, C185, C211, C272, C282, C289, C312, C316, C322, C337, C347, C382, C387, C389, C400, C413, C414, C416, C437, C460, C463, C466

Response

In the FEIS, DNR reports habitat by strategic location and landscape (refer to Table 3.6.1 in the FEIS). Habitat in the North Puget strategic location is currently estimated at 60,061 acres. Estimated habitat in the final decade of the planning period in this strategic location is over 72,065 acres under Alternative H, indicating a net increase in total habitat over the term of the 1997 HCP in this location (refer to Table 4.6.3 in the FEIS). However, the analytical framework developed for estimating impacts and mitigation applies both P-stage adjustments and temporal discounts to habitat that develops in later decades (refer to Appendix H to the FEIS), resulting in negative values in North Puget (mitigation minus impact) for some alternatives (refer to Table 4.6.5 in the FEIS). Alternative H is expected to maintain the current distribution of murrelets in the North Puget area by protecting all known occupied sites and approximately 80 percent of the existing murrelet habitat and designating special habitat areas in locations with significant existing habitat. Alternative H results in a net increase in the total amount of nesting habitat on DNR-managed lands in the North Puget landscape by the end of the analysis period.

► COMMENT

Commenters state that a successful plan must result in larger, viable populations of marbled murrelets, expand their geographic range, and increased population resilience in the state for the next 50 years (or 100 years and beyond), while also reducing financial burdens on resource-dependent communities. The conservation strategy should result in population stabilization and recovery.

Commenters requested that Alternative H not be adopted as the preferred alternative and stated that Alternative H does not do enough to make a significant contribution to marbled murrelet recovery and does not meet the long-stated biological goals. Comments further state that Alternative H likely will result in smaller populations of marbled murrelets and shrinking distribution of habitat, permits too much harvest of mature and old-growth habitat in anticipation of more habitat in the future, and does not include enough habitat as mitigation. Commenters feel

that DNR needs a more protective plan for the marbled murrelet, with more stringent protection for old-growth forests. Alternatives F and G most closely accomplish this goal but none of the propose alternatives go far enough. All eight alternatives project a continued population decline. DNR should start over and look for a solution that will save the murrelet will also supporting coastal communities that rely on timber.

The current rate of decline could drive the murrelet to extinction. Please consider what extinction means when making decisions regarding Washington wildlife.

RDEIS Commenters

C115, C117, C122, C123, C135, C151, C162, C173, C179, C183, C196, C206, C207, C211, C212, C214, C244, C272, C282, C285, C289, C290, C312, C316, C322, C337, C347, C366, C375, C382, C389, C397, C400, C407, C414, C415, C416, C431, C435, C437, C446, C460, C463, C467, C483, C486, C544, C536

Response

Alternative H is based on direction from the Board of Natural Resources to DNR staff to minimize impacts to murrelets, offset impacts, and address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best meets DNR’s need and purpose of the proposal by integrating DNR’s obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR’s fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS’ need and purpose for taking action on a permit decision. One of DNR’s objectives is to “Provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR’s forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations.”

The decline of the marbled murrelet population in Washington is influenced by many factors, including loss of murrelet habitat. Refer to Section 3.6, “Current Population Trends and Habitat Conditions,” in the FEIS for more information.

The population viability analysis model (Appendix C) was not designed to provide an absolute estimate of population response for a particular alternative. Instead, the model was developed to help understand how marbled murrelet populations might respond to the variations in murrelet habitat proposed under each alternative.

Peery and Jones modeled several population scenarios at the scale of Washington State, and DNR-managed lands only (refer to Appendix C to the FEIS). The model assumed that habitat was the main influence on current population declines. Since only approximately 14 percent of murrelet habitat in Washington occurs on DNR-managed lands (refer to Section 3.6 in the FEIS), the model focused on the relative differences between the alternatives by artificially holding habitat conditions on non-DNR-managed lands constant so that only the effects of habitat change

on DNR-managed lands would be modeled. Refer to Section 4.6, “Effect on Marbled Murrelet Populations,” in the FEIS for more information.

The “enhancement scenario” on DNR-managed lands shows that all alternatives would reverse the declining population trend line for a population of female birds associated with DNR-managed lands. Other scenarios show varying rates of continued population decline, although no scenario appears to increase the current rate of decline.

DNR’s current policy (DNR 2006) is to defer from harvest all old-growth forests. DNR defines old growth as forests that are in the structurally complex stage of stand development, at least five acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. The long-term conservation strategy will not alter this policy.

Refer to Section 4.11 for a socioeconomic analysis of the proposed alternatives.

► COMMENT

The commenter asked DNR to protect all habitat in the Strait of Juan de Fuca and along the coast of Washington from Grays Harbor south. The current preferred alternative does not protect sufficient murrelet habitat. The commenter supports an alternative with the maximum amount of murrelet habitat and restoration of additional nesting places.

RDEIS Commenter

C405

Response

None of the alternatives protect all habitat in the Strait of Juan de Fuca and along the coast of Washington, from Grays Harbor south. Simply avoiding harvest of all habitat in these areas does not meet DNR’s need and purpose of this proposal. The Joint Agencies’ preferred alternative (H) focuses its marbled murrelet-specific conservation into 20 special habitat areas that are distributed across three strategic locations: the OESF and Straits (west of the Elwha River), southwest Washington, and North Puget. Strategic locations are geographic areas within Washington that the Joint Agencies view as having a disproportionately high importance for murrelet conservation. One of the reasons for their importance is proximity to marine waters (within 40 miles), including proximity to marine “hotspots” (Raphael and others 2016), which are areas with higher-than-average murrelet density. The OESF and Straits (west of the Elwha River) and the Southwest Washington strategic location contain the most acres of land contributing to marbled murrelet conservation. Refer to Chapter 2 of the FEIS for more information on strategic locations and the areas conserved under each alternative.

► COMMENT

Protect more murrelet habitat. The preferred alternative does not adequately protect old-growth forests.

Commenter

C186

Response

DNR's current policy (DNR 2006) is to defer from harvest all old-growth forests. DNR defines old growth as forests that are in the structurally complex stage of stand development, at least five acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. The long-term conservation strategy will not alter this policy.

Subtopic: Economic impacts as justification for Alternative H**► COMMENT**

The RDEIS uses the economic impacts as its justification for selecting the preferred alternative.

RDEIS Commenter

C413

Response

Alternative H is based on direction from the Board of Natural Resources to DNR staff to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best DNR's need and purpose of the proposal by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS' need and purpose for taking action on a permit decision.

Socioeconomic impacts (Section 4.11) must be discussed in an EIS when they are interrelated to natural or physical environmental effects (40 CFR § 1508). Chapter 1 discusses DNR's fiduciary responsibility to trust beneficiaries. DNR's Objective #1 recognizes that trust land management obligations include revenue generation and must consider the impact to trust beneficiaries; refer to the financial analysis in Appendix P to the FEIS. For a summary of impacts of the HCP amendment on DNR's trust beneficiaries at the taxing district level, refer to Appendix R.

► COMMENT

The RDEIS recognizes (p. 1-4) that the 1997 HCP requires agencies to fully analyze and show the socioeconomic reason why the agencies chose the proposed action.

RDEIS Commenter

C413

Response

The discussion beginning on Page 1-4 of the RDEIS acknowledges that the 1997 HCP and incidental take permit provides DNR the stability, certainty, and flexibility it needs to meet its responsibility as a trust lands manager, which is to provide a perpetual source of revenue to its trust beneficiaries while simultaneously developing a complex, healthy, resilient forest ecosystem capable of supporting native species. The nature of DNR's duties as a trust land manager and the different types of trust land are briefly explained in Chapter 1 of the FEIS. Refer to Section 4.11 of the FEIS for an analysis of potential impacts to social and economic values.

Subtopic: Scientific basis for Alternative H**► COMMENT**

Alternative H is not based on science.

RDEIS Commenter

C442

Response

The best available science was used throughout the development and analysis of the alternatives. The 2008 Science Team Report was referenced repeatedly in the DEIS, RDEIS, and FEIS, and is the basis for several components of the long-term conservation strategy, including the P-stage habitat classification model and the addition of occupied sites to all action alternatives. However, the 2008 Science Team report was not the only source of best available science used to develop the alternatives and analyze their impacts. Many sources of current science also were used in the DEIS and FEIS and carried through the FEIS. (Refer to Chapter 6, "Literature Cited," of the FEIS; also refer to literature cited in the appendices.)

Subtopic: Location of special habitat areas under Alternative H**► COMMENT**

The RDEIS does not show precisely where special habitat areas are located on the landscape.

RDEIS Commenter

C416

Response

Maps showing the location of special habitat areas are located in Appendix F of the FEIS. Appendix B of the HCP amendment contains detailed maps of each special habitat area, including township, range, and section information. The HCP amendment can be found in Appendix Q to the FEIS.

Subtopic: Conservation alternative should have been analyzed**► COMMENT**

The conservation alternative should have been analyzed.

RDEIS Commenter

C413, C421

Response

A preliminary analysis of the "conservation alternative" and other proposed modifications of Alternative F is presented in Chapter 2 of the FEIS. The proposed conservation alternative did not accomplish DNR's need and purpose, which include obtaining long-term certainty for timber harvest and other management activities on forested state trust lands consistent with DNR's fiduciary responsibility to the trust beneficiaries, as defined by law. The proposed conservation alternative is not consistent with DNR's purpose because of impacts to trust beneficiaries from the harvest restrictions and because the mitigation imposed greatly exceeds impacts from DNR's activities proposed under the existing alternatives. Based on its impacts to trust beneficiaries, this alternative was not considered economically feasible in view of DNR's trust obligations, and thus was not considered a reasonable alternative pursuant to 43 CFR 46.420(b). Refer to "Commenter Alternatives Not Analyzed in Detail" in Section 2.4 of the FEIS for more information.

■ Topic: Does Not Support Alternatives or Strategy**Subtopic: Against cutting trees****► COMMENT**

Washington cut its tall trees to make money, but California saved them and made money by attracting tourists to see them. DNR is making a mistake by cutting these trees as part of the long-term conservation strategy.

RDEIS Commenter

544

Response

Every year, there are an estimated 11 million visits to DNR-managed lands by people seeking a variety of recreational opportunities. DNR’s primary recreation focus is to provide a primitive experience in a natural setting through trails, water access, trailhead facilities, and rustic camping facilities. DNR broadly categorizes recreation as either “developed” or “dispersed.” Developed recreation occurs at DNR-managed recreation facilities and on DNR-managed trails. Dispersed recreation occurs outside of designated facilities and trails.

Statewide, DNR manages over 160 designated recreation facilities and over 1,100 miles of designated trails for both motorized and non-motorized uses. Trailheads provide access to DNR-managed trails and trail systems. Day-use sites and trailheads often provide informational kiosks and toilet facilities. Campgrounds provide recreationists the opportunity to stay overnight in an area managed for camping and may also provide access to nearby trail systems. Trail-based recreational use includes both motorized and non-motorized activities. Non-motorized uses include hiking and walking, trail running, horseback riding, riding with pack stock and/or pets, and mountain bicycle riding. Motorized uses include motorcycle riding, ATV riding, and 4x4 driving. DNR manages designated trails for specific recreational uses or combinations of uses.

Dispersed recreational activities include, but are not limited to, hunting, fishing, target shooting, rock climbing, dispersed camping, water activities, hiking, forest product gathering, and geocaching. DNR encourages responsible public use of roads, trails, land, and water, consistent with its obligations as a trust and land manager.

For more information about recreational use of DNR-managed land and potential impacts to this use from the marbled murrelet long-term conservation strategy, refer to sections 3.7 and 4.7 of the FEIS.

Subtopic: Alternative funding sources**► COMMENT**

DNR should not have to choose between the survival of murrelets and old-growth forests and funding schools and other needs. Find alternative sources of funding, such as a state income tax.

RDEIS Commenters

C321, C350, C470, C536, C543, C544

Response

DNR’s current policy (DNR 2006) is to defer from harvest all old-growth forests. DNR defines old growth as forests that are in the structurally complex stage of stand development, at least five acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. The long-term conservation strategy will not alter this policy.

Refer to Section 1.1 for a discussion of the respective need and purpose of DNR and USFWS for this proposal.

Identifying and developing alternative sources of revenue for funding is outside the scope of this EIS. Per legislative direction in 2018, the Commissioner of Public Lands has formed a “Solutions Table” tasked with providing recommendations to the Washington State Legislature that will offset potential revenue and job losses in rural communities (Laws of 2018, Ch. 255).

Subtopic: Alternatives do not support recovery

► COMMENT

Commenter does not support the strategy because it will destroy marbled murrelets to benefit the logging industry. Marbled murrelets need 567,000 acres of protected land.

RDEIS Commenter

C2

Response

Under each alternative, DNR will maintain “long-term forest cover,” which is DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation (refer to tables 2.5 through 2.8 in the FEIS for more information).

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres. The second part is areas that will be managed specifically for marbled murrelet. Amounts of marbled murrelet-specific conservation vary by alternative. Refer to Section 2.2 in the FEIS for more information.

Subtopic: Does not support amending the 1997 HCP

► COMMENT

The commenter does not support amending the 1997 HCP because it is not in the best interest of the marbled murrelet.

RDEIS Commenter

C356

Response

When the 1997 HCP was enacted, DNR adopted an interim conservation strategy for marbled murrelet habitat, with the understanding that a long-term conservation strategy would be developed once more was known about the bird's habitat needs (DNR 1997, p. IV.39). The amendment for a long-term conservation strategy is the fulfillment of a long-standing commitment in the 1997 HCP.

Subtopic: Strategy needs improvements**► COMMENT**

The strategy needs numerous improvements, for example addressing lack of habitat.

RDEIS Commenter

C316

Response

Under each alternative, DNR will maintain “long-term forest cover,” which is DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres. The second part is areas that will be managed specifically for marbled murrelet. Amounts of marbled murrelet-specific conservation vary by alternative. Refer to Section 2.2 in the FEIS for more information. Refer to Section 4.6 for a discussion of habitat losses and gains over the five decade planning period.

Alternative H seeks to most efficiently meet the respective need and purpose of DNR and USFWS (refer to Chapter 1 in the FEIS). DNR’s Objective #2 is to provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR’s forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations.

■ Topic: Other Alternatives**Subtopic: Alternative supporting murrelets****► COMMENT**

The commenter supports whichever alternative conserves and restores marbled murrelets.

RDEIS Commenters

C5, C336

Response

Alternative H seeks to most effectively meet the respective need and purpose of DNR and USFWS (refer to Chapter 1 of the FEIS), including providing habitat that minimizes and mitigates the incidental take of marbled murrelets resulting from DNR's forest management activities. By meeting these objectives, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations.

► COMMENT

Adopt the alternative which offers the greatest likelihood of stabilizing or increasing the marbled murrelet population in the next 50 years.

RDEIS Commenter

C91

Response

Alternative H seeks to most efficiently meet the respective need and purpose of USFWS and DNR (refer to Chapter 1 in the FEIS). DNR's Objective #2 is to provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations.

For the population viability analysis (Appendix C to the FEIS), Peery and Jones modeled several population scenarios at the scale of Washington State, and DNR-managed lands only. The model assumed that habitat was the main influence on current population declines. Since only approximately 14 percent of murrelet habitat in Washington occurs on DNR-managed lands (refer to Section 3.6 in the FEIS), the model focused on the relative differences between the alternatives by artificially holding habitat conditions on non-DNR-managed lands constant. Refer to Section 4.6, "Effect on Marbled Murrelet Populations," in the FEIS for more information.

The "enhancement scenario" on DNR-managed lands shows that all alternatives would reverse the declining population trend line for a population of female birds associated with DNR-managed lands. Other scenarios show varying rates of continued population decline, although no scenario appears to increase the current rate of decline.

Subtopic: Seek other alternatives

► COMMENT

Trees are so important, as are birds. Please seek alternatives!

RDEIS Commenter

C28

Response

Thank you for your comment.

Subtopic: Alternative that meets the Endangered Species Act

► COMMENT

DNR should adopt an alternative that meets the intent of the Endangered Species Act.

RDEIS Commenter

C176

Response

Pursuant to Section 10(a)(1)(B) of the Endangered Species Act, DNR can only obtain an incidental take permit with the completion of an HCP that meets the Section 10 issuance criteria of the Endangered Species Act (refer to Chapter 1 of the FEIS). The issuance criteria includes a determination from USFWS that the take will not appreciably reduce the likelihood of survival and recovery of the species in the wild. The proposed action also will be evaluated by USFWS in a biological opinion.

Refer to Section 2.4 of the FEIS for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal.

Subtopic: Range of alternatives

► COMMENT

Comment stating the EIS violates NEPA for failing to include a reasonable range of alternatives.

RDEIS Commenter

C423

Response

40 CFR § 1502.14(a) requires that an EIS “Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.” Department of Interior rule 43 CFR § 46.420 (b) on reasonable alternatives provides that “In addition to the requirements of 40 CFR 1502.14, this term includes alternatives that are technically and economically practical or feasible and meet the need and purpose of the proposed action.” Refer to Section 1.1 of the FEIS for a discussion of the respective need and purpose of DNR and USFWS of the proposal. The DEIS evaluated six alternatives, and two additional alternatives were evaluated in the RDEIS and FEIS. The alternatives considered includes a broad range of options for management and conservation of marbled murrelet habitat on DNR-managed lands. The Joint Agencies agreed to the range of alternatives analyzed in the FEIS.

► COMMENT

The range of alternatives does not account for DNR's lengthy delay in adopting a long-term conservation strategy, a time during which the murrelet's habitat and population have continued to decline.

RDEIS Commenter

C413

Response

Since approval of the DNR's 1997 HCP and associated incidental take permit, DNR has been implementing the interim strategy, which includes conducting surveys for marbled murrelets, identifying marbled murrelet habitat, and deferring timber harvest in many areas identified as marbled murrelet habitat. As described in Chapter 5 of the FEIS, the interim strategy authorized the removal of some low-quality marbled murrelet habitat and allowed for some harvest of habitat that was surveyed and determined to be unoccupied.

The Joint Agencies used the latest and best available information in developing the alternatives in the FEIS, including changes in marbled murrelet populations and habitat conditions since the adoption of the 1997 HCP. Additionally, the population viability analysis (refer to Appendix C) incorporates the rate of population decline for marbled murrelets observed in Washington in the analysis of the alternatives.

Subtopic: Significant contribution**► COMMENT**

Commenters urged the Joint Agencies to do more than minimize and mitigate the take of murrelets. The RDEIS incorrectly assumes that DNR will meet its contractual obligations under

the 1997 HCP to "make a significant contribution to maintaining and protecting marbled murrelet populations" merely by adopting a long-term conservation strategy that meets Section 10 permit issuance criteria. An alternative must be sought that makes a significant contribution to murrelet recovery on the state trust lands DNR manages.

RDEIS Commenters

C15, C16, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C31, C32, C33, C34, C35, C36, C37, C38, C39, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C53, C56, C57, C58, C59, C68, C69, C71, C72, C73, C82, C83, C84, C85, C86, C87, C88, C90, C94, C97, C98, C108, C111, C112, C156, C157, C413

Response

Under Section 10 of the federal Endangered Species Act, USFWS may issue an incidental take permit amendment only if all legally-required permit issuance criteria are met. One requirement is that the impacts of DNR's take is minimized and mitigated to the maximum extent practicable. Measures such as conserving occupied sites, protecting most existing habitat, recruiting additional habitat, and reducing human disturbances to habitat are expected to provide habitat capability for marbled murrelets on DNR-managed lands. By providing habitat capability, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations and thereby meet the requirements of the Endangered Species Act and participate in the *Recovery Plan for the Threatened Marbled Murrelet in Washington, Oregon, and California* (USFWS 1997). Refer to section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

► COMMENT

Given the uncertainty regarding impacts of climate change on marbled murrelet habitat, the amount by which mitigation exceeds impacts under Alternative H may not be sufficient, especially given the known scale of past events. Alternative H is far less likely than Alternatives C, E, F, or G to ensure that habitat losses do not exceed habitat gains over time.

RDEIS Commenter

C297

Response

Raphael and others (2016) assessed current natural disturbance rates of marbled murrelet habitat and reported that, between 1993 and 2012, 11,116 acres of "higher quality habitat" was lost to natural disturbances across all ownerships in Washington, including federal reserves. This loss represents about 0.72 percent of nesting habitat over 20 years, or about 0.36 percent habitat loss per decade across all ownerships due to natural disturbance (wildfire, windthrow, insects, and disease). The analysis by Raphael and others (2016) was done using a "Maxent" marbled murrelet habitat model that the Joint Agencies found to be reasonably consistent with the P-stage

model (refer to Appendix E of the RDEIS). Davis and others (2016) studied natural disturbance rates of northern spotted owl habitat and found results similar to those reported by Raphael and other (2016) for habitat loss due to natural disturbance in western Washington.

As described in Chapter 3.2 of the FEIS, under climate change some disturbance rates are expected to increase, such as fire; some are expected to be unchanged, such as windthrow; and some are expected to change in frequency and location, such as beetle outbreaks. Based on these studies, DNR estimated that the natural disturbance rate of murrelet habitat may double by the end of the 50-year analysis period. Under this assumption, mitigation needs to exceed impact by approximately 395 adjusted acres to account for potential loss of habitat to natural disturbance. Every alternative except B meets this requirement. Refer to Appendix T of the FEIS for more information on mitigation for natural disturbance.

Subtopic: Trust mandate

► COMMENT

DNR should select an alternative that complies with its trust mandate. DNR should change course on the preferred alternative to one that does.

RDEIS Commenters

C221, C228, C241, C292, C293, C301, C318, C364, C394, C412

Response

The respective need and purpose of DNR and USFWS of the proposal are discussed in Section 1.1 of the FEIS. DNR's Objective #1 expressly recognizes the trust mandate: "Generate revenue and other benefits for each trust by meeting DNR's trust management responsibilities. Those responsibilities include making state trust lands productive, preserving the corpus of the trust, exercising reasonable care and skill in managing the trust, acting prudently with respect to trust assets, acting with undivided loyalty to trust beneficiaries, and acting impartially with respect to current and future trust beneficiaries."

Alternative His based on direction from the Board of Natural Resources to DNR staff to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best meets DNR's need and purpose of the proposal by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS' need and purpose for taking action on a permit decision.

Subtopic: No alternatives is sufficient

► COMMENT

Commenters state that none of the alternatives do enough to protect suitable habitat or the marbled murrelet, or achieve the objective necessary for the protection of the bird, and that all alternatives continue to log mature and high-quality forest. Commenters further state the desire for an alternative that addresses all issues impacting Washington's marbled murrelet population and one that conserves all remaining high-quality habitat and does not allow management activities within the habitat (for example, road building, logging, or blasting).

RDEIS Commenters

C244, C259, C317, C327, C337, C387, C389, C390, C407, C416, C423, C424, C427, C430, C432, C434, C437, C438, C448, C455, C458, C462, C463, C465

Response

Addressing all issues impacting the Washington marbled murrelet population is outside the scope of this proposal. Under Section 10 of the federal Endangered Species Act, USFWS may issue an incidental take permit only if all legally-required permit issuance criteria are met. The same permit issuance criteria apply to consideration of incidental take permit amendments.

One permit issuance requirement is that the impacts of DNR's take is minimized and mitigated to the maximum extent practicable. Measures such as conserving occupied sites, protecting most existing habitat, recruiting additional habitat, and reducing human disturbances to habitat are expected to provide habitat capability for marbled murrelets on DNR-managed lands. By providing habitat capability, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations and thereby meet the requirements of the Endangered Species Act and participate in the *Recovery Plan for the Threatened Marbled Murrelet in Washington, Oregon, and California* (USFWS 1997). Refer to section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: General recommendations on alternatives

► COMMENT

Commenters indicated that the long-term conservation strategy should protect all occupied sites, existing high quality habitat, and forests that will become habitat in the near-term as recommended by scientists. Interior forest habitat should be increased and buffers established to protect chicks from predators, and those buffers should be wider. The long-term conservation strategy should protect all habitat with a P-stage value over 0.47 for one mile around occupied sites and habitat. The strategy should include more and larger marbled-murrelet-specific conservation areas to broaden the geographic distribution of murrelets in western Washington and to improve habitat conditions, help reduce or mitigate risk from natural and human-caused disturbances, and mitigate for planned logging without further risk to murrelet populations. The

long-term conservation strategy should not lead to smaller patches and fewer marbled murrelets. Larger areas will help to reduce impacts of humans or natural disturbance. Isolated conservation areas create habitat fragmentation that hinder the species' survival and recovery. The long-term conservation strategy should include linkages between marine and forest habitat, and provide additional support for protection of "hotspots" around the Strait of Juan de Fuca and in southwest Washington. Habitat could be hastened with thoughtful thinning to promote growth.

RDEIS Commenters

C79, C115, C117, C122, C123, C135, C151, C153, C154, C160, C162, C173, C179, C183, C185, C190, C192, C196, C198, C199, C200, C211, C212, C214, C244, C272, C280, C282, C289, C290, C312, C316, C322, C324, C326, C327, C337, C339, C347, C366, C370, C381, C382, C389, C397, C400, C405, C407, C409, C413, C414, C415, C416, C418, C423, C431, C435, C437, C446, C447, C450, C459, C460, C461, C463, C467, C470, C471, C472, C473, C474, C475, C477, C478, C480, C481, C482, C483, C484, C485, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C536, C537, C539, C541, C542, C543, C545, C546

Response

Under all alternatives, DNR will protect all occupied sites in the analysis area that were identified under the interim strategy. DNR currently protects 397 occupied sites under the current interim strategy; DNR will protect 388 occupied sites under alternatives B through H (refer to Appendix O to the FEIS for more information). Occupied sites are where marbled murrelet behavior indicative of nesting was observed during field surveys. Under all of the action alternatives, DNR will protect approximately 16,000 additional acres of occupied sites that were identified by the Science Team (refer to Appendix D of the DEIS for more information on how these sites were identified).

The Joint Agencies recognize that occupied sites are not likely to account for all of the nesting behavior on DNR-managed lands in the planning area. It is likely that murrelets are nesting in other areas, with stands identified as high-quality habitat having the highest probability of being used for nesting (refer to Appendix E to the FEIS). Under each alternative, DNR will maintain "long-term forest cover" which is DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation for all species covered under the 1997 HCP. Although DNR may perform some management in long-term forest cover (for example, construction of roads or thinning in areas of non-habitat), these areas are excluded from variable retention harvest planning under the sustainable harvest calculation (refer to tables 2.5 through 2.8 in the FEIS for more information).

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the

riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres. The second part is areas that will be managed specifically for marbled murrelets.

Amounts of marbled murrelet-specific conservation vary by alternative. Alternatives C, E, and G conserve all high-quality habitat stands throughout the analysis area, whether those stands are located within or outside long-term forest cover. All alternatives except A and B apply a combination of special habitat areas, emphasis areas, or marbled murrelet management areas to provide additional conservation of existing habitat and reduce habitat fragmentation. Refer to Section 2.2 in the FEIS for more information.

All alternatives except B include buffers on occupied sites to minimize edge effects from adjacent timber harvest that can result in windthrow, microclimate changes, and increased predation risk to eggs and chicks.

In developing the alternatives, an emphasis was made to define large, contiguous blocks of interior forest. Interior forest patches that are not influenced by edge effects are recognized as important for providing secure nesting opportunities for marbled murrelets. DNR included edge effects in the analytical framework used to calculate impacts (harvest) and mitigation (habitat growth). The area of nesting habitat in interior forest patches is one of the evaluation criteria analyzed in Section 4.6 of the FEIS.

The Joint Agencies recognize the importance of habitat distribution across the analysis area. The importance of protecting existing habitat along the Strait of Juan de Fuca is recognized in several alternatives through application of emphasis areas, special habitat areas, and protection of known occupied sites with buffers. Alternative H captures existing habitat within 20 special habitat areas that are distributed across strategic locations. Strategic locations are geographic areas within Washington that the Joint Agencies view as having a disproportionately high importance for murrelet conservation. Strategic locations include North Puget, Southwest Washington, and the OESF and Straits (west of the Elwha River). The OESF and Straits (west of the Elwha River) and the Southwest Washington strategic location contain the most acres of land contributing to marbled murrelet conservation.

Measures to minimize noise and visual disturbance to nesting marbled murrelets are included in all alternatives (refer to Section 2.2 in the FEIS and Table A-4 in Appendix A of the HCP amendment). The alternatives allow for some thinning in young forests to enhance stand development in some areas (refer to Table 2.2.5 in the FEIS).

► COMMENT

Include enough acreage around nest sites to ensure no disturbance. DNR needs to work with aquatic lands to minimize distance between prey fish and nests.

RDEIS Commenter

C199

Response

All of the alternatives, except Alternative B, include buffers around occupied sites to protect from disturbance. Influencing aquatic land management is outside the scope of this EIS. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: More conservation areas**► COMMENT**

A few commenters expressed support for more and larger conservation areas.

RDEIS Commenters

C141, C161, C287, C352

Response

The alternatives considered for this proposal include a broad range of potential conservation areas.

Subtopic: Marbled Murrelet Coalition alternative**► COMMENT**

Several commenters wrote in support of the alternative submitted by the marbled murrelet coalition in comments on the DEIS, as well as those submitted by the Pacific Seabird Group and American Bird Conservancy, a modified Alternative F, or the Science Team recommendations (Raphael and others 2008). Some commenters supported previous comments submitted by the Olympic Peninsula Audubon Society, which endorsed the alternative submitted by the Marbled Murrelet Coalition. Commenters stated that these alternatives fully protect and restore marbled murrelet habitat, provide the best opportunity for marbled murrelet recovery, prevent further population declines and the need of additional conservation in the future, and are most likely to make a significant contribution to marbled murrelet population biological goals and support population recovery.

Commenters expressed concern that Alternative H did not measure up to alternatives F and G. They emphasized the increase in conservation under alternatives F and G compared to Alternative A, stressed the importance of southwest Washington to marbled murrelets, and expressed concern over impacts from management activities, all of which could be lessened by selecting Alternative F or G.

RDEIS Commenters

C185, C206, C301, C314, C382, C389, C409, C431, C437, C462

Response

The Joint Agencies did consider all of the alternatives suggested in response to the DEIS, including the alternatives proposed by the American Bird Conservancy, Pacific Seabird Group, USEPA, and the Marbled Murrelet Coalition, the latter of which was supported by the Olympic Peninsula Audubon Society. These four alternatives proposed by commenters would modify Alternative F. Each of these alternatives would create marbled murrelet conservation areas of varying sizes and configurations, and prohibit timber harvest of current and future habitat for the remaining initial term of the incidental take permit. All of these four alternatives contain significantly more marbled murrelet-specific conservation than Alternative F, which was found to have significant adverse impacts to trust beneficiaries when compared to all other alternatives analyzed in detail (refer to Section 4.11, “Socioeconomics”). The commenter-proposed alternatives do not accomplish the DNR’s need and purpose, which include obtaining long-term certainty for timber harvest and other management activities on forested state trust lands consistent with DNR’s fiduciary responsibility to the trust beneficiaries, as defined by law, as well as complying with the Endangered Species Act. Based on its impacts to trust beneficiaries, these alternatives were not considered economically feasible in view of DNR’s trust obligations, and thus were not considered a reasonable alternative pursuant to 43 CFR 46.420(b).

Refer to Section 2.4 for a comparison of the alternatives, including commenter alternatives not analyzed in detail, and Figure 2.4.5 for more information.

■ Topic: Components of a Conservation Strategy

Subtopic: Goals of the conservation strategy

► COMMENT

The goal of the conservation strategy should be species recovery, not take minimization.

RDEIS Commenter

C283

Response

The respective need and purpose of DNR and USFWS are described in Chapter 1 of the FEIS. DNR’s Objective #2 for developing a marbled murrelet long-term conservation strategy is to provide forest conditions in strategic locations that minimize and mitigate incidental take of marbled murrelets resulting from DNR’s forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations. Accomplishing this objective also should aid USFWS in accomplishing the *Recovery Plan for the Threatened Marbled Murrelet in Washington, Oregon, and California* (USFWS 1997) and meet Endangered Species Act Section 10 issuance criteria, including not to preclude the survival and recovery of the species in the wild.

► COMMENT

Commenters state that a long-term conservation strategy should include and meet the specific long-term state biological goals: stabilize and increase marbled murrelet populations, increase geographic distribution, enhance species resilience to human and natural disturbance, and make significant contribution to recovery.

RDEIS Commenters

C115, C117, C135, C151, C173, C185, C207, C211, C214, C280, C290, C312, C316, C322, C328, C337, C347, C382, C389, C390, C397, C400, C409, C414, C428, C437, C460, C463

Response

The respective need and purpose of DNR and USFWS for the long-term conservation strategy are included in Section 1.1 of the FEIS. DNR's Objective #2 is to provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations (refer to Section 1.1 of the FEIS). Accomplishing this objective also should aid USFWS in accomplishing the *Recovery Plan for the Threatened Marbled Murrelet in Washington, Oregon, and California* (USFWS 1997) and meet Endangered Species Act Section 10 issuance criteria, including not to preclude the survival and recovery of the species in the wild.

Section 4.6 describes the potential effects of the alternatives on marbled murrelet habitat and populations. This section includes analysis of habitat gains and growth of habitat by the end of the five-decade planning period, habitat distribution, and the effects of the alternatives on marbled murrelet populations. The tables in this section summarize the effects of each alternative on murrelet habitat quantity and quality, and the resulting effects on murrelet populations (Table 4.6.10); each alternative's approach to reducing risk for murrelet populations (Table 4.6.11); and the effects of each alternative on the distribution of murrelets in Washington (Table 4.6.12).

► COMMENT

The long-term conservation strategy should explicitly state measurable biological goals and objectives and include provisions for strategy review, research to test assumptions and the effectiveness of management actions, and corrective actions as needed to meet mitigation targets.

RDEIS Commenters

C132, C322, C366, C404, C413, C422, C435, C446

Response

DNR's Objective #2 of the long-term conservation strategy is to provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations (refer to Section 1.1 of the FEIS). This objective is stated as a biological goal in the HCP amendment: "to avoid, minimize, and mitigate the incidental take of murrelets resulting from DNR's forest management activities, in a manner that increases the habitat capacity of DNR-managed HCP lands over the life of the HCP." This goal reflects issuance criteria that applicants must meet when seeking an incidental take permit, which requires applicants to minimize and mitigate the impacts of such taking to the maximum extent practicable (HCP Handbook, p. 16-3 and 16-4).

Under all alternatives considered in the RDEIS, the total amount of marbled murrelet habitat is expected to increase on DNR-managed lands over the term of the 1997 HCP, which will result in increased habitat capacity to support marbled murrelet nesting (refer to Figure 4.6.1 in the FEIS).

USFWS will develop a biological opinion of DNR's proposed HCP amendment to document their conclusions and rationale regarding the effects of the proposed amendment on the marbled murrelet. Following the development of the biological opinion, USFWS will make a Section 7 finding that determines the likely effect of the proposed HCP amendment on the marbled murrelet and decide whether to amend the incidental take permit and if any conditions apply.

DNR's research and monitoring and adaptive management obligations are stated in the 1997 HCP (refer to Section 5 of the 1997 HCP) and are not changed by this amendment. However, the HCP amendment adds more detail to these requirements. The Joint Agencies have agreed to the following regarding monitoring: Implementation monitoring will document forest management activities and describe them in sufficient detail to document compliance with the requirements of the long-term conservation strategy on DNR-managed lands covered by the strategy. Implementation monitoring also will periodically describe changes in landscape-level habitat conditions in areas managed to provide murrelet habitat. This requirement will include a summary of the quantity and quality of habitat (P-stage) in occupied sites, occupied site buffers, special habitat areas, and areas of long-term forest cover not included in the preceding categories, by HCP planning unit. Natural disturbance that occurs in these areas will be tracked through the reporting of salvage activities. In addition, during the first decade of implementation, DNR will report on the delay of the harvest of 5,000 adjusted acres of habitat. Refer to Section 6.4 of the HCP amendment for more information.

The long-term conservation strategy is based upon conservation of existing marbled murrelet habitat and permitting other forest stands to naturally develop into murrelet habitat over time in long-term forest cover. Since effectiveness monitoring is the documentation of changes in habitat conditions over time, the methods are the same as those for implementation monitoring.

Validation monitoring will only occur within the OESF and will document marbled murrelet use of select areas managed to provide nesting habitat. Monitoring will rely upon surveys to detect changes in site occupancy.

