
3.3 Additional Tribal Comments

The Services (NMFS and USFWS) have a trust responsibility to Native American Tribes and therefore considered their comments during the preparation of this FEIS. The comments of the Lummi Indian Nation, the Colville Tribe, the Skagit System Cooperative, and the Elwha Klallam Tribe are summarized and, where unique issues were raised, are responded to below. For similar comments already raised, the reader is referred to Section 3.2 of this document for the appropriate response. (**Note: the comments are presented following the same outline as section 3.2, however, only topics commented on are included.**)

Comments relating specifically to this HCP

I. GENERAL COMMENTS

Summary: The Lummi Indian Nation stated that the huge land ownership of DNR magnifies greatly the potential for failing to provide adequate oversight in an agreement that may be in place as long as half a century or more. The Elwha Klallam Tribe supported the aquatic and riparian sections of the OESF strategy. They further noted that other parts of the document appeared less convincing and, if implemented, may increase the risk of extinction to a number of species, including the northern spotted owl.

Response: The Services are aware of the considerable effort necessary to oversee such an agreement on 1.6 million acres. See Section 3.2 -- Compliance Monitoring. The Services also note both the support and concern expressed. The Service's believe the specific concerns are either addressed below by topic or in the corresponding topics in Section 3 of the FEIS.

II. DESCRIPTION OF AREA

Summary: The Colville Confederated Tribe recommended separate HCP's be prepared specific to the different ecosystems, citing the differences between the east- and west-side forests. They believed that the section of the HCP which deals with east-side forests is not adequate to ensure the long-term viability of fish and wildlife species, ecosystem function, or long-term productivity.

Response: The Services agree that the HCP does not address or provide ecosystem functions on the east side. The HCP only addresses listed species on the east side of the Cascade crest; it does not address multi-species (i.e., unlisted species) and is not adequate to provide complete ecosystem functions. Coverage would not be provided in the permit for those unlisted species on the east side.

III. ABIOTIC ISSUES

C. WATER

Summary: The Lummi Indian Nation stated that the proposed HCP does not address how it will meet the requirements of the Federal Clean Water Act. The Services have a responsibility to see that requirements of this act are followed and would not sign off on the HCP without meeting the criteria of this act.

The Colville Confederated Tribe commented wide-scale fertilization of forest lands has not been evaluated in the DEIS. Fertilization would likely result in increased stream pollution similar to that in farmlands and would likely be detrimental to water quality and could be harmful to fish.

Response: Issuance of an incidental take permit does not diminish the responsibilities or abilities of the federal government under the Clean Water Act. The permit does not provide an exemption to the requirements of that Act. An assessment is provided in the DEIS in sections 4.2.3, 4.3.2, 4.4.2, and 4.8. With regard to fertilization, the Services believe the impacts will be relatively minor. DNR expects to fertilize 30,000 to 115,000 acres in the first decade on the west side and 4,000 to 10,000 acres on the east side. Not all stands are likely to be in a condition where fertilization is a viable option. Take resulting from this activity would be covered by the permit.

IV. BIOTIC ISSUES

A. FOREST HEALTH/FIRE

Summary: The Colville Confederated Tribe wrote there was an inadequate assessment of selective harvest policies and their forest-health effects.

They also stated that fire as a process and maintainer of ecosystem health and function is not addressed. Additionally, the environmental impacts of wide-scale fire suppression and its effects upon long-term species viability have not been addressed at all.

Response: DNR's HCP only addresses listed species east of the Cascade crest. The Services note that selective harvest may aggravate or alleviate forest-health problems depending on site-specific situations, the application of the techniques, and the perspective of forest health. Addressing this issue east of the Cascade crest is beyond the scope of the HCP.

DNR's draft HCP does address forest health issues on page IV.171-172. Underburning and a host of other activities may be used to address the issues of fire, disease, and insects. The Service agrees that forest health problems which are not addressed or exacerbated may lead to the listing of additional species.

A natural fire regime is desirable, but this requires caution to reinstitute where less than natural forest conditions currently exist. This is a complex issue which is beyond the scope of the HCP.

B. SPECIAL HABITATS

8. Riparian Ecosystem Components

e. HYDROLOGIC MATURITY

Summary: The Lummi Indian Nation cited over-harvest of old growth in the Nooksack Basin and channel instability. They stated that much of the instability can be attributed to stream importation of large amounts of sediment and water in peak flow situations. They state that the HCP does not provide adequate percentages of hydrologically mature forest, which is an important tool in reducing peak flow conditions.

Response: See Section 3.2, III, B, 8 -- Hydrologic Maturity

13. Habitat-based Approach

Summary: The Skagit System Cooperative noted the data imbalance between owls and murrelets and all the remaining species. They stated that dedicating serious effort and funding toward acquiring data about all potentially listed species and their habitats was necessary in order to maintain habitat for those species at a level that is adequate to avoid their becoming listed. For anadromous salmonids, they indicated that the goal should be maintaining the stocks at levels adequate to provide for a viable Tribal fishing industry. They disagreed with the assumption that providing an increased level of riparian protection will fulfill the needs of salmonids and a number of other aquatic dependant species, and they stated that this assumption is not backed up by data. While the riparian proposal may help the habitats of many species, it does not address the species-specific habitats and may fall far short of what is needed by any given species. They used the tailed frog as an example of such a species and also referred to passages in the documents addressing Dunn's and Van Dyke's salamanders. They further stated "there is neither logic nor data to support the notion that the strategy does indeed protect these or for that matter the rest of the species that may be listed in the future that this DEIS is attempting to cover."

Response: See Section 3.2, III, B, 13 -- Habitat-based Approach. The Services believe that in order to adequately address the needs of multiple species, the habitats of those species must be conserved. The DNR HCP, developed with technical assistance from the Services, focused on habitats rather than individual species. The assumption is that the species will benefit if adequate habitats are provided. Most species are dependant on riparian or wetland habitats during some stage of their life-history. Other species, although not dependant on riparian and wetland areas, can benefit from the availability of riparian habitats.

14. Unique Forest Types

Summary: The Colville Tribe indicated that ponderosa-pine ecosystems of the west are some of the most imperilled forest types, with an estimated loss of 92-98 percent of old-growth pine forests. They stated this was primarily due to selective logging and fire suppression and noted that the HCP recommends continuation of those activities--the very practices which have caused many of the forest-health problems so prevalent today.

Response: The Service notes that the HCP specifies amounts of owl habitat to be maintained in certain areas. The HCP does not address which silvicultural prescriptions will be used to achieve those conditions. The Services will make

technical assistance available to DNR, if needed, to assist in selecting techniques that are compatible with improving forest health while maintaining wildlife habitats.

D. ANIMALS

1. Wildlife

b. Birds

i. Sea, shore & wading birds

(A) marbled murrelets

Summary: The Lummi Indian Nation compared the incidental take granted to the Bureau of Indian Affairs through the Section 7 process to that proposed by DNR in the HCP. They believed that the rigorous definition of take in terms of numbers and statistical probability was lacking in the HCP. The Nation believed DNR's proposal sidesteps the issue of quantification of take. They referred to the proposal as a clear trade-off of trust responsibility for economics, which is unacceptable to the Lummi Nation.

Response: The focus of the murrelet strategy and assessment is based on the quality, quantity, and distribution of nesting habitat, rather than individual murrelets. See Section 3.2, III, D, 1, b. i, (A) -- Marbled Murrelets.

ii. Raptors

(A) spotted owls

nesting, roosting, & foraging (NRF) habitat

amounts

Summary: The Elwha Klallam Tribe noted that, while the HCP references riparian areas and unstable slopes as providing future owl habitat, riparian areas typically contain a high degree of edge (which may result in high mortality due to predation by species such as horned owls) and unstable slopes typically do not support the necessary habitat features for owls. Unstable slopes commonly contain low tree densities, low standing volumes, and deciduous species of trees and shrubs. It would appear that efforts to account for NRF areas through riparian and unstable slope areas are inappropriate.

Response: The commentor is correct. Narrow riparian areas alone will not provide owl habitat. Riparian areas will, however, contribute to owl habitat when they are adjacent to or surrounded by suitable habitat.

distribution

Summary: The Elwha Klallam Tribe agreed with the overall strategy of protecting available habitat adjacent to federal reserves, in spite of their concern about the permanency of the federal protection measures. They are also very concerned about the exclusion from any demographic support or dispersal roles in

both the Strait of Juan de Fuca and southwest Washington. This would appear to considerably increase the risk of local extirpation of owls on the Olympic Peninsula. The Tribe is opposed to policies which would lead to the local extinction of owls in the Straits area. The Elwha Klallam Tribe noted that the entire premise of the OESF is based on untested theories, especially that stand conditions can be manipulated over space and time to provide habitat. From a risk analysis standpoint, they believe it is prudent to protect the most important habitat in its entirety and rebuild connections to this habitat. They indicated indirectly that they, therefore, preferred an approach similar to the zoned approach.

Response: The Service believes it is appropriate to use the federal lands as a foundation upon which to base large-scale planning efforts. Nonfederal lands in southwest Washington and on the north coast of the peninsula were determined by analysis to be nonessential for spotted owls on the Olympic Peninsula. The OESF strategy is premised on the maintenance of 20 percent old forest and 40 percent suitable habitat in each of the 11 landscapeplanning units. The protection of the 20 percent old forest will likely occur near existing owl site centers.

iii. Passerines

Summary: The Colville Tribe commented the negative effects of wide-spread pesticide application are well documented in the literature and are implicated at least partially in the severe decline of neotropical migrants.

Response: The Service agrees that pesticide applications can have severe impacts. DNR has committed to retain their restrictive policies with regard to pesticide application. In addition, permit coverage for invertebrates would only be provided for aerial application upon approval of a site-specific plan by the Services.

d. AMPHIBIANS

i. Frogs

Summary: The Skagit System Cooperative indicated that the tailed frog may not be adequately addressed by the riparian strategy. The species prefers cold waters and has a narrow range of temperature tolerance. They cited the widespread extirpation of the tailed frog from areas presently inhabited by salmonids, and this would seem to contradict the notion that what's adequate for salmonids is adequate for other species.

Response: The Services believe that the protection for Types 4 and 5 streams in the HCP is adequate and these areas are the most likely to be inhabited by tailed frogs. In fact, those areas with salmon are less likely to maintain tailed frogs.

e. FISH

i. Anadromous salmonids

Summary: The Lummi Indian Nation said there is a trust responsibility for the federal agencies to work toward protection of a harvestable surplus of salmon and steelhead. The Skagit System Cooperative indicated, for anadromous salmonids, that the goal should be maintaining the stocks at levels adequate to provide for a viable Tribal fishing industry.

Response: The protection for fish under the HCP far exceeds the protection under current state regulations and should help achieve these goals. The Services believe that the riparian protection measures called for in the HCP will play an important role in restoring a harvestable surplus of salmonids. Riparian habitat functions are vital for a number of other species as well.

E. ECOSYSTEM HEALTH

Summary: The Colville Tribe noted the lack of comprehension of the holistic nature of ecosystems and the fact that systems of living communities are inter-dependent and inter-related. They further stated that many of the ecological processes such as insect infestations, forest diseases, and fire (both low-intensity and stand-replacing) are crucial to the continued existence of the ecosystem. To circumvent or discontinue the function of these ecosystem processes has led, and will continue to lead, to high risk where outcomes (including commodity production) are almost totally unpredictable.

The Colville Tribe indicated that ecosystem impacts cannot be mitigated, but need to be addressed. They cited the increase in knowledge about ecosystem management which has recently become available and indicated what is now needed is a combination of social and institutional decision-making that will allow communication and a clear vision. They do not believe the HCP provides that vision.

Response: The Services agree that better understanding will facilitate planning in the future. DNR's HCP, within economic constraints, addresses ecosystem function, riparian habitats, special habitats, and the full range of forest stages on the west side of the Cascades where coverage is provided for multiple species. On the east side, only certain listed species are addressed. The Service cannot require an applicant to provide coverage for additional species, only that the covered species be adequately addressed in terms of the Section 10 issuance criteria. The Services agree that an ecosystem-based approach to addressing multiple species is a preferred management scenario with benefits to both wildlife and long-term commodity production.

V. HUMAN ENVIRONMENT

C. CULTURAL

Summary: The Lummi Indian Nation said there is a trust responsibility for the federal agencies to work toward protection of access to other species and resources for cultural use by the Nation.

Response: The Services recognize their trust responsibilities toward the Tribes with respect to protecting wildlife and their habitats. The Services believe the conservation strategies present in the HCP will enhance and maintain habitats important to fish and wildlife species of interest to the Tribes.

VI. MANAGEMENT PRACTICES

A. AMOUNT OF HARVEST

Summary: The Elwha Klallam Tribe expressed concerned about the expected rate of harvest of existing [owl] habitat in the short term, especially in consideration of the long "lag time" to regrow suitable [owl] habitat. They were particularly concerned about the lack of evidence to support the theory that second-growth forests can be managed to provide suitable [owl] habitat.