► COMMENT

Comment

The long-term conservation strategy should lead to more murrelets across more of the landscape, not fewer murrelets in smaller forest patches. Broader geographic distribution helps reduce the risk that major human or natural disturbances will wipe out significant portions of the murrelet population. Marbled murrelets are spectacular birds that are worth making sacrifices to save because they are the essence of the Pacific Northwest. Do more than you must to save this species.

RDEIS Commenters

C450, C470, C471, C472, C473, C474, C475, C477, C478, C480, C481, C482, C483, C484, C485, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C537, C539, C540, C541, C542, C543, C545, C546

Response

Alternative H is based on direction from the Board of Natural Resources to DNR to minimize impacts to murrelets, offset impacts, and address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best meets DNR's need and purpose of the proposal by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS' need and purpose for taking action on a permit decision. One of DNR's objectives is to "Provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations."

In developing the alternatives, an emphasis was made to define large, contiguous blocks of interior forest. Interior forest patches that are not influenced by edge effects are recognized as important for providing secure nesting opportunities for marbled murrelets. DNR included edge effects in the analytical framework used to calculate impacts (harvest) and mitigation (habitat growth). The area of nesting habitat in interior forest patches is one of the evaluation criteria analyzed in Section 4.6 of the FEIS.

The decline of the marbled murrelet population in Washington is influenced by many factors, including loss of murrelet habitat. Refer to Section 3.6, “Current Population Trends and Habitat Conditions,” in the FEIS for more information.

The population viability analysis model (Appendix C) was not designed to provide an absolute estimate of population response for a particular alternative. Instead, the model was developed to help understand how marbled murrelet populations might respond to the variations in murrelet habitat proposed under each alternative.

Peery and Jones modeled several population scenarios at the scale of Washington State, and DNR-managed lands only (refer to Appendix C to the FEIS). The model assumed that habitat was the main influence on current population declines. Since only approximately 14 percent of murrelet habitat in Washington occurs on DNR-managed lands (refer to Section 3.6 in the FEIS), the model focused on the relative differences between the alternatives by artificially holding habitat conditions on non-DNR-managed lands constant. Refer to Section 4.6, “Effect on Marbled Murrelet Populations,” in the FEIS for more information.

The “enhancement scenario” on DNR-managed lands shows that all alternatives would reverse the declining population trend line for a population of female birds associated with DNR-managed lands. Other scenarios show varying rates of continued population decline, although no scenario appears to increase the current rate of decline.

► COMMENT

Commenter supports a conservation strategy that protects vital mature and old-growth forest habitat and also reduces financial impacts to timber-dependent communities.

RDEIS Commenters

C450, C471, C472, C473, C474, C475, C476, C477, C478, C480, C481, C482, C483, C484, C485, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C523, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C537, C539, C541, C542, C543, C545, C546

Response

DNR’s current policy (DNR 2006) is to defer from harvest all old-growth forests. DNR defines old growth as forests that are in the structurally complex stage of stand development, at least five acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. The long-term conservation strategy will not alter this policy.

Alternative H is based on direction from the Board of Natural Resources to DNR to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial

impacts to trust beneficiaries. This alternative best meets DNR’s need and purpose of the proposal by integrating DNR’s obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR’s fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS’ need and purpose for taking action on a permit decision. One objective is to “Provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR’s forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations.” Refer to Figure 4.6.5 in the FEIS for a comparison of impacts and mitigation under each alternative.

Subtopic: Purpose of the long-term conservation strategy

► COMMENT

A fundamental purpose of the long-term conservation strategy is the protection of marbled murrelet habitat, not the economic development of logging communities.

RDEIS Commenter

C244

Response

DNR’s Objective #2 of the purpose of the proposal is to “provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR’s forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations.” However, as a trust lands manager DNR also must “generate revenue and other benefits for each trust by meeting DNR’s trust management responsibilities” (Objective #1). Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for the proposal and Section 1.2 for a description of DNR’s fiduciary responsibilities.

Subtopic: RDEIS does not address previous concerns

► COMMENT

Revisions in the RDEIS did not adequately address our previously stated concerns related to 1) the failure of the alternatives to include meaningful measures to stabilize and recover the marbled murrelet, 2) inadequacy of the long-term conservation strategy to address impacts of climate change, 3) inadequate consideration of non-harvest revenue sources such as carbon offsets, 4) limitations on recreation facilities and activities in murrelet-specific conservation areas.

RDEIS Commenter

C185

Response

One of DNR's objectives for the long-term conservation strategy is to "provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations" (refer to Section 1.1 of the FEIS). Existing conservation under all alternatives, along with murrelet-specific conservation under the action alternatives, is expected to aid DNR in meeting this objective and contribute to recovery of the species. Note that DNR manages only nine percent of the land within the range of the marbled murrelet in Washington and 14 percent of the total murrelet habitat in Washington (Refer to Table 1.3.1 and Section 3.6 of the FEIS).

While impacts to marbled murrelets specifically as a result of climate change are not known, potential impacts to both vegetation and wildlife in general are described in Section 4.2 of the FEIS.

Consideration of alternate revenue sources is outside the scope of this EIS. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for the proposal.

For limitations on recreational facilities and activities in occupied sites, occupied site buffers, and special habitat areas, refer to tables 2.2.5 through 2.2.8 in the FEIS.

Subtopic: Strategy components**► COMMENT**

Commenter identified the following as needed in a long-term conservation strategy to support population recovery: 1) protect all occupied sites, including those identified by the Science Team; 2) place minimum 100-meter buffers on occupied sites; 3) protect all P-stage 0.47 and higher habitat in the analysis area; 4) within the OESF, maintain all habitat greater than P-stage 0 in decade 0; outside of OESF, meter harvest of low quality habitat in the first decade; and 6) combine conservation areas from alternatives F, G, and H in the following ways: conserve existing habitat adjacent to or in close proximity to current occupied sites, especially where not in currently proposed conservation; give lowest priority to non-habitat or areas of no known occupancy; make larger conservation areas a higher priority in southwest Washington; retain isolated occupied sites because they make important contributions to geographic distribution throughout all planning areas and high value landscapes; and use Science Team scorecard results by geographic planning block in southwest Washington.

RDEIS Commenter

C409

Response

Alternative H is based on direction from the Board of Natural Resources to DNR to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best meets DNR's need and purpose of the proposal by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS' need and purpose for taking action on a permit decision.

Alternative H protects all existing occupied sites and captures existing habitat within 20 special habitat areas that are distributed across strategic locations. Strategic locations are geographic areas within Washington that the Joint Agencies view as having a disproportionately high importance for murrelet conservation. Strategic locations include North Puget, Southwest Washington, and the OESF and Straits (west of the Elwha River). The OESF and Straits (west of the Elwha River) and the Southwest Washington strategic location contain the most acres of land contributing to marbled murrelet conservation.

Of the 20 special habitat areas, 19 contain one or more occupied sites. All the special habitat areas include current habitat, future habitat, and security forest. Alternative H also applies 100 meter buffers on all occupied sites and increases the amount of interior forest habitat in long-term forest cover.

Special habitat areas are part of long-term forest cover, which is defined as DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation. Refer to Table 2.2.1 in the FEIS for the total acres of long-term forest cover under Alternative H.

Alternative H does allow some harvest of low and high-quality murrelet habitat *outside* long-term forest cover. However, DNR will delay (meter) the harvest of some of this habitat during the first decade to give forests within long-term forest cover time to develop into higher-quality habitat.

The commenter's other suggestions, such as protecting all P-stage 0.47 and higher habitat in the analysis area, maintaining all habitat greater than P-stage 0 in decade 0 in the OESF, and combining conservation areas from alternatives F, G, and H in the manner described, would create an alternative with significantly more marbled murrelet-specific conservation than Alternative F, which was found to have significant adverse impacts to trust beneficiaries when compared to all other alternatives analyzed in detail (refer to Section 4.11, "Socioeconomics"). This alternative would not accomplish DNR's need and purpose, which include obtaining long-term certainty for timber harvest and other management activities on forested state trust lands consistent with DNR's fiduciary responsibility to the trust beneficiaries, as defined by law, as well as complying with the Endangered Species Act. Based on its impacts to trust beneficiaries, this alternative would not be considered economically feasible in view of DNR's trust

obligations, and thus would not be considered a reasonable alternative pursuant to 43 CFR 46.420(b).

► COMMENT

The commenters are concerned about recovery efforts. A meaningful long-term conservation strategy should result in no net loss of habitat or increase the amount of habitat. It must set aside enough current and future old forest to not only offset the habitat the DNR plans to log but also to improve forest habitat conditions for the murrelet, without putting the population at further risk. DNR should adopt the recommendations in the 2008 Science Team Report, which include protecting all nest sites, quality habitat, and forest that will become quality habitat in the future. DNR also should protect larger and more connected areas of older forests that provide habitat and increase interior forest habitat.

RDEIS Commenters

C30, C135, C136, C138, C144, C149, C159, C194, C247, C255, C257, C269, C283, C314, C329, C343, C357, C365, C397, C406, C409, C436, C439, C453, C461

Response

The analysis presented in Section 4.6 of the FEIS demonstrates that the amount of murrelet habitat on DNR-managed lands is expected to increase under all alternatives considered over the five-decade planning period.

Alternative H is based on direction from the Board of Natural Resources to DNR to minimize impacts to murrelets, offset impacts, and address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. Alternative H has the closest balance between impacts (harvest) and mitigation (habitat growth). Refer to Figure 2.4.5 for impacts and mitigation of all alternatives.

In developing the alternatives, an emphasis was made to define large, contiguous blocks of interior forest. Interior forest patches that are not influenced by edge effects are recognized as important for providing secure nesting opportunities for marbled murrelets. DNR included edge effects in the analytical framework used to calculate impacts and mitigation. The area of nesting habitat in interior forest patches is one of the evaluation criteria analyzed in the Chapter 4.6 of the FEIS. The amount of interior forest in long-term forest cover increases under Alternative H over the five-decade planning period.

Alternative H delays (meters), until the end of the first decade of implementation, harvest of approximately 5,000 adjusted acres of current habitat that DNR otherwise would authorize for harvest upon amendment of its incidental take permit. The specific location and quality of habitat to be metered will be at DNR's discretion. Metering will maintain habitat capacity while additional habitat is developed under the long-term conservation strategy. These metered acres

will become available for harvest at the beginning of the second decade (refer to Chapter 2 of the FEIS).

Refer to Figure 2.4.1 for estimated changes in long-term forest cover by alternative, and to Figure 2.4.2 for the increase in habitat quality in long-term forest cover under the alternatives. Refer to Figure 4.6.5 for adjusted acres of impacts and mitigation by the end of the planning period by alternative and adjusted for habitat quality.

Many recommendations from the 2008 Science Team Report were incorporated into the alternatives considered in the FEIS. Examples include protection of occupied sites and buffers.

The population viability analysis developed to evaluate the alternatives demonstrates that alternatives that conserve more habitat in the short-term and result in greater habitat increases in the long term are expected to have the lowest quasi-extinction risks, and greater potential for stabilizing and/or increasing marbled murrelet populations (refer to Section 4.6 of the FEIS).

► COMMENT

The conservation strategy must stabilize and increase the murrelet population on DNR-managed lands within the murrelet's range, broaden its geographic distribution, and increase its resilience to natural disturbances and climate change.

RDEIS Commenters

C135, C206, C255, C257, C314, C315, C365, C375, C422, C439, C450, C453, C470, C471, C472, C473, C474, C475, C476, C477, C478, C480, C481, C482, C483, C484, C485, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C537, C539, C540, C541, C542, C543, C545, C546

Response

Chapter 4.6, Appendix C, and Appendix H provide information on how the marbled murrelet population could respond under the different alternatives based on the population viability analysis. All alternatives except Alternative B include buffers around occupied sites that are intended to reduce the risk of predation and natural disturbance. Under all alternatives, the amount of habitat will increase by the end of the planning period.

As described in Chapter 3.2 of the FEIS, under climate change some disturbance rates are expected to increase, such as fire; some are expected to be unchanged, such as windthrow; and some are expected to change in location and frequency, such as beetle outbreaks. DNR estimated that the natural disturbance rate of murrelet habitat may double by the end of the 50-year analysis period. Under all alternatives except B, mitigation exceeds impacts enough to account for this doubling of the natural disturbance rates. Refer to Appendix T for more information.

Subtopic: Time period of the long-term conservation strategy

▶ COMMENT

Since old-growth species are measured by centuries, a meaningful plan should be focused over a longer time than decades; centuries or even millennia.

RDEIS Commenter

C397

Response

This proposal is intended to amend the 1997 HCP with a long-term conservation strategy for marbled murrelets. The permit duration was identified in the Implementation Agreement to be in full effect for a period of seventy years from the effective date.

■ Topic: Impacts and Mitigation

Subtopic: Take through harvest of potential nesting habitat

▶ COMMENT

Alternative H results in a negative population response compared to the baseline at the end of the plan's term. Under the enhancement scenario, the population fails to return to starting population levels, with a decrease in reproductive females from 542 to 510 with metering of released habitat, and 500 females without metering. The commenter supports Alternative G (at the least), which would increase the population to 610 females, largely due to conservation of all high-quality habitat, all current habitat in the OESF, and larger special habitat areas, while still allowing for substantial harvest of low-quality habitat. Only alternatives E, F, and G conserve and grow more habitat over the next 50 years and are expected to produce the largest marbled murrelet populations over the long term.

RDEIS Commenter

C369, C305

Response

The population viability analysis model (refer to Appendix C to the RDEIS) was not designed to provide an absolute estimate of population response for a particular alternative. Instead, the model was developed to help understand how marbled murrelet populations might respond to the variations in murrelet habitat proposed under each alternative.

The values presented in the comment come from the enhancement scenario of the population viability analysis for DNR-managed lands, expect that, in the analysis in the RDEIS, Alternative

G results in a population of 600, not 610 females. This is just one of the four scenarios considered in the population viability analysis.

The current population is modeled as declining at a rate of about 5 percent per year (refer to Appendix C to the FEIS). Under the baseline, the amount of habitat available does not change over time. Given this baseline, the enhancement analysis for DNR-managed lands shows a continuous decline in the murrelet population.

All alternatives result in a larger murrelet population than under the baseline. Under the enhancement analysis for DNR-managed lands, Alternative A shows a decline and then increase in the murrelet population. This projection represents a continuation of the no-action alternative (Alternative A). Alternatives C through H are projected to result in more murrelets than under Alternative A by Decade 5. The population viability analysis will be considered along with other data presented in the FEIS by the Board of Natural Resources.

Subtopic: Mitigation of harvest in occupied sites or special habitat areas

► COMMENT

Harvest and thinning within occupied site buffers or special habitat areas do not appear to be fully mitigated under the analytical framework.

RDEIS Commenter

C305

Response

The analytical framework is a methodology agreed upon by the Joint Agencies to provide objective, repeatable, science-based estimates of potential impacts and mitigation to marbled murrelet habitat from DNR's land management activities under the 1997 HCP. The analytical framework provides the means to assess how DNR's mitigation measures cover potential impacts. This quantification will enable the Joint Agencies to evaluate whether a proposed long-term conservation strategy meets the issuance criteria for the incidental take permit. Refer to Appendix B for a full description of the analytical framework and how it works.

Stand replacement harvest is not allowed in currently identified occupied sites or their buffers. Stand replacement harvest also is not allowed within special habitat areas. Thinning in occupied site buffers and in non-murrelet habitat within special habitat areas is allowed subject to certain rules and depending on alternative; refer to Table 2.2.5 in the FEIS and Appendix Q for more information, and to Table A-4 in Appendix A to the HCP amendment.

To quantify mitigation, the Joint Agencies examine how many acres of long-term forest cover have a P-stage habitat value today and at the end of the 1997 HCP in 2067. Habitat values are adjusted based on time, edge effects, and other factors including geographic location. DNR's

mitigation credit is calculated by subtracting current habitat from the future habitat in order to assign mitigation credit to total growth of habitat over the life of the 1997 HCP.

Prior to approval, impacts from harvest included in the HCP amendment and incidental take permit, including thinning conducted in occupied site buffers or special habitat areas, must meet multiple criteria under the Endangered Species Act. Refer to the discussion of USFWS approval process in Section 1.4.

Potential impacts to marbled murrelets from thinning in occupied site buffers would be mitigated through implementing limited operating periods if carried out during the nesting season. Thinning is restricted to current and future murrelet habitat and must meet additional restrictions as described in Table 2.2.5 in the FEIS.

Subtopic: Use of existing conservation as mitigation

► COMMENT

The long-term conservation strategy alternatives impermissibly rely on hundreds of thousands of acres of "existing conservation" forests as mitigation of DNR's proposed past and future "take" of existing or potential marbled murrelet habitat.

RDEIS Commenter

C413

Response

Every alternative includes lands that are already deferred from harvest or otherwise conserved under the conservation strategies in the 1997 HCP, to meet policy objectives in the *Policy for Sustainable Forests*, or in compliance with Washington state law. "Deferred from harvest or otherwise conserved" means these lands are subject to existing policy or legal constraints and are excluded from variable retention harvest planning under the sustainable harvest calculation. The total amount of this "existing conservation" is 567,000 acres. Every alternative also includes lands that are specific to marbled murrelet conservation. These lands are different under each alternative. Combined, marbled-murrelet specific lands and existing conservation are called "long-term forest cover." Not all lands that will be conserved are murrelet habitat.

Existing conservation plays an important role in the long-term conservation strategy. Chapter 2 more fully explains the conservation benefits provided by areas of existing conservation, even where these areas do not directly provide murrelet habitat. These benefits include insulating murrelet habitat from land use and forest management disturbances, and providing contiguity with other structurally complex forest stands.

The analytical framework assumes that the loss of murrelet habitat from harvest *outside* long-term forest cover (impacts) will be offset by development of murrelet habitat *inside* long-term forest cover (mitigation). Mitigation is only expected to occur when existing forest cover either becomes murrelet habitat or existing habitat transitions from one P-stage category to another. If

existing forest cover does not develop into habitat, or existing habitat does not transition from one P-stage category to another, DNR does not receive mitigation credit. Each habitat acre harvested and each acre grown have different habitat *values*, depending on their P-stage value, their location relative to forest edges, distance from other habitat areas, and in which decade they are harvested or develop into habitat. Stringers (narrow areas [less than 200 meters wide], predominantly riparian management zones, where adjacent uplands have not been designated as long-term forest cover) are not given mitigation credit. For more information about how impacts and mitigation are calculated, refer to Appendix H of the FEIS.

Subtopic: Mitigation assumptions

► COMMENT

The RDEIS continues to rely on scientifically-questionable and speculative mitigation assumptions, including geographic location and temporal value of future forests and not effectively considering the effect of climate change on to-be grown murrelet habitat. The RDEIS' mitigation strategy relies heavily on unsubstantiated and biologically-risky assumptions pertaining to the geographic and temporal value of future marbled murrelet habitat.

RDEIS Commenter

C413

Response

Appendix B addresses the analytical framework that the Joint Agencies used to provide objective, repeatable, science-based estimates of potential impacts and mitigation to marbled murrelet habitat from DNR's land management activities under the 1997 HCP. The best available science was used throughout the development and analysis of the alternatives. The 2008 Science Team Report was referenced repeatedly in the DEIS, RDEIS, and FEIS and is the basis for several components of the long-term conservation strategy, including the P-stage habitat classification model and the addition of occupied sites to all action alternatives (refer to Appendix E). However, the 2008 Science Team report was not the only source of best available science used to develop the alternatives and analyze their impacts. Many sources of current science also were used throughout the DEIS and RDEIS and carried through to the FEIS. (Refer to Chapter 6 of the FEIS; also refer to literature cited in the appendices.)

The mitigation assumptions underlying the FEIS are built upon a principle hypothesis of murrelet conservation biology: that the quantity and quality of nesting habitat affects the murrelet population. Mitigation calculations recognize that each habitat acre grown will have different habitat values, depending upon their P-stage value, their location relative to forest edges, and distance from other habitat areas, and in which decade they are harvested or develop into habitat. (For more information on how mitigation is calculated as well as the science that supports these calculations, refer to Appendix H of the FEIS).

Geographic location is incorporated into the mitigation calculation through the delineation of marginal and high value landscapes (refer to Appendix H of the FEIS). It also is incorporated into the mitigation calculation through the delineation of strategic locations (Southwest Washington, OESF and the Straits [west of the Elwha River], and North Puget). Both approaches to incorporating geographic location into the value of mitigation are supported by science.

All alternatives are likely to result in more carbon sequestered than emitted over the five-decade planning period. Other than Alternative B, all alternatives increase long-term forest cover relative to Alternative A, increasing likely long-term forest cover resilience, resistance, and persistence to a changing climate. Refer to the discussion of conclusions in Section 4.2 and Table 4.2.4 of the FEIS. As described in Section 3.2 of the FEIS, under climate change some disturbance rates are expected to increase, such as fire; some are expected to be unchanged, such as windthrow; and some are expected to change in location and intensity, such as beetle outbreaks. Per these studies DNR estimated that the natural disturbance rate of murrelet habitat may double by the end of the 50-year analysis period. Based on DNR's calculations, mitigation for any alternative should exceed impacts by approximately 395 adjusted acres to account for this doubling effect. Every alternative except B meets this requirement. Refer to Appendix T for more information.

Subtopic: Biological risks of take and mitigation

► COMMENT

The Endangered Species Act requires USFWS to use the precautionary principles in measuring the biological risks of DNR's potential take and mitigation.

RDEIS Commenter

C413

Response

Statutes and rules guide USFWS' responsibilities under the Endangered Species Act. The duties of USFWS are correctly stated in their need and purpose (refer to Section 1.1 in the FEIS).

Section 1.2 identifies the Section 10 issuance criteria and Section 1.4 contains a summary of the USFWS approval process.

Subtopic: Mitigation for lands in conservation status

► COMMENT

The RDEIS continues to give DNR effective mitigation credit for tracts of DNR forests for which DNR has already received fair market value compensation by the State to place these lands into conservation status.

RDEIS Commenter

C413

Response

DNR's 1997 HCP recognizes that land transactions are part of DNR's forest land management activities, including transactions into conservation status. DNR committed to maintaining the conservation objectives of the 1997 HCP in its disposition program (DNR 1997, p IV-192). DNR's Implementation Agreement with USFWS, which is included in the 1997 HCP, gives DNR the discretion to dispose of permit lands and requires that the recipient of the disposed land commit to managing the land in accordance with the 1997 HCP and the Implementation Agreement. The agreement allows DNR to receive mitigation credit for those lands (DNR 1997, Appendix B, page 6).

Mitigation is only expected to occur when existing forest cover either becomes murrelet habitat or existing habitat transitions from one P-stage category to another. If existing forest cover does not develop into habitat, or existing habitat does not transition from one P-stage category to another, DNR does not receive mitigation credit. Stringers (narrow areas [less than 200 meters wide], predominantly riparian management zones, where adjacent uplands have not been designated as long-term forest cover) are not given mitigation credit. For more information about how impacts and mitigation are calculated, refer to Appendix H of the FEIS.

Subtopic: Take-to-mitigation ratio**► COMMENT**

The RDEIS erroneously assumes that no more than a roughly 1:1 take-to-mitigation ratio is the "maximum extent practicable" DNR can provide in its long-term conservation strategy to be consistent with DNR's purported Trust Mandate.

RDEIS Commenter

C413

Response

Each habitat acre harvested and each acre grown have different habitat *values*, depending on their P-stage value, their location relative to forest edges, distance from other habitat areas, and in which decade they are harvested or develop into habitat. The comparison of impact and mitigation does not represent the future habitat capacity to support marbled murrelets. Alternative H contains 11,089 adjusted acres of potential impacts and 11,898 adjusted acres of potential mitigation, so there are approximately 809 more adjusted acres of mitigation than impacts under this alternative (refer to Figure 4.6.5 of the FEIS). The current amount of habitat on DNR-managed lands is estimated at 207,000 raw (unadjusted) acres, and the ending habitat for Alternative H is estimated at 272,000 raw acres, indicating an increase in over 65,000 raw acres

of habitat on DNR-managed lands over the HCP analysis period (refer to Table 4.6.3 of the FEIS). All of the alternatives result in more habitat at the end of the planning period than at the start, regardless of the take-to-mitigation ratio, and, with the exception of Alternative B, more conservation acres overall than Alternative A. For more information on how P-stage acres are adjusted, refer to Appendix H.

Section 10 of the Endangered Species Act specifies incidental take permit issuance criteria. The USFWS must determine that all permit issuance criteria will be met by a permit applicant in order to issue the permit amendment. One Section 10 permit issuance requirement is that the impact of the taking to covered species (in this case marbled murrelets) will be minimized and mitigated to the maximum extent practicable by the applicant through implementation of an HCP. The USFWS takes the position that full mitigation of a taking meets this requirement. If the USFWS determines that the taking is not fully mitigated, the USFWS will work with an applicant to identify practicable minimization or mitigation measures that would allow permit issuance. Ultimately, the USFWS must determine from a biological perspective whether the conservation measures in the HCP amendment will minimize and mitigate the impacts of the taking on the species' status and/or its habitat.

Subtopic: Harvest of high-quality habitat

► COMMENT

Given the length of the population viability analysis period (less than 70 years), harvest of high-quality marbled murrelet habitat is a functionally permanent impact spatially and temporally that is not likely to be fully mitigated for individual impacts under Alternative H/the proposed amendment. It is a setback to persistence and recovery efforts for a minimum of 150 to 220 years or more for higher-quality habitat patches harvested and 70 to 120 years for lower-quality habitat harvested. Therefore, arresting loss of higher-quality habitat now and minimizing lower-quality habitat loss will be key for recovering populations into the future.

RDEIS Commenter

C305

Response

Appendix E to the FEIS provides a detailed explanation of the P-stage habitat model. Only stands that are naturally regenerated (and therefore are more likely to contain some scattered legacy trees from previous stands) are included in P-stage habitat (Appendix E, p. E-6 through E-7). Murrelet nest sites have been documented in second-growth forests with structural elements similar to old-growth, such as remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe infestations (Grenier and Nelson 1995, Evans-Mack 2003).

Subtopic: Mitigation for disturbance

▶ COMMENT

It is not enough to reduce impacts from human disturbance. DNR must fully minimize and mitigate for disturbance take.

RDEIS Commenter

C409

Response

When developing the analytical framework, disturbance impacts to the marbled murrelet from a variety of human activities were taken into account. The Joint Agencies identified 36 DNR activities that may cause disturbance, and a step-by-step description of how disturbance activities were incorporated into the analytical framework is included in Appendix H.

Disturbance impacts were analyzed in the FEIS. Refer to Section 4.6 for more information. Table 4.6.14 provides the average estimated acreage of murrelet habitat disturbed annually during the nesting season, by activity group.

▶ COMMENT

DNR should evaluate and mitigate losses from natural disturbance.

RDEIS Commenters

C314, C375, C406

Response

The analysis presented in Chapter 3.2 in the FEIS provides a general discussion of how natural disturbances may change in response to climate change, and Chapter 5 (p. 5-10) provides a brief discussion that climate change is likely to increase natural disturbance risks to marbled murrelet habitat in Washington.

Losses from natural disturbance were considered in the alternatives. Alternative F includes marbled murrelet management areas, alternatives D and H include special habitat areas, alternatives C and E include special habitat areas and emphasis areas, and Alternative G includes all three of these areas, and all alternatives except B include occupied site buffers. These areas all are intended to provide security forest surrounding murrelet habitat. Each type of conservation area takes a slightly different approach to supporting murrelet reproduction by reducing the likelihood of predation and risks of natural disturbances.

The discussion in Section 4.6 on the quality of habitat gained through time recognizes natural disturbances. Refer to Figure 4.6.5 comparing habitat loss and gain by alternative, and Table 4.6.5

comparing acres of mitigation minus impact, by landscape or strategic location and alternative. Refer to Table 4.6.11 for a summary of the approach incorporated into each alternative to reduce risk to marbled murrelets.

► COMMENT

The FEIS should include a detailed description of the methods used to calculate epsilon.

RDEIS Commenter

C413

Response

The Board of Natural Resources (board) identified a series of principles to guide the development of a long-term conservation strategy preferred alternative. One of the principles stated that the preferred alternative should fully offset impacts and add additional conservation to cover uncertainty due to natural disturbance. The board developed the concept of “epsilon” to account for this additional mitigation. Under Alternative H, the adjusted acres of potential mitigation minus the adjusted acres of potential take represents epsilon.

Raphael and others (2016) assessed current natural disturbance rates of marbled murrelet habitat and reported that, between 1993 and 2012, 11,116 acres of “higher quality habitat” was lost to natural disturbances across all ownerships in Washington, including federal reserves. This loss represents about 0.72 percent of nesting habitat over 20 years, or about 0.36 percent habitat loss per decade across all ownerships due to natural disturbance (wildfire, windthrow, insects, and disease). The analysis by Raphael and others (2016) was done using a “Maxent” marbled murrelet habitat model that the Joint Agencies found to be reasonably consistent with the P-stage model (refer to Appendix E of the RDEIS). Davis and others (2016) studied natural disturbance rates of northern spotted owl habitat and found results similar to those reported by Raphael and other (2016) for habitat loss due to natural disturbance for all lands in western Washington.

As described in Chapter 3.2 of the FEIS, under climate change some disturbance rates are expected to increase, such as fire; some are expected to be unchanged, such as windthrow; and some are expected to change in location and intensity, such as beetle outbreaks. Based on these studies, DNR estimated that the natural disturbance rate of murrelet habitat may double by the end of the 50-year analysis period. Based on DNR’s calculations, mitigation for any alternative should exceed impacts by approximately 395 adjusted acres to account for this doubling effect. Every alternative except B meets this requirement. Refer to Appendix T of the FEIS for more information on mitigation for natural disturbance.

► COMMENT

Disturbance take needs to be added to the total take estimate.

RDEIS Commenter

C413

Response

Estimates of habitat area exposed to noise and visual disturbance are provided in Chapter 4.6. As noted in the FEIS, noise and visual disturbance do not physically remove or degrade habitat, so the effects of noise disturbance are not equivalent to habitat removed or degraded by timber harvest or road construction. Most habitat areas exposed to noise disturbance are also likely to be degraded by edge effects from roads and timber harvest. Habitat area degraded by edge effects from both roads and timber harvest are accounted for in the calculation of impacts and mitigation (Appendix H).

Subtopic: Sources of take and mitigation**► COMMENT**

The commenter says that the RDEIS sources of take and mitigation were underestimated or not accounted for, and the RDEIS does not adequately evaluate or underestimates all sources of take, including the impacts and degradation from storm damage, windthrow, wildfire, climate change and other natural disturbances to the marbled murrelet.

RDEIS Commenter

C117, C151, C160, C173, C185, C211, C282, C289, C290, C312, C316, C322, C337, C347, C366, C389, C422, C435, C446, C463

Response

Impacts to the marbled murrelet and impacts and mitigation estimates from DNR management activities on state trust lands are addressed in Chapter 4.6, Appendix C, and Appendix H of the RDEIS and FEIS. The Joint Agencies would need specific examples of DNR activities that are underestimated or unaccounted for to perform additional analysis.

Subtopic: Road mitigation**► COMMENT**

Disturbances such as road construction and the use of heavy equipment may result in take of murrelets that is not properly mitigated.

RDEIS Commenters

C135, C450, C453, C470, C471, C472, C473, C474, C475, C477, C478, C480, C481, C482, C483, C484, C485, C486, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510,

C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C536, C537, C539, C541, C542, C543, C545, C546

Response

Appendix H of the FEIS discusses the quantification of impacts, such as edges created by major road corridors and disturbance impacts such as aircraft, ground-based activities, and impulsive noise generating activities, for the impacts and mitigation calculation.

Subtopic: Impact and mitigation balance

► COMMENT

DNR should not support an alternative in which impacts exceed mitigation.

RDEIS Commenter

C204

Response

Refer to Figure 2.4.5 in the FEIS for the impacts and mitigation of each alternative. Alternative H most closely balances impacts (harvest) and mitigation (habitat growth) (refer to Figure 4.6.5 in the FEIS). Alternative H is based on direction from the Board of Natural Resources to DNR to minimize impacts to murrelets, offset impacts, and address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best meets DNR's need and purpose of the proposal by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS' need and purpose for taking action on a permit decision. Refer to Section 2.4 for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal.

Pursuant to Section 10(a)(1)(B) of the Endangered Species Act, DNR can only obtain an incidental take permit with the completion of a HCP amendment that meets the Section 10 issuance criteria of the Endangered Species Act (refer to Chapter 1 of the FEIS). The issuance criteria includes a determination from USFWS that the impact of the taking will be minimized and mitigated to the maximum extent practicable and that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

■ Topic: Marbled Murrelet Population Impacts

Subtopic: Population decline

► COMMENT

The long-term (five decade) difference in population decline between alternatives B and H is not significant, with a decline of 70.6 percent under Alternative B and a decline of 69.4 percent under Alternative H.

RDEIS Commenter

C275

Response

The population viability analysis model was not designed to provide an absolute estimate of population response for a particular alternative. Instead, the model was designed to show relative differences between the alternatives to help understand how marbled murrelet populations might respond to the variations in murrelet habitat proposed under each alternative. Refer to Section 4.6, “Effect on Marbled Murrelet Populations,” and Appendix C to the FEIS for more information. The population viability analysis explores how marbled murrelet populations might respond to different alternatives through "risk" and "enhancement" scenarios at two scales: DNR-managed lands and Washington. The commenter appears focused on the result of the risk scenario at the Washington scale. Under the risk scenarios, the marbled murrelet population continues to decline due to an assumed lower survival rate in the model, resulting in only minor differences in the projected population sizes between all the alternatives considered at the Washington scale. By contrast, under the enhancement scenarios, marbled murrelet survival rates are assumed to be higher in the model, which helps illustrate differences between the alternatives and reveals how the population might stabilize, or increase, in response to increases in murrelet habitat at the scale of DNR-managed lands.

► COMMENT

The commenter states uncertainty about which environmental changes are driving the population decline, and mentions ocean conditions and corvid predation as important factors that may have a greater impact on murrelet recovery than shortage of inland habitat. The commenter suggests that DNR implement practices that limit corvid attraction and adaptive management to address the issue, and enhance unsuitable habitat in existing conservation areas.

RDEIS Commenter

C275

Response

Section 3.6 of the FEIS describes the biology and ecology of the marbled murrelet and includes a discussion of the factors that may influence population decline, including historic and on-going habitat loss, marine conditions, and corvid predation. The alternatives employ various strategies to reduce corvid predation risk (for example, applying buffers to occupied sites, and protecting security forest in special habitat areas), and also allows for thinning in young forests to enhance stand development in some areas (refer to Table 2.2.5 in the FEIS).

► COMMENT

Commenters expressed concern about the decline in the marbled murrelet population and forest habitat in Washington. One commenter noted that marbled murrelet's population losses are a serious signal, not just for the bird but also for the people of Washington alive today and generations to come.

RDEIS Commenter

C21, C23, C38, C72, C73, C87, C111

Response

The Joint Agencies recognize the declining marbled murrelet population in Washington and completed the population viability analysis to understand the potential impacts of the long-term conservation strategy on this trend. Refer to Section 3.6 of the RDEIS and Appendix C for a full explanation of the population viability analysis.

All alternatives increase the acreage and quality of murrelet habitat over the planning period. These projected increases present likely positive impacts to the sub-population of murrelets on DNR-managed lands, even when considered against the ongoing population decline. If habitat is the primary limitation on murrelet population growth, all alternatives should result in a reversal of the population decline over time. However, under the "risk" scenario, the population continues to decline because this scenario assumes a greater influence from chronic environmental stressors outside the forest. Refer to Table 4.6.13 in the FEIS for key comparisons of the alternatives.

► COMMENT

The commenter is extremely concerned about the decline in marbled murrelet populations in our state, and the loss of the forests the murrelet needs. Those forests have a tremendous capacity to store large amounts of carbon, helping protect the climate. Only older, standing forests have that capacity; in a forest that has been logged and replanted, the soil and dead roots rapidly lose carbon as the young trees begin to grow. The IPCC #SR15 report, recently released, highlights the urgency of this moment. This is not the time to be cutting forests. Instead, as the murrelets decline shows us, we must do what we can to help our forests grow.

RDEIS Commenter

C110, C222

Response

Under all alternatives, the amount (acreage) and quality (P-stage) of murrelet habitat increases over the analysis period. These projected increases present likely positive impacts to the sub-population of murrelets on DNR-managed lands, even when considered against the ongoing population decline. If habitat is the primary limitation on murrelet population growth, all alternatives should result in a reversal of the population decline. However, under the "risk" scenario, the population continues to decline because this scenario assumes a greater influence from chronic environmental stressors outside the forest. Refer to Table 4.6.13 in the FEIS for key comparisons of the alternatives.