Response: The length of time to grow forests is a primary limiting factor with respect to restoring habitats. The HCP will be a benefit to wildlife species because it will enable DNR to make long-term decisions with certainty and return the forests to a healthier state where economic extraction can occur in a dynamic fashion in balance with wildlife habitats and other values.

C. HARVEST METHODS

Summary: The Colville Tribe said there was an inadequate assessment of selective harvest policies and its forest-health effects.

Response: The Services note that selective harvest may aggravate or alleviate forest-health problems depending on site-specific situations, the application of the techniques, and the perspective of forest health. Addressing this issue on the east side of the Cascades is beyond the scope of the HCP.

E. RIPARIAN MANAGEMENT STRATEGY

Summary: The Elwha Klallam Tribe noted that the riparian management strategy is well thought out and scientifically justified. The Tribe supported buffering the entire stream network (including Type 5 streams) across the landscape. They believed that the HCP will help ensure the recovery of riparian habitat and form the basis of salmonid recovery on state lands.

The Elwha Klallam Tribe requested that the management objectives be more clearly defined. Specifically, they noted that the HCP refers to "the maintenance and restoration of salmonid habitat" without defining what that means. They believed this was a critical point because approximately 70 percent of the stream miles covered by the OESF are estimated to have been converted to monotypic stands of young red alder and, as such, will require active restoration to approach the conditions found prior to management.

The Lummi Indian Nation stated that DNR has classified many Type 3 streams as Type 4, when in reality those streams were salmon-bearing streams. They recommended that

DNR retype streams to reflect reality and that the retyping be subject to tribal review and consultation.

Response: The Services acknowledge the value of the riparian strategy for salmonid recovery. The Services and DNR have clarified many of the issues surrounding the riparian strategy and have instituted an adaptive management approach toward riparian areas.

The Service believes that many landowners have mis-typed streams, particularly by failing to recognize fish presence in many smaller streams. The DNR will retype streams classified prior to 1992 and will treat those Type 4 streams conservatively in the interim. DNR believes that the streams typed since 1992 have been typed with a greater degree of accuracy. The draft HCP contains language (page IV.170, fifth paragraph) regarding the verification of stream types and updating the database.

I. GROWTH & FERTILIZATION

Summary: The Colville Tribe commented that wide-scale fertilization of forest lands has not been evaluated in the DEIS. Fertilization would likely result in increased stream pollution similar to that found in farmlands and would likely be detrimental to water quality and could be harmful to fish.

Response: See response to Water Quality on page 3-10 in Section 3.2.

J. THINNING

Summary: The Colville Tribe took exception to the statement that "Most forest stands in the east-side planning units are of uneven age and, therefore, do not require precommercial thinning." They believed this to be a false and misleading statement. Due to fire suppression over the last 60-90 years, stocking levels have increased dramatically and created the multi-storied stand structures common throughout the region. This has affected the water balance of these sites, caused stress in the trees, and created an insect and disease problem, as well as a catastrophic fire hazard. The change in these stands has also modified the habitats of the species endemic to the region and likely changed the distribution and abundance of species. These changes in the long run will contribute to the listing of additional species. In light of this information, precommercial thinning is a mandatory management action which should be implemented to restore these forests.

Response: DNR's draft HCP does address forest health issues on page IV.171-172. Underburning and a host of other activities may be used to address the issues of fire, disease, and insects. The Service agrees that forest health problems which are not addressed or exacerbated may lead to the listing of additional species.

K. SALVAGE

Summary: The Colville Tribe indicated that salvage to stop disease or insect infestations in effect stops the fundamental processes which cycle nutrients that maintain and build the soil, create habitat, and form landscape patterns and stand structures upon which species depend. From an HCP perspective, salvage is only acceptable after the needs of

ecosystem processes are fulfilled. They indicated there is a conflict in the document between existing state laws and the intent of the HCP which needs to be resolved.

Response: The HCP was amended upon negotiation with the Services to better address the potential conflict between the HCP objectives and state laws regarding salvage (see Appendix 3 of this document). For example, salvage operations might be considered by DNR for reasons such as windthrow, fire, disease, or insect infestation. In fact, state statutes pertaining to salvage and forest health may require DNR to take certain actions. If it is determined that such activities would adversely impact the HCP conservation strategies, DNR and the Services shall identify additional mitigation that would allow the necessary activities to go forward.

L. RESTORATION/RECLAMATION

Summary: The Elwha Klallam Tribe requested the management objectives be more clearly defined. Specifically, they noted that the HCP refers to "the maintenance and restoration of salmonid habitat" without defining what that means. They believe this was a critical point because approximately 70 percent of the stream miles covered by the OESF are estimated to have been converted to monotypic stands of young red alder and, as such, will require active restoration to approach the conditions found prior to management.

Response: The revised HCP provides a better description of objectives as described throughout Chapter IV. It does not prescribe how every action would be conducted because of site variability and the potential for new information and techniques to become available. Regarding the OESF, approximately 70 percent of the riparian areas are either alder or conifer forests younger than 30 years. It is clear that with or without restoration, it will take many decades to return to near normal conditions.

M. ROAD MANAGEMENT

Summary: The Skagit System Cooperative believed the road management strategy for the rest of the HCP area (exclusive of the OESF) does not meet management and environmental concerns.

Response: The lack of current information regarding roads has lead the Services and DNR to an agreement whereby a road-management plan would be developed in the first decade of the HCP which will address road location, construction, and maintenance standards, as well as landscape-level road issues such as density of open and closed roads.

P. OTHER PRACTICES

Summary: The Colville Tribe was concerned about the application of pesticides for insect control to protect timber values and indicated that spraying pesticides only treats the symptoms of a problem caused by unsound resource management policies and techniques (e.g., fire suppression). The negative effects of wide-spread pesticide application are well documented in the literature and are implicated at least partially in the severe decline of neotropical migrants.

Response: The Services agree that pesticide applications can have severe impacts. DNR has committed to retain their restrictive policies with regard to pesticide application. In addition, permit coverage for invertebrates would only be provided for aerial application upon approval of a site-specific plan by the Services. The Services agree that the preferred solution is to address the cause of severe outbreaks rather than widely applying insecticides.

VII. OTHER PLAN ELEMENTS

B. RESEARCH

Summary: The Skagit System Cooperative said the accuracy and adequacy of data about habitat for species (other than owls and murrelets) is very suspect and may be leading to erroneous fiscal and landscape conclusions. They used the tailed frog as an example of a species which has very specific habitat needs and might not be adequately addressed even if other species had been adequately addressed. The Cooperative stated that there are no specific plans tied to the HCP for gathering and evaluating data about each of the species and conditions targeted by the HCP.

Response: The HCP addresses a number of important forest-management questions that should benefit a host of species.

1. OESF

Summary: The Elwha Klallam Tribe notes that the entire premise of the OESF is based on untested theories, especially that stand conditions can be manipulated over space and time to provide habitat. From a risk analysis standpoint, they believe it is prudent to protect the most important habitat in its entirety and rebuild connections to this habitat. They indicated indirectly that they, therefore, preferred an approach similar to the zoned approach.

The Skagit System Cooperative took exception to the unique treatment of the OESF. They cited this as an example of data inequality, but also stated that it may reflect a different agenda. They specifically cited text from the HCP which states that the western Olympic Peninsula differs from other physiographic provinces in its unique combination of soil parent materials, precipitation and soil-saturation regimes, and windthrow characteristics. They disagreed with the "perception" this gives, provided an example of another area of the state with similar characteristics, and questioned why the OESF actions would not be conducted elsewhere. They believed that the solutions proposed for the OESF are more likely to succeed than the ones proposed for the rest of the state. Among other reasons, they cited Alternative B does not require buffers on Type 5 Waters, does require wind buffers in moderate potential for windthrow areas on the windward side only, and allows minimal or low harvest beyond the first 25 feet of the buffers. The Skagit System Cooperative also commented that the differences in road-management strategies further reflect the perception that the OESF is unique. They wrote the road-management strategy for the rest of the HCP area does not meet management and environmental concerns.

Response: Whether the OESF is “unique” is not the issue, but whether the prescription and strategies for the OESF are appropriate. The OESF will be treated differently than other planning units. The existence of areas which share some common characteristics will mean that the knowledge obtained on the OESF will have applicability elsewhere. Also at issue is, whether the prescriptions and strategies applied in the remainder of the west-side planning units are appropriate for the range of conditions found in those areas. Although the strategies employed may be different, the desired results are similar.

C. MONITORING/REPORTING

Summary: The Lummi Indian Nation wrote that the proposed monitoring is not adequate to deal with either the listed birds or the potentially listed salmon. They also criticized the monitoring as being primarily designed to allow relief in the form of relaxed mitigation.

The Elwha Klallam Tribe stated they were concerned about the lack of a strong monitoring component. They stated that this must be added and indicated this is another area for tribal cooperation. Without a monitoring component it will be very difficult to evaluate the overall success of the HCP.

The Skagit System Cooperative indicated the need for more details about the monitoring plan.

Response: The Services agree with the need for an adequate monitoring plan and intend to work with DNR in the development of such a plan. The Services have and will continue to coordinate with the Tribes during this process in fulfillment of the Services’ Trust Responsibilities.

VIII. IMPLEMENTATION ISSUES

J. CONTINGENCIES

3. Adaptive-Management Techniques

Summary: The Lummi Indian Nation said there is no requirement for increased mitigation should the monitoring reveal greatly enlarged impacts on salmon or incidental takes of the listed species. They desired greater responsiveness to the results of monitoring.

Response: The Services note that there is greater ability to respond and adapt to changing conditions and new information in the revised HCP. This is especially evident in the riparian strategy.

K. TERMINATION CLAUSE

Summary: The Lummi Indian Nation was disappointed with the provision for termination upon 30 days notice. They believed that such a provision would allow the state to make promises for mitigation in return for substantial harvest of timber and, once the harvest was complete, walk away from the agreement without meeting those promises.

Response: DNR would be required to mitigate for any take imbalance upon early termination. This is described in greater detail in Section 3.2 of this document and in the IA.

IX. RELATIONSHIPS TO OTHER LAND MANAGEMENT

A. RELATIONSHIP TO MANAGEMENT ON FEDERAL LANDS

Summary: The Elwha Klallam Tribe supported the strategy of providing owl habitat adjacent to federal reserves but had concerns about other areas. Specifically, the Tribe is concerned about the permanency of federal protection measures. Short-term changes in the "political landscape" have the potential to seriously undermine the carefully crafted system of federal reserves in the President's Northwest Forest Plan. The recent approval of the timber salvage rider bill is a prime example of this concern.

Response: The Services also believe the strategy of supporting federal reserves is sound, and likewise recognizes some of the inherent trade-offs--particularly in large landscapes which lack a federal ownership component.

While several timber sales have been authorized by Section 2001 of the 1995 Rescissions Act (P.L. 104-19), the Services do not believe that the biological integrity of the President's Northwest Forest Plan has been significantly compromised as a result. The President's Northwest Forest Plan calls for an extensive system of Late-Successional Reserves, protection of riparian reserves, the maintenance of dispersal habitat throughout federal lands, and a monitoring program aimed at ensuring the effectiveness and validity of the plan.

Timber sales harvested pursuant to P.L. 104-19 are not expected to seriously affect the role of the President's Northwest Forest Plan as the foundation for conserving late-successional forest species. The majority of the timber sales released by Section 2001(k) of P.L. 104-19 were located in Oregon. Most of the 2001(k) sales that occurred in Washington were previously consulted on under the Endangered species Act for spotted owls and, from the owl's perspective, were considered harvested when the Service completed Section 7 consultation for spotted owls on the President's Northwest Forest Plan. Therefore, harvest of the 2001(k) sales in Washington have caused few impacts to northern spotted owls that were not previously considered by the Service. Likewise, a relatively small amount of suitable murrelet habitat was harvested as a result of P.L. 104-19, and all known occupied nesting habitat was protected consistent with the standards and guidelines of the President's Northwest Forest Plan and Section 2001(k)(2) of P.L. 104-19.

X. THIRD-PARTY INVOLVEMENT

A. TREATY RIGHTS AND THE FEDERAL TRUST RESPONSIBILITY

Summary: The Lummi Indian Nation objected strongly to the process currently underway to provide federal approval of DNR's proposed HCP covering timber harvests on lands critical for the production of resources reserved to the Tribes by treaty. They

believed this to be a clear violation of the Federal Trust Responsibilities, existing court decisions, and statutory mandates to protect resources reserved for the use of the Tribes.

The Lummi Indian Nation strongly disagreed with the manner in which consultation is being carried out by the Services with reference to DNR's HCP proposal and cited the Presidential Memorandum and the Secretarial Order on this subject. Specifically, they listed determinations that must be made regarding management measures which may affect the exercise of treaty rights.