Although a carbon sequestration and emission analysis was not conducted for the marbled murrelet long-term conservation strategy, one was conducted by DNR in *Alternatives for Establishment of a Sustainable Harvest Level DEIS* (DNR 2016). These analyses found that more carbon was sequestered than emitted over a five-decade period under each of the sustainable harvest alternatives analyzed, and that the differences in the net amount of carbon sequestered between alternatives were small (DNR 2016).

► COMMENT

Marbled murrelets have become very difficult to find. It is imperative to act now to save the marbled murrelet. Adopt a long-term conservation strategy that protects remaining marbled murrelets and allows them to prosper and increase in health and number. These actions also will help mitigate climate change and preserve our forests.

RDEIS Commenters

C487, C493, C497, C524

Response

Section 3.6 of the FEIS includes a discussion of population decline, including the factors that may influence it. Section 1.1 sets out the respective need and purpose of DNR and USFWS for the long-term conservation strategy.

► COMMENT

More needs to be done now to compensate for past losses and prevent functional extirpation from the state within next several decades.

RDEIS Commenter

C413

Response

Thank you for your comment.

► COMMENT

The long-term conservation strategy needs to stabilize and increase murrelet population size as soon as possible.

RDEIS Commenter

C413

Response

Under all alternatives considered, the total amount and quality of marbled murrelet habitat are expected to increase on DNR-managed lands over the term of the 1997 HCP, which will increase the capacity of DNR-managed lands to support marbled murrelet nesting (refer to Figure 4.6.1 in the RDEIS). The decline of the marbled murrelet population in Washington is influenced by many factors, including loss of murrelet habitat. Murrelet populations are expected to eventually stabilize in response to increased habitat area and decreased habitat fragmentation. Because habitat development is a slow process, there is uncertainty regarding how long it will take for population trends to stabilize, but there are indications that population stabilization is starting to occur in southern Oregon and northern California (Raphael and others 2018, p. 338).

► COMMENT

Any loss of habitat on state trust lands in the next decade will virtually ensure that the marbled murrelet population continues to decline rather than begin to stabilize.

RDEIS Commenter

C413

Response

The amount of habitat available for marbled murrelets on DNR-managed lands is expected to increase over time under all alternatives. Refer to Figure 4.6.1 in the FEIS for more information.

Subtopic: Cause of population decline

► COMMENT

The RDEIS uses analysis based on the assumption that “habitat is the main influence on population decline.” This assumption is contrary to studies that confirm that the marbled murrelet is an old-growth species that is limited, in particular, by the absence of sufficient food. If ocean conditions are the culprit, more inland habitat may have little or no benefit to the marbled murrelet.

RDEIS Commenter

C547

Response

Section 3.6 of the FEIS includes a discussion of population decline, including marine conditions and other factors that may influence population decline. The population viability analysis (Appendix C of the FEIS) uses demographic information collected for marbled murrelets from intensive field studies based on the understanding of marbled murrelet ecology and nesting habitat needs. The analysis acknowledges the impact of other factors on population decline, noting that “. . . changes in climate and other environmental factors, particularly in the marine environment, that were not considered likely also impact murrelet population dynamics and will continue to do so in the future” (refer to Appendix C, p. 40). It is outside the scope of this EIS to measure impacts to the murrelet from the marine environment. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: Population increase

► COMMENT

The conservation strategy should increase the murrelet population size as a buffer against major human or natural disturbances.

RDEIS Commenters

C314, C453

Response

Under all alternatives considered in the FEIS, the total amount and quality of marbled murrelet habitat are expected to increase on DNR-managed lands over the term of the 1997 HCP, which will result in increased habitat capacity to support marbled murrelet nesting (refer to Figure 4.6.1 in the FEIS). In developing the alternatives, an emphasis was made to define large, contiguous blocks of interior forest. Interior forest patches that are not influenced by edge effects are recognized as important for providing secure nesting opportunities for marbled murrelets. DNR included edge effects in the analytical framework used to calculate impacts (harvest) and

mitigation (habitat growth). The area of habitat in interior forest patches is one of the evaluation criteria analyzed in the Chapter 4.6 of the FEIS.

Murrelet population trends are expected to eventually stabilize in response to increased habitat area and decreased habitat fragmentation. Because habitat development is a slow process, there is uncertainty regarding how long it will take for population trends to stabilize, but there are indications that population stabilization is starting to occur in southern Oregon and northern California (Raphael and others 2018, p. 338).

Subtopic: Bookend scenario

► COMMENT

If no habitat were harvested (an upper bookend scenario) after five decades, DNR-managed lands are predicted to have 403,000 raw acres of habitat, equivalent to a 26 percent larger population size than Alternative F.

RDEIS Commenter

C413

Response

The “upper bookend scenario” refers to a supplementary analysis requested by the Board of Natural Resources in 2016, to evaluate how no harvesting of state trust lands through the planning period would affect the modeled marbled murrelet population in the population viability analysis. At the same time, the board requested a “lower bookend scenario,” referring to a scenario in which all DNR-managed habitat would be removed immediately (Refer to Section 2.1 in the FEIS). The purpose of the request was to “portray the outermost boundaries of the model’s outputs for the murrelet population.” The board recognized that “these ‘bookend’ lines were outside the range of reasonable alternatives.” These scenarios were referenced in the RDEIS and FEIS, but not included as alternatives (refer to the presentation at the August 2016 board meeting).

► COMMENT

Population declines suggests that current management practices on state and private lands are not sufficient to ensure long-term survival of the murrelet.

RDEIS Commenter

C439

Response

This commenter noted that estimated marbled murrelet habitat losses in Washington have been highest on non-federal lands. DNR manages approximately 9 percent of the total land area within the range of the marbled murrelet in Washington (refer to Table 1.3.1 in the FEIS), and manages about 14 percent of the total murrelet habitat in Washington (refer to Section 3.6 in the FEIS). Most marbled murrelet habitat in Washington is located on federal lands managed under the *Northwest Forest Plan* (refer to Section 3.6 of the FEIS).

► COMMENT

Because murrelet populations have declined in the years since DNR began developing the long-term conservation strategy, more must be done now to compensate for these past losses and prevent extinction in the near term.

RDEIS Commenter

C422

Response

DNR has been operating under an interim strategy for marbled murrelets since the HCP was adopted in 1997, and has largely avoided impacting habitat within marbled murrelet management areas associated with various alternatives presented in the 2008 Science Team Report as well as the DEIS and RDEIS for the long-term conservation strategy. The assessment of impacts and mitigation is forward-looking and is based on projections of how murrelet habitat will change over time in response to different management alternatives.

► COMMENT

The causes of murrelet declines are likely related to urbanization of the Puget Sound and marine conditions. Marbled murrelets spend 90 percent of their life cycles at sea. DNR has failed to address these more impactful reasons for the murrelet's decline. Instead, DNR is relying on further and inordinate protection of inland habitat on state trust lands, which is more than its fair share of conservation. This issue should be addressed instead of placing the conservation burden on the trust beneficiaries of southwest Washington.

RDEIS Commenters

C403, C11, C355, C394, C454, C456

Response

The factors influencing marbled murrelet populations are described in Chapter 3.6 of the FEIS. While murrelets spend the majority of their time at sea, the portion of their life history that takes

place in the forest (breeding) is critical for survival and population growth and is the aspect that DNR can influence with its proposal for a long-term conservation strategy on DNR-managed lands. It is outside the scope of this EIS to measure impacts to the murrelet from the marine environment. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for the proposal.

► **COMMENT**

Marbled murrelet populations in Oregon have stabilized or slightly increased lately, which suggests that the major factor in murrelet population declines is habitat, not marine conditions.

RDEIS Commenter

C213

Response

The factors influencing marbled murrelet populations are described in Section 3.6 of the FEIS. While murrelets spend the majority of their time at sea, the portion of their life histories that takes place in the forest (breeding) is critical for survival and population growth and is the aspect that DNR can influence with its proposal for a long-term conservation strategy on DNR-managed lands. The alternatives differ in the amount and location of DNR-managed land designated for long-term conservation and also include a combination of conservation measures proposed to protect marbled murrelet habitat.

► **COMMENT**

Best available science (from Raphael and others) shows population decline due to degradation and elimination of essential, nonfederal, terrestrial habitat. Commenter questions how the projected decline in marbled murrelet populations over the next 50 years can satisfy the 1997 HCP requirement that the long-term conservation strategy will “significantly contribute toward the recovery of the marbled murrelet.” Preserve current and future habitat.

RDEIS Commenter

C213, C402

Response

Objective #2 of DNR’s purpose of this proposal is to provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR’s forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations (refer to Section 1.1 of the FEIS). The criteria used to measure this objective are detailed in Chapter 4 of the FEIS. In particular, Southwest Washington has long been identified

as an important geographic area for the conservation of marbled murrelets (USFWS 1997). Under all alternatives considered, murrelet habitat in southwest Washington is expected to increase on DNR-managed lands over the next 50 years (refer to Table 4.6.10 in the FEIS).

While murrelets spend the majority of their time at sea, the portion of their life histories that takes place in the forest (breeding) is critical for survival and population growth and is the aspect that DNR can influence with its proposal for a long-term conservation strategy on DNR-managed lands. As the amount of murrelet habitat increases in an area, local marbled murrelet trends may stabilize and eventually increase (Raphael and others 2016, p. 115).

► COMMENT

Marbled murrelets were common 51 years ago. Now they are absent and not seen in the same areas. The species has experienced dramatic population declines. Marbled murrelets need special status in Washington, and commenters hope that Washington will up-list the murrelet to endangered to inspire Oregon to do the same. Damage to murrelet habitat and the ecosystem needs to be repaired.

RDEIS Commenter

C92, C208

Response

The Washington Fish and Wildlife Commission changed the state listing status for marbled murrelets from threatened to endangered in February 2017 (refer to Chapter 5 of the FEIS). The *Periodic Status Review for the Marbled Murrelet* (Desimone 2016) details the status of the species in Washington.

Subtopic: No guarantee of recovery

► COMMENT

DNR cannot guarantee that its strategy will help murrelets. The RDEIS states that no matter which alternative is selected, it is unlikely it will make a difference in the recovery of the marbled murrelet.

RDEIS Commenter

C320, C547

Response

Pursuant to the 1997 HCP, DNR is required to propose a long-term conservation strategy for marbled murrelets. The 1997 HCP incidental take permit must be amended in order to implement the long-term conservation strategy. In order for the permit amendment to be approved, DNR

must, among other requirements, minimize and mitigate for impacts of the taking of murrelets to the maximum extent practicable.

Under all alternatives considered, murrelet habitat is expected to increase on DNR-managed lands over the next 50 years (refer to Table 4.6.10 in the FEIS). Section 4.6 of the FEIS summarizes potential impacts to marbled murrelets from the alternatives. Refer to Figure 4.6.5 for impacts and mitigation under the alternatives and to Table 4.6.16 for a summary of potential impacts to murrelets.

Subtopic: Toxic spraying

► COMMENT

Intensive toxic spraying in forests is hurting marbled murrelets.

RDEIS Commenter

C105

Response

Aerial activities, including the application of herbicides, is recognized as a potential source of noise disturbance to nesting marbled murrelets. Minimization measures have been incorporated into DNR's proposed amendment to avoid aerial activities in close proximity to known occupied sites during the nesting season (refer to Section 2.2 and Table 4.6.14 in the FEIS). Effects to marbled murrelets from direct or indirect exposure to toxins from herbicides used in forestry operations has not been reported in the published literature.

Subtopic: Impacts to individual birds

► COMMENT

Retention of high-quality habitat is important, but the spatial and temporal impacts to individual birds are not addressed. For example, Alternative E has no harvest of high-quality habitat, but still harvests significant low-quality habitat similar to Alternative H. Under Alternative E, the number of female marbled murrelets at the end of Decade 5 is above starting baseline because existing high-quality habitat has been maintained and remains functional.

RDEIS Commenter

C305

Response

All of the alternatives protect occupied sites, which are habitat patches of varying size in which murrelets are assumed to nest based on field observations. The analysis presented in Section 4.6 of the FEIS provides a general discussion of how individual marbled murrelets can be affected by

habitat removal, but does not enumerate the numbers of marbled murrelets that may be directly or indirectly affected by habitat losses or gains over time. Habitat quality and quantity are used as a surrogate measure to evaluate impacts to marbled murrelets.

Alternatives that protect more acres of high-quality habitat are expected to result in lower impacts to individual murrelets relative to alternatives that release high-quality habitat for harvest (refer to Section 4.6 of the FEIS).

The Joint Agencies developed an “analytical framework” to provide objective, repeatable, science-based estimates of potential impacts and mitigation to marbled murrelet habitat from DNR’s land management activities under the 1997 HCP. Refer to Appendix B to the FEIS for more information.

■ Topic: Marbled Murrelet Habitat

Subtopic: Conserve habitat

► COMMENT

DNR needs to conserve habitat in Washington because Oregon is waffling about murrelet protection.

RDEIS Commenter

210

Response

Under all alternatives being considered for the long-term conservation strategy, the amount of habitat available for murrelets on DNR-managed lands is expected to increase over time. Refer to Figure 4.6.1 in the FEIS.

► COMMENT

DNR’s legacy depends on conserving remaining marbled murrelet habitat for future generations.

RDEIS Commenter

C545

Response

Objective #2 of DNR’s purpose of this proposal to “provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR’s forest management activities. In accomplishing this objective,

DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations.” However, as a trust lands manager DNR also must “generate revenue and other benefits for each trust by meeting DNR’s trust management responsibilities” (Objective #1). Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal and Section 1.2 for a description of DNR’s fiduciary responsibilities.

► **COMMENT**

The conservation strategy should not allow a net loss of habitat. In the North Puget region there is a net loss over 50 years. It should include a net increase in habitat in western Washington.

RDEIS Commenters

C135, C409

Response

Habitat in the North Puget strategic location is currently estimated at 60,061 acres (refer to Table 3.6.1 in the FEIS). Estimated habitat in the final decade of the planning period in this strategic location under Alternative H is 72,064 acres, indicating a net increase in total habitat over the term of the 1997 HCP in this location (refer to Table 4.6.3 in the FEIS). However, the analytical framework developed for estimating impacts and mitigation applies both P-stage adjustments and temporal discounts to habitat that develops in later decades (refer to p. 17 of Appendix H to the FEIS), resulting in negative values in North Puget (mitigation minus impact) for some alternatives (refer to Table 4.6.5 in the FEIS).

► **COMMENT**

DNR needs to stop logging trees from marbled murrelet management areas and stop cutting older forests because habitat loss and fragmentation are major factors in murrelet population declines.

RDEIS Commenters

C206, C365

Response

The estimated acres of habitat in the final decade of the planning period (refer to Table 4.6.3 of the FEIS) shows that the total amount of high-quality habitat increases under alternatives C through H, as compared to Alternative A. Development of habitat in long-term forest cover also should result in a net increase of habitat for every alternative, including Alternative A, by the end of the planning period (refer to Figure 4.6.1).

► COMMENT

The commenter provided DNR with information regarding land in the OESF near Clallam Bay. However, logging of marbled murrelet habitat occurred via Stumpy's Ride timber sale. DNR should protect remaining marbled murrelet habitat.

RDEIS Commenter

C349

Response

Under all alternatives being considered for the long-term conservation strategy, the amount of habitat available for murrelets on DNR-managed lands is expected to increase over time. Refer to Figure 4.6.1 in the FEIS. Large patches of habitat within interior forest, which is habitat located away from forest edges, are more likely to help protect nesting marbled murrelets from the effects of predation, changes to microclimate, and other types of disturbance events and activities. By the end of the planning period, the change in raw acres of interior forest habitat increases under alternatives C through H, as compared to Alternative A (refer to Table 4.6.4).

► COMMENT

Commenter stating there should be more protection on DNR-managed lands to account for habitat lost to private timber harvests.

RDEIS Commenter

C200, C220

Response

The proposal is to amend DNR's 1997 HCP) by replacing the interim strategy with a long-term conservation strategy. The 1997 HCP covers DNR-managed lands, not private lands. DNR has a fiduciary obligation to the trust beneficiaries to manage forested state trust lands for their benefit. DNR cannot use these lands to mitigate for management of private forestlands. Refer to Section 5.3 for information on the effects of past forest management on the marbled murrelet, including from timber harvest on private forestlands. Changing forest practices rules to address the loss of habitat on private timber lands is not within the scope of this FEIS.

► COMMENT

Protecting more land for the murrelet helps other species; because of the interconnectedness, this would help Chinook salmon also.

RDEIS Commenter

C397

Response

The 1997 HCP is a multi-species plan that includes four conservation strategies: northern spotted owl, marbled murrelet, riparian, and multi-species. Because of the interconnectedness mentioned, the benefits of the conservation provided under the 1997 HCP and other laws and DNR policies should extend to many species, including Chinook salmon. Refer to Section 4.4 of the FEIS for a discussion on the impacts to aquatic resources and to Section 4.5 for a discussion on the impacts to wildlife and biodiversity.

Subtopic: Marbled murrelet nesting habitat**► COMMENT**

USFWS has shown in their 1988 biological report that in Washington, marbled murrelets are found where mature and old-growth forests make up over 30 percent of the landscape. Fewer marbled murrelets are found where clearcut and meadow areas make up more than 25 percent of the landscape. Murrelets nest in the oldest trees in a stand of over 500 hectares (1,235 acres) and are less likely to occupy a stand under 100 hectares (247 acres). Murrelets only nest in mature forests showing old-growth characteristics at about 200 years of age.

RDEIS Commenters

C450, C470, C471, C472, C473, C474, C475, C477, C478, C480, C481, C482, C483, C484, C485, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C537, C538, C539, C540, C541, C542, C543, C545, C546

Response

Section 4.6 of the FEIS contains analysis of marbled murrelet habitat distribution that considers habitat location, proximity to occupied sites, and habitat patch size. The analysis of habitat location considered how marbled murrelet habitat is distributed across the landscapes at a watershed scale. This analysis found that under all alternatives, the adjusted acres of habitat increases in more watersheds than they decrease by the fifth decade of the analysis period (refer to Figure 4.6.6).

Larger patches of habitat within interior forest, which is habitat located away from forest edges, are more likely to help protect nesting marbled murrelets from the effects of predation, changes to microclimate, and other types of disturbance events and activities. Figure 4.6.3 shows that interior forest increases under all alternatives by the end of the planning period.

The analysis of habitat patch size (Table 4.6.8) found that the number of habitat patches 1,000 acres or larger would increase, as would the total area of habitat within these patches, under alternatives C through H, as compared to Alternative A. The sum of area in patches five or more acres in size would increase under alternatives C through G, decrease under Alternative B, and stay the same under Alternative H, as compared to Alternative A.

Murrelet nest sites have been documented in second-growth forests with structural elements similar to old-growth, such as remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe infestations (Evans-Mack and others 2003, Grenier and Nelson 1995). Only stands that are naturally regenerated (and therefore likely contain some scattered legacy trees from previous stands) are included in P-stage habitat (refer to Appendix E of the FEIS).

Subtopic: Definition of habitat

► COMMENT

The RDEIS does not use a consistent definition of “habitat.” Sometimes it is an area that can become "potential future habitat" and sometimes current. This makes DNR overcompensate the setting aside of land and assume the additional land set aside will benefit the marbled murrelet.

RDEIS Commenter

C547

Response

Appendix E, “P-Stage Focus paper,” describes how the Joint Agencies identified and classified marbled murrelet habitat for the purposes of developing the long-term conservation strategy. These P-stage values are used in the analytical framework to help calculate the take and mitigation, a critical component of obtaining an incidental take permit.

Text box 2.1.3 in the RDEIS defined the habitat terms used in the document, including “marbled murrelet habitat” or “current marbled murrelet habitat,” “future marbled murrelet habitat,” “low-quality murrelet habitat,” and “high-quality murrelet habitat.”

Subtopic: Occupied sites

► COMMENT

The commenter points out that the alternatives have 59,000 acres of occupied sites, except Alternative A, which has only 43,000, a difference of 16,000 acres. It is not fair to compare Alternative A with the other seven alternatives because Alternative A has a different baseline amount of occupied habitat. The commenter would like DNR to provide an explanation for why Alternative A, the interim strategy, does not recognize the 16,000 acres of Science Team-identified occupied acres. The Science Team delineation of occupied sites (about 59,000 acres per

DNR's occupied sites GIS layer, 2013) has been and is the currently used standard by DNR for screening forest practices applications for forest practices rules disturbance-avoidance within set distances of occupied sites. The Science Team acres (59,000) have been the interim in established practice, and if this is adjusted to be consistent with all alternatives at 59,000 acres, then the graphs (4.6.10 and 4.6.11) will change so that Alternative A lands between alternatives E and G, and out-performs Alternative H. Because the added acres are P-stage 1.0, no "adjustment" is needed.

If the interim strategy should stay in force for any period of time, there is no logical reason that DNR or WDFW would want to regress to recognizing only 43,000 occupied acres being restricted to the immediate survey polygon, which would be counter to established forest practices screening tools that WDFW and DNR have used since at least 2013.

RDEIS Commenter

C305

Response

Alternative A is the no action alternative, and reflects the interim strategy under the 1997 HCP and incidental take permits for all of the westside HCP planning units. This alternative does not include the occupied sites identified by the Science Team because the 1997 HCP has not been amended yet to include these sites. These acres are added to the other alternatives because the 1997 HCP would be amended to include them, regardless of which action alternative was selected. The Joint Agencies are aware that there are differences in management between forest practices and the 1997 HCP.

► COMMENT

DNR's HCP amendment (Section 6.2.) states several times that there are 592 existing occupied sites, but the RDEIS in Chapter 3 states there are 401 occupied sites. Please explain.

RDEIS Commenter

C305

Response

Occupied sites are represented in DNR's GIS database as polygons. When DNR completed the RDEIS, many of these occupied site polygons were contiguous. Reasons vary. For example, some areas were divided into sections for field surveys and those found to be occupied were entered into the database as separate polygons, even if they shared a boundary. In other cases, a single occupied site was entered as two polygons because it crossed an administrative or watershed boundary. Multiple, contiguous polygons make it difficult for DNR to consistently report the total number of occupied sites on DNR-managed land, because DNR must determine if contiguous polygons represented several occupied sites or one.

To ensure consistency for monitoring and reporting purposes moving forward, DNR has developed a method for dissolving (combining) contiguous occupied site polygons into a single polygon in DNR's GIS database. Each of these dissolved polygons is counted as one site. This method is reliable, objective, and repeatable and does not affect the total number of acres of occupied sites that DNR will protect.

Per this method, DNR currently protects 397 occupied sites under the current interim strategy. DNR will protect 388 occupied sites under alternatives B through H.

The acres of occupied sites have not changed since the RDEIS was published: 42,975 acres of occupied sites will be protected under Alternative A and 59,331 acres will be protected under alternatives B through H. There are fewer occupied sites under alternatives B through H because these sites tend to be larger and more contiguous, meaning more of them were dissolved into single polygons. Refer to Appendix D for more information on occupied sites.

Subtopic: Definition of occupied site

► COMMENT

The term "Occupied site" is not clearly defined in the 1997 HCP; therefore, it defaults to the common meaning of the term. The RDEIS alters the term to mean assumed presence. By changing the definition, the Joint Agencies have changed the scope of what was intended in the 1997 HCP protections and violated the Implementation Agreement. The Federal Services are imposing additional land-use restrictions and financial obligations on DNR. Occupied sites that do not have a physical presence of marbled murrelets should be released and not protected.

RDEIS Commenter

C547

Response

In the glossary to the RDEIS, DNR defined occupied site as "habitat patches of varying size in which murrelets are assumed to nest based on field observations." This definition is based on the 2008 report *Recommendations and Supporting Analysis of Conservation Opportunities for the Marbled Murrelet Long-Term Conservation Strategy* (also referred to as the 2008 Science Team Report). Field observations include nests, chicks, eggs, egg shell fragments, murrelets flying below, through, into, or out of the forest canopy, murrelets circling above a stand within one tree height of the top of the canopy, or marbled murrelets calling from a stationary location within habitat.

Refer to Appendix D to the FEIS for a detailed definition of occupied sites and the history of how DNR delineated occupied sites for the purposes of conservation planning, starting with initial efforts after the 1997 HCP was signed and continuing to review and adjustment of occupied sites by the 2008 Science Team. Although murrelets may or may not be using them currently,

occupied sites represent DNR's best information on where murrelets might be nesting on DNR-managed lands.

► COMMENT

High-quality habitat represents the immediate, best probability of use by marbled murrelets and the best chance for nesting success. The population viability model assumes immediate use by breeders as P-stage habitat develops, an untested theory that is not supported by the literature. For a species with high site fidelity, removal of those habitat patches will have a prolonged impact. Breeding may be delayed 1, 2, or several years until breeding birds find new patches.

RDEIS Commenter

C305

Response

The population viability analysis assumes that murrelets displaced by habitat loss would become non-breeders for at least one year, and that displaced breeders could become breeders again if nesting habitat was available in the year after they became non-breeders. The model also assumes that dispersing individuals select habitat in proportion to availability. The authors (Peery and Jones) also note that these aspects (breeding dispersal) of murrelet breeding ecology are not well understood (Appendix C to the FEIS, p. 40). No other information is available on breeding dispersal for marbled murrelets following habitat loss or whether or not individuals displaced by habitat loss re-enter the breeding population.

Subtopic: Size of occupied site buffers

► COMMENT

There should be a larger general buffer due to significant prior lack of success. There should be a 330 feet "no-touch" protective radii around potential nest trees and 660 feet buffer around occupied trees that allow silvicultural prescriptions that favor succession of old-growth forest.

RDEIS Commenter

C397

Response

The alternatives cover a range of acres and configurations of forestlands that DNR manages for marbled murrelet conservation. Development of the alternatives was informed by the scoping process and the respective need and purpose for DNR and USFWS for the proposal (refer to Section 1.1 of the FEIS).

Alternatives A, E, F, G, and H apply a 100-meter buffer to the outer extent of all occupied sites. Under alternatives C, D, and E, buffers are reduced to 164 feet (50 meters) for sites 200 acres or greater in the OESF. Alternative B does not include occupied site buffers. Refer to Section 4.6 for an analysis of the potential impacts of the alternatives on marbled murrelets. Additional information on the potential effects on the marbled murrelet population from the alternatives is included in Appendix C.

Thinning in occupied site buffers is allowed only in non-murrelet habitat in the OESF and in nesting, roosting, and foraging or dispersal management areas, and must follow the specific rules in Table A-4 in Appendix A to the HCP amendment. Thinning in these areas provides DNR operational flexibility to aid in reaching northern spotted owl objectives.

Subtopic: Marbled murrelets as edge species

► COMMENT

The RDEIS does not discuss or address literature describing high levels of marbled murrelet use of high-contrast edge and fragmented forest (Nelson and Hamer 1995). Because of this, unoccupied habitat, such as special habitat areas and emphasis areas designed to reduce fragmentation and edge effects, should not be protected because these attributes will likely not affect survival and recovery of the species. Marbled murrelets use natural, and possibly human created, edges to navigate from marine waters to their nest site; therefore, although reducing edge may reduce predation, it may not increase the use of interior timber stands by the marbled murrelet.

RDEIS Commenter

C369, C433

Response

A literature review by the Oregon Department of Forestry (ODF) in 2019 found that the relationship between murrelet nesting success and landscape characteristics is complicated, and available information does not indicate a consistent trend; however, many studies indicate higher nesting success away from hard edges (ODF 2019). Malt and Lank (2009) conducted a study of nesting depredation using artificial nests and demonstrated that predator disturbance was more likely at hard edges than in interior habitats (ODF 2019). Marbled murrelets are known to locate their nests throughout forest stands and fragments, including along various types of natural and man-made edges, but there is no evidence to suggest that marbled murrelet preferentially select for nest sites along man-made edges (McShane and others 2004, p. 4-87). These studies are the basis for conserving existing habitat and non-habitat areas within special habitat areas. A review of the science of how edges can affect murrelet habitat is presented in Appendix H of the FEIS.

Subtopic: Habitat development

Comment

The discussion of alternatives designed to grow new habitat (C, D, E, F, G, and H) is inadequate. This discussion ignores science saying that development of stands with characteristics necessary for marbled murrelet is expected to take at least 100 to 200 years, and so will not occur within the lifetime of the 1997 HCP. Also, the 1997 HCP includes assumptions that marbled murrelet habitat would develop within riparian areas and thus the amount of habitat available would increase over the lifetime of the 1997 HCP.

RDEIS Commenter

C369

Response

Appendix E to the FEIS provides a detailed explanation of the P-stage habitat model. Only stands that are naturally regenerated (and therefore are more likely to contain some scattered legacy trees from previous stands) are included in P-stage habitat (Appendix E to the FEIS). Murrelet nest sites have been documented in second-growth forests with structural elements similar to old-growth, such as remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe infestations (Grenier and Nelson 1995, Evans-Mack 2003).

► COMMENT

Marbled murrelets will not nest in second growth, no matter how large the trees are. Cutting old growth trees is a death sentence for murrelets.

RDEIS Commenter

C386

Response

Murrelet nest sites have been documented in second-growth forests with structural elements similar to old-growth, such as remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe infestations (Evans-Mack and others 2003, Grenier and Nelson 1995). Only stands that are naturally regenerated (and therefore likely contain some scattered legacy trees from previous stands) are included in P-stage habitat (refer to Appendix E of the FEIS).

DNR's current policy (DNR 2006) is to defer from harvest all old-growth forests. DNR defines old growth as forests that are in the structurally complex stage of stand development, at least five acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. The long-term conservation strategy will not alter this policy.

► COMMENT

The RDEIS does not recognize science that has developed over the past twenty-one years that demonstrates that unless a stand has all the characteristics required by the murrelet, then the murrelet cannot use the stand and it is not habitat.

RDEIS Commenter

C441

Response

Murrelet nest sites and occupancy behaviors have been documented in second-growth forests that contain structural elements similar to old-growth, such as remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe infestations (Evans-Mack and others 2003, Grenier and Nelson 1995).

Subtopic: Conservation of habitat for recovery

► COMMENT

The commenter supports recovery efforts for marbled murrelets and asks for conservation of their habitat (comment is not alternative specific).

RDEIS Commenters

C310, C311

Response

All alternatives (except Alternative B) apply buffers to known occupied sites, several alternatives protect all high-quality habitat with a P-stage value of 0.47 or higher (alternatives C, G, and E), and all alternatives (except A and B) apply a combination of special habitat areas, emphasis areas, or marbled murrelet management areas to provide additional conservation of existing habitat and reduce habitat fragmentation. Refer to Chapter 2 of the FEIS for more information.

Subtopic: Conservation of Non-habitat

► COMMENT

Commenters believe DNR misapplied the P-stage concept as developed in the Science Team Report by incorporating timber stands that have no current or future P-stage value within special habitat areas. The RDEIS proposes alternatives that would take tens of thousands of acres of state trust lands out of commercial production, even though these acres are not habitat now and will not become habitat before the end of the plan in 2057 or in this century. Single cohort tree plantations will not grow into habitat without intervention. Setting these areas aside as habitat is ignorant or irresponsible and will have impacts to trust beneficiaries with no benefit to murrelets.

DNR has failed to show how conserving these acres will help the species and should limit conservation to those acres that do. Setting aside areas for murrelet that are not habitat now is not required by the endangered species act and a violation of DNR's trust duties.

While conservation measures in the RDEIS allow some management within special habitat areas under Alternative H, it is questionable whether this would occur, given DNR's past practices regarding allowed active management within riparian areas.

RDEIS Commenters

C67, C228, C241, C292, C293, C301, C364, C403, C278, C362, C364, C369, C433

Response

Proposed special habitat areas, emphasis areas, and marbled murrelet management areas do retain areas of non-habitat as long-term forest cover. The concept behind special habitat areas is to allow for smaller conservation areas (compared to larger emphasis areas and marbled murrelet management areas) where nest success (productivity) is improved by reducing predation pressure in existing occupied sites. Emphasis areas are larger than special habitat areas because they allow variable retention timber harvest within their boundaries.

The retention of non-habitat "security forest" within special habitat areas and emphasis areas was intended to help improve productivity at the occupied sites. A literature review by the Oregon Department of Forestry (ODF) in 2019 found that the relationship between murrelet nesting success and landscape characteristics is complicated, and available information does not indicate a consistent trend; however, many studies indicate higher nesting success away from hard edges (ODF 2019). Malt and Lank (2009) conducted a study of nesting depredation using artificial nests and demonstrated that predator disturbance was more likely at hard edges than in interior habitats (ODF 2019). Another study has shown that marbled murrelet nesting is likely to be more productive if the habitat is surrounded by simple-structured forest (McShane and others 2004, p. 4-94). This science is the basis for conserving existing habitat and non-habitat areas within special habitat areas and in occupied site buffers. Areas of non-habitat can provide soft-edge or no-edge conditions adjacent to existing habitat areas (refer to Appendix H to the FEIS). The biological benefit for marbled murrelets is lower predation risk and higher nesting success. The mitigation benefit of conserving non-habitat is reflected in the analytical framework by increasing the amount of interior forest murrelet habitat conserved in long-term forest cover. Interior forest habitat receives full mitigation credit in the analytical framework, whereas habitat in edges is partially discounted to account for habitat degradation associated with edge effects.

Appendix E of the FEIS provides a detailed explanation of the P-stage habitat model. Only stands that are naturally regenerated (and therefore are more likely to contain some scattered legacy trees from previous stands) are included in murrelet habitat.

► COMMENT

All alternatives analyzed in the RDEIS are based on P-stage, a model utilized in the 2008 Science Team Report. P-stage is a measure of a stand's ability to function as marbled murrelet habitat. A stand must have a minimum value of 0.25 to be considered marbled murrelet habitat. P-stage 0.25 habitat is unlikely to develop into a higher stage during the life of the 1997 HCP. Also, P-stage can be discounted based on edge. Within the Clallam Bay Block, most of the state trust lands are State Forest Lands. Significant portions of these lands have no P-stage value. Stands with a P-stage value are predominantly 0.36, with some stands in other P-stages. Special habitat areas within the Clallam Block contain stands that do not have a P-stage value and are not expected to develop into P-stage during the remainder of the 1997 HCP. These stands may be considered security forest. Including non-habitat stands, limiting their future management, and removing their ability to generate needed revenue for trust beneficiaries raises concerns that could be considered in the RDEIS; however, the RDEIS fails to analyze the impacts of the loss of revenue on public services and utilities; nor does it address the impacts under environmental justice or socioeconomics caused by including non-habitat in the special habitat areas.

RDEIS Commenter

C433, C300

Response

Proposed special habitat areas, emphasis areas, and marbled murrelet management areas do retain areas of non-habitat as long-term forest cover. The concept behind special habitat areas is to allow for smaller conservation areas (compared to larger emphasis areas and marbled murrelet management areas) where nest success (productivity) is improved by reducing predation pressure in existing occupied sites. Emphasis areas are larger than special habitat areas because they allow variable retention timber harvest within their boundaries.

The retention of non-habitat "security forest" within special habitat areas and emphasis areas was intended to help improve productivity at the occupied sites. A literature review by the Oregon Department of Forestry (ODF) in 2019 found that the relationship between murrelet nesting success and landscape characteristics is complicated, and available information does not indicate a consistent trend; however, many studies indicate higher nesting success away from hard edges (ODF 2019). Malt and Lank (2009) conducted a study of nesting depredation using artificial nests and demonstrated that predator disturbance was more likely at hard edges than in interior habitats (ODF 2019). Another study has shown that marbled murrelet nesting is likely to be more productive if the habitat is surrounded by simple-structured forest (McShane and others 2004, p. 4-94). This science is the basis for conserving existing habitat and non-habitat areas within special habitat areas. Low-quality P-stage habitat is expected to increase in quality as stands age and natural successional processes increase stand diversity overtime. Appendix E of the FEIS provides a detailed explanation of the P-stage habitat model. Only stands that are naturally regenerated (and therefore likely contain some scattered legacy trees from previous stands) are included in murrelet habitat (Appendix E, p. E-6 through E-7). Murrelet nest sites have been documented in second-growth forests with structural elements similar to old-growth, such as

remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe infestations (Grenier and Nelson 1995).

Section 4.9 of the FEIS describes the potential effects of the alternatives on providing public services such as energy production and communication. This analysis includes the potential impacts of management constraints on existing communication and energy-related uses and the ability of DNR to sell additional rights-of-way and leases for new or expanded communication and energy related uses.