Response: The Services have met, and will continue to meet, their trust responsibility to Native American Tribes. The Services have acted in accordance with the Presidential Memorandum and Secretarial Order. The Services have coordinated with Tribal fisheries experts through the Northwest Indian Fisheries Commission during preparation of the draft EIS as well as throughout the negotiation period. On June 12, 1996, the Services met with a number of Tribes and their representatives to discuss trust responsibility issues in regard to DNR's HCP. The Services recognize that the HCP program is new and there is still considerable misunderstanding regarding the issues surrounding the program. The Services plan to improve the understanding by all parties and to improve the mechanisms used to coordinate with the Tribes regarding trust resources and the actions which may affect them. See Section 3.2.X.B in this document.

B. TRUST RESPONSIBILITY TO TRIBES

Summary: The Lummi Indian Nation stated that each federal agency has a trust responsibility to Native American Tribes which cannot be avoided by reliance on flawed environmental studies by the state and accommodation of state interests in derogation of fiduciary duties of the federal government. Specifically, there is a trust responsibility for the federal agencies to work toward protection of a harvestable surplus of salmon and steelhead and protection of access to other species and resources for cultural use by the Nation. The HCP proposed by DNR seeks only to protect viable populations. It is totally silent on protecting harvestable surpluses.

The Skagit System Cooperative indicated, for anadromous salmonids, that the goal should be maintaining the stocks at levels adequate to provide for a viable Tribal fishing industry.

Response: The intent of the conservation strategies is to promote riparian function at normal levels. This should result in harvestable surpluses if other factors affecting salmonids are fully addressed in the rivers and the oceans and on other ownerships. The Services believe this HCP will benefit the salmonid resource and, as such, should benefit the Tribes.

XI. TRUST BENEFICIARIES

B. OBLIGATION TO FUTURE GENERATIONS

Summary: The Colville Tribe stated that it is necessary to align the production capability of the land to provide goods and services with the capacity of the land to produce over

time. They stated, "In essence we need to harvest the golden eggs without killing the goose."

Response: The Services agree with the commentor.

XII. PUBLIC INVOLVEMENT

B. COORDINATION

1. Tribes

Summary: The Lummi Indian Nation cited the U.S. Supreme Court in U.S. vs. Washington (1974) and related cases and said those cases provided that the Lummi Nation is a co-manager with the State of Washington and other Tribes in the Nation's usual and accustomed fishing grounds and stations. They proposed that where details of implementation are postponed for future planning or review the Nation be provided a role. They indicated that the HCP and IA failed to recognize a role for Tribal co-management and also failed to recognize the role of "the State's own primary management agency for salmon" [WDFW].

The Elwha Klallam Tribe formally requested that it be closely involved in the implementation of the HCP, including the development of the details which remain to be addressed in the future. They indicated that the monitoring plan, which still requires work, is another area for tribal cooperation.

The Skagit System Cooperative indicated that the lack of specifics with regard to implementation, monitoring, and adjusting lead one to distrust the success of the plan. The progress and changes that have taken place since the Forest Practice Rules and Regulations were first adopted 22 years ago, or for that matter since the Timber, Fish and Wildlife agreement was signed 9 years ago, should demonstrate the improvement possible in a few years in terms of understanding and management of all resources. They stated that it is irresponsible from both a scientific and a management perspective to lock into a plan as broad and vague as DNR's HCP.

Response: The Services began coordination with Tribal entities at an early stage in this process. The Services encourage further discussion regarding improvement of the process by which such coordination has occurred on this HCP-development process and will occur in the future. As the Services develop HCPs with future applicants and as issued permits and their respective HCPs are implemented, the Services look forward to a long and mutually beneficial relationship with the Tribes and hope to utilize their biological expertise to the benefit of the Services, the Tribes, and the resource.

XIII. NEPA/SEPA COMMENTS

E. ADEQUACY OF DOCUMENTS

Summary: The Lummi Indian Nation stated that the DEIS was severely flawed and cited the comments of other Tribes. The Colville Tribe indicated that, given the size and

technical complexity of the draft HCP and DEIS, an index would facilitate access to specific information. They also questioned whether Section 4.3 was included in the DEIS.

Response: Section 4.3 was included in the DEIS. The Services note the complexity of the document as well as the issues, but believe the DEIS adequately analyzed the provisions of the HCP.

XIV. APPROVAL/DISAPPROVAL

Summary: The Skagit System Cooperative stated that it is irresponsible from both a scientific and a management perspective to lock into a plan as broad and vague as DNR's HCP.

Response: Comment noted.

XV. MISCELLANEOUS COMMENTS

Summary: The Lummi Indian Nation cited the comments of other Tribes regarding the DEIS.

Response: Comments received from the Tribes were considered and included in this subsection. The Services note the support of the other commentors by the Lummi Indian Nation.

I. REMARKS REGARDING DNR HISTORY

Summary: The Elwha Klallam Tribe said it was refreshing to see that DNR has recognized the extent of past damages that have occurred on state lands and its important role in fostering recovery across the landscape.

Response: Comments noted.

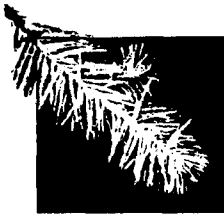
XVI. THE HCP PROCESS

A. HABITAT CONSERVATION PLANS

Summary: The Lummi Indian Nation supported the concept of habitat conservation plans.

Response: The Services appreciate the support and look forward to continued and improved coordination with the Nation and other Tribes.

Appendix 1 - DEIS List of Commentors



Appendix 1. DEIS List of Commentors

The public comment period for the Draft EIS began on March 22, 1996 and ended on May 23, 1996. Federal and state agencies, tribes, environmental organizations, industry, elected officials, and the public were invited to comment.

During the public comment period, 41 people testified at five public hearings held throughout the state and 174 letters were received, representing 181 individuals.

Many of the comments addressed herein are clearly directed to the HCP. To be certain that they were adequately addressed, the comments were treated as NEPA comments in this document. Those comments will be further addressed in any HCP decision documents which may be prepared as a result of this proposal.

A. List of Commentors

Cities, Ports, Water Districts

Mayor, City of Port Angeles, Prosper Ostrowski
Port Angeles Commission, Glenn Beckman

Counties

Clallam County Commissioner, Phillip Kitchel
Stevens County Commissioner, J.D. Anderson
Metropolitan King County Council, Brian Derdowski
Prosecuting Attorney of Skamania County, Bradley Andersen
Washington State Association of Counties, Bill Vogler

Environmental Organizations

American Rivers, Jennifer Wilkie
American Rivers, Lorraine Bodi
Black Hills Audubon Society, David Jennings
Environmental Resource Center, Uriah Storm
Honor the Earth Children's Circle, Marcia Mannia
Honor the Earth Children's Circle, Mariah Mannia
National Audubon Society, Tim Cullinan
Northwest Biodiversity Center, James Bergdahl
Northwest Ecosystem Alliance, Dave Wertz
Rivers Council of Washington, Joy Huber
Salmonid Foundation, Charles Voss

Environmental Organizations (cont.)

Sierra Club, Charles Raines
Skagit Audubon Society, Elsa Gruber
Society for Conservation Biology, Jennifer Ruesink
Tahoma Audubon Society, Liz Lathrop
Tahoma Audubon Society, Judy Austin
The Mountaineers, Marcia Hanson
The Mountaineers, Dycke Kinder
The Wildlife Society, Ann Eissinger
Washington Native Plant Society, Jerry Davison
Washington Native Plant Society, Larry Hampson
Washington Wilderness Coalition, David Tilford
Washington Environmental Council, Becky Kelly
Washington Environmental Council, Bonnie Mager
Washington Environmental Council, David Mann
Washington Environmental Council, Julian Powers
Washington Environmental Council, Melanie Rowland
Whidbey Audubon Society, Thomas Campbell

Federal Agencies

U.S. Environmental Protection Agency Geo. Impl. Unit/Region 10, Richard Parkin
U.S. Department of Agriculture, Darin Houpt

Indian Tribes

Colville Confederated Tribes, Bill Gardiner
Elwa Clallam Tribe, Mike McHenry
Hoh Tribe, Jim Jorgensen
Muckleshoot Indian Tribe, Chantal Stevens
Northwest Indian Fisheries Commission, Janet Burcham, Bruce Davies, Eric Shott
Point No Point Treaty Council, Carol Bernthal
Squaxin Island Tribe, Jeff Dickison
Tulalip Tribe, Daryl Williams
Yakama Indian Nation, Carroll Palmer

Industry Associations

Cascade Hardwood, Doug Princehouse
GBA Forestry Inc., Glenn Ahrens
Green Crow, Harry Bell
Inland Wood Specialties, John Gottwald
Merrill & Ring, Grant Munro
Merrill & Ring, Joseph Murray
Merrill & Ring, Glenn Wiggins
Mount Baker Plywood, Tim Shannon
NCASI, George Ice
NCASI, Larry Irwin

Industry Associations (cont.)

Northwest Forestry Association, Bob Dick
Northwest Forestry Association, Ross Mickey
Northwest Timber Workers Resource Council, Gary Garrison
RD Behm Company, Jim Stolasyeph
SDS Lumber Company, Frank Backus
Washington Commercial Forest Action Committee, Ben Lonn
Washington Contract Loggers Association, Bill Pickell
Washington Forest Protection Association, Julie Thompson
Washington Hardwoods Commission, Paul Mccausland
Washington Hardwoods Commission, David Sweitzer
Western Hardwoods Association, Dick Behm
Western Hardwoods Association, Jack Moore

State Agencies

Washington State Department of Ecology, Marvin Vialle
Washington State Department of Fish and Wildlife, Robert Turner

State Legislative Delegation

House of Representatives, Mark Schoesler

Universities

Bogle & Gates, James Johnston - Washington State University Consultant
University of Montana, Vicki Watson
University of Washington Dept. of Geological Sciences, Rolf Aalto

Interested Individuals

Jana Allen	Oliver Crew	D. Grace
Kathryn Alexandra		Richard Grant
George Andersen	Wendy Davis	
Judith Austin	Sanja Derda	Claudia Haines
	Deane Drake	Diane Hall
Victoria Bennett		Hansi Hals
Gretchen Blatz	Robert Eggert	Jay Ham
Julia Brayshaw		Bruce Harpham
Sheilagh Brown	Kelly Feineman	Kevin Head
Heather Brunelk	Foster Fell	Kathleen Hedtke
Matt Brunengo	Charles Fisk	K. Hoel
Jasmine Burgett	Lupito Flores	Walter Hoffmann
Steve Burkett	Dale Fortune	Christine Houden
	Adele Freeland	
Stacey Carr	Mark Freeland	Peter Idone
Millie Chong		Bethany Ionta
Welden and Virginia Clark	Brandon Galvez	
Laura Costell	Margaret Gaspari	Renee Jeffus
	Marcy Golde	

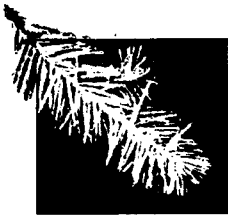
Interested Individuals (cont.)

Robb Kaler	Helen Nowlin	Robert Simeone
Doxey Kemp		Ron Smith
James Kidd	Jim O'Donnell	Bill Spring
Scott Kinghorn	Aaron Ostrom	David Spring
Yuri Koslen		Willy Stark
Jacob Kostecka	Susan Parker	William Steele
Jeff Kotanchick	Dave Parks	Jeff Stewart
	Julie Pearson	Janet Strong
Koalani Lagareta	Anna Pedrosa	Scott Stumbaugh
Mary Anne Leblond	Dale and Barbara	Caleb Swift
Charles Lennox	Plewman	
Sarah Levy	Rob Powers	Lee Telnackj
Thomas Lewis		
Chuck Lockhart	Clay Raney	Robert and Celia
Mike Lucero	Tarym Rehn	Warren
	Jill Reifschneider	Laura Weiss
William MacArthur	Sylvia and Ken	Mark Wells
Janine Michelsons	Retherford	Tom Westergreen
Virginia Michelsons	Jennifer Richards	Richard Whitmore
Carla Miller	Anne Robison	Hannes Willroth
Jane Montgomery	Ethan Roga	Adam Wilson
Jack Moore	Harry Romberg	Shawna Wittman
Margaret Moulton	Sue Rooney	
Charley Moyer		Kathy Zaiser
Thayn Moyes	Lynn Salmon	Oliver Zibel
	Scott Sagor	Susan Zwinger
Darren Nienaber	Elizabeth Seabacher	
Donald Norkoski	Brenda Senturia	

Other

ALS, Barbara Mossman
Blue Ribbon Coalition, Don Carey Jr.
League of Woman Voters, Peggy Bruton
Matt (No last name given)

Appendix 2 - Distribution Lists



Appendix 2. Distribution Lists

Draft EIS Distribution List

Federal

*Environmental Protection Agency*¹
National Marine Fisheries Service
National Park Service, Pacific Northwest Region
US Fish and Wildlife Service
US Forest Service, Portland
Olympic National Park

U.S. Senate

The Honorable Slade Gorton
The Honorable Patty Murray

U. S. House of Representatives

The Honorable Norm Dicks	The Honorable Jennifer Dunn
The Honorable Richard Hasting	The Honorable Jim McDermott
The Honorable Jack Metcalf	The Honorable George Nethercutt
The Honorable Linda Smith	The Honorable Randy Tate
The Honorable Rick White	

State

California Department of Forestry
Central Washington University Board of Trustees
Eastern Washington University Board of Trustees
The Evergreen State College Board of Trustees
Governor's Timber Team (Washington)
Maryland Forest Service
Oregon Department of Forestry
University of Washington Board of Regents
Washington State Board of Education
Washington State Department of Ecology
Washington State Department of Fish and Wildlife
Washington State Office of Archaeology and Historic Preservation
Washington State Parks and Recreation Commission
Washington State University Board of Regents
Western Washington University Board of Trustees

¹ Names shown in bold and italics will received a complete set of the HCP and EIS. All others received Executive Summaries.

State Legislators

Senator Ann Anderson, Natural Resources Committee
Senator Kathleen Drew, Natural Resources Committee
Senator Jim Hargrove, Natural Resources Committee
Senator Mary Margaret Haugen, Natural Resources Committee
Senator Valoria Loveland, Democratic Caucus Chair
Senator Dan McDonald, Republican Caucus Leader
Senator Bob Morton, Natural Resources Committee
Senator Irv Newhouse, Republican Caucus Floor Leader
Senator George Sellar, Republican Caucus Chair
Senator Sid Snyder, Democratic Caucus Leader
Senator Harriet Spanel, Natural Resources Committee
Vic Moon, Research Analyst, Senate Natural Resources Committee
Cathy Baker, Fiscal Analyst, Senate Natural Resources Committee
Representative Marlin Appelwick, Minority Leader
Representative Clyde Ballard, Speaker of the House
Representative Bob Basich, Natural Resources Committee
Representative Barney Beeksma, Natural Resources Committee
Representative Jim Buck, Natural Resources Committee
Representative Ian Elliot, Natural Resources Committee
Representative Dale Foreman, Majority Leader
Representative Steve Fuhrman, Natural Resources Committee
Representative Bill Grant, Minority Caucus Chair
Representative Brian Hatfield, Natural Resources Committee
Representative Ken Jacobsen, Natural Resources Committee
Representative Lynn Kessler, Minority Whip
Representative Barbara Lisk, Majority Caucus Chair
Representative John Pennington, Natural Resources Committee
Representative Debbie Regala, Natural Resources Committee
Representative Tim Sheldon, Natural Resources Committee
Representative Val Stevens, Natural Resources Committee
Representative Brian Thomas, Natural Resources Committee
Representative Les Thomas, Natural Resources Committee
Representative Bill Thompson, Natural Resources Committee
Karl Herzog, Fiscal Analyst, House Capitol Budget Committee
Linda Byers, Research Analyst, House Natural Resources Committee
Nancy Stevenson, Fiscal Analyst, House Appropriations Committee
Bob Longman, Coordinator, House Finance Committee

County

Adams County Commissioners
Adams County Planning Department
Asotin County Commissioners
Asotin County Planning Department
Benton County Commissioners
Benton County Planning Department
Chelan County Commissioners
Chelan County Planning Department
Clallam County Commissioners
Clallam County Conservation District
Clallam County Planning Department

Clark County Commissioners
Clark County Planning Department
Columbia County Commissioners
Columbia County Planning Department
Cowlitz County Commissioners
Cowlitz County Planning Department
Douglas County Commissioners
Douglas County Planning Department
Ferry County Commissioners
Ferry County Planning Department
Franklin County Commissioners

County (cont.)

Franklin County Planning Department
Garfield County Commissioners
Garfield County Planning Department
Grant County Commissioners
Grant County Planning Department
Grays Harbor County Commissioners
Grays Harbor County Planning Department
Island County Commissioners
Island County Planning Department
Jefferson County Commissioners
Jefferson County Planning Department
King County Council
King County Council, Surface Water Management
Division
King County Planning Department
Kitsap County Commissioners
Kitsap County Planning Department
Kittitas County Commissioners
Kittitas County Planning Department
Klickitat County Commissioners
Klickitat County Planning Department
Lewis County Commissioners
Lewis County Planning Department
Lincoln County Commissioners
Lincoln County Planning Department
Mason County Commissioners
Mason County Planning Department
Okanogan County Commissioners
Okanogan County Planning Department
Pacific County Commissioners

Pacific County Planning Department
Pend Oreille County Commissioners
Pend Oreille County Planning Department
Pierce County Council
Pierce County Planning Department
San Juan County Commissioners
San Juan County Planning Department
Skagit County Commissioners
Skagit County Planning Department
Skamania County Commissioners
Skamania County Planning Department
Snohomish County Commissioners
Snohomish County Planning Department
Spokane County Commissioners
Spokane County Planning Department
Stevens County Commissioners
Stevens County Planning Department
Thurston County Commissioners
Thurston County Planning Department
Wahkiakum County Commissioners
**Wahkiakum County Planning
Department**
Walla Walla County Commissioners
Walla Walla County Planning Department
Whatcom County Council
Whatcom County Planning Department
Whitman County Commissioners
Whitman County Planning Department
Yakima County Commissioners
Yakima County Planning Department

Local

Seattle Water Department
City of Aberdeen, Department of Planning and Economic Development
City of Everett, Public Works Department
City of Forks, Economic Development Steering Committee
Port of Port Angeles

Tribal

Chehalis Tribe
Chinook Tribe
Cowlitz Tribe
Hoh Tribe
Jamestown S'Klallam Tribe
Lower Elwha S'Klallam Tribe
Lummi Nation
Makah Tribal Council
Marietta Band of Nooksack Indians
Muckleshoot Tribal Council

Nooksack Tribe
Northwest Indian Fisheries Commission
Point No Point Treaty Council
Port Gamble S'Klallam Tribe
Puyallup Tribe
Quileute Tribe
Quinault Nation
Samish Tribe
Sauk-Suiattle Tribe
Shoalwater Bay Tribal Council
Skagit Tribe

Tribal (Cont.)

Skokomish Tribe
Snohomish Tribe
Stillaguamish Tribe
Swinomish Tribe
Suquamish Tribe

Squaxin Island Tribe
Tulalip Tribe
Upper Skagit Tribe
Yakama Tribe

Libraries

Aberdeen Timberland Library
Antioch University of Seattle Library
Battelle Seattle Research Center Library
Bellevue Community College Library
Bellingham Public Library
Brewster Public Library
Burlington Public Library
Camas Public Library
Cathlamet City Library
Central Washington University Library
Central Washington University, Horticulture
/Forestry Library
Centralia Timberland Library
Chehalis Timberland Library
Chehalis Tribe Library
Chelan Public Library
Cheney Public Library
Chewelah Public Library
City University, Bellevue Library
Clark College Library
Clark County Law Library
Cle Elum Public Library
Columbia Basin College Library
Colville Confederated Tribes Library
Colville Public Library
Davenport Public Library
Dayton Public Library
Eastern Washington University Library
Edmonds Community College Library
Ellensburg Public Library
Elwha S'Klallam Tribe Library
Enumclaw Public Library
Ephrata Public Library
Everett Community College Library
Everett Public Library
Evergreen State College Library
Fairwood Library
Forks Memorial Library
Fort Vancouver Regional Library
Fort Vancouver Regional Library,
White Salmon Branch

Fort Vancouver Regional Library,
Battle Ground Branch
Fort Vancouver Regional Library,
Stevenson Branch
Foster Wheeler Environmental Library
Gonzaga University, Crosby Library
Georgia Pacific, Bellingham Division
Library
Goldendale Public Library
Government Research Assistance Library
Grand Coulee Public Library
Grandview Community Library
Grays Harbor College,
John Spellman Library
Green River Community College,
Holman Library
Harrington Public Library
Heritage College Library
Highline Community College Library
Hoh Tribe Library
Hoquiam Timberland Library
Issaquah Library
ITT Rayonier Research Center Library
James River Corporation, Camas
Technical Center Library
Jamestown S'Klallam Tribal
Library
Jefferson County Rural Library
John A. Brown Library
Kalispel Tribe Library
Kelso Public Library
Kettle Falls Public Library
King County Library
King County Library, North Bend Branch
Kitsap Regional Library
Kittitas Public Library
Lacey Timberland Library
Longview Public Library
Lower Columbia College,
Alan Thompson Library

Libraries (cont.)

Lummi Reservation Library
Makah Tribe Library
Mid Columbia Library
Mid Columbia Library,
 West Richland Branch
Mount Vernon Public Library
Muckleshoot Library
Montesano Timberland Library
Natural Resources Building Library
Neill Public Library
Nisqually Tribe Library
North Central Regional Library
North Central Regional Library,
 Republic Branch
North Central Regional Library,
 Waterville Branch
Nooksack Tribe Library
North Seattle Community College Library
Northwest Indian Fisheries Commission
North Olympic Library, Forks Branch
North Olympic Library, Port Angeles Branch
Okanogan Public Library
Olympia Timberland Library
Olympic College Library
Omak Public Library
Othello Public Library
Pasco Public Library
Pend Oreille County Library
Peninsula College, John D. Glenn Library
Pierce College, Fort Steilacoom Library
Pierce County Library
Pomeroy Library
Port Gamble S'Klallam Tribe Library
Port Townsend Public Library
Prosser Public Library
Pullman Public Library
Puyallup Public Library
Puyallup Tribe Library
Raymond Timberland Library
Quileute Tribe Library
Quinault Indian Nation Library
Reardan Memorial Library
Renton Public Library
Richland Public Library
Ritzville Public Library
Roslyn Public Library
St. Martins College Library
San Juan Island Library
Sauk-Suiattle Tribe Library
Seattle Central College Library
Seattle Community College Library
Seattle Pacific University Library
Seattle Public Library
Seattle University Library
Sedro Woolley Public Library
Shoalwater Bay Community Library
Shoreline Community College,
 Ray W. Howard Library
Skagit Valley College Library
Skokomish Tribe Library
Sno Isle Regional Library
Sno Isle Regional Library, Coupeville
 Branch
Sno Isle Regional Library, Langley Branch
Sno Isle Regional Library, Stanwood
 Branch
South Bend Timberland Library
South Puget Sound Community College
 Library
South Seattle Community College Library
Spokane Community College Library
Spokane County Library
Spokane Falls Community College Library
Spokane Public Library
Spokane Tribe Library
Sprague Public Library
Squaxin Island Tribal Library
Stillaguamish Tribe Library
Suquamish Tribe Library
Swinomish Tribe Library
Tacoma Community College Library
Tacoma Public Library
Tri Cities University Library
Tulalip Tribe Library
Tumwater Timberland Library
University of Puget Sound,
 Collins Memorial Library
University of Washington,
 Allen Library
University of Washington,
 College of Forest Resources
Library
University of Washington Library,
 Government Publications
University of Washington, School of
 Fisheries Library
Upper Skagit Tribe Library
U.S. Environmental Protection Agency,
 Region 10 Library
Waitsburg Weller Public Library
Walla Walla Community College Library
Walla Walla County Library

Libraries (cont.)

Washington State Library

Washington State University, Environmental
Science Library

Washington State University, Department
of Forestry Library

Washington State University, Government Documents

Wenatchee Public Library

Wenatchee Valley College Library

Western Washington University,
Huxley College Library

Western Washington University, Mabel Zoe Wilson Library

Weyerhaeuser Corporate Library

Weyerhaeuser Forestry Library

Weyerhaeuser Technical Center Library

Whatcom Community College Library

Whatcom County Library

Whitman College, Penrose Library

Whitman County Library

Whitworth College Library

Wilbur Public Library

William G. Reed Timberland Library

Winthrop Public Library

Yakama Indian Nation Cultural Center
Library

Yakima Valley Community College
Library

Yakima Valley Regional Library

Organizations

Audubon Society (state)

American Rivers

Beak Consultants

Black Hills Audubon Society

Boise Cascade

Bullitt Foundation

Buse Timber and Sales

Champion International

Columbia Gorge Audubon

Council of Presidents

Forest Land Management Commission

Foster Wheeler Environmental

Greater Ecosystem Alliance

Island Foresters

ITT Rayonier

Longview Fibre

Mantech Environmental

The Mountaineers

Murray Pacific

The Nature Conservancy

Northwest Forestry Association

Olympic Peninsula Foundation

Parametrix, Inc.

Pacific Lumber and Shipping

People for Puget Sound

Plum Creek

Pope & Talbot

Puget Sound Society for Conservation

Biology

Resources Northwest, Inc.

Save Our Wild Salmon

Seattle Audubon

Sierra Club

Simpson Timber

Trout Unlimited

***Washington Association of School
Administrators***

***Washington Commercial Forest
Action Committee***

Washington Environmental Council

***Washington Forest Protection
Association***

Washington Hardwoods Commission

***Washington State Association of
Counties***

***Washington State School Directors'
Association***

Washington Trout

Washington Wildlife Federation

Washington Wilderness Coalition

Western Ancient Forest Campaign

Western Forest Industries Association

Wild Salmon Center

The Wilderness Society

World Wildlife Fund

Wind River Logging Co.