Section 4.10 addresses the potential impacts of the alternatives on low-income and minority populations and Section 4.11 includes the socioeconomic analysis. Per the socioeconomic analysis, Pacific and Wahkiakum counties have the highest potential for reduced timber harvest and low economic diversity, resulting in a potential loss of income to low-income and minority populations.

Subtopic: Type of habitat to protect

► COMMENT

The long-term conservation strategy needs to protect occupied sites, their buffers, and special habitat areas from human disturbances, for example from activities such as road construction and heavy equipment use that result in non-mitigated take.

RDEIS Commenter

C159, C194, C257, C314, C323, C343, C357, C375, C406, C409, C439, C461, C453, C30

Response

Measures to minimize noise and visual disturbance to nesting marbled murrelets are detailed in Section 2.2 of the FEIS. Noise disturbance and habitat impacts may occur (for example, road reconstruction through occupied sites and buffers) when other options are not feasible. Habitat degraded by roads is accounted for in the analytical framework for calculating impacts and mitigation (refer to Appendix H to the FEIS).

Subtopic: Harvest of high-quality habitat

► COMMENT

WDFW advises that the final amendment reduce significant short-term harm to marbled murrelets by excluding harvest of high-quality habitat and by minimizing proposed harvest of low-quality habitat. The marbled murrelet population is at risk of even more accelerated decline, and the proposed strategy of offsetting take of high-quality habitat into the near-term with later mitigation exacerbates that risk.

RDEIS Commenter

C305

Response

All high-quality habitat that is identified as old-growth forest will be conserved under existing policies, and all high-quality habitat associated with occupied sites will be protected under all alternatives. DNR defines old growth as forests that are in the structurally complex stage of stand development, at least five acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest.

Areas of high-quality murrelet habitat that do not meet the definition of old growth, are located outside long-term forest cover, and are not needed to meet other 1997 HCP conservation objectives may be released for harvest, depending on the alternative. Alternatives C, E, and G conserve all high-quality habitat, regardless of location. Alternative G was developed in response to comments from WDFW and USEPA and includes additional conservation measures.

The population viability analysis developed for this project (refer to Appendix C to the FEIS) does not indicate an accelerated rate of decline in response to any of the alternatives considered. Declines are more severe under the “risk” scenarios in the population viability analysis. Under the “enhancement” scenarios, population trends stabilize and/or increase by the 2nd or 3rd decade in response to increasing habitat on DNR-managed lands.

Subtopic: Nesting platforms**► COMMENT**

DNR should construct nesting platforms in nearshore areas to provide suitable habitat without impacting jobs.

RDEIS Commenter

C454

Response

DNR is currently unaware of any science that demonstrates that man-made nesting platforms are used by marbled murrelets.

Subtopic: Decreased spatial distribution of murrelets**► COMMENT**

Commenters mentioned specific geographic locations of conservation, and were concerned that narrowing conservation to three strategic locations will decrease spatial distribution and resilience of the marbled murrelet population. They also are concerned about sufficient protection of habitat

in southwest Washington, as this area has been identified as being of prime importance. Commenters made recommendations to include marbled murrelet management areas (as described in Alternative F) in southwest Washington and managing the Elochoman block as an emphasis area (as described in Alternative G).

RDEIS Commenters

C185, C459, C467

Response

Section 2.3 provides an explanation of the development and importance of the strategic locations for marbled murrelet conservation. Occupied sites outside of the strategic locations are also protected under all of the alternatives. One of the reasons the strategic locations are important is the abundance and distribution of the identified occupied sites within them.

The long-term conservation strategy is designed to respond to the conservation needs of the marbled murrelet across the analysis area (all lands that DNR manages under its 1997 HCP within 55 miles of marine waters in western Washington). Habitat impacts and mitigation are distributed strategically across this area by emphasizing protection of all known occupied sites and conserving large blocks of existing habitat in strategic locations. The combination of existing long-term forest cover and additional murrelet-specific conservation areas added by the alternatives ensure that 78 to 89 percent of the current murrelet habitat will remain on the landscape and provide for nesting opportunities while additional habitat develops over time.

Section 4.6 of the FEIS contains analysis of marbled murrelet habitat distribution that considers habitat location, proximity to occupied sites, and habitat patch size. The analysis of habitat location considered how marbled murrelet habitat is distributed across the landscapes at a watershed scale. This analysis found that under all alternatives, the adjusted acres of habitat increases in more watersheds than they decrease by the fifth decade of the analysis period (refer to Figure 4.6.6).

Alternative H best meets DNR's need and purpose of the proposal by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS' need and purpose for taking action on a permit decision. Alternative H is based on the Board of Natural Resources' direction to DNR to minimize impacts to murrelets, offset impacts and address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries.

Subtopic: Need for consolidated habitat

► COMMENT

The commenter supports conserving a large portion of Blanchard Forest as consolidated habitat, not just the areas around the present known site, or the 1,600 acres set aside for recreation.

RDEIS Commenter

C416

Response

The alternatives cover a range of acres and configurations of forestland that DNR manages for marbled murrelet conservation. The alternatives differ in the amount of land that is designated for marbled murrelet conservation, where conservation is located, how conservation areas will be managed, and the amount of marbled murrelet habitat that will be removed. Development of the alternatives was informed by a scoping process described in Chapter 1 of the FEIS and by comments received on the DEIS. The Joint Agencies used an analytical framework to guide the development and screening of alternatives; refer to Appendix B to the FEIS for more information.

Alternative H, best meets DNR's need and purpose of the project by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, as well as USFWS' need and purpose for taking action on a permit decision. Alternative H is based on the Board of Natural Resources' direction to DNR to minimize impacts to murrelets, offset impacts and address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. Refer to Section 2.4 for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal.

Subtopic: Zoning the OESF**► COMMENT**

Setting aside habitat in the OESF will zone the forest and defeats the purpose for which it was established.

RDEIS Commenter

C40, C456

Response

The Joint Agencies recognize that designation of areas for marbled murrelet conservation would limit management options in the OESF within those areas. In part to address this issue, Alternative H allows thinning within special habitat areas in areas that are not currently marbled murrelet (P-stage) habitat to provide some management flexibility within the areas designated for marbled murrelet conservation under this alternative and help DNR preserve the "unzoned" concept for the OESF.

Subtopic: Protect maximum in select areas

▶ COMMENT

DNR should protect the maximum amount of habitat in the Strait of Juan de Fuca, North Puget Sound, and Southwestern Washington.

RDEIS Commenter

C445

Response

Section 2.3 of the FEIS provides an explanation of the development and importance of three strategic locations for marbled murrelet conservation: the OESF and Straits (west of the Elwha River), North Puget, and Southwest Washington. The Joint Agencies identified strategic locations through the process of developing the analytical framework for the long-term conservation strategy (refer to Appendix B) and Alternative H. The OESF and Straits (west of the Elwha River) strategic location and the North Puget strategic location contain the most acres of land contributing to marbled murrelet conservation.

Subtopic: Protection of murrelet habitat in the Skamokawa drainage

▶ COMMENT

The commenter supports marbled murrelet conservation, particularly in the Skamokawa drainage.

RDEIS Commenter

C217

Response

There is DNR-managed land in in the Skamokawa drainage. Depending on the alternative, the Skamokawa drainage may include marbled-murrelet specific conservation designations such as emphasis area, marbled murrelet management area, or special habitat area.

Subtopic: Protection of murrelet habitat in Whatcom County

▶ COMMENT

Protect marbled murrelet areas in Whatcom County. Eastern Whatcom County should not be open to greater impacts.

RDEIS Commenter

C233

Response

The eastern portion of Whatcom County is included in the North Puget strategic location. Strategic locations are geographic areas in Washington that the Joint Agencies view as having a disproportionately high importance for murrelet conservation. The North Puget strategic location and the OESF and Straits (west of the Elwha River) strategic location contain the most acres of land contributing to marbled murrelet conservation. Refer to Section 2.3 of the FEIS for more information.

Subtopic: Strategic location boundaries misleading**► COMMENT**

Boundaries of the strategic locations give the impression that DNR is conserving more habitat in the analysis area than they are. Redraw the boundary lines to reflect the actual area of state forest lands managed by DNR in each location.

RDEIS Commenter

C185

Response

Each strategic location boundary in the RDEIS and FEIS indicates a geographic area that the Joint Agencies view as having a disproportionately high importance for murrelet conservation. These lines were not meant to imply that DNR manages or conserves all of the land within the boundaries. Also, management and land use decisions for lands not managed by DNR are outside the control of DNR and the scope of this EIS, regardless of their inclusion within the boundary. DNR has clarified this issue in the FEIS.

Subtopic: Zone 2 protection**► COMMENT**

DNR is the primary public land agency in Zone 2, which also has the lowest number of murrelets in both Washington and Oregon. Recovery of the species in Zone 2 thereby relies on DNR. How does DNR's abandonment of marbled murrelet management areas in Zone 2 aid in the recovery of murrelets in this zone?

RDEIS Commenter

C213

Response

Zones 1 and 2 are recovery zones for the marbled murrelet defined in the *Recovery Plan for the Threatened Marbled Murrelet in Washington, Oregon, and California* (USFWS 1997). Zone 2 includes southwest Washington. Southwest Washington has long been identified as an important geographic area for the conservation of marbled murrelets. Under all alternatives considered, murrelet habitat in southwest Washington is expected to increase on DNR-managed lands over the next 50 years (refer to Table 4.6.10 in the RDEIS).

Alternative H focuses its marbled murrelet conservation into 20 special habitat areas distributed across strategically important locations for the marbled murrelet. One of these strategic locations (southwest Washington) is located in Zone 2. Special habitat areas are designed to increase marbled murrelet productivity by reducing edge effects and fragmentation. In general, special habitat areas rely on the exclusion of active forest management to achieve a goal of reducing edge and fragmentation and growing new habitat over the long-term. Special habitat areas are designed to increase interior forest around occupied sites in specific geographic areas to benefit the species.

Subtopic: Zone 1 and 2 protection**► COMMENT**

DNR owns more low-elevation forests in Zones 1 and 2 than the Federal government. These lowland forests are prime murrelet nesting habitat and are the closest to marine foraging areas. Which alternative best reflects the importance of these areas by protecting them?

RDEIS Commenter

C213

Response

Zones 1 and 2 are recovery zones for the marbled murrelet defined in the *Recovery Plan for the Threatened Marbled Murrelet in Washington, Oregon, and California* (USFWS 1997). Zone 1 includes the North Puget strategic location and a portion of the OESF and Straits (west of the Elwha River) strategic location. Zone 2 includes the west side of the Olympic Peninsula and the southwest Washington strategic location (refer to Figure 3.6.1 in the FEIS).

Alternative F conserves the most acres overall. Alternative H includes 20 special habitat areas that are distributed within strategic locations, including some lower-elevation areas in the North Puget, and OESF and Straits (west of the Elwha River) strategic location where DNR-managed lands are closer to marine waters than Federal lands. Refer to Section 2.4 for a comparison of the alternatives, including how each alternative addresses DNR's purpose of the proposal.

Subtopic: Impacts from management activities

► COMMENT

The commenter is concerned that conservation measures around management activities are not specific enough to provide adequate protection. Of specific concern are activities occurring in occupied sites or buffers during the breeding season, including tail holds, guy lines, and rigging; landing construction; and road construction. Also, daily timing restrictions may not be sufficient once a chick has hatched and nest locations outside of conservation areas are being potentially subject to disturbance from blasting and aerial activities. Under Alternative H, the majority of occupied sites are located outside of special habitat areas.

RDEIS Commenter

C409, C305

Response

The Joint Agencies have updated the conservation measures for the FEIS; refer to Tables 2.2.5 through 2.2.8 in the FEIS and Appendix Q for more information. Under Alternative H, tailholds, guylines, and rigging are allowed in occupied sites but must be installed outside of the nesting season and avoid impacts to platform trees when possible. These activities are also allowed in occupied site buffers but must avoid impacts to platform trees when possible and follow limited operating periods when carried out during the nesting season. Landing and road construction or maintenance activities must take place outside of the nesting season when feasible or must follow limited operating periods during the nesting season.

Subtopic: Restoration forestry

► COMMENT

Commenter supports restoration forestry to improve degraded areas, generate more revenue, and develop future high-quality habitat.

RDEIS Commenter

C115, C153, C154, C190, C200, C415, C423, C536

Response

Under all alternatives, thinning is allowed outside long-term forest cover. Within long-term forest cover, thinning restrictions vary by alternative. Under Alternative H, thinning is allowed in non-murrelet habitat and future habitat in the outer 164 feet of occupied site buffers in northern spotted owl management areas, with a goal of enhancing habitat for northern spotted owls. Thinning also is allowed in special habitat areas that are in northern spotted owl management areas to enhance or maintain security forest with a windfirm canopy. In other areas of long-term forest cover, thinning is allowed in both non-murrelet habitat and future habitat. Thinning is not

allowed in occupied sites. Refer to Table 2.2.5 in the FEIS for more information. Thinning would likely enhance future habitat for marbled murrelets.

Subtopic: Impacts to northern spotted owls

▶ COMMENT

The RDEIS claims no impacts to the northern spotted owl (because it has its own strategy), but because they occupy similar habitat what impacts the marbled murrelet will impact the northern spotted owl.

RDEIS Commenter

C423

Response

Potential impacts to northern spotted owls from the northern spotted owl strategy were analyzed in the EIS for the 1997 HCP. The RDEIS states that areas currently managed for northern spotted owl habitat will continue to be managed in the same manner unless those areas are included in long-term forest cover. In that case, management would be more restrictive (for example, areas included in occupied site buffers that may have been available for variable-retention harvest under the northern spotted owl conservation strategy would no longer be available for that purpose).

■ Topic: Conservation (General)

▶ COMMENT

We must preserve and expand what remains intact of our whole ecosystem here in the Northwest and ensure they will continue into the future because there will be increased pressure from humans who are relentless in taking what they want while ignoring the consequences.

The only way we can provide for future generations with a planet that is healthier than the one we were given is to restore our forests, our oceans, and our freshwater resources, and not continuing to destroy what few pristine, nature-intact ecosystems we have. We need to clean up toxic chemicals saturating our waters, lands, air, oceans, foods, and life forms.

The agenda for conservation is being set by big business. Corporations have no duty to conserve natural resources or consider the impact their actions will have. They do not care about endangered species.

DNR has the power, authority, and responsibility to save natural beauty. Once destroyed, it cannot be restored. Please do not destroy our natural heritage. Think of our children's children and the kind of planet you would like them to have.

RDEIS Commenters

C506, C508, C513, C529, C533

Response

As described in DNR's *Policy for Sustainable Forests*, DNR will continue to “conserve and enhance the natural systems and resources of forested state trust lands managed by DNR to produce long-term, sustainable trust income, and environmental and other benefits for the people of Washington.”

► COMMENT

Humans place more importance on their electronic gadgets than wildlife or the natural environment. There is no space in our world for creatures that are not human. Wildlife has no voice in the legislative and regulatory process other than through our efforts. Do not allow our wildlife to disappear. Wildlife and environment are Washington State.

RDEIS Commenters

C478, C496, C525

Response

Thank you for your comment.

► COMMENT

Several commenters expressed concern for maintaining healthy forests and trees and for natural resource conservation and protection for marbled murrelets, and for multiple other species including humans, now and for future generations.

RDEIS Commenters

C25, C90, C53, C111, C112, C27, C34, C35, C36, C38, C58, C72, C87, C137, C288

Response

Objective #2 of DNR’s purpose for developing the long-term conservation strategy is to provide forest conditions in strategic locations that minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities (refer to Section 1.1). In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations. Under the long-term conservation strategy, DNR will maintain long-term forest cover, which is defined as DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Long-term forest cover is expected to provide habitat for a wide range of

species, including the murrelet. DNR's trust mandate also requires DNR to manage the trust assets for current and future generations, in perpetuity (DNR 2006).

► COMMENT

The commenter is very concerned about the decline in the marbled murrelet in Washington. Washington State is a place where it is understood that caring for a species like the murrelet, and forest it depends on, also makes a real difference for people—especially the children alive today and generations to come. Forests provide clean water, clean air, and carbon capture that is so important for the future.

RDEIS Commenters

C25, C33, C34, C35, C42, C57, C82, C223

Response

DNR practices sustainable forest management on the forest lands it manages. DNR has a focused conservation objective of maintaining and developing long-term forest cover, which is defined as DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation.

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres. The second part is areas that will be managed specifically for marbled murrelet. Amounts of marbled murrelet-specific conservation vary by alternative. Refer to Section 2.2 in the FEIS for more information.

By providing long-term forest cover, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations, as well as providing additional benefits such as clean air and water and carbon capture.

■ Topic: Existing Conservation

Subtopic: Adequacy of the interim strategy

► COMMENT

The decrease of the marbled murrelet population in the State of Washington by over 44 percent over the last 15 years is demonstrating that the interim strategy is not effective.

RDEIS Commenter

C442

Response

DNR manages about 14 percent of the total habitat in the inland range of the murrelet in Washington State (refer to Section 3.6 in the FEIS).

The factors influencing marbled murrelet populations are described in Chapter 3.6 of the FEIS. While murrelets spend the majority of their time at sea, the portion of their life history that takes place in the forest (breeding) is critical for survival and population growth and is the aspect that DNR can influence with its proposal for a long-term conservation strategy on DNR-managed lands.

Population surveys are conducted in the marine environment. The location of nests used by birds found in at-sea surveys is not known. It is not possible with the data available to conclude that a declining murrelet population is due to the effectiveness of the interim strategy, as no trends in the number of murrelets using DNR-managed lands exists.

Subtopic: Benefits of existing conservation**► COMMENT**

Protections provided by the 1997 HCP that are unaltered by the long-term conservation strategy already result in the development of old forest conditions that provide substantial benefits to the marbled murrelet. Also, marbled murrelet habitat is already protected by existing DNR policy.

The Services provided DNR with assurances that the 567,000 acres set aside by the 1997 HCP would be adequate for the murrelet and all other species covered by the 1997 HCP. They agreed to clarify marbled murrelet protections, but agree the set-asides would be enough. Nothing in the RDEIS shows more set aside land is warranted.

RDEIS Commenter

C369, C433, C547

Response

The proposal under consideration is to replace the interim strategy in the 1997 HCP with a long-term conservation strategy. Section 1.1 of the FEIS describes the respective need and purpose of DNR and USFWS for the proposal. In developing the long-term conservation strategy, DNR must balance its Objective #2, which is to provide forest conditions in strategic locations on forested state trust lands to minimize and mitigate incidental take of marbled murrelets resulting from DNR's forest management activities, with its Objective #1, which is to generate revenue and other benefits for each trust by meeting DNR's trust management responsibilities. Refer to

Section 1.1 for DNR's other three objectives (active management, operational flexibility, and implementation certainty).

The Joint Agencies' approach to the long-term conservation strategy is to maintain long-term forest cover, which is defined as DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation (refer to tables 2.5 through 2.8 in the FEIS for more information).

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres. The second part is areas that will be managed specifically for marbled murrelets. Amounts of marbled murrelet-specific conservation vary by alternative. Refer to Section 2.2 in the FEIS for more information.

In developing the alternatives, an emphasis was to define large, contiguous blocks of interior forest, and more marginal habitat was included only if it served the purpose of reducing edge effects or improving security of higher quality habitat. There was no defined habitat acres target.

The interim strategy required DNR to complete surveys and habitat relationship studies, which resulted in the identification of occupied sites on DNR-managed lands within the analysis area. Occupied sites that do not overlap long-term forest cover would be in addition to the 567,000 acres of existing conservation. The 1997 HCP and USFWS's biological opinion make it clear that only the interim strategy was analyzed and authorized at the time the 1997 HCP was approved, and that DNR is expected to replace the interim strategy with a long-term conservation strategy.

■ Topic: Conservation Measures

Subtopic: Loopholes

► COMMENT

The conservation measures contain loopholes or weaknesses that could harass or cause harm to nesting murrelets.

RDEIS Commenter

C413

Response

The alternatives contain various conservation measures that apply to occupied sites, occupied site buffers, and other conservation areas, as described in tables 2.2.4 through 2.2.7 of the FEIS. While these conservation measures provide for additional minimization of impacts to marbled murrelets, they do not avoid all impacts to murrelets associated with ongoing forest management activities on DNR-managed lands.

Subtopic: Activities in special habitat areas**► COMMENT**

When the DEIS was developed, activities such as thinning within special habitat areas and occupied site buffers was not allowed. Allowing these activities under Alternative H and the proposed amendment would undermine the purpose of protecting habitat from degradation.

RDEIS Commenter

C305

Response

Thinning in special habitat areas was added under Alternative H and the proposed amendment to allow for operational flexibility and to aid in reaching northern spotted owl habitat objectives. Thinning in special habitat areas outside occupied sites is allowed only in non-murrelet habitat and future murrelet habitat in the OESF and in nesting, roosting, and foraging or dispersal management areas. Thinning must follow the specific rules in Table A-4 in Appendix A of the HCP amendment.

► COMMENT

The frequency and duration of proposed operations within special habitat areas should be estimated by DNR so that USFWS can adequately assess the action and resulting impacts and condition accordingly.

RDEIS Commenter

C305

Response

Proposed operations within special habitat areas is detailed in Table A-4 in Appendix A of the HCP amendment. Table A-4 provides specific information about the type of activity, where it can occur, when, and any other pertinent restrictions.

Subtopic: Activities in occupied sites

► COMMENT

Removal of trees for forest health treatments inside occupied marbled murrelet habitat should not be allowed or should be severely restricted. If it were to occur, there should be consultation with USFWS and a specific management plan for avoiding disturbance during nesting season. Forest health treatments should not remove platform trees within occupied sites, because specific nest locations are unknown without a tree climbing survey, and undocumented impacts could occur.

RDEIS Commenter

C305

Response

The Joint Agencies have updated conservation measures in tables 2.2.5 through 2.2.8 of the FEIS and Table A-4 in Appendix A of the proposed amendment. Within occupied sites, forest health treatments must follow a site-specific management prescription and take place outside of the nesting season when feasible or follow limited operating periods. Prescribed burning must take place outside of the nesting season.

Subtopic: Activities in occupied site buffers

► COMMENT

Thinning in occupied site buffers can increase deleterious effects on adjacent habitat such as predation on marbled murrelet chicks and eggs by corvids.

RDEIS Commenter

C305

Response

Thinning in occupied site buffers is allowed only in non-murrelet habitat in the OESF and in nesting, roosting, and foraging or dispersal management areas, and must follow the specific rules in Table A-4 in Appendix A of the HCP amendment.

► COMMENT

The commenter recommends that no thinning take place in any occupied site 100-meter buffer.

RDEIS Commenter

C305

Response

Thinning in occupied site buffers is allowed only in non-murrelet habitat in the OESF and in nesting, roosting, and foraging or dispersal management areas, and must follow the specific rules in Table A-4 in Appendix A of the HCP amendment. Thinning in these areas provides DNR operational flexibility and aids DNR in reaching northern spotted owl habitat objectives.

■ Topic: Other Impacts

Subtopic: Climate change and carbon sequestration

► COMMENT

This is extremely urgent. Climate change is dangerous and we are running out of time to reverse our damages. The wildfires will become absolutely worse if the tree cutting goes through.

RDEIS Commenter

C96

Response

DNR analyzed carbon sequestered and emitted in the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* and DNR and USFWS incorporated the findings of that document in the *Long-term Conservation Strategy for the Marbled Murrelet RDEIS and FEIS*. The analysis found that the amount of carbon sequestered was greater than the amount of carbon emitted for all sustainable harvest alternatives; therefore, forest stands on DNR-managed lands are expected to continue to sequester carbon from the atmosphere. For that reason, it is unlikely that the long-term conservation strategy will significantly increase the severity of wildfires.

► COMMENT

Climate change is an impending catastrophe that you can help stop. The latest Intergovernmental Panel on Climate Change (IPCC) report says that climate change is happening faster than in previous reports. We need all the trees we have and more to mitigate climate change and maintain air quality.

RDEIS Commenter

C107, C110

Response

The Joint Agencies' approach to the long-term conservation strategy is to maintain long-term forest cover, which is defined as DNR-managed forestlands with commitments to maintaining

permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation.

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres. The second part is areas that will be managed specifically for marbled murrelets. Amounts of marbled murrelet-specific conservation vary by alternative. Refer to Section 2.2 in the FEIS for more information.

As a trust lands manager, DNR must balance ecological objectives with its fiduciary responsibility to provide sustainable revenue to its trust beneficiaries, meaning that some older forests will be harvested. The amount varies by alternative; refer to Section 4.6 of the FEIS for more information.

DNR analyzed carbon sequestered and emitted in the *Alternatives for Establishment of a Sustainable Harvest Level Draft Environmental Impact Statement* and DNR and USFWS incorporated the findings of that document in the *Long-term Conservation Strategy for the Marbled Murrelet RDEIS* and *FEIS*. The analysis found that the amount of carbon sequestered was greater than the amount of carbon emitted for all alternatives; therefore, forest stands on DNR-managed lands are expected to continue to sequester carbon from the atmosphere. Maintaining working forests on state trust lands also will prevent these forests from being converted to non-forestry uses, which will enable them to continue absorbing and sequestering carbon into the future.

► COMMENT

Commenter states that old-growth forests are essential to a diverse habitat and sinking carbon from the atmosphere.

RDEIS Commenter

C16

Response

DNR defines old growth as forests that are at least 5 acres in size, in the structurally complex stage of stand development, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. All forests that meet these requirements are currently deferred from harvest under the *Policy for Sustainable Forests* and will remain deferred regardless of the outcome of this planning process. These forests will continue to absorb and store carbon and provide habitat to native species of wildlife.

► COMMENT

Manage state forests to optimize carbon sequestration and protect marbled murrelets. The proposed plan does not protect enough older forest, which is needed to sequester carbon to benefit the climate and provide habitat for birds. The murrelets are the canary, the forests are the coal mines.

RDEIS Commenters

C33, C102, C409

Response

DNR analyzed carbon sequestered and emitted in the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* and the Joint Agencies incorporated the findings of that document into the *Long-term Conservation Strategy for the Marbled Murrelet RDEIS* and *FEIS*. The analysis found that the amount of carbon sequestered was greater than the amount of carbon emitted for all alternatives; therefore, forest stands on DNR-managed lands are expected to continue to sequester carbon from the atmosphere.

The Joint Agencies' approach to the long-term conservation strategy is to maintain long-term forest cover, which is defined as DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation (refer to tables 2.5 through 2.8 in the *FEIS* for more information).

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres, and many of these acres include older forests. The second part is areas that will be managed specifically for marbled murrelets. Amounts of marbled murrelet-specific conservation vary by alternative; refer to Section 2.2 in the *FEIS* for more information. In maintaining long-term forest cover, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations. These forests also will continue to sequester carbon.

► COMMENT

The commenter is very concerned about the decline in marbled murrelet populations in Washington, and the loss of the forests the murrelet needs. One reason for concern is the capacity of those forests to store large amounts of carbon. These older forests have unmatched capacities for storing carbon in both trees and soil; a newly replanted acre does not regain that capacity for decades. Also, in a replanted forest, the soil and dead roots are rapidly losing carbon as the young trees are beginning to grow. Cutting forest with these capacities causes the loss of large amounts

of carbon from slash and soil, and leaves the forest with a fraction of its earlier capacity, regained only after decades. The murrelet is signaling us about the forests that, in this time of hurricanes and wildfires, we truly need. Marbled murrelets population losses are a serious signal, not just for the murrelet but also for people –children alive today and generations to come. Setting aside older forest for murrelets will benefit other species and humans and help address climate change.

RDEIS Commenters

C18, C19, C22, C24, C26, C27, C 28, C29, C31, C36, C39, C41, C43, C46, C47, C48, C49, C50, C51, C53, C56, C58, C59, C68, C 69, C71, C84, C85, C86, C89, C90, C94, C97, C98, C108, C155, C156, C157, C166, C194, C246, C274, C315, C376, C461, C491, C499, C537

Response

The Joint Agencies’ approach to the long-term conservation strategy is to maintain long-term forest cover, which is defined as DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation.

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres, and many of these acres include older forests. The second part is areas that will be managed specifically for marbled murrelets. Amounts of marbled murrelet-specific conservation vary by alternative; refer to Section 2.2 in the FEIS for more information. In maintaining long-term forest cover, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations. These forests also will continue to sequester carbon.

As a trust lands manager, DNR must balance these ecological objectives with its fiduciary responsibility to provide sustainable revenue to its trust beneficiaries, meaning that some older forests will be harvested. The amount varies by alternative; refer to Section 4.6 of the FEIS for more information. Although it is true that the soil, dead roots, and slash of these harvested forests will lose carbon over time, it is also true that the young stands will absorb carbon as they grow.

DNR analyzed carbon sequestered and emitted in the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* and DNR and USFWS incorporated the findings of that document in the *Long-term Conservation Strategy for the Marbled Murrelet RDEIS* and *FEIS*. The analysis found that the amount of carbon sequestered was greater than the amount of carbon emitted for all alternatives; therefore, forest stands on DNR-managed lands are expected to continue to sequester carbon from the atmosphere.

► COMMENT

DNR looked at climate impacts due to the alternatives but did not analyze the long-term impacts of climate change on murrelets and their habitat.

RDEIS Commenter

C283

Response

Chapter 5 of the FEIS has a section on likely climate change impacts to marbled murrelets and their habitat.

► COMMENT

The RDEIS fails to describe the socioeconomic importance of timber harvest-related emission of greenhouse gases. The comment references Ricke and others (2018) as a social cost of carbon data source.

RDEIS Commenter

C413

Response

The RDEIS references the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* carbon analysis. The analysis in the sustainable harvest level DEIS shows that under each of the analyzed alternatives, the amount of carbon sequestered increases compared to current conditions. Compared to each other, differences in the net amount of carbon sequestered across all alternatives were small. Refer to Section 4.2 in the FEIS for more information.

The socioeconomic importance of carbon sequestration depends on the valuation method. Currently, no revenue is generated for trust beneficiaries from carbon sequestration. It is uncertain whether lands included in a long-term conservation strategy could generate revenue from carbon sequestration in the future. The social cost of carbon valuations exist. However, there is no consensus value, and estimates range widely (more than 100-fold per ton; Ricke and others [2018]). Due to the wide-ranging valuation estimates and the long-term nature of the conservation strategy, inclusion of specific values in the RDEIS or FEIS would have been speculative.

► COMMENT

The climate analysis in the RDEIS is inadequate because it fails to account for substitution effects whereby the use wood products displace carbon emission from alternative products. As a result, the RDEIS exaggerates the carbon benefits of harvest reductions.

RDEIS Commenter

C441

Response

In their review of carbon and forest management in moist forests of the Pacific Northwest, Fain and others (2018) define substitution as “quantify[ing] the emissions impact of using or not using wood products as opposed to some alternative material (e.g., steel, concrete, plastics, etc.)” Fain and others (2018) identify several broad categories that influence the impacts of substitution: 1) examining the cumulative carbon benefit across time, which itself contains six variables that can influence the magnitude of substitution effects; 2) how much material can be counted toward substitution (for example, does substitution result in 50 or 100 percent replacement of other materials?); and 3) assumptions in future market demand and policy decisions. Taken together, the breadth of assumptions that can be used is wide and can result in substitution having either a positive or negative impact on carbon. This large uncertainty also reflects that substitution is rarely, if ever, actually tracked (for example, the amount of carbon benefit if buildings or developments are partially constructed with wood in lieu of concrete or steel). Harmon and others (2009) described substitution as a “theoretical” carbon pool in most cases. Because scientific uncertainty in substitution effects is high, confidence in any substitution analysis is therefore low. A more conservative approach is thus not to include substitution in a carbon analysis.

Subtopic: Environmental stressors**► COMMENT**

The RDEIS does not adequately consider or address the environmental stressors that impact marbled murrelet populations. This includes factors not related to forest management that contribute to the decline of the marbled murrelet, including marine foraging conditions and availability of food. Habitat on federal lands has been increasing since implementation of the 1997 HCP with no change in the decline of marbled murrelets. Any additional habitat conserved on DNR-managed lands would not be the factor that turns around this decline.

RDEIS Commenter

C369

Response

As long as the marbled murrelet remains a listed species, DNR must continue to minimize and mitigate take on DNR-managed lands, regardless of changes in marine foraging conditions and availability of food, other environmental stressors, or the success or failure of conservation efforts on federal lands. For that reason, and because DNR is not responsible for addressing stressors on non-DNR managed lands, the impacts evaluated in the RDEIS and FEIS relate primarily to the acres of state trust lands being conserved and the conservation measures that will be taken under each alternative.

DNR did conduct a population viability analysis to help understand how marbled murrelet populations might respond to the variations in murrelet habitat proposed under each alternative. Too little was known about non-forest influences on murrelet populations to include them in the framework of the population viability model used for this work. However, the "risk analysis" scenario modeled for the RDEIS was based on the assumption that both inland habitat loss and other chronic environmental stressors are responsible for the population decline observed in Washington. This scenario used relatively pessimistic demographic rates that result in a declining murrelet population with less ability to use inland habitat as it develops. Refer to Section 4.6 of the FEIS for more information.

Subtopic: Southwest Washington

► COMMENT:

Regardless of any efforts made by DNR, the portion of the marbled murrelet population in southwest Washington will likely continue to be at risk. The RDEIS fails to consider limitations in marbled murrelet foraging and feeding, including in the area off southwest Washington. Even with metering, the area of conservation in Wahkiakum County will still increase.

RDEIS Commenter

C369

Response

Under Section 10 of the federal Endangered Species Act, DNR's responsibility in areas where it is seeking incidental take coverage is to "minimize and mitigate to the maximum extent practicable" the impacts of "take" of marbled murrelets caused by DNR's activities. Because the murrelet is a listed species, DNR must meet these requirements regardless of changes in environmental stressors such as marine foraging conditions and availability of food, including in areas off southwest Washington. For that reason, and because DNR is not responsible for addressing stressors on non-state trust lands, the impacts evaluated in the RDEIS and FEIS relate primarily to the acres of state trust lands being conserved and the conservation measures that will be taken under each alternative.

DNR has focused more of its mitigation in Southwest Washington because of the lack of federal lands in this landscape to provide for marbled murrelet conservation (USFWS 1997). Much of the existing inland habitat and most known marbled murrelet occupied sites in southwest Washington are located on DNR-managed lands.

The socioeconomic analysis (Section 4.11) in the RDEIS and FEIS indicate that Pacific and Wahkiakum counties will be adversely impacted by Alternatives C through H. Per legislative direction in 2018, the Commissioner of Public Lands formed a "Solutions Table" tasked with providing recommendations to the legislature to offset potential revenue and job losses in these and other affected counties (Laws of 2018, Ch. 255).

Subtopic: Ecosystem services

► COMMENT

The RDEIS does not describe the differences among the alternatives in their impacts on ecosystem services derived from Washington's forests, including state trust lands. The RDEIS also does not provide a full analysis of the socioeconomic impacts because it focuses impacts due to timber harvest and does not consider the value of ecosystem services. The RDEIS does not follow the Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies (PR&G) because it does not follow an ecosystem-service approach.

RDEIS Commenter

C413, C442

Response

The primary revenue-generating activity on state trust lands in the analysis area is timber production. Revenue also is generated for the trusts through leasing. State trust lands benefit local economies by providing areas for recreation that can provide tourism income to local businesses.

The RDEIS describes recreation and leasing impacts in sections 4.7 and 4.9. Sections 4.1, 4.2, 4.3, 4.4, 4.5, and 4.6 describe impacts to elements of the environment including earth, climate, vegetation, aquatic resources, and wildlife, which may generate ecosystem services. No significant impacts are identified in these sections. Since significant impacts are not identified in these sections, any socioeconomic value attributed to these elements of the environment are not expected to change.

The socioeconomic analysis (Section 4.11 of the RDEIS and FEIS) addresses ecosystem services to the extent that reasonably available data exists.

Subtopic: Costs of implementing the 1997 HCP and Incidental Take Permit

► COMMENT

DNR should compare the total cost of implementing the 1997 HCP to the total cost of obtaining incidental take permits, then re-negotiate the terms of the 1997 HCP until the cost of implementing the 1997 HCP is less than or equal to the cost of obtaining incidental take permits. If, through re-negotiation of 1997 HCP terms, HCP costs remain greater than incidental take permit costs, then refrain from entering into a new HCP and instead obtain incidental take permits. (Total cost is the sum of administrative costs and loss of potential product sales and revenue.)

RDEIS Commenter

C10

Response

Pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act of 1973, as amended (16 USC 1531 et seq., 1539), DNR can only obtain an incidental take permit with the completion of a HCP that meets the Section 10 issuance criteria (Refer to Chapter 1 of the FEIS).