Individuals

Katherine Baril
Bruce Barnum
Bob Benton
Colleen Berg
Alice Blandin
Cedar Blomberg
Jody Brower
Elsa Bruton
Lanny Carpenter
Tina Chan
Ellen Chu
John Clevenger, Jr.
Clifton Collins
Michael Collins
Lisa Dabek
Helen Daly
Jack Davis
Carolyn Dobbs
Harm Dotinga
Gene Dziedzic
Ronald Figlar Barnes
Jerry Franklin
Julie Garrison
Margaret Gaspari
Marcy Golde
Warren Groves
Tom Hamer
Janet Hardin
Kathleen Hedtke
Becky Herbig
Clayton Hobart
Richard Holthausen
James Karr
Jim Klinck
Joel Kuperberg
Kirk Lakey
Jeff Langlow
Darrell Linton
Mike Mackelwich

Jill Mackie
Larry Maechler
Joe Mennish
Charley Moyer
Grant Munro
Nancy Naslund
Dan Norkowski
Bill Null
Randall Payne
Bert Paul
Olemara Peters
Karen Peters Waldron
Charles Peterson
Alicia Pool
Martin Raphael
Ivan Redmund
Melanie Rowland
Robert Sager
Jim Schafer
Randy Scott
Jean Stam
Dave Stokes
Dan Stroh
Steve Tharinger
Ed Thiele
Sonjia Thompson
Linda Thomson
Neil and Milicent Turnberg
Brian Urbain
Aaron Viles
Paul Wagner
Roy Wagner
Jim Walton
Jeff White
Larry Williams
Shawna Wittman
Vim Wright
E. Zahn
F. R. Zimmerman

NOTE: Many organizations/individuals requested copies of the draft documents and Executive Summaries after publication and do not appear on the Draft EIS Distribution List. All such organization/individuals did receive draft documents and are included on the final EIS Distribution List.

Final EIS Distribution Plan

Federal

Congressman Norm Dick's Office
Environmental Protection Agency
EPA Geographic Implementation Unit
National Marine Fisheries Service
National Park Service, Pacific Northwest Region
Olympic National Park
US Department of Agriculture
US Fish and Wildlife Service
US Forest Service, Portland
Olympic National Park
Wenatchee National Forest

State

California Department of Forestry
Governor's Timber Team (Washington)
Idaho Department of Lands
Maryland Forest Service
Montana DNRC
Oregon Department of Forestry
University of Montana
University of Washington
Washington State Association of Counties
Washington State Association of School Administrators
Washington State Department of Ecology
Washington State Department of Fish and Wildlife
Washington State Office of Archaeology and Historic Preservation
Washington State Parks and Recreation Commission
Washington State School Directors' Association
Washington State University (consultant James Johnston)

State Legislators

Senator Ann Anderson, Natural Resources Committee
Senator Kathleen Drew, Natural Resources Committee
Senator Jim Hargrove, Natural Resources Committee
Senator Mary Margaret Haugen, Natural Resources Committee
Senator Bob Morton, Natural Resources Committee
Senator Harriet Spanel, Natural Resources Committee
Vic Moon, Research Analyst, Senate Natural Resources Committee
Cathy Baker, Fiscal Analyst, Senate Natural Resources Committee
Representative Bob Basich, Natural Resources Committee
Representative Barney Beeksma, Natural Resources Committee
Representative Jim Buck, Natural Resources Committee
Representative Ian Elliot, Natural Resources Committee
Representative Steve Fuhrman, Natural Resources Committee
Representative Brian Hatfield, Natural Resources Committee
Representative Ken Jacobsen, Natural Resources Committee
Representative John Pennington, Natural Resources Committee

State Legislators (cont.)

Representative Debbie Regala, Natural Resources Committee
Representative Tim Sheldon, Natural Resources Committee
Representative Val Stevens, Natural Resources Committee
Representative Brian Thomas, Natural Resources Committee
Representative Les Thomas, Natural Resources Committee
Representative Bill Thompson, Natural Resources Committee
Karl Herzog, Fiscal Analyst, House Capital Budget Committee
Linda Byers, Research Analyst, House Natural Resources Committee
Nancy Stevenson, Fiscal Analyst, House Appropriations Committee
Bob Longman, Coordinator, House Finance Committee
Mark Schoesler, House of Representatives

County

Chelan County Planning Department	Metropolitan King County Council
Clallam County Planning Department	Pacific County Planning Department
Clark County Planning Department	Pierce County Planning Department
Columbia County Planning Department	San Juan County Planning Department
Grays Harbor County Planning Department	Skagit County Planning Department
Island County Planning Department	Skamania County Planning Department
Jefferson County Planning Department	Snohomish County Planning Department
King County Office of Open Space	Snohomish County Public Utilities District
King County Planning Department	Thurston County Planning Department
Kitsap County Planning Department	Wahkiakum County Planning Department
Kittitas County Planning Department	Whatcom County Planning Department
Lewis County Planning Department	
Mason County Planning Department	

Local

City of Aberdeen, Department of Planning and Economic Development
City of Everett, Public Works Department
City of Forks, Economic Development Steering Committee
Port of Port Angeles
Seattle Water Department

Tribal

Chehalis Tribe	Nisqually Tribe	Council
Chinook Tribe	Nooksack Tribe	Skagit Tribe
Colville Tribe	NWIFC	Skokomish Tribe
Cowlitz Tribe	Point No Point Treaty	Snohomish Tribe
Hoh Tribe	Council	Stilligumish Tribe
Jamestown S'Klallam Tribe	Port Gamble S'Klallam	Swinomish Tribe
Lower Elwha S'Klallam	Tribe	Suquamish Tribe
Tribe	Puyallup Tribe	Squaxin Island Tribe
Lummi Nation	Quileute Tribe	Tulalip Tribe
Makah Tribe	Quinault Tribe	Upper Skagit Tribe
Marietta Band of Nooksack	Samish Tribe	Yakama Tribe
Indians	Sauk Suiattle Tribe	
Muckleshoot Tribal Council	Shoalwater Bay Tribal	

Libraries

Central Washington University Library
Colorado State University Libraries
Eastern Washington University Library
Everett Public Library
Gonzaga University, Crosby Library
King County Library
Lummi Reservation Library
Mount Vernon Public Library
Pierce County Library
Seattle Public Library
Tacoma Public Library
University of Washington Library, Government
Publications
Washington State Library
Washington State University Library,
Government Documents
Western Washington University, Mabel Zoe
Wilson Library

Organizations

ALS
American Rivers
Audubon Society (state)
Beak Consultants
Black Hills Audubon Society
Bloedel Timberlands
Blue Ribbon Coalition
Boise Cascade
Bullitt Foundation
Buse Timber and Sales
Center for Wildlife Conservation
Champion International
Clallam Conservation District
Columbia Gorge Audubon Committee
Council of Presidents
Daily Journal of Commerce
EASY
Environmental Resource Center
Forest Land Management Commission
Foster Wheeler Environmental
Great Western Lumber
Greater Ecosystem Alliance
Green Crow
Honor the Earth Children's Circle
Independent Forest Products Association
Inland Wood Specialties
Island Foresters
ITT Rayonier
League of Women Voters
Longview Fibre
Louisiana Pacific
Mantech Environmental
The Mountaineers
Murray Pacific Corporation
National Audubon Society
Nature Conservancy
NCASI
Northland Cable News
Northwest Biodiversity Center
Northwest Forestry Association
Northwest Timber Workers Resource
Council
Olympic Peninsula Foundation
Pacific Lumber and Shipping
Parametrix
Peninsula Daily News
People for Puget Sound
Pilchuck Audubon Society
Plum Creek Timber
Pope & Talbot
Puget Sound Society for Conservation
Biology
Quilcene Ancient Forest Coalition
Resources Northwest Inc.
Ridolfi Engineers
Rivers Council of Washington
Rosholt, Robertson & Tucker
Salmonid Foundation
Save Our Wild Salmon
Seattle Audubon Society

Organizations (cont.)

Sierra Club
Simpson Timber
Skagit Audubon Society
Tahoma Audubon Society
The Wilderness Society
The Wildlife Society
Trout Unlimited
Washington Comm Forest Action
Committee
Washington Contract Loggers Association
Washington Environmental Council
Washington Forest Protection Association
Washington Hardwoods Commission

Washington Native Plant Society
Washington Trout
Washington Wilderness Coalition
Washington Wildlife Federation
Western Forest Industries Association
Weyerhaeuser Company
Whidbey Audubon Society
Wild Salmon Center
Wind River Logging Company
World Wildlife Fund

Individuals

Gail Achterman	Victoria Bennett (no address)	Heather Brunelk
David Adams	Bob Benton	Matt Brunengo
Glenn Ahrens	Marty Berbach	Elsa Bruton
Kathryn Alexandra	Colleen Berg	Peggy Bruton
Jana Allen	James Bergdahl	Wayne Buck
Rolf Aalto	Steve Bernath	Ron Buckholt
Bob Andersen	Carol Bernthal	Janet Burcham
Bradley Andersen	Rebecca Berry	M. Burfitt
George Andersen	Dick Best	Jasmine Burgett
J.D. Anderson	Eric Bicker (no address)	Steve Burkett
Will Anderson	Richard Bigley	Paul Butler
Phil Aust	Neal Birli	James Byrne
Judy Austin	Greg Blair	John Calhoun
Frank Backus	Alice Blandin	Melanie Caltrider
Mike Bagley	Gretchen Blatz	Christina Camara
Peter Bahls	Cedar Blomberg (no address)	Thomas Campbell
J.R. Baker (no address)	Brando Blore	Kevin Campbell
Ron Baker	Lorraine Bodi	Pearl Capalman-Baller
Greg Ballard	Tim Bodurtha	Don Carey Jr.
Dana Bane	Yvonne Bonser	Betsy Carlson
Bruce Bare	Jill Bowling	Cathy Carnes
Katherine Baril	Alexandra Bradley	Lanny Carpenter
Ricki Barnes	Dave Braun	Stacey Carr
Bruce Barnum	Denny Braun	Bob Carson
Al Barr	Martha Bray	Andy Castelle
Jeff Barrett	Julia Brayshaw	Jeff Cederholm
Bruce Baxter	Scott Brewer	Ed Chadd
Harriet Bealf	Norah Bringer	Chuck Chambers
Kurt Beardslee	Tom Bristow	Christine Champe
Bruce Beckett	David Brock	Tina Chan
Glenn Beckman	Jody Brower	Melony Chapman
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Mery-Lynne Derrington
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Ann Eissinger
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John Ensminger
Jim Erckmann
Marty Ereth
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Lori Farrow
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Kevin Ferrill
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Jeff Foster
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Brandon Galvez
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M.J. Kuehne
Larry Kunzler
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Sharleen Lane
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Monica Lawrence
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Mary Leitka
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Sarah Levy
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Jim Lichotowich
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Darrell Linton
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Susan Lockridge
Ben Lonm
Marti Louthier
John Lowe
Mike Lucero
Jon Luedecker
Tim Lukus

William MacArthur
Mike Mackelwich

Jill Mackie
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Bonnie Mager
Chris Magill
Dave Malone
Eric Mandt
Ciff Mann
David Mann
Marcia Mannia
Maria Mannia
Steve Marble
Bob Martin
Mary Martz
Vicki Mastorides
Larry Mason
Ted Matts
Mark Mauren
Jim McCauley
Paul McCausland
Jim McCracken
Dennis McDonald
Jim McDonald
Lou McDonald
Pat McElroy
Mike McGinnis
Vanessa McGrady
Michael McGreevy
Mike McHenry
Brian McLauchalan
Steve Meacham
Robert Meier
Joe Mennish
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Louis Messmer
Roy Metzgar
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Hal Michael
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Joan Nichol
Sally Nicholson
Darren Nienaber
Andrew Nisbet
Barry Noon
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Chris Norred
Helen Nowlin
Bill Null

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Bruce Orr
Jim O'Donnell
Aaron Ostrom
Prosper Ostrowski

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Stuart Paulus
Joseph Pavel
Randall Payne
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Jack Perdue
George Pess
Olemara Peters
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Charles Peterson

Karen Peters-Waldron
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Charles Phillips
Bill Pickell
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Barbara Plewman
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Derek Poon
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Danielle Prenzlow
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Robin Quenet

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Ivan Redmund
Kitty Reed
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Jill Reifschneider
Sabrina Renn
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Sylvia Retherford
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Jennifer Reusink
Nick Reyna
Patrick Reynolds
Jennifer Richards
Jim Richards
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Don Roberts
Dan Robinson
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Charlene Rodgers
Ethan Roga
Floyd Rogalski
Harry Romberg
Sue Rooney
John Rosapepe
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Ron Smith
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Sara Steele
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Len Sterner
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Naki Stevens
Jim Stevenson
Pat Stevenson
Michelle Stevie
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Rick Stewart
Tom Stewart
Dave Stokes
Jim Stolasymph
Urian Storm
Dan Stroh
Janet Strong
Scott Stumbaugh
Ed Summerfield
Carolyn Sundby
Alice Sutton
Paula Swedeen
Dave Sweitzer
Caleb Swift
Larry Swift

Don Taggart
Bernice Tannenbaum
Dick Taylor
Scott Taylor
Terry Teale
Lee Telnackj
Lowell Thacker
Toby Thaler
Steve Tharinger
Ed Thiele
Jeff Thomas
Rachel Thomas
Joan Thompson
Julie Thompson

Les Thompson
Linda Thomson
Sonjia Thompson
David Tilford
Aaron Timss
Amy Tippery
Michelle Tirhi
Greg Tolbert
Diane Townsend
Ron Tressler
Sue Trettevik
Neil Turnberg
Milicent Turnberg
Robert Turner
Susan Turner
Ed Tuttle
Marnie Tyler

Brian Urbain

Dave Vagt
Roger Valdez
Peter Vanderhoof
Julie Verstey
Marvin Viale
Aaron Viles
Bill Vogler
Charles Voss

Paul Wagner
Roy Wagner
Mitch Wainwright
Alan Wald
Peter Waldrip
George Walter
Karen Walters
Jim Walton
Celia Warren
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Vicki Watson
Laura Weiss
Mark Wells
David Werntz
Mike Wert
Tom Westergreen
Russ Westmark

Dave Whipple
Dennis White
Jeff White
Steve White
Dr. Tim White
David Whitehead
Shawna Whitman
Richard Whitmore
Steve Whitney
Glenn Wiggins
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J. Wilkie (no address)
Jennifer Wilkie
Mary Wilkost
Daryl Williams
Larry Williams
Maurice Williamson
J. Willits
Hannes Willroth
Adam Wilson
Scott Wilson
Bobby Wington
Joe Winney
Richard Winters
Gary Witmer
Shawna Wittman
Chuck Wittman (no address)
Steven Witzel
Keith Wolfe
Dave Wolfer
Vim Wright
Mike Wrigley
Keith Wyman

Richard Young

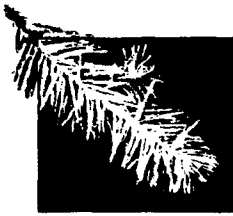
Other

Matt (no last name given)

Appendix 3 - Changes to DNR's draft Habitat
Conservation Plan

APPENDIX

3.



Appendix 3. Changes to DNR's draft Habitat Conservation Plan

3.1 Summary of Major Changes to the HCP in Response to Public Comment

SPOTTED OWL STRATEGY

In planning management activities, DNR will consider any updated information provided by the USFWS on the location of spotted owl site centers in designated NRF areas.

When harvesting spotted owl habitat outside of designated NRF areas, DNR will consider recommendations of the USFWS for scheduling potential take of spotted owl site centers during the first decade of the HCP.

In the Klickitat Planning Unit, a portion of the designated NRF area has been shifted south to the middle portion of DNR's Buck Creek Block.

Some dispersal habitat area shifted from the North Puget Planning Unit to the Columbia Planning Unit and Klickitat Planning Unit.

MARbled MURRELET INTERIM STRATEGY

Interim

Outside of Southwest Washington (defined as west of Interstate 5 and south of Highways 8 and 12 from Olympia to Aberdeen), surveyed, unoccupied habitat will be released for harvest if it is not within 0.5 mile of an occupied site, and if, after harvest, at least 50 percent of the suitable marbled murrelet habitat on DNR-managed lands in the WAU would remain.

In Southwest Washington (as defined above) surveyed, unoccupied habitat will not be released for harvest unless (a) the long-term plan for the applicable planning unit has been completed, or (b) at least 12 months have passed since the initiation of negotiations of the draft long-term plan without completion of those negotiations.

Once the habitat relationship study is begun within a planning unit, the inventory survey and development of the long-term plan will follow uninterrupted; there will be no time gaps between these steps of the interim strategy.

OTHER LISTED SPECIES

Peregrine Falcon

Surveys will be conducted for aeries at cliffs judged to have potential for use by peregrines.

Trees will be retained along top and base of cliffs judged suitable for aeries.

RIPARIAN STRATEGY

The riparian buffer width will be measured from the outer margin of the 100-year floodplain.

Type 4 and 5 waters classified after January 1, 1992 are assumed to be correctly classified. Type 4 and 5 waters classified prior to January 1, 1992 must either have their classification verified in the field or be assumed to be Type 3 waters.

A more complete and thorough road management strategy has been developed for the HCP. The strategy addresses road design, construction, use, maintenance, and abandonment.

All distances will be measured as horizontal distance, instead of slope distance.

MULTISPECIES STRATEGY

Talus

A distinction has been made between forested and nonforested talus and increased protection has been provided for nonforested talus.

Cliffs

Increased protection of cliffs has been provided, especially for cliffs that are judged suitable for peregrine falcon aeries.

Snags

Additional measures to retain existing large snags and green trees for the recruitment of future snags have been added to the HCP. An average of at least three snags shall be retained for each acre harvested, and, if available, snags retained will be at least 15 inches dbh and 30 ft tall. An average of at least 5 green trees will be retained for each acre harvested.

Balds

A conservation measure was added to protect balds. Road construction through balds shall be avoided, provided that routing of roads around balds can be accomplished in a practicable manner that is consistent with other objectives of a comprehensive landscape-based road network planning process.

Mineral Springs

Conservation measures were added to protect mineral springs. Management activities within 200 ft. of known mineral springs will be designed to retain adequate trees for perching and maintain berry, fruit, and mast producing trees and shrubs.

Seeps

Conservation measures have been added for seeps. Seeps greater than 0.25 acres will be treated as forested wetlands. That is, such features will be protected where part of an unstable hillslope. Research to study the affects on aquatic resources of forest management in around seeps and small wetlands will be included in the research program for Type 5 waters.

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3.2 Revisions to the Habitat Conservation Plan

Contents:

Executive Summary No change

I. Introduction

DNR's Habitat Conservation Plan No change

Species Covered by the HCP No change

Land Covered by the HCP

pg. I.2 - change second full paragraph:

In Washington, the range of the northern spotted owl includes all of the western part of the state as well as lands on the east slopes of the Cascade Range. ~~DNR's habitat conservation plan covers DNR managed trust lands within the spotted owl's range, except for those lands classified as urban or agricultural in DNR's geographic information system or leased for urban uses.~~ This HCP covers all DNR managed forest lands within the range of the northern spotted owl, excluding those lands designated as urban or leased for commercial, industrial, or residential purposes and those lands designated as agricultural. All DNR management activities on these lands are covered. The total area of trust lands covered by the HCP is approximately 1,630,000 acres, of which all but about 50,000 acres are forested...

pg. I.5 - change the last paragraph:

While not subject to the HCP, DNR is given credit for the habitat contributions provided by these lands in terms of meeting the conservation objectives of the HCP. Whether these lands continue to provide this such contributions to the conservation objectives, and the remedy if they do not, will be discussed at each of the scheduled comprehensive reviews. (See the Implementation Agreement.) ~~DNR's management of the Natural Area Preserves and Natural Resource Conservation Areas is not expected to increase the level of take for any species covered by the incidental take permit. DNR's management of these lands shall maintain the conservation objectives described in Chapter IV of the draft HCP. Should an unforeseen circumstance arise that increases the level of take, DNR will follow the process for making a major amendment to the HCP and ITP as outlined in the Implementation Agreement. Management of Natural Area Preserves and Natural Resource Conservation Areas is not intended to alter DNR's obligations for mitigation as set forth in this HCP.~~

Organization of the Planning Area No change

II. Planning Context

The Trust Duties No change

The Endangered Species Act No change

Federal Plans and Rules for Recovery of the Northern Spotted Owl and Marbled Murrelet	No change
Other Wildlife Statutes and Regulations	No change
Environmental Laws	No change
The State Forest Practices Act	No change
DNR's Forest Resource Plan	No change

III. Biological Data for Species Covered by the HCP

A. Northern Spotted Owl	No change
Species Ecology/Literature Review	No change
Spotted Owls on the Olympic Peninsula	No change
DNR's Survey Data	No change
B. Marbled Murrelet	No change

Species Ecology/Literature Review

pg. III.42 - insert paragraph before subheading Mortality at Sea:

The Service has designated critical habitat for the marbled murrelet (61 Federal Register no. 102 pp. 26255-26320). Most of this habitat designation includes lands that are to be managed as Late Successional Reserves under the President's Northwest Forest Plan (USDA and USDI 1994 a and b). Some nonfederal land has been included, the vast majority of which is DNR-managed land. Most of this land occurs in southwest Washington and on the Olympic Peninsula. The Service will conduct an assessment of the effects of the proposed HCP on designated critical habitat on DNR-managed lands in its Biological Opinion.

DNR's Forest Habitat Relationship Studies

pg. III.45 - insert into the first paragraph following the Definitions section:

Observations will be made and data recorded according to procedures described in Methods for Surveying Marbled Murrelets in Forests: A Protocol for Land Management and Research (Ralph et al. 1994) and its 1995 supplement (Ralph et al. 1995b) and any subsequent updates or modifications as required by the Service.

C. Other Federally Listed Species Within the Range of the Northern Spotted Owl

Oregon Silverspot Butterfly	No change
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Aleutian Canada Goose

pg. III.47 - delete fourth paragraph and replace with:

The Aleutian Canada goose (*Branta canadensis leucopareia*), a subspecies of the Canada goose, was downlisted by the federal government from endangered to threatened in 1990 (Federal Register v. 55, p. 51112). The subspecies is listed as endangered by the state. The subspecies is distinguished from the other locally ubiquitous species by a broad white

ring at the base of the neck. A major cause of the early decline of the Aleutian Canada goose was predation by foxes and other small mammals in the subspecies' nesting areas which are located on Buldir and Chagulak islands in the Aleutian Archipelago and on Kaliktagik in the Semidi Islands in Alaska. In the early 1800s, foxes were introduced onto the Aleutian Islands and neighboring islands as a fur supply, and some rodents were inadvertently introduced with the landing of ships. The winter range was not defined until the early 1970s. Wintering areas extend from Alaska to California and into parts of Japan. From less than 800 individuals in 1975, their numbers have increased to 12,000-14,000 individuals in 1994. The most recent counts indicate about 20,000 individuals. Currently the San Joaquin Valley, Northern California coast, and Sacramento Valley form the subspecies' main wintering area, but they also winter in western Oregon and southwestern Washington. They regularly stop in the Willamette Valley of Oregon in September or October. Their winter range is expanding as the population increases. The species may occur in the area covered by the HCP but only as a migrant or winter resident. Habitat used during migration or winter residency includes lakes, ponds, wetlands, grasslands, and agricultural fields. Control of foxes, use of seasonal Canada goose hunting closures to reduce incidental take, and conversion to nontoxic shot have all contributed to the recovery of the subspecies.

Bald Eagle	No change
Peregrine Falcon	No change
Gray Wolf	No change

Grizzly Bear

pg. III.50 - change first paragraph under heading Grizzly Bear:

...However, these habitats alone would not be sufficient for supporting this species. Areas with little human disturbance may be preferred as habitat; ~~however, no actual analysis has been conducted in Washington to confirm this speculation (Almack et al. 1993)~~ many studies have shown the potential negative effect of human disturbance on grizzly bears (McLellan and Shackleton 1988; Kawsorn and Manley 1989; Mace and Manley 1993).

pg. III.50 - change second paragraph under heading Grizzly Bear:

All naturally vegetated land types are considered suitable grizzly bear habitat. Den sites of grizzly bears can be found in nearly any type of forest, but are typically in coniferous forests. Bears normally select den sites on steep slopes ~~above 5,670 feet~~ near the tree line (Almack 1986). Bears forage in many vegetation types in order to obtain sufficient plant and animal foods...

Columbian White-tailed Deer	No change
D. Salmonids and the Riparian Ecosystem Introduction	No change
Anadromous Salmonid Life Cycle	No change

Bull Trout Life Cycle

pg. III.54 - change first paragraph under "Bull Trout Life Cycle"

The bull trout is a category 1 candidate for federal listing. The genus *Salvelinus*, also known as Charr, belongs to the family Salmonidae...

Salmonid Habitat Needs and the Riparian Ecosystem
Status and Distribution

No change

No change

E. Other Species of Concern in the Area Covered by the HCP

pg. III.75 - add second paragraph:

At the time of writing the draft HCP and the draft EIS, the USFWS used a system of classifying species that were candidates for listing as threatened or endangered into separate categories. Category 1 species were those for which the Service had sufficient information to issue a proposal for listing. Category 2 species were those for which existing information indicated that listing was possibly appropriate but sufficient data did not exist on the biological status of the species or threats to that species to warrant the issuance of a proposed rule. Both category 1 and category 2 species were considered as species of concern on the draft HCP and EIS. On February 28, 1996, the Service published an updated list of candidate species using a revised categorization system in the (Federal Register v. 61 no. 7596; USFWS 1996). Former category 1 species are now referred to simply as candidates for listing. Former category 2 species are no longer considered candidates for listing, though most of them have been retained on a list of federal species of concern (Federal Register v. 61 no. 26256 and USFWS list (1996)). There are now two species in the HCP planning area that are candidate species - the spotted frog and bull trout. This appendix of the FEIS now reflects the change in federal candidate status of unlisted species of concern. Descriptions of former category 2 taxa are retained and still considered species of concern for the purposes of this HCP.