■ Topic: Missing or Expanded Analysis

Subtopic: Population viability analysis

► COMMENT

The analytical model used to project population scenarios did not include marine environment parameters and so biases the importance of habitat over the importance of marine conditions. Extra efforts to help the species may do little or nothing if the ecosystem is not adequately understood, but the negative economic consequences of doing so are clear.

RDEIS Commenter

C456

Response

The population viability analysis (Appendix C of the FEIS) notes that “a host of other factors unrelated to forest management likely impact murrelet populations include marine foraging conditions, disease, oil spills, and by-catch from gill net fishing (Peery and others 2004, Raphael 2006). Nevertheless, the relative importance of each of these factors in driving recent population decline is not well understood.” Additionally, the population viability analysis also recognizes, “as is the case with all PVA (population viability analysis) exercises, projections of risk should not be considered as absolute estimates, and only be interpreted as a way to compare the relative consequences of different scenarios (Beissinger and Westphal 1998).”

► COMMENT

The “risk” scenario in the population model most closely approximates real-world conditions for murrelets.

Commenter

C413, C456

Response

The “risk analysis” scenario is based on the assumption that both inland habitat loss and other chronic environmental stressors such as marine conditions are responsible for the murrelet population decline observed in Washington. This analysis, as a part of the population viability analysis, is not intended to provide an absolute estimate of population response for a particular alternative. Instead, it is intended as a tool to help understand how marbled murrelet populations might respond to the variations in murrelet habitat proposed under each alternative. Because there is uncertainty about the effects of stressors in the marine environment and future changes in climate, too little is known about these non-forest influences to incorporate them into the model structure. Also, model predictions assume that habitat capacity will remain static on non-DNR-managed, including federal lands (refer to Section 4.6 and Appendix C of the FEIS).

► COMMENT

New science contained in the Peery 2016 work does not alter the understanding of the marbled murrelet in a way that requires an approach other than protecting occupied sites. The Peery (2016) model is based on assumptions that are biologically unrealistic. These assumptions include that all non-forest management stressors are ameliorated to isolate the impacts of the alternatives and that current population declines are due to a lack of nesting habitat, which is the question at issue. Even with these assumption, Peery (2016) concluded that climate change and the marine environment must be factored into results; however, they were not.

RDEIS Commenter

C441

Response

The population viability analysis explores how marbled murrelet populations may change over time under both "risk" and "enhancement" scenarios under the different alternatives. The assumptions made in the population viability analysis are explicitly stated in the methods, and are scientifically based. The purpose of this analysis is to provide a tool to help understand how marbled murrelet populations might respond to the variations in murrelet habitat proposed under each alternative. The authors note that while the population viability analysis model is sufficiently robust and well-parameterized to help assess how the proposed forest management alternatives may impact murrelet populations, there is uncertainty about how marine stressors could further diminish murrelet populations regardless of projected increases to the amount and quality of nesting habitat. Threats in the marine environment do affect marbled murrelets, but these threats are not directly affected by the land management choices under DNR discretion. The scope of the population viability analysis was to estimate the potential and relative effect of habitat management alternatives using parameters largely under the control of the land management agency (DNR) (refer to Section 4.6 and Appendix C of the FEIS).

Subtopic: Natural disturbance analysis

► COMMENT

DNR did not adequately consider potential impacts due to wildfire, ongoing tree species mortality, windthrow, or increases in dry summers on murrelet habitat due to climate change. DNR should more thoroughly evaluate these impacts. Habitat loss and degradation from such disturbances should be accurately calculated and mitigated.

RDEIS Commenters

C135, C283, C375, C409, C450, C453, C470, C471, C472, C473, C474, C475, C477, C478, C480, C481, C482, C483, C484, C485, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C536, C537, C539, C541, C542, C543, C545, C546

Response

This analysis is based on the potential impacts to the marbled murrelet and other elements of the environment from activities on DNR-managed lands related to forest management. The impacts, including the impacts and mitigation estimates, on the marbled murrelet are addressed in Chapter 4, Appendix C, and Appendix H of the FEIS.

Section 3.2 of the FEIS provides a general discussion of how natural disturbances may change in response to climate, and Chapter 5 provides a discussion that addresses how climate change is likely to increase natural disturbance threats to marbled murrelet habitat in Washington.

As described in Chapter 3.2 of the FEIS, under climate change some disturbance rates are expected to increase, such as fire; some are expected to be unchanged, such as windthrow; and some are expected to change in location and intensity, such as beetle outbreaks. Based on these studies, DNR estimated that the natural disturbance rate of murrelet habitat may double by the end of the 50-year analysis period. Based on DNR's calculations, mitigation for any alternative should exceed impacts by approximately 395 adjusted acres to account for this doubling effect. Every alternative except B meets this requirement. Refer to Appendix T of the FEIS for more information on mitigation for natural disturbance.

► COMMENT

Rather than consult with USFWS for each instance of potential disturbance, DNR should conduct an impacts analysis for various operational practices or recreation that may occur in occupied sites, occupied site buffers, or special habitat areas such as new road construction, waste area and pit expansion, tailholds, guylines, and yarding corridors.

RDEIS Commenter

C305

Response

Tables 2.2.5 through 2.2.8 in the FEIS and Table A-4 in Appendix A to the HCP amendment have been updated. Because DNR cannot predict where these activities would occur on the landscape over a fifty-year time period, the impact analysis described is not feasible.

Subtopic: Noise**► COMMENT**

A thorough noise analysis should be done to inform nest tree buffer protections for the marbled murrelet.

RDEIS Commenter

C397

Response

In Chapter 4, noise was included as a potential stressor, along with the potential response or impact, and included in the environmental analysis. Conservation measures were developed for all alternatives to mitigate for noise disturbance. Refer to Tables 2.2.5 through 2.2.8 in the FEIS and Appendix A, Table A-4 in the HCP amendment for more information.

Subtopic: WAC 222-10-042**► COMMENT**

Include a detailed explanation on the incorporation and deliberation of WAC 222-10-042 in the analysis.

RDEIS Commenter

C397

Response

WAC 222-10-042 is a rule of the Washington Forest Practice Board that applies when forest practices applications subject to SEPA may cause adverse impacts to marbled murrelets. This rule does not apply here. While SEPA and NEPA apply to the proposal, the forest practice rules are not applicable because no forest practices permit is needed to develop a long-term conservation strategy for marbled murrelets on forested state trust lands. In addition, future forest practices applications consistent with a plan HCP and incidental take permit will not need SEPA review because of impacts to a listed species covered by that HCP and incidental take permit. Under

WAC 222-16-050(1), Class IV-Special (defining what forest practices need SEPA review) and WAC 222-16-080 (defining state critical habitat for threatened and endangered species), forest practices consistent with an HCP and incidental take permit are specifically exempt.

Subtopic: Data and ground truthing

► COMMENT

The commenter says that the best data available is needed to protect marbled murrelets and their habitat, and ground truth measurements are needed to meet goals. For example, every proposed “set-aside” should be ground-truthed by a team of public and private foresters to document habitat values and identify management options and expectations. Results should be presented to the team for review and comment.

RDEIS Commenters

C190, C318, C322, C449

Response

Forest inventory data used in the development of the long-term conservation strategy is based on an inventory system that include ground-based plots. This data system constitutes the best available data on forest stands on DNR-managed lands. The analysis in the FEIS also considers habitat identified through field assessment by WDFW. Additional field assessment would delay the implementation of the conservation strategy and increase implementation costs.

DNR’s research and monitoring and adaptive management obligations are stated in the 1997 HCP (refer to Section 5 of the 1997 HCP) and are not changed by this amendment. However, the HCP amendment adds more detail to these requirements. The Joint Agencies have agreed to the following regarding monitoring: Implementation monitoring will document forest management activities and describe them in sufficient detail to document compliance with the requirements of the long-term conservation strategy on DNR-managed lands covered by the strategy.

Implementation monitoring also will periodically describe changes in landscape-level habitat conditions in areas managed to provide murrelet habitat. This requirement will include a summary of the quantity and quality of habitat (P-stage) in occupied sites, occupied site buffers, special habitat areas, and areas of long-term forest cover not included in the preceding categories, by HCP planning unit. Natural disturbance that occurs in these areas will be tracked through the reporting of salvage activities. In addition, during the first decade of implementation, DNR will report on the delay of the harvest of 5,000 adjusted acres of habitat. Refer to Section 6.4 of the HCP amendment for more information.

The long-term conservation strategy is based upon conservation of existing marbled murrelet habitat and permitting forest stands to naturally develop into murrelet habitat over time in long-term forest cover. Since effectiveness monitoring is the documentation of changes in habitat conditions over time, the methods are the same as those for implementation monitoring.

Validation monitoring will only occur within the OESF and will document marbled murrelet use of select areas managed to provide nesting habitat. Monitoring will rely upon surveys to detect changes in site occupancy.

Chapter 6 of the FEIS lists all of the literature cited and sources of data used in the environmental analysis.

Subtopic: Incomplete knowledge about marbled murrelets

► COMMENT

Commenters question the research on the marbled murrelet, including a statement that studies are incomplete and have not proven that the loss of inland habitat is responsible for marbled murrelet population decline, and that knowledge of the needs of the marbled murrelet is incomplete.

RDEIS Commenters

C268, C277

Response

The factors influencing marbled murrelet populations are described in Section 3.6 of the FEIS. While murrelets spend the majority of their time at sea, the portion of their life histories that takes place in the forest (breeding) is critical for survival and population growth and is the aspect that DNR can influence with its proposal for a long-term conservation strategy on DNR-managed lands.

The best available science was used throughout the development and analysis of the alternatives. The 2008 Science Team Report was referenced repeatedly in the DEIS, RDEIS, and FEIS and is the basis for several components of the long-term conservation strategy, including the P-stage habitat classification model and the addition of occupied sites to all action alternatives. However, the 2008 Science Team report was not the only source of best available science used to develop the alternatives and analyze their impacts. Many sources of current science also were used throughout the DEIS and RDEIS and carried through the FEIS. (Refer to Chapter 6 of the DEIS; also refer to literature cited in the appendices.)

Subtopic: Data for comparing alternatives

► COMMENT

The lack of information about location and volume of harvest makes comparative analysis of the alternatives difficult.

RDEIS Commenter

318

Response

The exact location of harvest activities is determined by field staff during implementation of the sustainable harvest level, not by the sustainable harvest model used to generate data presented in the financial analysis (Appendix P to the FEIS)

Subtopic: Occupied sites on other ownerships**► COMMENT**

DNR's RDEIS did not include an evaluation of occupied sites on non-DNR-managed lands nor landscape-wide management plans across land ownerships.

RDEIS Commenter

C413

Response

Occupied sites on non-DNR-managed lands as well as landscape-wide management plans on non-DNR-managed lands are outside the analysis area and are therefore outside the scope of this EIS. Section 5.3 of the FEIS includes a discussion of forest management on non-DNR-managed lands and Table 5.4.1 summarizes incremental impacts of the alternatives added to past effects and future trends within the range of the marbled murrelet.

Subtopic: Low-quality northern spotted owl habitat**► COMMENT**

DNR should treat low-quality northern spotted owl habitat the same for all alternatives in the FEIS, or explain how its current approach does not bias the analysis.

RDEIS Commenter

C413

Response

Alternative F includes existing, mapped low-quality northern spotted owl habitat as long-term forest cover (refer to Section 2.3 of the FEIS). Under this alternative, variable retention harvests would not be allowed to occur in low-quality northern spotted owl habitat. Under other alternatives, variable retention harvests may occur in low-quality northern spotted owl habitat as long as the activity is consistent with that alternative's rules and DNR's northern spotted owl conservation strategy, which includes northern spotted owl habitat thresholds for the OESF and other HCP planning units.

Subtopic: Paradigm for review

► COMMENT

Reviews for protection of species needs to be under a new paradigm, including a matrix of habitat pathways and indicators. One example is the Federal Services' methodology for analysis of environmental baselines and effects on proposed action in aquatic environments.

RDEIS Commenter

C397

Response

The matrix of pathways and indicators is an analysis tool developed to evaluate the condition of various factors that influence salmonid habitats. For marbled murrelets, the FEIS uses measures of habitat quality, quantity, location, and the amount of habitat in interior and edge-influenced areas as indicators of habitat conditions for marbled murrelets, now and in the future (refer to sections 3.6 and 4.6 of the FEIS).

■ Topic: Process

Subtopic: Amendment

► COMMENT

This amendment may not be required under the Implementation Agreement. Compounding this error, the amendment violates DNR's trust obligations because it mirrors the USFWS recovery plan and DNR cannot set aside more than legally required.

RDEIS Commenter

C441

Response

DNR's HCP amendment is for a long-term conservation strategy for the marbled murrelet to replace the current interim strategy. As stated in the 1997 HCP, the interim strategy was only intended to remain in place while DNR participated in the collection of information and the development of a long-term conservation strategy. The 1997 HCP and USFWS's biological opinion make it clear that only the interim strategy was analyzed and authorized at the time the 1997 HCP was approved. In Section 1.1 of the FEIS, the respective need and purpose of DNR and USFWS for the proposal clearly indicates that consistency with its fiduciary responsibility to the trust beneficiaries as defined by law is required for this proposal (refer to Objective #1).

USFWS and the DNR have determined that the take of high quality habitat contemplated in the HCP amendment was neither proposed by DNR in the 1997 HCP, nor was it permitted by USFWS in its incidental take permit. Each agency concluded that the take of high quality habitat contemplated in the HCP amendment would exceed currently permitted take; therefore, an HCP and incidental take permit amendment is required.

► COMMENT

The HCP amendment is premature to the extent that it assumes Alternative H, an alternative that has not been analyzed and viewed by the Board of Natural Resources, is the preferred alternative.

RDEIS Commenter

C413

Response

In August, 2017, the Board of Natural Resources directed DNR to develop and analyze a preferred alternative for the long-term conservation strategy. The Joint Agencies developed the Alternative H based on this direction. Alternative H was adopted as the preferred alternative by the board at the November, 2017 board meeting.

Pursuant to the Council on Environmental Quality's NEPA implementing regulations, USFWS must identify an agency-preferred alternative in a final environmental impact statement, unless it is prohibited by law from doing so (40 CFR 1502.14(e)). USFWS is not prohibited by law from including an agency preferred alternative in this EIS.

The HCP amendment represents a culmination of twenty-two years of work that began with collecting data about murrelet nesting on DNR-managed lands, developing habitat models, conducting surveys and identifying occupied sites. The effort continued with the convening of a multi-agency Science Team in 2008, which developed the P-stage habitat model, re-delineated occupied sites to ensure any errors due to survey protocol changes were addressed, and recommended a conservation strategy, which became Alternative F.

Over the past several years, USFWS and DNR partnered to develop an analytical framework to provide objective, repeatable, science-based estimates of potential impacts and mitigation to murrelet habitat on DNR-managed lands. Both agencies developed multiple alternatives for the long-term conservation strategy, each of which build upon occupied sites, the P-stage model, existing conservation within long-term forest cover, and different conservation areas specifically set aside for marbled murrelet conservation. These alternatives were analyzed for environmental consequences in a DEIS, RDEIS and now FEIS, developed under both SEPA and NEPA. Alternative H was developed based on direction from the Board of Natural Resources to minimize impacts to murrelets, offset impacts and address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. The public has been provided with opportunities to comment throughout the expanded scoping phase, as well as on the DEIS, RDEIS, and HCP amendment.

Following the public comment period for the RDEIS and proposed HCP amendment, DNR revised its proposed HCP amendment, which is based on Alternative H. The proposed HCP amendment has been submitted to USFWS and is included as Appendix Q of this FEIS. If USFWS makes a final determination to approve DNR's application and issue an amended incidental take permit, the board will decide whether to accept the permit terms and conditions. Board approval is required to amend an existing, board-approved HCP.

► COMMENT

Before approving a major amendment to DNR's 1997 HCP, such as the long-term conservation strategy, the USFWS must find that the HCP amendment complies with the "issuance criteria" contained in Section 10 of the Endangered Species Act. Yet the HCP amendment was drafted and submitted for public comment *before* the USFWS has formally applied the Section 10 issuance criteria to DNR's long-term conservation strategy and documented them. For example, the HCP amendment makes conclusory findings that only Alternative H meets DNR's objectives and that the other alternatives do not, that Alternative H best balances impacts to mitigation, and that Alternative H does not rely on unproven or unfinanced approaches. There is no basis for these summary conclusions unless and until the agencies issue an FEIS and USFWS issues its Section 10 findings.

RDEIS Commenter

C413

Response

The HCP amendment that was submitted at the time of the RDEIS was a draft based on the best available science, data and analysis. It has been revised based on comments received and updated analysis in the FEIS.

Pursuant to Section 10(a)(1)(B) of the Endangered Species Act, DNR can only obtain an incidental take permit with the completion of an HCP that meets the Section 10 issuance criteria of the Endangered Species Act (refer to Chapter 1 of the FEIS). The issuance criteria includes a determination from USFWS that the take will not appreciably reduce the likelihood of survival and recovery of the species in the wild. USFWS will prepare a biological opinion to analyze (in part) the effects of the proposed action.

► COMMENT

The amendment mischaracterizes a key biological point: the biological significance of DNR's forests.

RDEIS Commenter

C413

Response

The land within the 55-mile range of the marbled murrelet totals over 16 million acres. DNR manages approximately 9 percent of this land (Refer to Section 1.3 in the FEIS). Habitat models developed for the *Northwest Forest Plan* indicate approximately 1.3 million acres of potential inland habitat in Washington. Most of this habitat occurs on federal lands managed under the *Northwest Forest Plan* while approximately 14 percent of the total murrelet habitat occurs on DNR-managed land (Refer to Section 3.6 of the FEIS).

All alternatives recognize the value of long-term forest cover on DNR-managed lands. The population viability analysis examines the impact of configurations of long-term forest cover on DNR-managed lands, as represented by each alternative, on the murrelet population at both the scale of DNR-managed lands and statewide. However, the population viability analysis model was not designed to provide an absolute estimate of population response for a particular alternative. Instead, the model was designed to show relative differences between the alternatives to help understand how marbled murrelet populations might respond to those variations in inland habitat proposed under each. Refer to Section 4.6, “Effect on Marbled Murrelet Populations,” and Appendix C for more information. As noted in the RDEIS, population viability analysis modelling results for the Washington population of marbled murrelets showed no substantial difference in population size or quasi-extinction probabilities. This result is due to two factors: (1) only 14 percent of the marbled murrelet population in Washington is attributed to DNR-managed lands (refer to Section 3.6 in the FEIS), and (2) habitat conditions on non-DNR-managed lands in Washington does not change over time in the model, so the Washington population continues to decline throughout the 50-year modeling period (Appendix C, p. 33). The population viability analysis results, which focus solely on habitat changes on DNR-managed lands, indicate significant differences in ending population sizes amongst the alternatives considered (refer to Table 4.6.9 in the FEIS).

► COMMENT

The Amendment's key rationale (that Alternative H is enough because DNR's forest "only" contain 14 percent of the remaining murrelet habitat) ignores the Endangered Species Act Section 7 principle that agencies such as the USFWS cannot authorize actions that potentially reduce the likelihood of the species surviving or recovering.

RDEIS Commenter

C413

Response

Pursuant to Section 7 of the Endangered Species Act, a federal agency cannot take an action, including permit issuance, which is likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of

habitat of such species. Endangered Species Act implementing regulations interpret “jeopardize the continued existence” to mean “engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” (50 CFR 402.2).

If USFWS chooses to proceed with consideration of incidental take permit issuance for Alternative H or any other alternative, USFWS will complete a biological opinion that examines the effects of the proposed action on the species, including whether the proposed action jeopardizes the continued existence of the species. USFWS will use the best available scientific and commercial data available in the preparation of a biological opinion, including information from species experts, State and tribal experts, peer-reviewed journals, and state heritage programs.

Subtopic: Commenting on two DEIS documents

► COMMENT

DNR released the marbled murrelet long-term conservation strategy DEIS and sustainable harvest level DEIS at the same time and placed the emphasis on the long-term conservation strategy DEIS, which led to some commenters failing to submit comments on the sustainable harvest level DEIS. Alternatives F, G, and H were unfairly developed without considering comments on the sustainable harvest level DEIS and therefore are not valid alternatives. Commenter sent comments on the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* (DNR 2016).

RDEIS Commenter

C129

Response

The Joint Agencies held a 90-day comment period for both the *Long-term Conservation Strategy for the Marbled Murrelet DEIS* and the *Alternatives for Establishment of a Sustainable Harvest Level DEIS*. Alternative F was included in the long-term conservation strategy DEIS. While the final long-term conservation strategy will directly impact the sustainable harvest level, the sustainable harvest level does not inform the final long-term conservation strategy. Comments submitted on the sustainable harvest level *DEIS* will be responded to in the sustainable harvest level FEIS.

Subtopic: Comments on DEIS

► COMMENT

DNR has not responded to comments on the marbled murrelet DEIS.

RDEIS Commenter

C213

Response

Responses to the comments on the marbled murrelet DEIS are provided in part one of this document. Section 1.4 of the RDEIS identifies changes made between the DEIS and the RDEIS, including those that were made based on comments received on the DEIS.

■ Topic: Mature and Old Growth Forests

Subtopic: *Protect old-growth forest*

► COMMENT

Many commenters highlighted the importance of protecting old or old-growth forest. The proposed strategy is an outrage because it will harvest old-growth forest and there is so little of it left. We need to protect every old growth tree we have left not just for the marbled murrelet but for all of us. It is important to conserve old growth trees within 50 miles of marbled murrelet populations.

RDEIS Commenters

C42, C78, C79, C104, C175, C184, C191, C201, C237, C247, C324, C352, C353, C358, C372, C374, C392, C419, C420, C472, C482, C492, C498, C506, C520, C535

Response

DNR defines old growth as forests that are in the structurally complex stage of stand development, at least five acres in size, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. All forests that meet these requirements are currently deferred from harvest under the *Policy for Sustainable Forests* and will remain deferred regardless of the outcome of this planning process.

► COMMENT

Leave 20 percent of old trees for marbled murrelets. Thin out the forest while sustaining habitat. Do not allow clear-cutting of 38,000 acres of prime forest.

RDEIS Commenter

C353

Response

As a trust lands manager, DNR must balance ecological objectives with its fiduciary responsibilities to the trust beneficiaries. Alternative H is based on direction from the Board of Natural Resources to DNR to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best meets DNR's need and purpose of the project by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS' need and purpose for taking action on a permit decision.

Under this alternative, DNR will maintain "long-term forest cover," which is DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation (refer to tables 2.5 through 2.8 in the FEIS for more information).

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres. The second part is areas that will be managed specifically for marbled murrelets. Alternative H focuses marbled-murrelet-specific conservation into 20 special habitat areas that are distributed across strategically important locations for marbled murrelets. Special habitat areas are designed to increase marbled murrelet productivity by reducing edge and fragmentation.

Under Alternative H, DNR would harvest approximately 38,000 acres of murrelet habitat over the analysis period outside long-term forest cover. However, harvest of a portion of this habitat will be metered in the first decade to give forests within long-term forest cover time to develop into higher-quality habitat. Metering will enable DNR to maintain habitat capacity across the analysis area during the first decade. In subsequent decades, habitat capacity will increase over existing conditions.

Under Alternative H, some thinning would be allowed within special habitat areas to meet specific management objectives. Refer to Section 2.2 of the FEIS for more information. Thinning in other areas will be subject to DNR management objectives and policies and state and federal laws.

► COMMENT

Improve coastal old growth for nesting sites. Also work on increasing fish prey.

RDEIS Commenter

C79

Response

DNR defines old growth as forests that are at least five acres in size, in the structurally complex stage of stand development, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. All forests that meet these requirements, including those within 50 miles of marbled murrelet populations, are currently deferred from harvest under the *Policy for Sustainable Forests* and will remain deferred regardless of the outcome of this planning process. As old-growth forests already function as habitat, DNR will not conduct thinning or other management activities within them. Increasing fish prey is outside the scope of this EIS. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for this proposal.

► COMMENT

Conversion of old-growth forest to young plantation can result in reduced stream flow.

RDEIS Commenter

C413

Response

DNR defines old growth as forests that are at least five acres in size, in the structurally complex stage of stand development, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. All forests that meet these requirements are conserved under the no action alternative and all action alternatives consistent with the *Policy for Sustainable Forests*.

Subtopic: Saving or maintaining trees**► COMMENT**

Several commenters expressed concern about saving or maintaining trees.

RDEIS Commenters

C14, C17, C52, C54, C55, C70, C86, C88, C94, C95, C96, C107, C108, C109, C484, C490, C492, C498, C506, C520, C535

Response

The Joint Agencies recognize the value of trees to provide a variety of services, including providing habitat for wildlife and sequestering carbon. All alternatives considered for the long-

term conservation strategy conserve forested areas in long-term forest cover, with amounts varying depending on the alternative (refer to Table 2.2.4 in the FEIS). Within long-term forest cover, the amount of habitat for marbled murrelets will increase over time under all alternatives (refer to Table 4.6.3 in the FEIS).

DNR analyzed carbon sequestered and emitted in the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* and DNR and USFWS incorporated the findings of that document in the *Long-term Conservation Strategy for the Marbled Murrelet RDEIS and FEIS*. The analysis found that the amount of carbon sequestered was greater than the amount of carbon emitted for all alternatives; therefore, forest stands on DNR-managed lands are expected to continue to sequester carbon from the atmosphere.

Subtopic: Old growth is already protected

► COMMENT

The marbled murrelet is an old-growth species and its habitat is already protected by existing DNR policy.

Commenter

C441

Response

DNR defines old growth as forests that are at least five acres in size, in the structurally complex stage of stand development, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. All forests that meet these requirements are currently deferred from harvest under the *Policy for Sustainable Forests* and will remain deferred regardless of the outcome of this planning process.

Marbled murrelet habitat is any forest stand that has a P-stage value greater than .25 (refer to Appendix E of the FEIS for more information), which includes forests that are younger than old growth. The amount of this habitat that will be designated for murrelet conservation under the long-term conservation strategy varies by alternative. Refer to Table 2.2.4 of the FEIS for more information.

■ Topic: Other

Subtopic: Act quickly and boldly

► COMMENT

So much of the environment is under assault. We are seeing incredibly bad events associated with climate change. A particular concern is wildfires. Marbled murrelets are an indicator species and

should not be allowed to perish. Each threatened species is another warning of the danger to humanity itself. This about more than birds. Because all organisms within an ecosystem are linked, our lives are threatened too. Saving our forests is key to our survival. The trees and wildlife are a big part of our ecosystem. We cannot improve it so it needs to be preserved! Please act now to protect the forests, the wildlife, the marbled murrelet, our beautiful state, and all of us.

RDEIS Commenters

C14, C26, C51, C54, C69, C157, C323, C495, C527, C365, C396, C426, C445, C542

Response

As a trust lands manager, DNR must balance ecological objectives with its fiduciary responsibilities to the trust beneficiaries. Alternative H is based on direction from the Board of Natural Resources to DNR to minimize impacts to murrelets, offset impacts, address uncertainty, and reduce disproportionate financial impacts to trust beneficiaries. This alternative best meets DNR's need and purpose of the project by integrating DNR's obligations to provide marbled murrelet conservation under the Endangered Species Act with DNR's fiduciary obligations to provide revenue to its trust beneficiaries, and best meets USFWS' need and purpose for taking action on a permit decision.

Under this alternative, DNR will maintain "long-term forest cover," which is DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation (refer to tables 2.5 through 2.8 in the FEIS for more information).

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres and include areas of older forests. The second part is areas that will be managed specifically for marbled murrelets. Alternative H focuses marbled-murrelet-specific conservation into 20 special habitat areas that are distributed across strategically important locations for marbled murrelets. Special habitat areas are designed to increase marbled murrelet productivity by reducing edge and fragmentation.

Only approximately 14 percent of murrelet habitat in Washington occurs on DNR-managed lands (refer to Section 3.6 in the FEIS). Given this small percentage, DNR lands can contribute to species recovery but not control it.

While DNR develops the long-term conservation strategy, it will continue to manage state trust lands under its current policies. These policies are designed conserve and enhance natural systems and resources to produce long-term, sustainable trust income and environmental and other benefits for the people of Washington.

Subtopic: Ancillary benefits

► COMMENT

Setting aside virgin forests for murrelets will protect plants and wildlife that have not yet been categorized and that possibly exist nowhere else. We need to preserve all of it. There is too little left to sacrifice to more exploitation. We should set aside as much old growth forests as possible, for the marbled murrelets, other species, and ourselves. Once gone, these forests cannot be replace, and we have done too much damage to the environment already. The diversity of this planet is not ours for the taking. Immediate action is needed to save these old-growth forests.

RDEIS Commenters

C159, C504, C510, C520, C521

Response

DNR defines old growth as forests that are larger than 5 acres, in the structurally complex stage of stand development, and originated prior to 1850, which is generally considered the start of European settlement in the Pacific Northwest. All forests that meet these requirements are currently deferred from harvest under the *Policy for Sustainable Forests* and will remain deferred regardless of the outcome of this planning process.

► COMMENT

Coastal forests improve visitor appreciation of the landscape and provide benefits for air and water purity, which in turn will allow more trees to grow.

RDEIS Commenter

C204

Response

Thank you for your comment.

► COMMENT

Sustainable management of the forest environment will protect all species from unanticipated impacts in the future.

RDEIS Commenters

C396, C537

Response

Although it is not possible to protect all species from unanticipated future impacts, DNR manages state trust lands sustainably through its current policies and procedures to ensure long-term health and productivity of the forest and perpetuation of biodiversity.

► COMMENT

Logging not only provides jobs but will lower fire danger and protect communities. Setting areas aside from logging could mean devastating fires similar to those in California.

RDEIS Commenters

C291, C293, C301

Response

Forests on the west side of the Cascade Crest receive a significant amount of annual precipitation. These forests tend to have dense, closed-canopy, biomass (fuel)-rich stand structure and naturally experience infrequent, stand-replacing wildfires (Halofsky and others 2018). Fires of this nature are largely indifferent to manipulations of stand structure (Halofsky and others 2018). While logging may reduce wildfire risk initially, the risk will return quickly as the forest regenerates.

► COMMENT

The state needs more forests to absorb CO₂, compensate for losses due to wildfire, and protect our natural heritage.

RDEIS Commenters

C105, C188, C193, C436

Response

DNR analyzed carbon sequestered and emitted in the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* and DNR and USFWS incorporated the findings of that document into the RDEIS and FEIS for the long-term conservation strategy. The analysis found that the amount of carbon sequestered was greater than the amount of carbon emitted for all alternatives; therefore, forest stands on DNR-managed lands are expected to continue to sequester carbon from the atmosphere.

Subtopic: Approval to sell state resources

► COMMENT

This is the public domain, “the public” trust and you don’t have the approval to sell these resources.

RDEIS Commenter

C51

Response

While DNR-managed lands are public lands, the use of these lands is restricted. State trust lands must be managed consistent with DNR’s fiduciary responsibility as defined by law. State trust lands are lands held in trust for specific beneficiaries such as counties and universities. As a trust lands manager, DNR must manage these lands to produce perpetual income for the trust beneficiaries and follow the common law duties of a trustee. Two of these duties were defined in the 1984 landmark decision *County of Skamania v. State of Washington*: 1) a trustee must act with undivided loyalty to the trust beneficiaries to the exclusion of all other interests, and 2) a state’s duty as trustee is to manage trust assets prudently (DNR 2006, p. 15). Trust responsibilities also include making state trust lands productive, preserving the corpus of the trust, exercising reasonable care and skill in managing the trust, and acting impartially with respect to current and future trust beneficiaries. Refer to Sections 1.1 and 1.2 of the FEIS. In western Washington, DNR meets these requirements primarily through the sustainable harvest of timber.

Subtopic: Failure to adopt a strategy

► COMMENT

DNR promised beneficiaries stability and predictability when it adopted the 1997 HCP. Failure to complete the long-term conservation strategy has instead resulted in reduced harvests, controversy, and instability for trust beneficiaries and DNR’s long-term financial health.

RDEIS Commenter

C364

Response

Publication of the FEIS is a significant step forward in developing the long-term conservation strategy.

Subtopic: Fish impacts

► COMMENT

In the RDEIS, DNR did not account for a significant drop in marine fish abundance that could result from human activities and climate change.

RDEIS Commenter

C422

Response

Too little was known about the effects of stressors in the marine environment and future changes in climate to incorporate them into the population viability model (Appendix C), which was used to analyze how marbled murrelet populations may respond to changes in inland habitat under each alternative. However, the "risk analysis" scenario modeled for the RDEIS was based on the assumption that both inland habitat loss and other chronic environmental stressors are responsible for the population decline observed in Washington. This scenario used relatively pessimistic demographic rates that result in a declining murrelet population with less ability to use inland habitat as it develops.

The population viability analysis model was not designed to provide an absolute estimate of population response for a particular alternative. Instead, the model was developed to help understand how marbled murrelet populations might respond to the variations in murrelet habitat proposed under each alternative.

Peery and Jones modeled several population scenarios at the scale of Washington State, and DNR-managed lands only (refer to Appendix C to the FEIS). The model assumed that habitat was the main influence on current population declines. Since only approximately 14 percent of murrelet habitat in Washington occurs on DNR-managed lands (refer to Section 3.6 in the FEIS), the model focused on the relative differences between the alternatives by artificially holding habitat conditions on non-DNR-managed lands constant. Refer to Section 4.6, "Effect on Marbled Murrelet Populations," in the FEIS for more information.

► COMMENT

Alternative H is based on incorrect ecosystem assumptions including future reductions in fish populations.

RDEIS Commenter

C442

Response

The long-term conservation strategy is designed to minimize and mitigate impact to marbled murrelets due to management on DNR-managed lands. Impacts to murrelets due to changes in fish populations in the marine environment are outside the scope of this EIS. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for this proposal.

► COMMENT

The strategy should ensure abundant fish in the Puget Sound and protect shorelines where murrelets feed from noise, boat and drone interference, and other disturbances.

RDEIS Commenter

C323

Response

Assuring abundant fish in the Puget Sound is outside the scope of this EIS. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for this proposal.

► COMMENT

Sustainable fishing strategies and avoidance of marine pollution would benefit the murrelet and people.

RDEIS Commenter

C235

Response

The Joint Agencies recognize the importance of the marine environment for marbled murrelets; however, detailed analysis of marine conditions is outside of the scope of this EIS. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: Stream impacts from timber harvest**► COMMENT**

Expanding timber harvest on DNR-managed lands could result in increased stream temperatures and an increase in stream sedimentation. The socioeconomic effects of these impacts are not accounted for.

RDEIS Commenter

C413

Response

Chapter 4.4 describes impacts to aquatic resources. Management on DNR-managed lands is consistent with the 1997 HCP, which includes a riparian conservation strategy to protect listed salmonids. Analysis in the RDEIS found that “all action alternatives would maintain or enhance aquatic functions, with the possible exception of riparian microclimate, which could see increased impacts under Alternative B (which has less long-term forest cover than the no action alternative).” Alternatives C through H have more long-term forest cover than the no action alternative. While no alternative proposes a harvest level, an analysis presented in Appendix P shows that alternatives C through H result in less timber harvest than the no action alternative over a 100-year period. Refer to Figure 2.4.1 in the FEIS for the estimated change in long-term forest cover in strategic locations and high-value landscapes under the alternatives. Refer to Table 4.6.2 for the estimated acres of habitat released for harvest in the analysis area by the end of the planning period.

As no significant impact to aquatic functions are expected under the action alternatives, significant socioeconomic impacts are not expected.

Subtopic: Impacts of past management**► COMMENT**

Lack of foresight and willful negligence resulted in the marbled murrelet being listed as endangered.

RDEIS Commenter

C166

Response

Marbled murrelets were federally listed as threatened in 1992 primarily due to loss of old forest habitat from timber harvesting and mortality associated with net fisheries and oil spills. Today, the species is also threatened by predation of adult murrelets, chicks, and eggs at nest sites, changes in marine foraging conditions that affect prey availability, post-fledgling mortality, and cumulative and interactive effects (USFWS 2012b).

Subtopic: Indicator species**► COMMENT**

Murrelets should be protected because they are indicators of ecosystem health. Please save this indicator species and preserve large trees that store carbon.

RDEIS Commenter

C41, C323, C365, C396, C426, C445, C542

Response

Marbled murrelets are protected under the federal Endangered Species Act as a threatened species. DNR committed to developing a long-term conservation strategy for them per its 1997 HCP.

The Joint Agencies' approach to the long-term conservation strategy is to maintain "long-term forest cover," which is DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation (refer to tables 2.5 through 2.8 in the FEIS for more information).