Candidate Species for Federal Listing, State-listed Species, and Candidate Species for State Listing

Mollusks

pg. III.78 - change first paragraph:

At least 120 species of mollusks occur in Washington. However, many species have yet to be described, and the distribution and habitat requirements of those that have been described are still not well understood (Frest 1993; Frest and Joannes 1993; Neitzel and Frest 1993). None of the 120 species are currently listed by either the federal or state government. ~~Four are candidates for federal listing~~ (Federal Register v. 59, no. 58982 9028); Three are federal species of concern (Federal Register v. 61 no. 7596; USFWS 1996) and numerous others are species of special concern.

pg. III.78 - change second paragraph:

This section is a summary of information obtained primarily from three mollusk experts: T. Burke (Washington Department of Wildlife), T. Frest (Deixis Consultants, Seattle), and A. Stock (Washington Natural Heritage Program). It addresses only the three federal candidate species of concern that may occur in the area covered by the HCP...

Arthropods

pg. III. 79 - change second full paragraph:

Six species of arthropods that are known to occur or may occur in the HCP planning units are considered species of concern. One is federally listed (see Section C of this chapter titled Other Federally Listed Species) four are candidates for federal species of concern listing (Federal Register v. 59, no. 219, p. 58982-9028), and one is a candidate for state listing.

pg. III.79 - change paragraph under heading Beller's Ground Beetle:

The Beller's ground beetle (*Agonum belleri*) is a candidate for federal species of concern and a candidate for state listing (WDW 1993a). It occurs exclusively in eutrophic sphennum bogs of Washington, Oregon, and southwestern British Columbia (Johnson 1986; WDW 1991) that are associated with lakes below 3,280 feet in elevation, where it likely scavenges plant and animal material (Dawson 1965; WDW 1991)...

pg. III.79 - change paragraph under heading Hatch's Click Beetle:

Hatch's click beetle (*Eanus hatchi*) is a candidate for federal species of concern and a candidate for state listing (DW 1993a). Like Beller's ground beetle, Hatch's click beetle inhabits eutrophic sphagnum bogs in or near lakes at less than 3,280 feet in elevation (WDW 1991)...

pg. III.79 - change paragraph under heading Fender's Soliperlan Stonefly:

Fender's soliperlan stonefly (*Soliperla fenderi*) is a category 2 candidate for federal species of concern listing. One specimen was collected from St. Andrews Creek in Mount Rainier National Park...

pg. III.80 - change paragraph under heading Lynn's Clubtail:

Lynn's clubtail (*Gomphus lynnae*) is a category 2 candidate for federal species of concern listing. This species of dragonfly is known to prefer large rivers, but it has also been recorded at mountain lakes...

Fish

pg. III.80 - change paragraph under heading Fish:

Four federal candidate species of fish considered federal species of concern (Federal Register v. 59, no. 219, p. 58982-9028 v. 61 no. 7596; USFWS 1996), not including anadromous salmonids and bull trout, are known to occur in the HCP planning units; one of these species is also a candidate for state listing. Anadromous salmonids and bulltrout are discussed in Section D of this chapter titled Salmonids and the Riparian Ecosystem.

pg. III.80 - change paragraph under heading River Lamprey:

The river lamprey (*Lampetra ayresi*) is a federal ~~candidate for listing as a threatened~~ species of concern. The main threats to its continued existence are thought to be dams on mainstream rivers and habitat degradation...

pg. III.81 - delete the heading Green Sturgeon and two related paragraphs

pg. III.81 - change paragraph under heading Olympic Mudminnow:

The Olympic mudminnow (*Novumbra hubbsi*), a candidate for ~~both federal (category 2)~~ state listing in Washington, is jeopardized by its limited distribution and population isolation in drainages along the west coast of Washington, the Chehalis River, and the lower Deschutes River (Meldrim 1968; Harris 1974, Wydoski and Whitney 1979).

Amphibians

pg. III.81 - change last paragraph on page:

Seven species of amphibians that occur in the area covered by the HCP are considered species of concern. ~~Five are~~ One is a candidates for federal listing (Federal Register v. 59, no. 219, p. 58982-9028), and ~~four are federal species of concern~~. One of these is already listed by the state...

pg. III.82 - change first paragraph under heading Larch Mountain Salamander:

The Larch Mountain salamander (*Plethodon larselli*) is a ~~category 2 candidate for federal listing species of concern~~; it is already listed by the state as sensitive (WDW 1992a). It was first described a subspecies of the Van Dyke's salamander (*Plethodon vandykei*) (Burns 1954).

pg. III.83 - change first paragraph under heading Tailed Frog:

The tailed frog (*Ascaphus truei*) is a federal ~~candidate for listing as a threatened species of concern~~. Its range lies between the Cascades and the Pacific coast from southwestern British Columbia to northwestern California, with a disjunct ~~portion area~~ in southeast Washington, northeast Oregon, and central Idaho (Leonard et al. 1993)...

pg. III.84 - change first paragraph under heading Northern Red-legged Frog:

The northern red-legged frog (*Rana aurora aurora*) is ~~currently a category 2 candidate for federal listing species of concern (WDW 1993a)~~. Northern red-legged frogs inhabit moist and riparian forests, typically below 2,790 feet in elevation in the Pacific Northwest (Nussbaum et al 1983; Stebbins 1985)...

pg. III.85 - change first paragraph under heading Cascades Frog:

The Cascades frog (*Rana cascadae*) is ~~currently a category 2 candidate for federal listing species of concern (WDW 1993a)~~. It is found in the Olympic Mountains and in the Cascade Range of Oregon, Washington and northern California, typically above 2,625 feet and in small bodies of water rather than in large lakes (Syype 1975; O'Hara 1981; Nussbaum et al. 1983)...

pg. III.85 - change last paragraph on page:

The spotted frog (*Rana pretiosa*) is currently a candidate for both federal (~~category 1~~) and state listing (WDW 1993a; Federal Register v. 61 no. 7596; USFWS 1996). Historically, spotted frogs ranged north to extreme southeastern Alaska, south to central Nevada and central Utah, and east to western Montana and northwestern Wyoming...

Reptiles

pg. III.86 - change first paragraph under heading Reptiles:

Two species of reptiles that occur in the area covered by the HCP are considered species of concern. One is a ~~candidate for federal listing species of concern~~ (Federal Register v. 59, no. 219, p. 58982-9028 v. 61 no. 7596; USFWS 1996) and is already listed by the state; the other is a candidate ~~only~~ for state listing.

pg. III.86 - change last paragraph on page (under heading Northwestern Pond Turtle):

The northwestern pond turtle (*Clemmys marmorata marmorata*) is currently a ~~category 2 candidate for federal listing species of concern~~ and is listed by the state as endangered (WDW 1993a). This species occurs at elevations from sea level to 6,000 feet from extreme southwestern British Columbia to the Sacramento Valley in California, principally west of the Sierra-Cascade crest (Bury 1970; Stebbins 1985)...

Birds

pg. III.88 - change first paragraph on page (under the heading Birds):

In addition to the northern spotted owl and marbled murrelet, 15 bird species that occur in the area covered by the HCP are considered species of concern. Three of these species are federally listed and are discussed in Section C of this chapter titled Other Federally Listed Species. Five bird species are ~~candidates for federal listing species of concern~~ (Federal Register v. 59, no. 219, p. 58982-9028 v. 61 no. 7596; USFWS 1996), one is already listed by the state, and seven more are candidates for listing only by the state.

pg. III.88 - change first paragraph under heading Harlequin Duck:

The harlequin duck (*Histrionicus histrionicus*) is a federal ~~candidate for listing as a threatened species of concern but~~ and is also a state game animal (WDFW 1995b). Harlequin nesting success is highly sensitive to human disturbance...

pg. III.88 - change the paragraph under heading Northern Goshawk:

The northern goshawk (*Accipiter gentilis*) is a state (WDW 1993a) ~~and federal~~ candidate for listing as a threatened species ~~and a federal species of concern~~...

pg. III.90 - change paragraph under heading Black Tern:

The black tern (*Chlidonias niger*), a ~~category 2 candidate for federal listing species of concern~~ is a common summer resident in eastern Washington and a migrant in western Washington (Wahl and Paulson 1991). It appears to migrate primarily along the coast (Haley 1984), but probably uses the Columbia River as a route from breeding areas in eastern Washington and British Columbia.

pg. III.92 - change paragraph under heading Olive-sided Flycatcher:

The olive-sided flycatcher (*Contopus borealis*) is a federal ~~candidate for listing as a threatened species of concern~~. There may be evidence of a decline in the number of olive-sided flycatchers in the western United States, although data is ~~are~~ weak and the causes of this decline are uncertain (Hejl 1994; DeSante and George 1994)...

pg. III.92 - change the paragraph under heading Little Willow Flycatcher:

The little willow flycatcher (*Empidonax traillii brewsteri*) is a federal ~~candidate for listing as a threatened species of concern~~. Data indicate a decline in the number of little willow flycatchers in the Pacific Northwest (Paulson 1992), although there is uncertainty about the causes...

Mammals	No change
F. Listed and Candidate Plants	No change
Non-vascular Plants and Fungi	No change

Vascular Plant Taxa of Concern

pg. III.100 - delete last heading and last paragraph on page replace with:

FEDERAL CANDIDATE AND SPECIES OF CONCERN

There are numerous vascular plant taxa known to occur, or suspected of presently occurring, in the area covered by the HCP that are candidates for federal listing under the Endangered Species Act or are species of concern to the U.S. Fish and Wildlife Service. These are listed in Tables III.16 and III.17. Additional information about these species can be obtained from DNR's Natural Heritage Program.

IV. The Habitat Conservation Plan

A. Minimization and Mitigation for the Northern Spotted Owl in the Five West-side and All East-side Planning Units	No change
Conservation Objective	No change

Conservation Strategy for the Five West-side Planning Units

pg. IV.3 - last paragraph:

Lands identified to provide demographic support and to contribute to maintaining species distribution shall be managed as NRF habitat. For the purposes of this HCP, NRF refers to habitat that is primarily high quality roosting/foraging habitat with sufficient amounts of nesting structure interspersed so that the entire area can be successfully utilized by reproducing spotted owls. See description of rationale for habitat definitions later in this section. Lands identified to facilitate dispersal shall be managed as dispersal habitat. Stand conditions for each of these habitat types are defined below. DNR-managed lands selected for NRF habitat management and dispersal habitat management are shown for each of the five west-side planning units in Maps IV.1-IV.5.

pg. IV.4 - fifth paragraph:

The amount of habitat on the combination of DNR NRF areas and federal reserves existing at the time timber harvest is planned for a WAU that contains designated NRF areas will be determined using the best information available. As the HCP is implemented, the amount of habitat on DNR-managed lands shall be field verified through a landscape assessment process. After initial field verification, habitat levels in WAUs containing DNR NRF management areas should be assessed every 10 years. DNR will not be required to field-verify habitat in federal reserves, but will rely on updated federal habitat inventories for lands within federal reserve status. Depending on the habitat conditions that exist at the time a WAU is entered for timber management, one of four possible scenarios would apply:

pg. IV.6 - add new subparagraph (c):

If more than 200 acres of sub-mature habitat occurs in the area in which this habitat serves as a buffer, and the WAU is over its habitat target, the amount over 200 acres can be harvested. Habitat of equal or better quality that is adjacent to a portion of the 300 acre nest patch or the remainder of the original 200 acre sub-mature buffer that will not be harvested must be immediately available to replace what is harvested - i.e., this provision cannot result in a degradation of habitat quality around the nest patch. If such harvest is planned during the breeding season, the harvest unit will be surveyed for spotted owl occupancy. Survey stations will be established such that an area 0.25 mile beyond the sale unit boundary is covered by the surveys. Four visits will be conducted in a single year at least one week apart. If a detection is made within the harvest area or within 0.25 mile of it, seasonal restrictions will apply. If no detections are made, the sale unit will be available for harvest for four years.

pg. IV.6 - change subparagraph (c) to subparagraph (d) and change text:

(e d) Nest habitat patches shall consist of the highest quality nesting habitat available in each 5,000-acre block and shall be identified using one of the following methods, listed in order of preference. Identification of nest habitat patches shall occur during the first year of HCP implementation. The Services will review placement of nest patches at the 1-year review.

pg. IV.6 and IV.7 - change paragraph i:

The location of known status 1 and 2 spotted owl site centers (sites where spotted owl pairs have been located) should be used as a starting point for delineating 300 acres of nesting habitat...All available Type A habitat should be included before Type B habitat is counted as part of a 300-acre nest patch.