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres and include areas of older forests. The second part is areas that will be managed specifically for marbled murrelets. Amounts of murrelet-specific conservation vary by alternative; refer to Table 2.2.4 in the FEIS for more information.

► COMMENT

The murrelet is an indicator species and the intertwining of the aquatic and terrestrial environments need more analysis.

RDEIS Commenter

C397

Response

Chapter 4 of the RDEIS contains the environmental analysis of the eight alternatives. Refer to Section 4.4 of the FEIS for an analysis of aquatic resources.

Subtopic: Keep lands open**► COMMENT**

Protect the forests, but keep them open for management and other uses.

RDEIS Commenter

C240

Response

On state trust lands outside marbled murrelet conservation areas, forest management activities will be subject to the 1997 HCP, *Policy for Sustainable Forests*, sustainable harvest calculation, forest practices rules, state and federal laws, and DNR's management objectives for those areas. The type and amount of forest management allowed in these areas will vary. Recreation and other access will be allowed when such recreation is consistent with trust objectives.

Within marbled murrelet conservation areas, forest management and other land uses, including recreation, will be subject to a set of conservation measures designed to address potential impacts from these activities. Refer to Chapter 2 of the FEIS for a full explanation.

Subtopic: Meeting trust responsibilities**► COMMENT**

DNR has not met its trust responsibilities for some time.

RDEIS Commenter

C292

Response

Refer to DNR's annual reports (<https://www.dnr.wa.gov/about/fiscal-reports/dnr-annual-reports>) for a summary of revenue DNR provides its trust beneficiaries each fiscal year.

Subtopic: Metering**► COMMENT**

Metering is critical to Alternative H's performance; however, the specific locations of areas to be metered are not identified in the RDEIS, nor is a robust discussion of the assumptions made for the purposes of analysis about the acres identified for metering. This seems to lead to less certainty around the analytical conclusions for population viability and risk. The FEIS should include additional discussion about the analysis of the metering strategy, including the location and quality of habitat assumed to be included in the metering strategy for the purposes of the analysis.

RDEIS Commenter

C297

Response

Under Alternative H, current marbled murrelet habitat (habitat with a P-stage value of at least 0.25) that is located outside of long-term forest cover is available for harvest. In the first decade only, DNR will delay harvest of some of this habitat to give forests within long-term forest cover

time to develop into higher-quality habitat. This “metering” strategy will help DNR maintain habitat capacity across the analysis area during the first decade. In subsequent decades, habitat capacity will increase.

The amount of current habitat to be metered (5,000 adjusted acres) is based on the analytical framework and an analysis of input data for the population viability analysis (refer to Appendices B and C for more information about the analytical framework and population viability analysis, respectively). The purpose of the analytical framework is to allow for a comparison of impacts across DNR-managed lands. As described in Appendix B, “The analytical framework is a methodology agreed upon by DNR and the U.S. Fish and Wildlife Service (USFWS), also referred to as the “Joint Agencies,” to provide objective, repeatable, science-based estimates of potential impacts and mitigation to marbled murrelet habitat from DNR’s land management activities under the 1997 HCP. The analytical framework provides the means to assess how DNR’s mitigation measures cover potential impacts. This quantification will enable the Joint Agencies to evaluate whether a proposed conservation strategy meets the issuance criteria for the incidental take permit.” DNR did not specify the specific location of habitat outside of long-term forest cover that will be harvested or retained under the metering strategy because it is unnecessary to do so. The analytical framework adjusts habitat values for quality, location, and configuration, making it possible to find comparable acres.

► COMMENT

Should a metering strategy, such as that proposed under Alternative H, be selected the commenter encourages the Joint Agencies to include in the FEIS and Record of Decision a required assessment of habitat quantity and quality after the first decade of implementation to determine whether the planning area can sustain additional harvest while maintaining habitat sufficient to conserve murrelet populations.

RDEIS Commenter

C297

Response

DNR will track acres harvested and retained during the first decade to ensure that habitat capacity is maintained. DNR will also conduct implementation, effectiveness, and validation monitoring (refer to Section 6.4 of the 1997 HCP amendment).

DNR’s research and monitoring and adaptive management obligations are stated in the 1997 HCP (refer to Section 5 of the 1997 HCP) and are not changed by this amendment. However, the HCP amendment adds more detail to these requirements. Specifically, the Joint Agencies have agreed to the following regarding monitoring: Implementation monitoring will document forest management activities and describe them in sufficient detail to document compliance with the requirements of the long-term conservation strategy on DNR-managed lands covered by the strategy. Implementation monitoring also will periodically describe changes in landscape-level

habitat conditions in areas managed to provide murrelet habitat. This requirement will include a summary of the quantity and quality of habitat (P-stage) in occupied sites, occupied site buffers, special habitat areas, and areas of long-term forest cover not included in the preceding categories, by HCP planning unit. Natural disturbance that occurs in these areas will be tracked through the reporting of salvage activities. In addition, during the first decade of implementation, DNR will report on the delay of the harvest of 5,000 adjusted acres of habitat. Refer to Section 6.4 of the HCP amendment for more information.

► COMMENT

Several comments expressed a need for a more robust monitoring and adaptive management plan to be included in the long-term conservation strategy that is tied to explicit and measurable biological goals and objectives. They also stated that there should be provisions for review of the plan and research to test the assumptions and effectiveness of management actions, as well as explicit commitments of resources for monitoring and evaluating unexpected changes to landscapes.

RDEIS Commenter

C151, C200, C282, C305, C382, C463, C467

Response

DNR's research and monitoring and adaptive management obligations are stated in the 1997 HCP (refer to Section 5 of the 1997 HCP) and are not changed by this amendment. However, the HCP amendment adds more detail to these requirements. "Adaptive management provides for ongoing modifications of management practices to respond to new information and scientific developments. The monitoring and research provisions of the HCP are in part designed to identify modifications to existing management practices." (DNR 1997, p. B.10). Implementation monitoring will document forest management activities and describe them in sufficient detail to document compliance with the requirements of the long-term conservation strategy on DNR-managed lands covered by the strategy. Implementation monitoring also will periodically describe changes in landscape-level habitat conditions in areas managed to provide murrelet habitat. This requirement will include a summary of the quantity and quality of habitat (P-stage) in occupied sites, occupied site buffers, special habitat areas, and areas of long-term forest cover not included in the preceding categories, by HCP planning unit. Natural disturbance that occurs in these areas will be tracked through the reporting of salvage activities. In addition, during the first decade of implementation, DNR will report on the delay of the harvest of 5,000 adjusted acres of habitat. Refer to Section 6.4 of the HCP amendment for more information.

The long-term conservation strategy is based upon conservation of existing marbled murrelet habitat and permitting forest stands to naturally develop into murrelet habitat over time in long-term forest cover. Since effectiveness monitoring is the documentation of changes in habitat conditions over time, the methods are the same as those for implementation monitoring.

Validation monitoring will only occur within the OESF and will document marbled murrelet use of select areas managed to provide nesting habitat. Monitoring will rely upon surveys to detect changes in site occupancy.

► COMMENT

Please provide specific language provisions in the HCP amendment to monitor the new P-Stage habitat model. Effectiveness monitoring and adaptive management details on P-stage modeling are imperative for accurately reporting and tracking impacts and mitigation compliance. Integration of periodic forest inventory updates, new technology and a plan to measure how well nesting platform structures are developing as the modeled habitat matures throughout the decades are vital components of effectiveness and validation monitoring to inform USFWS. These management details are sorely needed in the Amendment/Long-term Conservation Strategy, and assurances by DNR must be made to USFWS.

RDEIS Commenter

C305

Response

Per the 1997 HCP, “Adaptive management provides for ongoing modifications of management practices to respond to new information and scientific developments. The monitoring and research provisions of the HCP are in part designed to identify modifications to existing management practices.” (DNR 1997, p. B.10). Page V.2 of the 1997 HCP states that “Implementation monitoring will document the types, amounts, and locations of forest management activities carried out on DNR-managed lands in each HCP planning unit, both inside and outside areas addressed by the conservation strategies.... Implementation monitoring will also periodically describe changes in landscape-level habitat conditions in areas managed to provide spotted owl and murrelet habitat.” These obligations are not changed by this HCP amendment. However, these requirements have been made more detailed.

Implementation monitoring will document forest management activities and describe them in sufficient detail to document compliance with the requirements of the long-term conservation strategy on DNR-managed lands covered by the strategy. Implementation monitoring will periodically describe changes in landscape-level habitat conditions in areas managed to provide murrelet habitat. This requirement will include a summary of the quantity and quality of habitat (P-stage) in occupied sites, occupied site buffers, special habitat areas, and areas of long-term forest cover not included in the preceding categories, by HCP planning unit. Natural disturbance that occurs in these areas will be tracked through the reporting of salvage activities. In addition, during the first decade of implementation, DNR will report on the delay of the harvest of 5,000 adjusted acres of habitat. Refer to Section 6.4 of the HCP amendment for more information.

The long-term conservation strategy is based upon conservation of existing marbled murrelet habitat and permitting forest stands to naturally develop into murrelet habitat over time in long-

term forest cover. Since effectiveness monitoring is the documentation of changes in habitat conditions over time, the methods are the same as those for implementation monitoring.

Validation monitoring will only occur within the OESF and will document marbled murrelet use of select areas managed to provide nesting habitat. Monitoring will rely upon surveys to detect changes in site occupancy.

Subtopic: Protection of all species

► COMMENT

Commenter expressed support for protection of all endangered species and habitat, not just marbled murrelets.

RDEIS Commenter

C401, C332

Response

The proposed action is an amendment to the 1997 HCP and associated incidental take permit. The 1997 HCP covers multiple species with a suite of habitat conservation strategies. Refer to Section 1.2 of the FEIS.

The Joint Agencies' approach to the long-term conservation strategy is to maintain long-term forest cover, which is defined as DNR-managed forestlands with commitments to maintaining permanent forest cover to provide long-term conservation benefits to the marbled murrelet. Although DNR may perform some management in long-term forest cover, these areas are excluded from variable retention harvest planning under the sustainable harvest calculation (refer to tables 2.5 through 2.8 in the FEIS for more information).

Long-term forest cover consists of two parts. One part is areas that are subject to existing policy or legal constraints under the 1997 HCP, *Policy for Sustainable Forests*, and Washington State law. Examples include old-growth forests, natural areas, and areas being managed under the riparian and northern spotted owl 1997 HCP conservation strategies. These areas total 567,000 acres. The second part is areas that will be managed specifically for marbled murrelets. Amounts of marbled murrelet-specific conservation vary by alternative. Refer to Section 2.2 in the FEIS for more information. Long-term forest cover will provide habitat to other listed wildlife species, such as the northern spotted owl.

Subtopic: P-stage issues

► COMMENT

WDFW identified 1,540 acres that they believe should be considered “high-quality habitat.” These stands are “still undocumented by DNR” as high quality habitat and 722 acres of the 1,540

identified are without any conservation consideration in the proposed long-term conservation strategy. WDFW would like an understanding of how P-stage was applied to these polygons. A particular example is the polygon ("Dickey 02") which WDFW found to contain old forest with abundant large platform trees which the P-stage model gave a value of zero and was subsequently given a P-stage value of 0.25. These polygons should be included in the take and mitigation calculation.

Commenter

C305, C413

Response

WDFW and USFWS conducted an analysis of DNR's large data overlay outputs to identify areas in which the P-stage model did not identify potential existing habitat or applied a lower P-stage value than was thought to be appropriate based on expert opinion. They used site visits and ortho-photographic imagery to conduct this analysis.

The Joint Agencies developed a method to apply a P-stage value to the 1,504 acres identified by WDFW and included them in the take and mitigation calculation for the FEIS (DNR excluded 36 of the 1,540 acres that were non-forested or not DNR-managed land). These stands were assigned a P-stage of 0.36 for Decade 0, as that was the closest value to the acre-weighted, average P-stage value of habitat on DNR-managed lands. In decades 1 through 5, these stands were assigned the following values: Decade 1, 0.36; Decade 2, 0.47; Decade 3, 0.47; Decade 4, 0.62; and Decade 5, 0.62.

► **COMMENT**

Commenters expressed concern about the accuracy of DNR's P-stage model. DNR field-verified some stands for whether the P-stage model identified marbled murrelet habitat and shared the data with USFWS. USFWS determined that the data showed a P-stage false-negative rate of 7 to 18 percent, which varied by DNR region. This percentage demonstrates that error exists in the model to an unknown degree and extent. DNR has not accounted for this error and it is unknown how it affects the take and mitigation. The risk of losing undocumented habitat due to false negatives is a large ecological risk for a species in steep decline.

A presale ID team consisting of USFWS, WDFW, and DNR should verify the correct habitat quality attributes of these polygons. DNR should correct the forest inventory as needed, properly delineate and classify them as habitat, assign them to conservation areas or long-term forest cover as appropriate, and include them in take and mitigation balances. They also should be documented through effectiveness monitoring. DNR needs to conduct rigorous validation to help reduce model uncertainty and improve habitat predictability. Commenter suggests a model validation by ground assessment of a stratified random sample of FRIS polygons in model-assessed landscapes.

Commenter

C305

Response

In their review, USFWS did not actually determine a false negative rate. Instead, they compared results from different habitat models. Several such models exist. For example, the Maxent model is used on federal lands. DNR used the “reclassified habitat model” to develop the interim marbled murrelet conservation strategy. The interim strategy also includes a definition used to identify murrelet habitat in the field; this definition differed from the definition used in the reclassified habitat model. Today, the Joint Agencies use the P-stage model for the development of the long-term conservation strategy.

Comparing model outputs will highlight the differences between the models. It will not, however, indicate which model is identifying habitat correctly. Likewise, whether the definition of murrelet habitat used in a field-based review would more accurately identify habitat than the P-stage model is not known. As a result, the assumption that a pre-sales ID team would reduce uncertainty cannot be substantiated.

DNR acknowledges uncertainties with the P-stage model (refer to Attachment C-4 of the HCP amendment). However, the Joint Agencies selected the P-stage model because it is the only model that meets all requirements of both agencies for development and assessment of the long-term conservation strategy (Appendix E). The P-stage model was developed jointly by USFWS, WDFW, research scientists, marbled murrelet experts, and DNR. The P-stage model is consistent with the Maxent model in its estimates for areas surveyed for murrelets and areas found to be occupied (refer to Appendix E for more information). DNR will conduct effectiveness monitoring as described in the HCP amendment (refer to section 6.4). The amendment was developed in coordination with USFWS.

► COMMENT

The progression of forest stands through P-stages is an untested assumption. Another uncertainty is the assumption in the P-stage model that stand age by tree species and height alone will provide nesting platforms at the actual time intervals indicated. No studies are known that show P-stage produces nesting structures that are available at the age-step thresholds intervals specified, and there is no specific quantification for this in the long-term conservation strategy. Effectiveness monitoring should be used to verify that habitat structures are available and increasing with each step in P-stage value.

Commenter

C305

Response

The P-stage habitat model is based on an analysis of the forest structures in surveyed forest stands that included both known occupied sites and forest stands where occupancy was not detected. As originally designed by the Science Team (composed of USFWS, WDFW, research scientists, marbled murrelet experts, and DNR), the P-stage model, based on data of occupancy from DNR-managed stands in southwest Washington, was a continuous model (Raphael and others 2008), meaning habitat developed along a continuous curve. To apply this model over a larger area to include the OESF and Straits, the Science Team converted this continuous model into a categorical model (refer to Appendix E to the RDEIS), meaning that habitat was categorized based on its value (for example, habitat on the lower end of the P-stage model curve is categorized as 0.25. Slightly higher quality habitat is categorized as P-stage 0.36, and so on up to 0.89. At the commencement of the development of the long-term conservation strategy, the Joint Agencies evaluated various habitat models and agreed on using the categorical P-stage model for the long-term conservation strategy. DNR will conduct effectiveness monitoring as described in the HCP amendment (refer to Section 6.4).

By converting the model to a categorical model, DNR does not mean to imply that a forest stand will become habitat at exact time intervals; habitat development on the landscape will continue according to site-specific conditions. In the model, habitat will be separated into categories to facilitate the calculation of impact and mitigation.

► COMMENT

Unsurveyed forest inventory habitat is a possible source of undocumented take of occupied habitat. The true extent of occupied habitat on DNR-managed lands is not entirely known, due to incomplete survey efforts and differing Pacific Seabird Group protocol survey methods since 1994. It is unknown how many undocumented occupied sites exist in the OESF and North Puget planning units, and this uncertainty introduces potential for future undocumented take of occupied habitat.

Commenter

C305

Response

All surveys were conducted under methods that were approved by USFWS at the time of survey. DNR sought, and received, approval from USFWS to discontinue surveys to focus on the development of the long-term conservation strategy. The Science Team reviewed all occupied sites that had been surveyed and adjusted the boundaries of some sites, resulting in the addition of approximately 16,000 acres to occupied sites (refer to Appendix E of the RDEIS). Alternatives B through H included these updated occupied site boundaries.

The P-stage model is used to assess the impacts of the long-term conservation strategy on marbled murrelet habitat. The P-stage value is the probability of occupancy and takes into account that some areas currently not identified as occupied sites may be occupied, and likewise that some areas that could be occupied are not occupied.

► COMMENT

Commenter questioned the value of narrow areas of habitat to marbled murrelet.

Commenter

C441

Response

Stringers (narrow areas [less than 200 meters wide], predominantly riparian management zones, where adjacent uplands have not been designated as long-term forest cover) are considered part of long-term forest cover. However, they are not assigned credit for mitigation under the alternatives because they are too narrow to provide interior forest. They were included as a component of marbled murrelet conservation on DNR-managed lands because can provide limited nesting opportunities for murrelets when surrounded by mature forest.

► COMMENT

The commenter questioned whether particular stands are appropriately identified as P-stage.

RDEIS Commenters

C441

Response

In response to this comment, DNR reviewed the P-stage data and made two updates for the FEIS. First, areas that had been harvested but assigned P-stage values were removed from the P-stage data. This update was similar to the update performed between the publication of the DEIS and the RDEIS. Refer to “Recent and Historic Harvest Activities” in Appendix O to the RDEIS, and “Updates to stand delineations” in Appendix O to the FEIS for more information. Second, DNR updated age data for stands that previously had estimated ages in DNR’s previous forest inventory system (FRIS). Updated age data came from DNR’s current forest inventory system (RS-FRIS). As a result of these two changes, the area of P-stage habitat changed from 211,650 to 207,067 acres, a reduction of 4,583 acres.

Subtopic: Range of alternatives

► COMMENT

Inclusion of alternatives G and H appears to address the USEPA's concern about the range of alternatives analyzed in the DEIS by bridging the gap between alternatives E and F. Alternative G allows the decision makers to consider a fuller spectrum of alternatives, consistent with Council on Environmental Quality (CEQ) directions. Alternative H includes the key concept of metering harvest of marbled murrelet habitat until the end of the first decade of habitat conservation plan implementation.

Commenter

C297

Response

Alternative G was added in response to comments received from the USEPA and WDFW on the DEIS. Alternative H was developed with direction from the Board of Natural Resources and is responsive to comments received on the DEIS.

Subtopic: Sustainable logging practices

► COMMENT

If DNR restricts logging on state trust lands, demand will travel to other areas where lands are less productive and practices are less sustainable.

Commenter

C355

Response

The potential reduction in the harvest level will depend on the final alternative selected in this planning process. Under Alternative H, the potential reduction comprises a very small percentage of Washington State's overall log supply and is not likely to cause a significant shift in demand to other areas. Also note that all commercial forests in the state are subject to the forest practices rules. Although these rules are not as stringent as DNR's management under its *Policy for Sustainable Forests* and 1997 HCP, they are written to ensure that forest management in the state meets certain standards. If log demand shifts within the state, it is not likely to shift to an area that is markedly less sustainable or productive.

Subtopic: Thank you

► COMMENT

Thank you for developing a science-based strategy to preserve marbled murrelet populations and their habitat.

RDEIS Commenters

C60, C62, C64, C74, C75, C76, C80

Response

Thank you for your comment.

► COMMENT

Thank you (no specifics)

RDEIS Commenters

C13, C14, C15, C373

Response

Thank you for your comment.

Subtopic: Trust Land Transfer Program

► COMMENT

DNR should use the Trust Land Transfer program to trade higher-quality murrelet habitat for less ecologically sensitive land elsewhere that could generate revenue for trust beneficiaries. Protected areas could be added to existing state parks or natural resource conservation areas. A review of protected areas that could be transferred should be included in the FEIS.

RDEIS Commenter

C422, C442

Response

Section 4.11 contains a discussion of potential mitigation for adverse impacts. In particular, RCW 79.22.060 authorizes the transfer or disposition of certain state trust lands encumbered with long-term deferrals due to Endangered Species Act-listed species. However, such transfers require funding by the Washington State Legislature and DNR cannot predict future funding levels. None of the conservation strategies restrict the transfer of lands through this or other land transfer programs.

Subtopic: Legislative revenue

► COMMENT

Commenter asks for support for legislative measures to replace foregone revenue.

RDEIS Commenter

C416

Response

Thank you for your comment.

Subtopic: Accounting for uncertainty

► COMMENT

Alternatives G and H both account for some level of uncertainty around future habitat loss from natural disturbance, with take exceeding mitigation. The exceedance is larger under Alternative G; therefore, the commenter believes Alternative G is aligned with the need of DNR to obtain long-term certainty for harvest and other management activities on forested state trust lands.

RDEIS Commenter

C297

Response

Raphael and others (2016) assessed current natural disturbance rates of marbled murrelet habitat and reported that, between 1993 and 2012, 11,116 acres of “higher quality habitat” was lost to natural disturbances across all ownerships in Washington, including federal reserves. This loss represents about 0.72 percent of nesting habitat over 20 years, or about 0.36 percent habitat loss per decade across all ownerships due to natural disturbance (wildfire, windthrow, insects, and disease). The analysis by Raphael and others (2016) was done using a “Maxent” marbled murrelet habitat model that the Joint Agencies found to be reasonably consistent with the P-stage model (refer to Appendix E of the RDEIS). Davis and others (2016) studied natural disturbance rates of northern spotted owl habitat and found results similar to those reported by Raphael and other (2016) for habitat loss due to natural disturbance for all lands in western Washington.

As described in Chapter 3.2 of the FEIS, under climate change some disturbance rates are expected to increase, such as fire; some are expected to be unchanged, such as windthrow; and some are expected to change in location and intensity, such as beetle outbreaks. Based on these studies, DNR estimated that the natural disturbance rate of murrelet habitat will double by the end of the 50-year analysis period. Under this assumption, mitigation needs to exceed impact by approximately 395 adjusted acres to account for potential loss of habitat to natural disturbance.

Every alternative except B meets this requirement. Refer to Appendix T for more information on mitigation for natural disturbance.

► COMMENT

The proposed HCP amendment states that the long-term conservation strategy "will mitigate against the full spectrum of uncertainties" (Section 7.3, p. 20), including effects of natural disturbance, effects of climate change on Washington's forests, imperfect knowledge of murrelet biology and population dynamics, and uncertainties related to strategy implementation. WDFW contends that the total impact from all of these uncertainties would not be adequately mitigated by the proposed 735 adjusted acres and advises DNR to re-engage with USFWS, acknowledge the significant impactors and uncertainties WDFW has identified and reassess the total impact and required mitigation, with technical assistance from USFWS.

RDEIS Commenter

C305

Response

Raphael and others (2016) assessed current natural disturbance rates of marbled murrelet habitat and reported that, between 1993 and 2012, 11,116 acres of "higher quality habitat" was lost to natural disturbances across all ownerships in Washington, including federal reserves. This loss represents about 0.72 percent of nesting habitat over 20 years, or about 0.36 percent habitat loss per decade across all ownerships due to natural disturbance (wildfire, windthrow, insects, and disease). The analysis by Raphael and others (2016) was done using a "Maxent" marbled murrelet habitat model that the Joint Agencies found to be reasonably consistent with the P-stage model (refer to Appendix E of the RDEIS). Davis and others (2016) studied natural disturbance rates of northern spotted owl habitat and found results similar to those reported by Raphael and other (2016) for habitat loss due to natural disturbance for all lands in western Washington.

As described in Chapter 3.2 of the FEIS, under climate change some disturbance rates are expected to increase, such as fire; some are expected to be unchanged, such as windthrow; and some are expected to change in location and intensity, such as beetle outbreaks. Based on these studies, DNR estimated that the natural disturbance rate of murrelet habitat will double by the end of the 50-year analysis period. Under this assumption, mitigation needs to exceed impact by approximately 395 adjusted acres to account for potential loss of habitat to natural disturbance. Every alternative except B meets this requirement. Refer to Appendix T for more information on mitigation for natural disturbance.

► COMMENT

Alternative H is based on optimistic assumptions about unknown impacts such as climate change and forest fires. There are several uncertainties that DNR cannot control, such as windthrow, fire, and climate change impacts that DNR estimates will be mitigated by an “epsilon” of 735 adjusted acres. This is not sufficient. More lands need to be conserved in light of the uncertainty of climate change, and the anticipated forecasts of precipitation and temperature and the associated predications of forest cover by species.

RDEIS Commenter

C305, C397, C442

Response

The commenter correctly mentions that these are adjusted acres, and net acres of mitigation would be greater. DNR based this estimate on research conducted by Raphael and others (2016). Refer to Appendix T for more information.

A description of current condition and environmental impacts regarding climate and vegetation conditions can be found in Chapters 3 (Sections 3.2 and 3.3) and 4 (Sections 4.2 and 4.3).

Subtopic: Risk**► COMMENT**

The RDEIS identifies numerous biophysical risks that would accompany implementation of the proposed action. The RDEIS states that risks have been minimized by existing regulations, policies, and procedures. However, minimizing impacts and risk is not the same as eliminating impacts and risk. Additionally, the RDEIS does not say what will happen if regulations, policies, and procedures are not implemented as planned.

RDEIS Commenter

C413

Response

Not complying with the existing regulatory framework, including state and federal law, would result in increased risk and impact. The existing regulatory framework includes penalties for lack of compliance. The magnitude of risk and impact from non-compliance depends on the activity, as does the magnitude of the penalty.

As described in the RDEIS, neither the no-action alternative nor the action alternatives eliminate all risk. The RDEIS and FEIS described the risks under each alternative.

► COMMENT

DNR does not quantify the socioeconomic impact of the biophysical risks identified.

RDEIS Commenter

C413

Response

The RDEIS and FEIS finds no difference in impacts to elements of the environment managed under existing regulations, policies, and procedures.

Subtopic: Other values of state trust lands**► COMMENT**

DNR-managed lands can provide aesthetic value.

RDEIS Commenter

C413

Response

Due to similarities between the alternatives described in the RDEIS, aesthetic values are not expected to change under the action alternatives. State trust lands will continue to be a working forest landscape.

► COMMENT

DNR-managed land can provide recreational value. The RDEIS provide no assessment of the value of the differences in how the different alternatives would affect this.

RDEIS Commenter

C413

Response

Chapter 4.7 in the FEIS describes the impacts to recreation. The analysis in this chapter found that:

- “No impact to existing designated and dispersed uses are expected.”
- “Clearly defined marbled murrelet conservation areas could provide more certainty to recreation planning.”

- “Restrictions on development in marbled murrelet conservation areas could shift recreation use to other areas or result in undesignated uses. Recreation planning can take into account potential restrictions on development, but restrictions may affect some local user groups.”

The socioeconomic section states, “The analysis of impacts to recreation (refer to Section 4.7, “Recreation,” in the FEIS) shows that the action alternatives do not have a measurable, negative impact on recreation in the analysis area.” As such, no significant socioeconomic impacts are expected due to changes in recreation use.

► COMMENT

DNR-managed lands can provide spiritual value.

RDEIS Commenter

C413

Response

Due to similarities between the alternatives described in the RDEIS and FEIS, spiritual values are not expected to change under the action alternatives. State trust lands will continue to be a working forest landscape.

Subtopic: Ecological forestry

► COMMENT

Ecological forestry, which considers multiple values, conservation, and informed management in set-aside areas, should be considered.

RDEIS Commenter

C318

Response

Management of areas of long-term forest cover will be consistent with the 1997 HCP.

Subtopic: Appendix O

► COMMENT

DNR mischaracterized the first sentence of page O-4 in Appendix O. Please strike language “... felt should have been identified as potential existing habitat...” It should read: “WDFW identified 1,540 high quality habitat acres in 20 polygons (“False- negatives”) that either were P-stage 0 or

low quality (0.25, 0.36) P-stage assigned by the model. All of these acres were shown to have high quality habitat (>0.47 P-stage) attributes by ground validation and some collection of data by WDFW/USFWS.”

RDEIS Commenter

C305

Response

Appendix O was revised for the FEIS to reflect changes that occurred between the RDEIS and FEIS. The section mentioned above was not included since it was specific to the change between the DEIS and RDEIS.

Subtopic: Education

► COMMENT

Educating the public at state parks about food and litter control would enhance our parks and benefit marbled murrelets.

RDEIS Commenter

C235

Response

While it is true that control of sources of food and litter at state parks could help to control concentrations of corvids, known predators of marbled murrelet eggs and chicks, DNR does not manage state parks. Therefore, educating the public at state parks is outside of the scope of this EIS.

Subtopic: Public land management

► COMMENT

The commenter is incredulous that the Trump administration’s attack on public lands is being tolerated by the national government.

RDEIS Commenter

C519

Response

Thank you for your comment.

Subtopic: Board of Natural Resources

▶ COMMENT

Each Board of Natural Resources member should read the marbled murrelets comments rather than rely on a staff summary.

RDEIS Commenter

C462

Response

All Board of Natural Resources members were provided with electronic copies of all comments received.

Subtopic: Peer review of the EIS

▶ COMMENT

What "peer review" was conducted for the EIS documents and the amendment?

RDEIS Commenter

C397

Response

A comment period was provided for the scoping process, the DEIS, and the RDEIS. Comments were submitted from a wide range of individuals, organizations and agencies. Additionally, the agencies used best available science and information in the development of the documents. Literature cited is provided in Chapter 6.

Subtopic: WDFW involvement in the biological opinion

▶ COMMENT

The commenter recommended WDFW involvement in the biological opinion.

RDEIS Commenter

C397

Response

USFWS is directed to use the best available scientific and commercial data available in the preparation of a biological opinion, including information from species experts, state/tribal experts, peer-reviewed journals, and state heritage programs. WDFW has species experts and maintains the Priority Habitat and Species database, which provide the best available information

regarding marbled murrelet occurrences within Washington. USFWS regularly relies on cooperation with WDFW for access to this information.

Subtopic: Plan operational flexibility

► COMMENT

Preliminary data from Oregon State University indicates that the actual radius for inland habitat may be much less than 55 miles. Add flexibility to the plan allowing for change of radius as further studies warrant. Allow for operational flexibility if it is determined that the set-aside acres were more than necessary under the 1997 HCP and the HCP amendment.

RDEIS Commenter

C547

Response

The inland range of the marbled murrelet in southern Oregon and northern California was revised based on extensive surveys in the region that demonstrated that murrelets are strongly associated with the hemlock/tanoak vegetation zone, which extends from 10 to 32 miles inland. USFWS revised the critical habitat designation for the marbled murrelet in Oregon and California based on these studies (76 FR 61599 [Oct. 5, 2011]). In Washington, murrelet occupancy behaviors have been detected up to 53 miles inland, which is the basis for the current use of the 55-mile line. The 1997 HCP Implementation Agreement has an adaptive management section (Section 24.5) that allows the Joint Agencies to respond to enumerated changes in circumstance and best available science. This section of the Implementation Agreement does not specifically address the inland range of the marbled murrelet. However, any change in understanding of the inland range of the murrelet could potentially be considered a change in habitat definitions for the species, which is addressed in section 24.5 of the Implementation Agreement. Additionally, Section 23.1 of the Implementation Agreement, “Unforeseen Circumstances,” could potentially be used to address this potential, future change to the inland range of the marbled murrelet.

■ Topic: Legal Issues

Subtopic: Legal standard

► COMMENT

The RDEIS uses the wrong legal standard in recommending a long-term conservation strategy and the proposed HCP amendment exceeds DNR's legal obligations to comply with the existing incidental take permit and Implementation Agreement. The RDEIS describes alternatives for the Board of Natural Resources to consider in requesting an amendment to the existing HCP and considering whether a corresponding amendment to the permit is required. What the RDEIS does

not do, however, is explain that DNR does not need to start the process from the beginning and have its long-term conservation strategy evaluated anew under the Endangered Species Act. DNR already has an approved HCP and a permit that allows for incidental take of marbled murrelets. Modification of these operative documents follows the terms of the Implementation Agreement that is attached as Appendix B to the 1997 HCP.

RDEIS Commenter

C433

Response

In 1996, DNR applied to the USFWS for an incidental take permit to take marbled murrelets and other Endangered Species Act-protected species in association its land management activities. DNR proposed, and USFWS approved, a five-step interim strategy for murrelet habitat identification and protection. The interim strategy involved collecting scientific information; preserving, on an interim-basis, all murrelet habitat in westside planning units; and ultimately, DNR submitting its proposal for a long-term conservation strategy for the murrelet to USFWS for approval (DNR 1997, p. IV. 39-40).

Pursuant to the interim strategy, DNR can release up to 74,286 acres of unsurveyed, suitable, but mostly low-quality murrelet habitat for harvest. This habitat was expected to support fewer marbled murrelets, with lower reproductive success than other higher-quality habitats, and constitutes roughly 5 percent of the potentially occupied sites on DNR-managed lands. Approximately 31,000 acres of this habitat has been harvested since implementation of the interim strategy.

In contrast to this low-quality habitat, the interim strategy restricted harvest of most high-quality murrelet habitat in the westside planning units. The purpose of this restriction was to preserve high-quality habitat for possible future protection under the long-term conservation strategy. High-quality habitat preserved under the interim strategy constitutes those areas that are estimated to support approximately 95 percent of the nesting murrelets on DNR lands.

The long-term conservation strategy had not been developed at the time of incidental take permit consideration, and therefore its implementation was not evaluated in the 1997 biological opinion. The 1997 biological opinion states that “any take resulting from implementation of [the long-term conservation strategy] would require a permit amendment.” Any change which increases the level of incidental take would require an incidental take permit amendment. Several actions may result in amendment proceedings, including new listings, land transactions, adjustments to conservation strategies, and increases in levels of take. The types and procedures for amendments are specified in section 25 of the Implementation Agreement. The take of high-quality habitat at issue would be new take that results from implementation of the long-term conservation strategy.

USFWS and DNR have determined that the take of high-quality habitat contemplated in the HCP amendment was neither proposed by DNR in the 1997 HCP, nor permitted by USFWS in the 1997 incidental take permit. Each agency concludes that the take of high-quality habitat

contemplated in the HCP amendment would exceed currently permitted take, and, therefore, an HCP and incidental take permit amendment is required.

Subtopic: Appeal of SEPA decision

► COMMENT

The commenter questions whether appeals of the SEPA decision, associated decision, and proposed amendment to the 1997 HCP would go to the Pollution Control Hearings Board (PCHB) and to let them know if it is correct.

RDEIS Commenter

C397

Response

Under RCW 43.30.215, the Board of Natural Resources has the authority to establish land management policies for all lands and resources managed by DNR. Refer to discussion in Section 1.4 on the DNR decision maker. RCW 43.21B.110 addresses the jurisdiction of the PCHB and does not include any reference to appeals of SEPA decisions associated with a management plan for DNR-managed lands, or any decisions of the board under RCW 43.30.215. Appeals provisions in SEPA are found in RCW 43.21C.060-080. Additionally, DNR's SEPA rules adopt by reference WAC 197-11-680, which addresses appeals under SEPA.

Subtopic: Compliance with the Endangered Species Act

► COMMENT

The RDEIS assumption that the "trust mandate" prevents the Board of Natural Resources from adopting a long-term conservation strategy that provides more conservation than the bare minimum acceptable to the USFWS for issuance of the Section 10 permit is wrong as a matter of law.

RDEIS Commenter

C413

Response

DNR needs to obtain long-term certainty for timber harvest and other management activities on forested state trust lands, consistent with commitments in the 1997 HCP and its fiduciary responsibility. DNR's purpose of the proposed action is to develop a long-term conservation strategy for marbled murrelets subject to DNR's fiduciary responsibility as defined by law (refer to Section 1.1 of the FEIS). DNR's objectives provide clear statements for how the long-term

conservation strategy will achieve this purpose. DNR will submit an HCP amendment to USFWS that meets all of these objectives. USFWS will determine whether the application meets the issuance criteria under Section 10 of the Endangered Species Act. DNR's fiduciary responsibilities are briefly explained in Section 1.2 of the FEIS. Refer to the *Policy for Sustainable Forests* for a more detailed discussion (DNR 2006, p. 9 through 16). Refer also to *County of Skamania v. State of Washington*, 102 Wn.2d 127, 685 P.2d 576 (1984); AGO 1996, No. 11 (formal Attorney General of Washington's opinion that provides more explanation about DNR's authority to enter into a long-term plan to satisfy the requirements of the Endangered Species Act and its common law or statutory duties regarding state trust lands).

Subtopic: Compliance with the US Constitution and the Endangered Species Act

► COMMENT

DNR must fully comply with the U.S. Constitution and federal laws before any state law; therefore, the Endangered Species Act is higher law than any state law. Clearcuts cannot continue and we need a different way to fund the trusts.

RDEIS Commenter

C397

Response

DNR's land management fiduciary duties stem from the Washington Enabling Act (a federal statute) and Washington State's Constitution. Refer to Washington Enabling Act § 11, 25 Stat. 676 (1889), amended by Act of August 11, 1921, 42 Stat. 158, and Act of May 7, 1932, 47 Stat. 150; refer also to Const. art. 16, § 1. DNR's 1997 HCP and associated incidental take permit are in full compliance with the federal Endangered Species Act and 1997 HCP-related obligations. By amending the long-term conservation strategy in the 1997 HCP and applying for an amended incidental take permit, DNR is seeking to stay in compliance with the federal Endangered Species Act. Exploring other funding opportunities for revenue generation for the trusts is outside the scope of this proposal. However, the Washington State Legislature has directed the Commissioner of Public Lands to appoint a marbled murrelet advisory committee to develop recommendations to the Washington State Legislature, including additional means of financing county services. (Laws of 2018, Ch. 255).

Subtopic: Incidental take permit

► COMMENT

Please amend the incidental take permit.

RDEIS Commenters

C59, C68

Response

DNR is seeking to amend its 1997 incidental take permit. USFWS will evaluate DNR's application for an incidental take permit amendment under Section 10(a)(2)(A) of the Endangered Species Act. Refer to Section 1.4 of the FEIS for a discussion of the USFWS approval process.

Subtopic: Regulations**► COMMENT**

State regulations need significant improvements. More protections of the lands, upper and lower elevations, is needed.

RDEIS Commenter

C397

Response

Changing state regulations is outside the scope of this EIS. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: Supreme Court decision**► COMMENT**

In *Weyerhaeuser vs. USFWS* (November 2018), the court found that critical habitat for a species cannot be interpreted to include any areas where an endangered species might live only if significant changes were made.

RDEIS Commenter

C547

Response

This proposal is an amendment to the 1997 HCP and associated incidental take permit, not a designation of critical habitat at issue in *Weyerhaeuser vs. USFWS*. The RDEIS uses a P-stage model to identify current and potential future location and quality of marbled murrelet habitat across DNR-managed lands. Appendix E in the FEIS lists the objectives for the habitat model, which is also used in calculating take and mitigation, a critical component of obtaining the incidental take permit.

■ Topic: Socioeconomic impacts

Subtopic: Alternate sources of revenue

► COMMENT

The commenters state that impacted counties and institutions have the ability to find alternate sources of revenue, and that more opportunities need to be created besides logging to do so because the marbled murrelet does not have other options.

RDEIS Commenters

C183, C382, C382, C389, C459, C466, C467

Response

Procurement of alternate sources of revenue by counties and specific trust beneficiaries is outside the scope of this EIS. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

The Washington State Legislature has directed the Commissioner of Public Lands to appoint a marbled murrelet advisory committee to develop recommendations to the Washington State Legislature, including additional means of financing county services. (Laws of 2018, Ch. 255).

► COMMENT

DNR's financial analysis (Appendix P to the RDEIS) focused on logging and did not consider other possibilities for jobs, community sustainability, and growth.

RDEIS Commenter

C375

Response

Procurement of alternate sources of revenue by counties and specific trust beneficiaries is outside the scope of this EIS. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal

The Washington State Legislature has directed the Commissioner of Public Lands to appoint a marbled murrelet advisory committee to develop recommendations to the Washington State Legislature, including additional means of financing county services. (Laws of 2018, Ch. 255).

► COMMENT

Cutting old-growth trees to maintain funding for public schools is blaming future generations for the need to render the species extinct. There are other sources of funding for public schools. Saying that forests must be cut because working class communities demand it is another way to pass the blame to someone else and falsely say that disempowered communities want to ruin their own environment. Why not find a way to harvest second growth forests, leave old growth standing for the good of the communities (including ecotourism), promote the drive to save the murrelets, and develop strong environmental education around Washington's green reputation?

RDEIS Commenter

C386

Response

The *Policy for Sustainable Forest* contains a policy on old-growth stands in western Washington which defers from harvest old-growth stands that are 5 acres and larger, originated before the year 1850, and are in the structurally complex state of forest development. Outside of old-growth stands, old-growth remnant trees are the focus of the large, structurally unique trees conservation component of the 1997 HCP Multispecies Conservation Strategy. The Board of Natural Resources must be notified about any exceptions to the policy on old-growth stands (except in the OESF) as well as the removal of very large diameter, structurally unique trees.

Subtopic: Emergent technologies

► COMMENT

The financial analysis and the Solutions Table losses and gain report fail to analyze the potential gains to trusts beneficiaries from emergent technologies and markets for advanced wood products. Setting aside large swaths of forest land from harvest will adversely impact our community and emerging advanced wood products industry, for example the use of western hemlock (47 percent of growing stock trees in Olympic peninsula) with recycled carbon fiber in building materials and with thermal modification to create resilient and decay resistant products.

RDEIS Commenter

C318

Response

Emergent technologies and markets may change the potential gains to trust beneficiaries in the future. These changes are independent of a long-term conservation strategy. The exact impact of emergent technologies and markets on trust beneficiaries is speculative at the current time.

Subtopic: Benefit to county

▶ COMMENT

DNR timber sales throughout western Washington benefit the milling and associated infrastructure in Lewis County.

RDEIS Commenter

C354

Response

Thank you for your comment.

Subtopic: Cost of preserving habitat

▶ COMMENT

DNR should take into consideration the cost of preserving habitat to the citizens of the state.

RDEIS Commenter

C174

Response

Impacts of the various alternatives on social and economic values were evaluated in the Socioeconomics section (4.11) of the RDEIS. Updated analyses may be found in the Socioeconomics section (4.11) of the FEIS. Impacts of the HCP amendment in terms of operable acres are provided at the taxing district level in Appendix R of the FEIS. The financial analysis (Appendix P to the FEIS) contains financial projections which compare how different scenarios of marbled murrelet conservation, arrearage harvest, and riparian thinning options affect DNR's ability to meet its trust management obligations.

Subtopic: Disproportionate impacts

▶ COMMENT

The reduction of the manageable land base under the alternatives, including Alternative A (interim strategy), will significantly reduce revenues from timber sales and disproportionately affect timber-dependent counties. The interim strategy has caused economic hardship and alternatives under consideration would continue this. Beneficiaries of DNR's timber sale program include schools, hospitals, fire districts, libraries and other public entities that provide critical government services. The State Forestland Replacement Program, intended to reduce impacts from the interim strategy, has not been successful. DNR did not adequately analyze these impacts in its EIS, which is a violation of SEPA (WAC 197-11-444).

RDEIS Commenter

C67, C368, C404

Response

The Socioeconomic analysis (Section 4.11 in the FEIS) was conducted at the trust, benefitting county, or Washington State general fund scale. The socioeconomic and environmental justice analyses were performed using reasonably available data at a scale in keeping with the landscape-level change expected under the alternatives, including Alternative H. The impact analysis satisfies the SEPA requirement to identify potential adverse impacts and compare alternatives at an appropriate scale.

The Socioeconomic sections (4.11) in the RDEIS and FEIS indicate that Pacific and Wahkiakum counties will be adversely impacted by Alternatives C through H. Per legislative direction in 2018, the Commissioner of Public Lands formed a Solutions Table that is tasked with providing recommendations to the Washington State Legislature that will offset potential revenue and job losses in rural communities (Laws of 2018, Ch. 255).

Subtopic: Economic impacts**► COMMENT**

DNR should not put birds ahead of people by harming an already declining timber industry. We need to get Washington back to being a logging state.

RDEIS Commenters

C7, C8, C236

Response

Thank you for your comment.

► COMMENT

The RDEIS employs an analysis similar to that conducted by Dr. Julie Daniels in 2004; however, using this countywide approach, the analysis overlooks a caveat and caution raised by both Dr. Daniels and the Environmental Justice Guidelines outlined in EO 12898 that aggregating information may result in an "averaging over" of a land manager's actions. The commenter says that the methods used in the RDEIS to assess impacts of Alternative H within strategic locations and special habitat areas results in the averaging over of impacts in Clallam County, leaving the impression that Alternative H would have a positive impact in spite of additional operational acres being reduced in the Clallam State Forest Lands. The RDEIS does not address minority populations, tribal nations, or low-income populations specifically associated with the key elements of Alternative H - the strategic locations and the special habitat areas.

Daniels (2004) also is outdated. Timber dependency should be recalculated since there has been a significant reduction in timber dependence in the last 15 to 20 years. However, in Pacific and Wahkiakum counties, the decreases in timber dependency have not been balanced by increase in other sectors. These two counties face challenges because of their size, geographic location, and limited economic diversity. Also, the data from Daniels (2004) was compiled before the recent recession and descriptors of resilience and diversity within counties are outdated. A modern and more robust analysis is necessary in areas that will be adversely impacted.

RDEIS Commenter

C300, C369, C416, C442

Response

Socioeconomic analyses were conducted at the trust, benefitting county, or Washington State general fund scale for the RDEIS and FEIS within the “Socioeconomics” section (4.11). The socioeconomic analysis was performed using reasonably available data at a scale in keeping with the landscape-level change expected under the alternatives. The impact analysis satisfies the SEPA requirement to identify potential adverse impacts and compare alternatives at an appropriate scale. Environmental justice was analyzed in Section 4.10 of the RDEIS and a description of the effects of the alternatives on low-income and minority populations was included. Based on the commenter’s suggestion, the Joint Agencies incorporated new analysis in the FEIS that examines potential impacts of the alternatives on school districts that have high proportions of low-income or minority student enrollment (refer to Section 4.10).

Potential impacts to traditional cultural materials and foods were analyzed in the Cultural and Historic Resources section (4.12) of the RDEIS and FEIS. Alternative H was included in all of these analyses. Appendix R to the FEIS includes an analysis of the potential impacts of the HCP amendment on trust beneficiaries at the taxing district level, in terms of the percent change in operable acres.

DNR found no analysis assessing counties’ dependence on state trust lands that has been published since Daniels (2004). Employment and demographic trends are presented in Section 3.11 of the RDEIS and FEIS.

► COMMENT

DNR is required to mitigate for economic impacts found in the environmental analysis.

RDEIS Commenter

C416

Response

Section 4.11 describe potential mitigation for adverse impacts. It is the Board of Natural Resources' discretion on whether to choose and enact these or other mitigation strategies and how to meet the requirements of other state and federal laws, including the trust mandate.

Subtopic: Environmental justice**► COMMENT**

The RDEIS addresses both SEPA and NEPA; only NEPA requires analysis of impacts on low-income and minority communities or populations. Direction on what this analysis is to include is described in a 1994 Executive Order signed by President Bill Clinton (EO12898). The RDEIS fails to comply with this executive order. The RDEIS focuses primarily on county-wide impacts, with some discussion on minority forest workforce. The RDEIS could have analyzed impacts at the strategic location or special habitat area level and on identifiable low-income populations. The RDEIS failed to determine the impact of Alternative H on sensitive population such as the tribal nations associated with the strategic locations. This analysis would have provided information for the Board of Natural Resources and the Solutions Table about the nature and degree of impacts, allowing for a focused discussion on possible changes to Alternative H or reasonable mitigation.

RDEIS Commenter

C300

Response

The “Environmental Justice” section (4.10) in the RDEIS measured the impacts of the alternatives on low-income and minority populations in terms of adverse human health effects and adverse economic effects. Based on the commenter’s suggestion, in the FEIS the Joint Agencies incorporated new analysis that examines potential impacts of the alternatives on school districts that have high proportions of low-income or minority student enrollment (refer to Section 4.10). None of the alternatives would cause environmental harm or risks to human health to any individuals or communities, including low-income or minority communities. Low-income or minority collectors of forest greens and other non-timber products are not likely to be disproportionately affected by any of the alternatives. Low-income and minority populations in Pacific and Wahkiakum counties may experience a potential loss of income, but these counties do not have minority or low-income populations higher than the average among the counties in the analysis area and impacts would not be disproportionate compared to the rest of the population in these counties. Indirect impacts to government services for low-income and minority populations could occur due to reductions in local revenues. However, most government services supporting low-income and minority populations are provided by state and federal funding, not local funding. Potential impacts to traditional cultural materials and foods were analyzed in Section 4.12, “Cultural and Historic Resources,” of the RDEIS and FEIS. Appendix R includes potential impacts of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

Subtopic: Environmental justice and socioeconomic analysis

► COMMENT

DNR failed to undertake the required economic justice and socioeconomic analyses required under NEPA. Further, DNR failed to address impacts on public services and utilities required by SEPA. Specifically, DNR failed to consider how Alternative H would impact revenue to trust beneficiaries, specifically associated with the Clallam Bay block. DNR did not utilize readily available data on low-income or minority communities available through StratLocs. While DNR did use StratLocs, the opportunity to apply identifiable geographic areas with census, treasury, and tribal information was missed. Further, DNR relied on outdated 2000 U.S. Census data rather than more recent information.

RDEIS Commenter

C300

Response

The RDEIS and FEIS analyzed environmental justice at the county scale. Socioeconomic analyses were conducted at the trust, benefitting county, or Washington State general fund scale for the RDEIS and FEIS. In the DEIS and RDEIS, 2015 U.S. census data was used that summarized population data at the county level. These scales are the same as other analyses in the DEIS and RDEIS. Appendix R of the FEIS contains impacts of the HCP amendment on taxing districts in terms of operable acres. Based on the commenter's suggestion to use additional, readily available data on low-income or minority communities, the Joint Agencies incorporated new analysis in the FEIS that examines potential impacts of the alternatives on school districts that have high proportions of low-income or minority student enrollment (refer to Section 4.10). The impacts on public services and utilities were analyzed in the RDEIS and FEIS in Section 4.9, "Public Services and Utilities," in the FEIS.

Subtopic: Social justice

► COMMENT

DNR did not adequately analyze the social justice impacts of reducing harvest. Wood processing facilities in rural areas do not have reasonable alternatives to DNR wood.

RDEIS Commenter

C394

Response

Environmental justice was analyzed in Section 4.10 of the RDEIS and FEIS, and a description of the effects of the alternatives on low-income and minority populations was included in this analysis.

Subtopic: Encumbered lands

► COMMENT

Lands encumbered by species listed under the Endangered Species Act result in socioeconomic impacts that have not been meaningfully analyzed. Meaningful analysis should be community specific; use of county averages can miss impacts to counties that contain both highly developed urban areas and remote rural areas.

RDEIS Commenter

C410

Response

Impacts of the HCP amendment in terms of operable acres are provided at the taxing district level in Appendix R of the FEIS. The socioeconomic analysis (Section 4.11 in the FEIS) was performed using reasonably available data at a scale in keeping with the landscape-level change expected under the alternatives. The impact analysis satisfies SEPA requirement to identify potential adverse impacts and compare alternatives at an appropriate scale.

Subtopic: Financial analysis

► COMMENT

The analysis lacks clarification of assumptions around discount rate, stumpage returns, acres, and forest productivity that needs to be rectified.

RDEIS Commenter

C330

Response

The 3 percent discount rate chosen by DNR for the financial analysis (refer to Appendix P to the RDEIS and FEIS) was chosen to ensure DNR's harvest levels adhere to the trust mandate, which is summarized in the *Policy for Sustainable Forests*. The discount rate chosen ensures intergenerational equity is maintained, because higher interest rates tend to accelerate the rate of harvest in earlier decades as the forest estate model used in determining DNR's harvest levels seeks to maximize net present value. The financial analysis incorrectly stated that stumpage rates were derived from a review of DNR timber sales from fiscal years 2011 through 2018. Stumpage rates were actually derived from fiscal years 2011 through 2017. Forest productivity is determined by site index class and cover type, which dictate forest growth in the Pacific Northwest Coast variant of the Forest Vegetation Simulator. The maximum stands density indices were changed from the default values in the Forest Vegetation Simulator to reflect actual growth on DNR-managed lands as determined by plot data on DNR-managed lands.

► COMMENT

The lack of a finite economic impact analysis that fully discloses the impacts to public services in the planning area is extremely concerning.

RDEIS Commenter

C354

Response

Dynamic, variable factors, including age class of the forest within a tax district, future timber supply and demand, localized mill infrastructure, and future tax levy rates, make revenue forecast at the local tax district level for any given year highly speculative. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

► COMMENT

In order to meet both NEPA and SEPA requirements, the Joint Agencies must provide an analysis that fully discloses the economic impacts to those living and working in the analysis area. The financial analysis (Appendix P to the RDEIS and FEIS) for the sustainable harvest calculation and the Solutions Table losses and gains report are not adequate.

RDEIS Commenter

C344, C354

Response

Dynamic, variable factors, including age class of the forest within a tax district, future timber supply and demand, localized mill infrastructure, and future tax levy rates, make revenue forecast at the local tax district level for any given year highly speculative. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

► COMMENT

DNR should provide a financial analysis that is clear and easy to understand. That analysis should consist of a summary sheet of the number of acres by trust, broken down to each smaller beneficiary. It should include volume by age class, current market value, and number of acres preserved and the value of unharvested timber over time. Also explain your reason for choosing the discount rate. Failure to provide an adequate and comparative financial analysis for each alternative means decision makers cannot consider all the impacts. This failure also violates SEPA, which requires analysis of these impacts.

RDEIS Commenters

C362, C364, C394

Response

Dynamic, variable factors, including age class of the forest within a tax district, future timber supply and demand, localized mill infrastructure, and future tax levy rates make revenue forecast at the local tax district level for any given year highly speculative. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres. The 3 percent discount rate chosen by DNR for the financial analysis (Appendix P to the FEIS) was chosen to ensure DNR's harvest levels adhere to the trust mandate which is summarized in the *Policy for Sustainable Forests*. The discount rate chosen ensures intergenerational equity is maintained as higher interest rates tend to accelerate the rate of harvest in earlier decades as the forest estate model used in determining DNR's harvest levels seeks to maximize net present value. The socioeconomic analysis (Section 4.11 in the RDEIS) was performed using reasonably available data at a scale in keeping with the landscape-level change expected under the alternatives. SEPA does not require a comparative financial analysis for each alternative. The financial analysis was tasked outside of the requirements of SEPA requirements as a means to assist the Board of Natural Resources in their decision and to meet the requirements of federal law under the NEPA. The financial analysis was tasked outside of the requirements of SEPA as a means to inform the Board of Natural Resources during the development of the HCP amendment, and to meet NEPA requirements.

► COMMENT

The financial analysis that DNR provided in October 2018 was difficult to understand. DNR should provide a public meeting on just the financials.

RDEIS Commenter

C306

Response

The financial analysis (Appendix P to the RDEIS and FEIS) was created separate from the SEPA and NEPA processes and was produced to help the Board of Natural Resources understand how each alternative affects DNR's ability to meet its trust management obligations.

► COMMENT

DNR provides no baseline for the magnitude of change values presented in tables 5 and 11 in the financial analysis (Appendix P to the RDEIS and FEIS).

RDEIS Commenter

C416

Response

The values presented in tables 5 and 11 in the financial analysis show the range on net present value (Table 5) and planning decade volume (Table 11) results from the 38 scenarios analyzed in the document. The purpose of this table is to show the effects of each of the three variables, marbled murrelet conservation, arrearage harvest, and riparian harvest, on each trust and state forest transfer lands in each county, within the scenarios analyzed. These tables do not compare scenario results with past conditions.

► COMMENT

Under Alternative H, timber harvest from state trust lands will decrease during the first four of the five decades of the strategy. This decrease will cause an increase in DNR's cost structure and will affect trust beneficiaries. This change is not analyzed in the RDEIS or supporting documents. More emphasis needs to be given to analysis of decreasing timber harvest from state trust lands that would occur during the first four decades if the preferred alternative is adopted. The financial analysis (Appendix P to the RDEIS and FEIS) shows harvest volume dropping to about 3 billion board feet in the fifth decade, jeopardizing DNR's ability to have enough funds to manage trust lands.

RDEIS Commenter

C369, C416

Response

Harvest levels are set by the Board of Natural Resources. Harvest levels presented in the financial analysis are projections only. Harvest levels decades from now depend on numerous factors, including harvest levels in the intervening decades. DNR cannot speculate on the management funds that would be required to manage state trust lands several decades from now.

► COMMENT

The Solutions Table losses and gains report's statement about additional harvest available to Clallam County under Alternative H is inconsistent with the RDEIS Table 4.11.4. This is just one example of inconsistencies in the financial reports.

RDEIS Commenter

318

Response

RDEIS Table 4.11.4 reports the changes in operable acres under each long-term conservation strategy alternative on State Forest Transfer lands in Clallam County. The Solutions Table losses and gains report shows changes to county economies, and to the revenue of all trusts within a county. When comparing the results shown in the RDEIS and Solutions Table losses and gains report, reviewers must consider the differences in data reported and the differences in spatial scale. The results shown in the two documents are consistent with each other as they are both based on a comparison of the action alternatives with Alternative A.

► COMMENT

DNR’s financial analysis (Appendix P to the RDEIS and FEIS) is unrealistic and the strategy will not remedy claims of dire species outcomes. Claims of threatened habitat are flawed and not based on facts.

RDEIS Commenter

C168

Response

Thank you for your comment.

Subtopic: Impact on local jobs**► COMMENT**

DNR should maintain timber jobs and funding by not shutting down harvest on state trust lands. DNR already is deferring harvest on 583,000 acres. No more land should be taken out of timber production.

RDEIS Commenters

C178, C226, C234, C313, C320, C334, C355, C454

Response

Refer to Section 1.1 of the FEIS for DNR’s need and purpose of the proposal and Section 1.2 for a description of DNR’s fiduciary responsibilities. As a trust lands manager, DNR must “generate revenue and other benefits for each trust by meeting DNR’s trust management responsibilities” (Objective #1). DNR also must meet its Objective #2, which is to “provide forest conditions in strategic locations on forested state trust lands that minimize and mitigate incidental take of marbled murrelets resulting from DNR’s forest management activities. In accomplishing this objective, DNR expects to make a significant contribution to maintaining and protecting marbled murrelet populations.”

Subtopic: Impacts to counties

► COMMENT

Given the reliance of several counties on revenue from state trust land for public health and safety services, the importance of the forest products industry to counties, and the importance of maintaining forest health for a variety of reasons, the Washington State Association of Counties would like to stress the importance of DNR showing fiscal responsibility for the trust beneficiaries.

RDEIS Commenter

C369

Response

The respective need and purpose of DNR and USFWS for the proposal are discussed in Section 1.1 of the FEIS. DNR's Objective #1 expressly recognizes the trust mandate: "Generate revenue and other benefits for each trust by meeting DNR's trust management responsibilities. Those responsibilities include making state trust lands productive, preserving the corpus of the trust, exercising reasonable care and skill in managing the trust, acting prudently with respect to trust assets, acting with undivided loyalty to trust beneficiaries, and acting impartially with respect to current and future trust beneficiaries."

Economics at the county level are analyzed in Section 4.11, "Socioeconomics," of the FEIS. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

Subtopic: Impacts to harvest

► COMMENT

One commenter urged the Board of Natural Resources to adopt the alternative with the least impact to harvest options.

RDEIS Commenter

C268

Response

Thank you for your comment.

Subtopic: Impacts to rural economies

► COMMENT

DNR does not understand the impacts of their actions on people, local schools, or rural economies. Several of the alternatives have potentially catastrophic consequences for trust beneficiaries, including those in Southwest Washington, Northwest Washington, and on the Olympic Peninsula. Most of the alternatives will harm the socioeconomics of Pacific and Wahkiakum counties. While alternatives F and G are particularly detrimental, even Alternative H will have severe consequences. The rural communities of southwest Washington have already suffered the loss of thousands of forested acres for existing conservation efforts for the marbled murrelet, even though they are the communities that can least afford to have more of their land swallowed up by additional set asides. The Olympic Peninsula has not recovered from the economic impacts of conserving habitat for northern spotted owls. Efforts to save the northern spotted owl have failed and put many people out of work. DNR should not make the same mistake with the conservation strategy. DNR does not have adequate scientific results to justify setting aside additional land for the marbled murrelet and harming rural economies.

RDEIS Commenters

C8, C11, C229, C242, C169, C236, C304, C403

Response

Section 4.11, “Socioeconomics,” in the RDEIS and FEIS indicate that Pacific and Wahkiakum counties will be adversely impacted by alternatives C through H. Per legislative direction in 2018, the Commissioner of Public Lands formed a Solutions Table that is tasked with providing recommendations to the Washington State Legislature that will offset potential revenue and job losses in rural communities (Laws of 2018, Ch. 255).

Economics at the county level are analyzed in Section 4.11 of the RDEIS and FEIS. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

The best available science was used throughout the development and analysis of the alternatives.

Subtopic: Impacts to employment

► COMMENT

The Solutions Table losses and gains report identified an annual job loss in Skagit County of 10.8 jobs and an economic output loss of \$2,133,700 per year for the first decade. However, the RDEIS fails to disclose the impacts to revenue and volume by county for decades beyond the initial planning decade.

RDEIS Commenter

C416

Response

The Solutions Table losses and gains report was published in October 2018, about one month after the release of the RDEIS. After the report was released, the comment period for the RDEIS was extended to allow commenters to review this report and the financial analysis prior to the end of the comment period.

► COMMENT

The RDEIS fails to disclose potential outcomes of job losses such as “depression/drinking, frustration/abuse, basic needs/theft and even loss of homes.”

RDEIS Commenter

C416

Response

Indirect effects of changes in employment are beyond the scope of this EIS.

► COMMENT

Data presented in the RDEIS indicated that timber employment per volume harvested is declining. As a result, timber impacts to employment are overstated.

RDEIS Commenter

C413

Response

The RDEIS and FEIS state that potential impacts to county employment are possible in Pacific and Wahkiakum counties under alternatives C through H. As described in Section 3.11, “Socioeconomics,” these are the two most timber-dependent counties in the analysis area. Reductions in employment due to the alternatives would be in addition to reductions due to other reasons, such as mechanization.

► COMMENT

The RDEIS reports that there are 10 times as many jobs in recreation as timber in Washington State, but the socioeconomic discussion focuses on timber jobs. To justify this, the RDEIS data on the economic importance of recreation was unavailable.

RDEIS Commenter

C413

Response

Section 3.7, “Recreation,” of the RDEIS and FEIS states that “State trust lands provide opportunities for recreation. The value of these opportunities has not been studied in detail for all state trust lands in the marbled murrelet analysis area.”

As the analysis of the alternatives in Section 4.7, “Recreation,” of the RDEIS and FEIS does not anticipate significant impacts on recreation due to the conservation strategy alternatives, Section 4.11, “Socioeconomics,” states that “tax revenue from economic activity on DNR-managed forestlands from sources other than timber harvest (for example, recreation) is not expected to change significantly under any action alternative.” For the same reason, Section 4.11 does not include an analysis of effects on employment due to recreation.

► COMMENT

By using statewide factors in the employment analysis, the analysis of employment and income fails to adequately portray the impact on family wage jobs in economically distressed counties.

RDEIS Commenter

C318

Response

The employment analysis in Section 4.11, “Socioeconomics,” of the RDEIS and FEIS considers both western Washington and county-level impacts. This section notes that adverse impacts to employment are expected in Pacific and Wahkiakum counties under alternatives C through H due to decreased harvest volume.

► COMMENT

The Solutions Table losses and gains analysis used multipliers that do not reflect current employment by harvest volume in Clallam County. It also uses figures from 2017, which were significantly different than 2014, which is an outcome of DNR harvesting practices.

RDEIS Commenter

C318

Response

The employment multipliers used in the Solutions Table losses and gains report are based on the 2016 addition of the IMPLAN economic model updated to use market relationships, based on 2018 data. The report compares harvest levels under two management scenarios. Harvest levels under these scenarios may differ from actual harvest experienced in 2014 as harvest levels vary from year to year.

► COMMENT

The RDEIS presents a vision of recreation for the economic future of Clallam County. Recreation pays a much lower wage than employment in the logging or wood manufacturing industries.

RDEIS Commenter

318

Response

Analysis in the RDEIS and FEIS anticipates that recreation will continue on DNR-managed lands. In Section 4.7, “Recreation,” the RDEIS and FEIS state that “The state’s population is projected to grow by several million over the next three to four decades. The Washington State Recreation and Conservation Office completed an assessment of supply of outdoor recreation facilities and opportunities in Washington (Recreation and Conservation Office 2013). Their findings suggest that the current supply of recreation is not completely meeting public demand, and meeting that demand is further challenged by the pressures of population growth and urbanization in Washington. These pressures are likely to intensify over the next several decades as land available for recreation becomes more restricted. As a result, existing facilities and trails most likely will see more use and public interest will increase to develop new facilities and new trails (both motorized and non-motorized).” However, no alternative analyzed includes specific measures designed to increase recreational use.

As the analysis of the alternatives in Section 4.7 does not anticipate significant impacts on recreation due to the conservation strategy alternatives, Section 4.11, “Socioeconomics,” states that “tax revenue from economic activity on DNR-managed forestlands from sources other than timber harvest (for example, recreation) is not expected to change significantly under any action alternative.” For the same reason, Section 4.11 does not include an analysis of effects on employment due to recreation.

Subtopic: Impacts to working families

► COMMENT

The socioeconomic data in the RDEIS is misleading and does not accurately capture the conditions of working families.

RDEIS Commenter

C318

Response

Section 3.11 of the RDEIS includes data on population and employment, and median income data from the Washington Employment Security Department and Washington Office of Financial Management.

Subtopic: Impacts to expansion of communication sites

► COMMENT

The alternatives' impacts on the ability to expand communication sites are under-represented.

RDEIS Commenter

C416

Response

Section 4.9, "Public Services and Utilities," of the RDEIS states that there are between 0 and 3 existing communication sites currently located within proposed marbled murrelet conservation areas under one or more of the action alternatives. New leases for communication sites will be limited in occupied sites, special habitat areas, and the 0.5 mile buffers on occupied sites within emphasis areas under the proposed conservation measures for the action alternatives. Consultation between DNR and USFWS will be necessary to avoid impacts to habitat in these areas. Because specific sites anticipated for new leases cannot be known at this time, it is difficult to predict whether the proposed sites may be impacted by the action alternatives. Given the amount of land still available within the analysis area and the availability of existing sites to co-locate new services, the long-term conservation strategy is not anticipated to be a major impact to public communication services.

Subtopic: Impacts to other benefits of state trust lands

► COMMENT

The RDEIS does not describe the “other benefits” of state trust lands. It does not describe how the different alternatives would affect the value of these benefits or their sustainable availability in the future.

RDEIS Commenter

C413

Response

The commenter seems to be referring to the “other benefits” as listed in DNR’s *Policy for Sustainable Forests*: “The purpose of the *Policy for Sustainable Forests* is to conserve and enhance the natural systems and resources of forested state trust lands managed by DNR to produce long-term, sustainable trust income, and environmental and other benefits for the people of Washington.” In addition to earning income, activities on trust lands are managed to protect habitat for native plant and animal species, provide clean and abundant water, and offer diverse public recreation opportunities.

The RDEIS and FEIS were prepared to comply with both SEPA and NEPA. As such it contains analyses of elements of the environment where impacts may occur. The RDEIS and FEIS contain chapters presenting current conditions and environmental consequences to those 12 elements. A complete enumeration of the benefits of DNR-managed lands is beyond the scope of this EIS.

Subtopic: Funding management account

► COMMENT

Only Alternative B provides enough funding to the management account to support western Washington state trust land management, which costs \$51 million per year.

RDEIS Commenter

C416

Response

The average costs of western Washington land management was \$51 million per year between fiscal years 2011 and 2018. A portion of these costs varies based on the amount of timber harvest that occurs. For example, the cost of planting varies by the area of variable retention harvest that occurs. Under scenarios that have lower projected harvest levels, lower costs would be incurred.

All scenarios are modeled such that the activities must generate enough funding to pay for the projected management. In all scenarios, the model projects management funds to be adequate to pay for land management expenses calculated at the modeled harvest level.

Subtopic: Insufficient analysis of economic impacts to public services and utilities

► COMMENT

Every acre removed from commercial forestry under this proposal results in a direct reduction in public services and utilities in some of Washington's poorest counties. The RDEIS fails to address impacts on public services and utilities including fire, law enforcement, and schools. In particular, impacts to Clallam County Fire District 5 and the Cape Flattery School District with depend upon the Clallam Bay Block for revenue. Nor has there been analysis of impacts on non-DNR services or utilities. The commenter points out that, under SEPA, the RDEIS should have assessed impacts on revenues to the Forks Hospital District, North Olympic Library Systems, and Clallam County, and their ability to provide medical, library, law enforcement, road maintenance, and sewer services, respectively. Focusing on overall county impacts overlooks impacts to the Clallam Bay/Seki communities and other communities within the strategic location in the OESF.

The RDEIS must describe specifically the impact on public services in each affected county from the alternatives and must propose mitigation for those impacts. The RDEIS must also include analysis on the economic impacts to counties.

RDEIS Commenter

C67, C300, C363, C380, C441

Response

The impacts on public services and utilities were analyzed in the RDEIS and FEIS in Section 4.9, "Public Services and Utilities." Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres. Per legislative direction in 2018, the Commissioner of Public Lands formed a Solutions Table that is tasked with providing recommendations to the Washington State Legislature that will offset potential revenue and job losses in rural communities (Laws of 2018, Ch. 255).

Subtopic: Taxing districts

► COMMENT

Reduction in timber sale volume potentially harms public services in Lewis County, including the Timberland Regional Library (TRL). There is concern about reduced revenue affecting the work the library does in the community.

TRL is an Intercounty Rural Library District serving Mason, Pacific, Grays Harbor, Lewis, and Thurston Counties. It is a junior taxing district funded by property taxes and timber sale revenue in the five-county area. Timber revenue accounts for approximately 10 percent of TRL's budget. Four of the five counties served are considered "distressed" and TRL provides several important services to these counties. TRL does not consider either the financial analysis (Appendix P to the

RDEIS and FEIS) or the Solutions Table losses and gains report (October 2018) published by DNR to sufficiently address specific and significant impacts of DNR's decisions on junior taxing districts. Therefore, TRL respectfully requests that DNR perform a much deeper analysis of the effects its decisions have on junior taxing districts and on the economies of rural communities.

RDEIS Commenter

C354, C313

Response

Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

► COMMENT

Revenue from DNR timber sales is an important source of income for counties and junior taxing districts, including schools, fire districts, and libraries. The impact of the preferred alternative varies across and within each county and in many cases will fatally affect revenue to junior taxing districts such as hospitals, fire departments, and libraries throughout rural western Washington. The analysis failed to include impacts to junior taxing districts or at levels lower than entire counties. Impacts to each trust need to be evaluated, including setting aside areas that are not currently and will not become marbled murrelet habitat. SEPA requires an evaluation of impacts to public services and NEPA requires an evaluation of impacts to environmental elements including socioeconomics, and environmental justice, which require a robust economic analysis.

RDEIS Commenter

C330, C354, C363, C369, C416

Response

Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres. Economic analyses also are included in Section 4.11, “Socioeconomics,” and Appendix P.

► COMMENT

Populations of concern, as described in EO 12898, may be impacted by Alternative H, the Olympic Peninsula strategic location, and special habitat areas within the Clallam Bay Block. The commenter states that Alternative H would have significant, unmitigated, and unacknowledged consequences on junior taxing districts in western Clallam County. The RDEIS did not analyze the impacts of Alternative H on “community structures” and failed to make the connection between timber revenues and the community's physical ability to provide essential public services. Junior taxing districts potentially affected include the Cape Flattery School District, the

Clallam Bay Bruins, Clallam County Fire District No. 5, a branch of the North Olympic Library System, a medical clinic operated by the Forks hospital, and the Washington State Department of Corrections Clallam Bay Correctional Facility.

RDEIS Commenter

C300

Response

The RDEIS analyzed the potential impacts of the alternatives on low-income and minority populations in Section 4.10, “Environmental Justice,” of the RDEIS and FEIS. Based on the commenter’s suggestion, the Joint Agencies incorporated new analysis in the FEIS that examines potential impacts of the alternatives on school districts that have high proportions of low-income or minority student enrollment (refer to Section 4.10). Socioeconomic impacts were analyzed in Section 4.11, “Socioeconomics,” at scales similar to other analyses in the RDEIS and FEIS. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

► COMMENT

The Port of Port Angeles requests that DNR complete a thorough economic and timber harvest impact analysis of all the alternatives under consideration by county; that the analysis be made available to the public; and that the comment period for the RDEIS be extended so that the public can review and comment on the analysis. The analysis must include impact to trust beneficiaries, including junior taxing districts, in areas that will be impacted by the alternatives. A "statewide" analysis is not adequate because of differential impacts in the areas where new encumbrances on land management are under consideration.

RDEIS Commenter

C81

Response

Socioeconomic analyses were conducted at the trust, benefitting county, or Washington State general fund scale for the RDEIS within Section 4.11, “Socioeconomic,” in the RDEIS and FEIS. Section 2.1 of the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* compares changes in harvest volume across a range of marbled murrelet conservation alternatives coupled with different riparian management and arrearage scenarios. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

► COMMENT

Most state trust lands in the Clallam Bay Block are State Forest Lands. There are two special habitat areas and one occupied site and associated buffer within this block. The commenter estimates that approximately 25 to 28 percent of the block would be within Alternative H special habitat areas. The RDEIS did not analyze the impacts of Alternative H on junior taxing districts associated with the Clallam Bay block, including the Cape Flattery School District. There are several sources available that could be utilized to analyze these impacts, including U.S Treasury's low-income community data, DNR GIS data showing tribal lands, revenue reports from junior taxing districts, and the timber sale history of the Clallam Bay Block (5 to 10 years). This data could have been analyzed in comparison to the predicted future timber harvest to assess impacts of Alternative H on the stakeholders into the community and how to mitigate those impacts. Developing a quantifiable estimate of the annual impact, or decadal impact, could be the much needed insight for the Commissioner's Solutions Table.

RDEIS Commenter

C300

Response

The socioeconomic analysis in the RDEIS was performed using reasonably available data at a scale in keeping with the landscape level change expected under the alternatives. Based on the commenter's suggestion to use additional, readily available data on low-income or minority communities, the Joint Agencies incorporated new analysis in the FEIS that examines potential impacts of the alternatives on school districts that have high proportions of low-income or minority student enrollment (refer to Section 4.10). Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

► COMMENT

The commenter maintains that Alternative B is in the best interests of the trust beneficiaries of the OESF. If Alternative H is selected by the Board of Natural Resources, the environmental justice and socioeconomic sections of the RDEIS need to be significantly revised, tying Alternative H's strategic locations and accompanying special habitat areas with the identifiable communities of concern. Current special habitat areas in the Clallam Bay Block would have lasting, financially devastating impacts for many decades.

RDEIS Commenter

C300

Response

Section 4.10, "Environmental Justice," section was revised in response to this comment to include an analysis of potential impacts to school districts that have high proportions of low-income or

minority student enrollment (refer to Section 4.10). Student enrollment data for the 2017 through 2018 school year was obtained from the State of Washington Office of Superintendent of Public Instruction's Report Card report. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres. Refer to Table R-5 for results specific to Clallam County.

► **COMMENT**

As a trust beneficiary and junior taxing district, the Sultan School District opposes any action by DNR that would increase restrictions on state forest trust lands that would decrease the ability of these lands to generate revenue.

RDEIS Commenter

C203

Response

Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

Subtopic: Timber volume and mills

► **COMMENT**

DNR timber volume to county mills is an important source of income for the county and its junior taxing districts. The mills provide financial benefit through taxes and employment and the timber sale program along with the mills create additional economic benefits in the form of logging, trucking, equipment sales, and other associated employment. Mill employees' children also attend local schools and employees contribute to the community as coaches, serving on PTSA and other civic organizations, and supporting local businesses. The mills, along with the direct and indirect employment they bring, are the life blood of the rural communities.

RDEIS Commenter

C354, C363

Response

Thank you for your comment.

Subtopic: Local population

► COMMENT

DNR should consider tying the conservation plan to specific economic investments in the affected counties in ways that also further habitat plans. Perhaps DNR could recruit, train, and hire foresters and other specialists to work on murrelet, spotted owl, and other critical habitat in ways that tap into the expertise and culture of the local population.

RDEIS Commenter

C461

Response

Per legislative direction in 2018, the Commissioner of Public Lands formed a Solutions Table that is tasked with providing recommendations to the Washington State Legislature that will offset potential revenue and job losses in rural communities (Laws of 2018, Ch. 255).

► COMMENT

Sustainable management in the future should include dignified retirement packages for older loggers and subsidized training and diversification into the new economy based on using bamboo and hemp to make lumber and paper products.

RDEIS Commenter

C453

Response

Thank you for your comment.

► COMMENT

People who rely on forest-based jobs need assistance to develop other skills and find other employment.

RDEIS Commenters

C472, C515

Response

Thank you for your comment.

Subtopic: Preservation of species

► COMMENT

The Hood Canal School District and the Timberland Regional Library will survive and thrive with an alternative more conducive to marbled murrelet recovery and it is unfortunate that both organizations do not do more to educate students and the public about the importance of preserving endangered species and why these species are worth a few tax dollars to preserve.

RDEIS Commenter

C421

Response

Thank you for your comment.

Subtopic: Purpose of 1997 HCP

► COMMENT

The 1997 HCP was intended to provide certainty of timber supply and reduce the risk of legal challenges under the Endangered Species Act. None of the alternatives result in an increased incidental take of marbled murrelets; therefore, the Board of Natural Resources may select any alternative without violating 1997 HCP obligations.

RDEIS Commenter

C354

Response

The long-term conservation strategy is required per DNR's 1997 HCP, which allows DNR to remain compliant with the Endangered Species Act while managing state trust lands. The Board of Natural Resources has the discretion to select an alternative within the range analyzed that they believe best meets DNR and USFWS' need and purpose of the proposal. Section 1.4 of the FEIS contains a discussion of the USFWS approval process required for the long-term conservation strategy, which requires an incidental take permit amendment under Section 10 of the Endangered Species Act.

Subtopic: Team of beneficiaries to assess impacts

► COMMENT

DNR should assemble a team chosen by trust beneficiaries to work with DNR to develop the methodology and analysis of the impacts to local governments and every trust beneficiary. Results should be presented to the public for review and comment.

RDEIS Commenter

C318

Response

The Board of Natural Resources, if it so chooses, may convene a team of trust beneficiaries to analyze impacts to local governments and every trust beneficiary. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

Subtopic: Assessing impacts across ownerships**► COMMENT**

Focusing on the change in operable acres, and corresponding volume changes, based on the *Alternatives for Establishment of a Sustainable Harvest Level DEIS*, does not put the impacts in the correct context because the volume harvested from private lands is not reported. Due to the use of weighted acres, it is difficult to relate the impacts of the alternatives to the land base that supports the statewide timber industry. It is only proper to analyze the impacts relative to the entire timber land base, not just state trust lands.

Also, the EIS does not provide an analysis of how the long-term conservation strategy could affect the flow of logs to mills. The impacts of the alternatives would be spread across a number of counties because timber is processed in many counties.

RDEIS Commenter

C442

Response

The long-term conservation strategy applies only to DNR-managed lands. Harvest volumes from all ownerships, public and private, and from DNR-managed lands are reported in Figure 3.11.2 of the RDEIS. Section 5.3 includes a discussion of forest management on non-DNR-managed lands and Table 5.11 summarizes incremental impacts of the alternatives added to past effects and future trends within the range of the marbled murrelet.

The use of weighted acres takes into account that different areas of DNR-managed lands have different management constraints.

Impact to counties from changes in trust revenue are assessed in Section 4.11, “Socioeconomics,” of the RDEIS. State Forest Transfer and State Forest Purchases lands in each county provide revenue to county beneficiaries. Impacts on these trusts are assessed by calculating the change in operable acres in each county or trust.

Employment and local tax impacts also are assessed at the county level. The FEIS states in Section 4.11 that two assumptions are made regarding county-level employment impacts. These

assumptions are “that, within a county, timber harvest volume is closely related to employment levels in timber-related jobs” and “that workers are not employed outside their home county.” DNR acknowledges that some workers are employed outside their home county, but could find no documentation of mobility of timber sector employees that was appropriate for this analysis.

Impacts to employment depend on harvest levels, which on state trust lands are guided by the sustainable harvest level. The sustainable harvest level is based on forest inventory growth, DNR policies, and state and federal laws, and will be affected by the long-term conservation strategy.

The financial analysis (Appendix P to the RDEIS and FEIS) was specific to the sustainable harvest calculation. This analysis considered the potential financial impacts of 38 scenarios for the sustainable harvest level on trust beneficiaries, each scenario representing a different combination of long-term conservation strategy, arrearage, and riparian thinning options. The financial analysis was intended to inform the Board of Natural Resources’ decision about the sustainable harvest level.

► COMMENT

The EIS should include an analysis of the threats to productive tribal and private forestland from development and other conversions.

RDEIS Commenter

C442

Response

The FEIS analyzes impacts due to the proposed action, the amendment of the 1997 HCP to replace the interim strategy with a long-term conservation strategy. Changes in management of tribal and private lands are outside the scope of this EIS. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for the proposal. Section 5.3 of the FEIS includes a discussion of forest management on non-DNR managed lands and Table 5.4.1 summarizes incremental impacts of the alternatives added to past effects and future trends within the range of the marbled murrelet.

► COMMENT

The RDEIS should have made it clear that the multipliers cited for jobs per million board feet of timber harvested apply to the entire timber industry operating across all Washington ownership, not to DNR-managed lands alone. Since the RDEIS is using multipliers that apply to the entire Washington timber industry, this document should have extended analyses across all ownerships instead of limiting their assessments only to DNR-managed lands.

RDEIS Commenter

C442

Response

Data on job multipliers have been studied at the scale of all timber lands in Washington. Multipliers specific to DNR-managed lands are not available.

The analysis considers changes in employment in the analysis area counties due to changes in harvest from DNR-managed lands. The long-term conservation strategy is assumed to have no significant impacts on counties outside the analysis area.

Subtopic: Paper manufacturing jobs**► COMMENT**

Paper manufacturing wages and jobs have been in continuous decline since 1990.

RDEIS Commenter

C442

Response

Figure 3.11.1 in the FEIS shows that manufacturing jobs declined from 2001 through 2016.

Subtopic: Timber employment within the analysis area**► COMMENT**

The document provides no context for the importance of timber employment within the analysis area or at the county level.

RDEIS Commenter

C442

Response

Table 3.11.12 shows the percent of paid employees in each of the 17 counties in the analysis area and statewide that work in the forest product sector, based on Bureau of Labor Statistics data. Table 3.11.2 shows the total employment in each of the 17 counties in the analysis area and statewide based on Washington Employment Security data.

Subtopic: Link between timber jobs and harvest volume

▶ COMMENT

We strongly agree with the statement that timber jobs do not show a strong link with harvest volumes from DNR-managed lands.

RDEIS Commenter

C442

Response

Thank you for your comment.

Subtopic: Economic growth

▶ COMMENT

The RDEIS continually downplays the overall growth in the economy of the analysis area. On page 3-60 it states “Employment in most counties increased in that time [2011-2016], but decreased in Grays Harbor and Wahkiakum counties in southwest Washington.” It would have been more accurate to have stated that “Employment in *nearly all* counties increased, but decreased in Grays Harbor and Wahkiakum counties in southwest Washington.”

RDEIS Commenter

C442

Response

The RDEIS reports that employment decreased in two counties, Grays Harbor and Wahkiakum, between 2001 and 2016, based on Washington Employment Security data. Table 3.11.3 shows changes in employment and other demographic data for all 17 counties in the analysis area.

Subtopic: Timber export volumes

▶ COMMENT

The RDEIS states that the effects of increases in log export volumes since 2006 on “wood products and paper sectors is uncertain.” The document further states that the increase in log exports corresponds to a period of sharpest declines in harvest from other ownerships. This incorrect statement appears to be a swipe at reductions in national forest cutting levels. The commenter states that: 1) When log export share of total log consumption in Washington State reaches 28 percent (DNR 2017), it is most unlikely that the theoretical loss of volume to local processing is an “uncertain effect”; and 2) the national forest cut level adjustments statewide had essentially stabilized a decade before the increases in export volumes notes for 2006.

RDEIS Commenter

C442

Response

Figure 3.11.5 in the RDEIS shows that export volume increased continuously from 2006 to 2014. Figure 3.11.2 shows that total employment in the forest products sector declined rapidly between 2006 and 2009. Between 2009 and 2014, the employment trend was only slightly downward. The slower decline in this period may be due to an increase in harvest volumes. Based on data in the FEIS, DNR cannot assess the specific causes of changes in employment.

The role of harvest levels on federal lands was not specifically considered. Timber harvest from federal lands is included in the “all ownership harvest” category in figures 3.11.2 and 3.11.3 in the RDEIS. Figure 3.11.2 shows that timber harvest in counties in the analysis area declined from 3,000 to 2,000 million board feet between 2004 and 2009. In 2004, 95 million board feet were harvested from federal lands in western Washington (DNR 2005). In 2009, harvest on these lands had increased to 101 million board feet (DNR 2010b). From 2004 to 2009 harvest on private lands declined from 2,595 to 1,423 million board feet (DNR 2005, DNR 2010b).

Subtopic: Uncertainties in timber demand**► COMMENT**

The rationale for Alternative H is partly based on eliminating uncertainties; however, many factors influence timber demand. The analysis should include a range of impacts based on uncertainties in timber demand based on tariffs and changes in the housing market.

RDEIS Commenter

C442

Response

A long-term conservation strategy provides regulatory certainty by allowing DNR to perform management activities in compliance with the Endangered Species Act. The long-term conservation strategy does not propose changes to tariffs or housing market regulation, as these issues are beyond DNR’s control. As such, tariffs and housing market changes are outside the scope of this EIS. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: Changes in timber harvest-related employment

► COMMENT

Timber harvest-related employment has declined over time, and is projected to continue to decline. The EIS must address the reality of the projected future in order to produce useful information regarding economic impacts analysis.

RDEIS Commenter

C442

Response

Both the RDEIS and FEIS include analysis of the impacts of the long-term conservation strategy on trust revenue, tax revenue, employment, and environmental services and non-market values in Section 4.11, “Socioeconomics.” Section 3.11 present current conditions. Figures 3.11.2 and 3.11.3 show employment trends in the forest products sector.

Subtopic: Amount of timber land base affected

► COMMENT

Alternative F would impact only 0.5 percent of the timber land base (34,000 acres out of 3,683,000). Alternative H would impact only 0.09 percent of the timber land base (6,000 acres out of 3,683,000).

RDEIS Commenter

C442

Response

The values of 34,000 and 6,000 acres mentioned by the commenter come from analysis in Section 4.11, “Socioeconomics,” of the RDEIS in which the “operable acres” are reported. As described in the RDEIS and Appendix M, operable acres are weighted to account for differences in management constraints. Comparing weighted acres of DNR-managed lands to gross acres under other ownerships does not result in an accurate comparison of the change in area due to a long-term conservation strategy alternative. Additionally, the source of the 3,683,000 acre total is not provided. It is unclear what this figure represents.

Per the FEIS, Alternative F contains 143,000 more acres of long-term forest cover than Alternative A. Alternative H contains 4,000 more acres of murrelet specific conservation than Alternative A.

► COMMENT

The EIS does not disclose the operable acres in each of the 17 counties since the federal trusts are not included in the county-level values (refer to tables 4.11.3 and 4.11.4).

RDEIS Commenter

C442

Response

The analysis is organized by trust. Tables 4.11.3 and 4.11.4 provide the change in operable acres by county for the State Forest Transfer and State Forest Purchase lands. County level data is presented for these trusts as they directly support beneficiaries in each county. The federally granted trust land in the analysis area support other beneficiaries.

Subtopic: Road maintenance**► COMMENT**

Commenter asks who will pay for continued road maintenance or abandonment of roads on lands deferred from harvest under the long-term conservation strategy. If road maintenance or abandonment is paid from the 25 percent management fee that DNR collects on timber sales, and there are fewer timber sales in the basin, the net result could be a reduction in revenue to trust beneficiaries (specifically, Clallam County). Commenter also is concerned that if DNR abandons some of these roads, a longer, more expensive road will need to be built to access a timber sale, which also could reduce revenue to trust beneficiaries.

RDEIS Commenter

C306

Response

Section 4.8, “Roads,” of the RDEIS and FEIS describes the potential effects of the alternatives on DNR’s network of forest roads and how changes to road use or management would affect other elements of the environment. DNR’s road maintenance and abandonment plan and the costs associated with it are beyond the scope of this project. To pay for forest road maintenance and abandonment, DNR collects a fee (RCW 79.38) from purchasers of DNR timber sales that is based on the volume of timber purchased. The fee is deposited into an Access Road Revolving Fund which is used to pay for maintaining, repairing, and reconstructing roads that provide access to public lands or state trust lands. The Access Road Revolving Fund can also be used for road abandonment.

Subtopic: Sharing of financial burden across beneficiaries

▶ COMMENT

DNR should use some form of consolidation across state forests so beneficiaries can share the financial burden of protecting murrelets.

RDEIS Commenter

C421

Response

Marbled murrelet habitat and strategic areas identified for conservation are independent of trust beneficiary boundaries on state trust lands. Therefore, certain conservation alternatives impact certain trust beneficiaries more than others. Per legislative direction in 2018, the Commissioner of Public Lands formed a Solutions Table that is tasked with providing recommendations to the Washington State Legislature that will offset potential revenue and job losses in rural communities (Laws of 2018, Ch. 255).

Subtopic: Skagit County economic impacts

▶ COMMENT

As a resident of Skagit County and a parent of two children who attend school in Skagit County, the commenter is deeply concerned that the trust beneficiaries are unaware of the potential loss of revenue at stake. A full economic analysis should be run.

RDEIS Commenter

C99

Response

Socioeconomic analyses were conducted at the trust, benefitting county, or Washington State general fund scale for the RDEIS and FEIS within Section 4.11, "Socioeconomics." The socioeconomic analysis was performed using reasonably available data at a scale in keeping with the landscape-level change expected under the alternatives. The impact analysis satisfies the EIS requirement to identify potential adverse impacts and compare alternatives at an appropriate scale. Appendix R includes an analysis of the HCP amendment at the taxing district level in terms of the percent change in operable acres.

▶ COMMENT

The City of Forks supports the comments provided by the Port of Port of Angeles regarding the RDEIS, the financial analysis (Appendix P to the RDEIS and FEIS), and the Solutions Table

losses and gains analysis, specifically incorporating by reference the analysis by Professor Dan Underwood prepared for the Port of Port Angeles regarding these documents. The City of Forks concurs with some of the challenges raised by Dr. Underwood regarding conclusions about Clallam County and supports his recommendation that a team chaired by trust beneficiaries be assembled to work with DNR to develop "a methodology and analysis of the impacts to local governments and every trust beneficiary." The City of Forks further volunteers to participate on this team.

Commenter

C300

Response

Per legislative direction in 2018, the Commissioner of Public Lands formed a Solutions Table that is tasked with providing recommendations to the Washington State Legislature that will offset potential revenue and job losses in rural communities (Laws of 2018, Ch. 255).

► **COMMENT**

DNR has claimed that an economic analysis is not required by SEPA.

RDEIS Commenter

C416

Response

The RDEIS and FEIS were prepared to comply with both SEPA and NEPA. As such, these documents contains analyses of elements of the environment where impacts may occur. The RDEIS and FEIS contain chapters presenting current conditions and environmental consequences to those elements. Refer to sections 3.9 and 4.9 (Public Services and Utilities), 3.10 and 4.10 (Environmental Justice), and 3.11 and 4.11 (Socioeconomics).

Subtopic: Solutions Table

► **COMMENT**

The commenter supports DNR's efforts on the Solutions Table to find ways to create more economic opportunities and new ways to fund county services other than logging remaining marbled murrelet habitat.

RDEIS Commenter

C536

Response

Thank you for your comment.

Subtopic: Log exports**► COMMENT**

The RDEIS should more fully discuss the log export sector of Washington's timber economy in relation to the long-term conservation strategy.

RDEIS Commenter

C442

Response

Unprocessed timber, such as raw logs, from state trust lands cannot be exported by law (WAC 240-15). The marbled murrelet long-term conservation strategy applies only to DNR-managed lands. Harvest volumes from all ownerships, public and private, and from DNR-managed lands are reported in Figure 3.11.2 in the FEIS. Section 5.3 of the FEIS includes a discussion of forest management on non-DNR managed lands and Table 5.4.1 summarizes incremental impacts of the alternatives added to past effects and future trends within the range of the marbled murrelet.

Subtopic: Trust mandate and trust revenue**► COMMENT**

A few commenters expressed concern regarding DNR's obligation to generate revenue according to the trust mandate and provided alternate revenue-generation ideas such as raising taxes, creating a state income tax, or raising revenue through existing fees such as parking tickets, speeding tickets, or traffic violations.

RDEIS Commenters

C361, C172, C335, C395

Response

Procurement of alternate sources of revenue by counties and specific trust beneficiaries is outside the scope of this EIS. However, the Washington State Legislature has directed the Commissioner of Public Lands to appoint a marbled murrelet advisory committee to develop recommendations for the legislature, including additional means of financing county services (Laws of 2018, Ch. 255). Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: Closing timberlands in Pacific County

► COMMENT

DNR appears to be closing all timberlands in Pacific County to logging.

RDEIS Commenter

C6

Response

Pacific County includes a variety of forest landowners besides DNR. Under all of the alternatives, DNR-managed lands are available for timber harvest in Pacific County.

■ Topic: Out of Scope

Subtopic: Sustainable harvest calculation

► COMMENT

No new sustainable harvest calculations are provided in the RDEIS. Without new sustainable harvest calculations, the RDEIS analysis is flawed.

RDEIS Commenter

C442

Response

The marbled murrelet RDEIS and FEIS considers the effects of the change in quality and location of marbled murrelet conservation on DNR-managed lands. The sustainable harvest level is based on these changes and a range of other information including forest inventory and growth, state and federal law, and DNR policy. The sustainable harvest level for the 2015 through 2024 planning decade is being analyzed in a separate planning process. Refer to the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* for more information.

The financial analysis (Appendix P to the FEIS) is specific to the sustainable harvest calculation. This analysis considered the potential financial impacts of 38 scenarios for the sustainable harvest level on trust beneficiaries, each scenario representing a different combination of long-term conservation strategy, arrearage, and riparian thinning options. The financial analysis was intended to inform the Board of Natural Resources' decision about the sustainable harvest level.

► COMMENT

The baseline for the sustainable harvest calculation is 550 million board feet per year, which is more than the actual timber output from DNR.

RDEIS Commenter

C442

Response

The sustainable harvest level for the 2015 through 2024 planning decade is being analyzed in a separate planning process. Refer to the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* for more information.

The financial analysis (Appendix P to the RDEIS and FEIS) was specific to the sustainable harvest calculation. This analysis considered the potential financial impacts of 38 scenarios for the sustainable harvest level on trust beneficiaries, each scenario representing a different combination of long-term conservation strategy, arrearage, and riparian thinning options. The financial analysis was intended to inform the Board of Natural Resources' decision about the sustainable harvest level. The financial analysis does not include comparisons with a level of 550 million board feet per year.

► COMMENT

The commenter does not understand why timber volume harvested from riparian management zones would not be included in the sustainable harvest calculation, but would count toward attainment of the sustainable harvest level.

RDEIS Commenter

C318

Response

The sustainable harvest level for the 2015 through 2024 planning decade is being analyzed in a separate planning process. Refer to the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* for more information.

In its November 2017 meeting, the Board of Natural Resources declined to set a specific target for timber harvest from riparian areas. For that reason, DNR did not factor riparian harvests into the overall sustainable harvest level. However, any commercial harvest that does occur in riparian areas, for example commercial thinning, would generate revenue for trust beneficiaries and would count against the attainment of the sustainable harvest level.

► COMMENT

DNR has not met its harvest targets in Clallam County for the past decade and failure to complete the current sustainable harvest level has created a diminished flow of lumber to support local employment and income. The financial analysis adds further confusion over arrearage.

RDEIS Commenter

318

Response

DNR does not set the sustainable harvest level by county. The sustainable harvest level is set by sustainable harvest unit. Within Clallam County, there are three sustainable harvest units: OESF, which includes all lands in the OESF HCP planning unit; Clallam, which includes all State Forest Transfer Lands in Clallam County outside of the OESF; and federal, which includes all federally granted trust lands and State Forest Purchase Lands in all counties, not including land in the OESF or Capitol State Forest (refer to the *Policy for Sustainable Forests* for information about sustainable harvest units). In all three of these sustainable harvest units, actual harvest was less than the projected harvest in the fiscal year 2005 through 2014 planning decade. The differences between actual and projected harvest levels are the subject of a separate planning process under SEPA. Refer to the *Alternatives for Establishment of a Sustainable Harvest Level for Forested State Trust Lands DEIS* for more information.

The financial analysis (Appendix P to the RDEIS and FEIS) provided information on the harvest volume and 10-decade net present value of 38 sustainable harvest level scenarios, each scenario representing a different combination of long-term conservation strategy, arrearage, and riparian thinning options.

► COMMENT

The commenter disagrees with the process to develop the arrearage harvest amount, and feels it should be 702 million board feet, not 382 million board feet.

RDEIS Commenter

C306

Response

The sustainable harvest level for the 2015 through 2024 planning decade is being analyzed in a separate planning process. Refer to the *Alternatives for Establishment of a Sustainable Harvest Level DEIS* for more information.

Subtopic: Human population

▶ COMMENT

The commenter suggests writing an environmental impact statement on the reduction of the human population, as the size of the human population is the root cause of the problem with marbled murrelets.

RDEIS Commenter

C520

Response

Human population growth and increasing demand on space is a known stressor on Washington forests (DNR 2006); however, analysis of human population growth or decreasing the human population is outside the scope of this EIS. Refer to Section 1.1 for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: Illegal logging

▶ COMMENT

The commenter reported illegal logging near Marblemount, Washington and expressed concern that selective logging is condemned but nothing is done to stop illegal logging.

RDEIS Commenter

C270

Response

DNR's Forest Practices division regulates logging on state and private land in Washington. Logging regulations are outside of the scope of this EIS. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: Jacobsen trust land transfer

▶ COMMENT

Save the Jacobsen trust land transfer given to the City of Kelso. The City of Kelso is going to log it because DNR did not place a logging restriction on it.

RDEIS Commenter

C1

Response

Logging restrictions on non-DNR-managed land are outside of the scope of this EIS. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

Subtopic: Navy Growlers**▶ COMMENT**

Commenter submitted comments prepared for the US Navy's EISs for the Expanded Growler Fleet at NASWI to do Northwest Training and Testing, The Citizens of Ebey's Reserve are considering a challenge to these projects under the Endangered Species Act.

RDEIS Commenter

C451

Response

The Joint Agencies recognize the potential for noise to impact nesting murrelets (refer to Chapter 4 of the RDEIS). However, decisions regarding naval activities are outside the scope of this EIS. A discussion on the potential impacts of growler jet noise on murrelets is included in Chapter 5 of the FEIS.

Subtopic: Adjacent landowner coordination**▶ COMMENT**

What coordination with adjacent landowners is being done to "high-grade" intact and remnant habitat?

RDEIS Commenter

C397

Response

The 1997 HCP and incidental take permit are only applicable to DNR-managed lands. It is outside the scope of this EIS to influence decisions of other landowners. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

▶ COMMENT

Identify, enhance and preserve "island" and "linkage" habitat with other landowners. Consider "buy-out" preservation of high-quality habitat.

RDEIS Commenter

C397

Response

The 1997 HCP and incidental take permit are only applicable to DNR-managed lands. It is outside the scope of this EIS to influence decisions of other landowners. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

RCW 79.22.060 authorizes the transfer or disposition of certain state trust lands encumbered with long-term deferrals due to Endangered Species Act-listed species. However, such transfers require funding by the Washington State Legislature and DNR cannot predict future funding levels.

► COMMENT

As habitat develops on federal lands, can DNR-managed land be released for active management?

RDEIS Commenter

C547

Response

The 1997 HCP and incidental take permit are only applicable to DNR-managed lands. It is outside the scope of this EIS to influence decisions of other landowners. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

► COMMENT

The commenter would like to see the quantity of habitat that USFWS would like to protect statewide, including all ownerships. DNR could then determine how much of that habitat is on federal land.

RDEIS Commenter

C547

Response

The 1997 HCP and incidental take permit are only applicable to DNR-managed lands. It is outside the scope of this EIS to influence decisions of other landowners. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

► COMMENT

DNR should consider areas being conserved for marbled murrelets on federal land, not state trust lands. DNR likely is underestimating the contribution of federal lands. The U.S. Forest Service will be shifting toward more active management that will create murrelet habitat on federal land.

RDEIS Commenters

C362, C403

Response

The 1997 HCP and incidental take permit are only applicable to DNR-managed lands. It is outside the scope of this EIS to influence decisions of other landowners. Refer to Section 1.1 of the FEIS for the respective need and purpose of DNR and USFWS for this proposal.

■ Non-substantive Comments**► COMMENT**

You are doing a job.

RDEIS Commenters

C113, C121

Response

Thank you for your comment.

► COMMENT

Listen

RDEIS Commenter

C120

Response

Thank you for your comment.

► COMMENT

Test

RDEIS Commenter

C3, C119

Response

Thank you for your comment.

► COMMENT

Great

RDEIS Commenter

C120

Response

Thank you for your comment.

► COMMENT

Survey monkey forms submitted with no comment.

RDEIS Commenter

C125, C126, C128, C130, C134, C135, C142, C143, C158, C165, C163, C167, C171, C318,
C182, C218, C219, C264, C276, C279

Response

Thank you for responding.

Part 3: Response to Comments on the HCP Amendment

Commenters listed in this section are included in the commenter list in Part 2 of this appendix.

► COMMENT

DNR's HCP amendment (Section 6.2.) states several times that there are 592 existing occupied sites, but the RDEIS in Chapter 3 states there are 401 occupied sites. Please explain.

RDEIS Commenter

C305

Response

Occupied sites are represented in DNR's GIS database as polygons. When DNR completed the RDEIS, many of these occupied site polygons were contiguous. Reasons vary. For example, some areas were divided into sections for field surveys and those found to be occupied were entered into the database as separate polygons, even if they shared a boundary. In other cases, a single occupied site was entered as two polygons because it crossed an administrative or watershed boundary. Multiple, contiguous polygons make it difficult for DNR to consistently report the total number of occupied sites on DNR-managed land, because DNR must determine if contiguous polygons represented several occupied sites or one.

To ensure consistency for monitoring and reporting purposes moving forward, DNR has developed a method for dissolving (combining) contiguous occupied site polygons into a single polygon in DNR's GIS database. Each of these dissolved polygons is counted as one site. This method is reliable, objective, and repeatable and does not affect the total number of acres of occupied sites that DNR will protect.

Per this method, DNR currently protects 397 occupied sites under the current interim strategy. DNR will protect 388 occupied sites under the HCP amendment

The acres of occupied sites have not changed since the RDEIS was published: 42,975 acres of occupied sites will be protected under Alternative A and 59,331 acres will be protected under alternatives B through H5. There are fewer occupied sites under the HCP amendment because these sites tend to be larger and more contiguous, meaning more of them were dissolved into single polygons. Refer to Appendix D to the FEIS for more information on occupied sites.

► COMMENT

The HCP amendment (Section 6.3.3.1, p. 13, 3rd and 5th paragraphs) states that DNR will not provide habitat protection or restrict management in any murrelet occupied sites (or establish buffers) if those sites are discovered after the incidental take permit is amended. This lack of protection is a possible source of undocumented and unmodeled take of P-stage 1.0 (occupied site), and is an egregious concern that the commenter does not condone. The commenter suggests to the Joint Agencies that some provision should be made in the HCP amendment for DNR to accept a certain number of new occupied sites, and then consult with USFWS after that number is reached.

RDEIS Commenter

C305

Response

The purpose of an HCP is to provide an HCP applicant with the assurance that if Section 10 permit issuance criteria are met, including, without limitation, minimizing and mitigating the impact of the taking, it may proceed with its action in conformance with the requirements of the Endangered Species Act. The HCP amendment does not include a provision to protect additional occupied sites because doing so would introduce uncertainty in HCP implementation. The number of occupied sites that may be discovered in areas released for harvest is unknown. The P-stage model provides an index of probability of occupancy, and is used to account for take of murrelets in areas released for harvest.

Under the HCP amendment, DNR will protect habitat and restrict management activities in all recorded murrelet occupied sites on DNR-managed lands as of the date on which the incidental take permit is amended. In addition, the HCP amendment protects murrelet habitat within long-term forest cover. These protections would be implemented in exchange for USFWS' assurance that additional protections will not be required in excess of those contemplated in the HCP amendment, the incidental take permit (if any are included), and the Implementation Agreement.

► COMMENT

The total of 42,400 acres of “occupied habitat conserved pending adoption of LCS...” in Table A-1 does not match the “Occupied sites- 9,000 acre” in Table A-3. Please clarify or explain.

RDEIS Commenter

C305

Response

Table A-1 shows the acres of occupied sites identified under the interim strategy. Table A-3 shows the additional acres of occupied sites that would be conserved under the long-term conservation strategy.

► COMMENT

In Table A-3, strike “habitat conserved” from the caption and replace it with “murrelet specific conservation” or similar. The word “habitat” as used in this and all RDEIS documents means “potential nesting habitat.” Not all of the acres within the occupied site buffers or special habitat areas will be murrelet habitat at plan’s end.

RDEIS Commenter

C305

Response

The caption for Table A-3 was changed to “Acres of marbled murrelet-specific and existing conservation managed as long-term forest cover (LTFC) under Washington State Department of Natural Resources’ Marbled Murrelet Long-term Conservation Strategy.”

► COMMENT

The commenter has many concerns with Table A-4 in the HCP amendment that are seen as likely impacts to individual marbled murrelets or degradation of occupied sites. The commenter is opposed to pre-commercial and commercial thinning in occupied site buffers because of increased risk of predation and other edge effects. The term “allowed to enhance or maintain security forest with windfirm canopies” is ambiguous and more details are needed. Up to what ages would thinnings in buffers be undertaken in western hemlock or Douglas-fir type forests? What are DNR’s thinning approaches or regimes by age and or site class? When would DNR not want to thin (at what age is a stand too old so that no economic benefit would be realized)? Please explain rationale on each of these.

RDEIS Commenter

C305

Response

The Joint Agencies have updated Table A-4 for the FEIS and proposed HCP amendment.

► COMMENT

Overall, the commenter is pleased to see many significantly sized special habitat areas distributed across DNR-managed lands. However, it appears the North Puget strategic location is under-mitigated in terms of having more harvest than habitat ingrowth by the end of the plan. Please provide an explanation. The commenter would advocate for additional special habitat areas to be

added there, such as the Van Zandt and Racehorse Creek special habitat areas from the DEIS (2016).

RDEIS Commenter

C305

Response

Total habitat acres in the North Puget strategic location are currently estimated at 60,061 acres (refer to Table 3.6.1 in the FEIS). Estimated habitat acres in the final decade of the planning period under Alternative H are expected to be 72,065 acres, indicating a net increase in total habitat over the term of the 1997 HCP in the North Puget strategic location (Table 4.6.3 in the FEIS). However, the analytical framework developed for estimating impacts and mitigation applies both P-stage adjustments and temporal discounts to habitat that develops in later decades, resulting in negative values in the North Puget strategic location (mitigation minus impact) for some alternatives (refer to Table 4.6.5 in the FEIS and Appendix H to the FEIS).

► COMMENT

The commenter has concerns with the P-Stage designation for the “Moclips” special habitat area, which is modeled as mostly high-quality habitat, and suspects that the .89 and .62 P-stage designations may not be entirely accurate, based on orthophoto inspection that looks unremarkable. The commenter intends to field inspect these areas to get a better perspective on stand development stages and how P-stage may be performing in this case.

RDEIS Commenter

C305

Response

Appendix E of the FEIS provides a detailed explanation of the P-stage habitat model. Only stands that are naturally regenerated (and therefore more likely to contain some scattered legacy trees from previous stands) are included in murrelet habitat. Murrelet nest sites have been documented in second-growth forests with structural elements similar to old-growth, such as remnant old-growth trees, or younger trees with platforms created by deformities or dwarf-mistletoe investigations (Grenier and Nelson 1995, Evans-Mack 2003).

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