pg. IV.7 - change paragraph iii:

...Forest stands that meet the Type A or B definitions can be counted toward the 300 acres of nesting habitat. All available Type A habitat should be included before Type B habitat is counted as part of a 300-acre nest patch.

pg. IV.7 - change paragraph v:

If there are no 300-acre nest patches that meet either the high-quality habitat definition or the Types A or B habitat definitions within a particular 5,000-acre block, the next highest quality 300-acre habitat patches should be identified...

pg. IV.7 - change paragraph d & e:

(de) Nesting areas The 300 acre nest patches shall be deferred from harvest until DNR can demonstrate the successful application of silvicultural techniques to create functional nesting habitat in managed stands...

pg. IV.8 - replace paragraph (c) with:

(c) DNR will submit proposed exceptions to the Service. If the Service does not agree with the proposal, a multi-agency science team, including staff specialists from DNR, the Service, and any third party scientist the Service deems appropriate, shall be convened to resolve any outstanding issues.

pg. IV.9 - change second paragraph:

If a spotted owl nest site is known to occur in a planned harvest area, seasonal harvest restrictions times to avoid the breeding season shall be observed within a 0.7 mile radius of the nest site. In WAUs that are above the habitat target, DNR will avoid harvest of habitat within 0.7 mile of known nest sites during the breeding season. DNR will use any updated information on nest site locations provided by the Service.

pg. IV.9 - change the fifth paragraph:

When harvesting spotted owl habitat outside of designated NRF areas, DNR will consider recommendations of the USFWS for scheduling potential take of spotted owl site centers during the first decade. This will be done in order to retain sites that may have a valuable short-term contribution to the population. Otherwise, the provisions of the spotted owl strategy do not place any special conditions upon forest stands in WAUS that are not designated to provide habitat for the spotted owl...

pg. IV.9 - change the paragraph under heading "Management in WAUs Not Designated to Provide Habitat for Spotted Owls":

...If a spotted owl nest site is discovered during timber sale planning in the stand not designated to provide spotted owl habitat, seasonal harvest restrictions timed to avoid the breeding season shall be observed with a 0.7 mile radius of 70 acre core surrounding the nest site.

pg. IV.9 - change the first paragraph under "Salvage Operations and Activities Related to Forest Health":

DNR's HCP conservation strategies include commitments to develop and maintain wildlife habitat (in this case, NRF habitat and dispersal habitat for the northern spotted owl) over time in designated amounts and areas. In general, such conservation commitments made in the HCP will take priority over other DNR management considerations. However, these conservation commitments may, in some cases, be inconsistent with activities DNR must consider under state statutes pertaining to salvage (RCW 79.01.795) and forest health (RCW 76.06.040) may require DNR to make

decisions that may not be consistent with the habitat conservation commitments made in the HCP.

pg. IV.9 - change the second paragraph under “Salvage Operations and Activities Related to Forest Health”:

For example, salvage operations might be considered by the DNR for reasons such as windthrow, fire, disease, or insect infestation. Activities related to forest health might include risk reduction through underburning, thinning, or harvest to stop spread of disease or insect infestation.

pg. IV. 9 - change the third paragraph under “Salvage Operations and Activities Related to Forest Health”:

When DNR determines that consideration of activities inconsistent with the commitments made in the HCP is necessary, consultation such potential exists, discussions shall be held with the U.S. Fish and Wildlife Service. DNR shall provide the U.S. Fish and Wildlife Service with complete descriptions of the situation making consideration of such activities necessary, the activities under consideration, and the expected impacts of the activities to the situation and to the HCP conservation strategies. If the U.S. Fish and Wildlife Service determines it is determined that such activities would adversely impact the HCP conservation strategies, DNR and the U.S. Fish and Wildlife Service shall identify additional mitigation that would allow the necessary activities to go forward.

pg. IV.9 - add a fourth paragraph under “Salvage Operations and Activities Related to Forest Health”:

In conducting salvage activities, DNR shall, to the extent practicable:

- minimize the harvest of live trees to those necessary to access and complete the salvage activity, and
- maximize and clump the retention of large, safe, standing trees to provide future snags; and consider opportunities to retain concentration of snags and/or coarse woody debris which may benefit species such as black-backed and three-toed woodpeckers.

pg. IV.10 - add to end of the paragraph with heading “Support of Federal Reserves”:

Proposals for such changes would be developed by DNR and submitted to the Services. A multi-agency science team may be convened to resolve questions regarding the biological basis of the proposal.

pg. IV.10 - change the first bullet of the fourth paragraph:

- At least 31 trees per acre are greater than or equal to 21 inches dbh with at least 15 trees, of those 31 trees, per acre greater than or equal to 31 inches dbh.

pg. IV.12 - add to end of the paragraph with heading “Nesting Habitat”:

Proposals for such changes would be developed by DNR and submitted to the Services. A multi-agency science team may be convened to resolve questions regarding the biological basis of the proposal.

pg. IV.15 - change the fourth paragraph:

The recommendation for arranging nesting habitat in a 300 acre nest patch within a larger 500 acre patch of suitable habitat is based on studies that demonstrate increasing probability of spotted owl occupancy with increasing amount of habitat close to site centers and studies that show concentrated use of habitat within 0.7 mile of site centers. In a study of 125 61 spotted owl sites on the east slope of the Cascades, Irwin and Martin (1992) demonstrated that the probability of occupancy increase with the amount of suitable habitat in a 500-acre circle. Their study showed that probability of occupancy exceeded 90 percent where there was more than 300 acres of habitat within a 0.5-mile-radius circle. found that spotted owl sites that were occupied either one or two years of a two-year survey had an average of 252 acres (s.d. = 20) of suitable habitat within a 0.5 mile circle in managed stands and 316 acres (s.d. = 20) in a 0.5 mile circle in unmanaged stands. There was a strong statistical relationship between the amount of habitat found at sites with 0, 1, or 2 years of occupancy at 0.5, 1.0, 1.5, and 2.0 miles from the site center with the strongest relationship occurring at 0.5 mile. Data on the amount of habitat found within 0.5 mile of occupied sites was used in a logistic regression analysis to predict occupancy. Their analysis predicted a 90 percent chance of pair site occupancy when there were 300 acres of suitable habitat within 0.5 mile of a site center. This study provided predictive abilities and did not establish minimum amounts of habitat needed by owls. As stated above, this study was conducted on the east side of the Cascade Crest where owl responses to habitat quality and quantity are different from forests on the west side of the Cascade Crest. DNR believes that patches of this size, in combination with surrounding sub-mature forest will provide the necessary habitat to support nesting owls in proximity to federal lands.

pg. IV.16 - change the first paragraph:

...Based on this information, it is reasonable to arrange high-quality nesting habitat in contiguous 500-acre patches (300 acres of high-quality nesting habitat and 200 acres of at least sub-mature habitat) within a 0.7-mile-radius circle.

Conservation Strategy for the Three East-side Planning Units

pg. IV.20 - change first paragraph after the bullets:

If a spotted owl nest site is known to occur in a planned harvest area, season harvest restrictions timed for the breeding season shall be observed within 0.7-mile-radius of the nest site. In WAUs that are above the habitat target, DNR will avoid harvest of habitat within 0.7 mile of known nest sites during the breeding season. DNR will consider any updated information on nest site locations provided by the Service.

pg. IV.21 - first paragraph:

When harvesting spotted owl habitat outside of designated NRF areas, DNR will consider recommendations of the USFWS for scheduling potential take of spotted owl site centers during the first decade. This will be done in order to retain sites that may have a valuable short-term contribution to the population. Otherwise, The provisions of the spotted owl strategy do not place any special conditions upon forest stands in WAUs that are not

designated to provide habitat for the spotted owl. season shall be observed within a 0.7 mile radius of 70 acre core surrounding the nest site.

pg. IV.21 - delete all three paragraphs under “Salvage Operations and Activities Related to Forest Health” and replace with:

DNR’s HCP conservation strategies include commitments to develop and maintain wildlife habitat (in this case, NRF habitat and dispersal habitat for the northern spotted owl) over time in designated amounts and areas. In general, such conservation commitments made in the HCP will take priority over other DNR management considerations. However, these conservation commitments may, in some cases, be inconsistent with activities DNR must consider under state statutes pertaining to salvage (RCW 79.01.795) and forest health (RCW 76.06.040).

For example, salvage operations might be considered by DNR for reasons such as windthrow, fire, disease, or insect infestation. Activities related to forest health might include risk reduction through underburning, thinning, or harvest to stop spread of disease or insect infestation.

When DNR determines that such potential exists, discussions shall be held with the U.S. Fish and Wildlife Service. If it is determined that such activities would adversely impact the HCP conservation strategies, DNR and the U.S. Fish and Wildlife Service shall identify additional mitigation that would allow the necessary activities to go forward.

In conducting salvage activities, DNR shall, to the extent practicable:

- I minimize the harvest of live trees to those necessary to access and complete the salvage activity, and
- I maximize and clump the retention of large, safe, standing trees to provide future snags.

Rationale for the Spotted Owl Conservation Objective and Strategies	No change
Current Habitat and Projected Habitat Growth in Nesting, Roosting, and Foraging and Dispersal Management Areas	No change
Potential Benefits and Impacts to Spotted Owls	No change
B. Minimization and Mitigation for the Marbled Murrelet in the Five West-side and the Olympic Experimental State Forest Planning Units	No change

Conservation Objective

pg. IV.39 - change the second paragraph:

While the amount of scientific information that is available for this species has increased dramatically in recent years, it is still extremely limited. Additionally, no recovery plan and no designation of critical habitat for this species have been adopted by the federal government, although a draft proposals for both have been recently released. A final rule for critical habitat has been published. (See the discussion of these draft proposals in Chapter II.)

Interim Conservation Strategy

pg. IV.40 - change Step 3:

Following completion of the habitat relationship study in each planning unit, marginal habitat types that would be expected to contain a maximum of 5 percent of the occupied sites on DNR-managed lands within each planning unit shall be identified and made available for harvest. However, no known occupied sites will be released; they shall all be protected.

pg. IV.40 - change Step 4:

In each planning unit, all acreage constituting the higher quality habitat types (i.e., those not identified as available for harvest under Step 3) shall be included in an inventory survey, using Pacific Seabird or other commonly accepted protocol approved by the USFWS if available, to locate occupied sites. Outside of Southwest Washington¹, surveyed, unoccupied habitat will be released for harvest if it is not within 0.5 mile of an occupied site and after harvest, at least 50 percent of the suitable marbled murrelet habitat on DNR-managed lands in the WAU would remain. Within Southwest Washington¹, surveyed, unoccupied habitat will not be released for harvest unless (a) the long-term plan (see Step 5 below) for the applicable planning units has been completed or, (b) at least 12 months have passed since the initiation of negotiations of the draft long-term plan without completion of those negotiations. ~~Surveyed unoccupied habitat will be available for harvest if such harvest adheres to all other provisions of the HCP, Forest Practices regulations, and policies of the Board of Natural Resources.~~

pg. IV. 40 - change Step 5:

After Steps 1-4 are completed for each planning unit, the information obtained during these and other research efforts shall be used to develop a long-term conservation plan for marbled murrelet habitat on DNR-managed HCP lands within that planning unit. The habitat relationship study, inventory survey, and development of the long-term plan will occur consecutively within each planning unit - i.e., there will be no time gaps between Steps 2, 3, and 4. Negotiation of the draft long-term conservation plan for a planning unit will commence with the Service within 12 months of completion of the inventory surveys for that planning unit. All decisions made in Steps 1-4 above shall be reviewed as part of this process. (For example, it may be that some of the marginal habitat or surveyed unoccupied habitat made available for harvest in Step 3 or Step 4 will be identified as important to protect in the long-term plan.) ~~These plans shall then be included in the HCP by amendment.~~ Once all individual planning unit plans are complete, a comprehensive review shall be conducted and modifications made if required. DNR will submit its proposal for long-term plans to the Service for approval. DNR may convene a multi-agency science team to resolve issues of disagreement over the proposal.

¹ For the purposes of the marbled murrelet strategy, Southwest Washington is defined as that portion of the Columbia Planning Unit west of Interstate 5 and that portion of the South Coast Planning Unit that is located south of Highway 8.

Habitat Definitions

pg. IV.42 - change first paragraph:

...Platforms are counted only in conifer trees and only if located within the live crown. When trained staff are counting platforms for the number per acre calculation, all platforms fitting this description should be included...

Possible Components of a Credible Long-term Conservation Strategy

pg. IV.44 - insert new paragraph prior to heading Potential Benefits and Impacted to Marbled Murrelets:

The long-term conservation plan developed by DNR would likely include information on the location of occupied sites, the distribution of habitat in each planning unit, current research results, landscape-level analysis and considerations, and the site-specific management plans developed by DNR. The long term plan would address such factors as developing habitat where gaps exist, developing or maintaining replacement habitat, and would protect the vast majority of occupied sites. This process should result in a comprehensive, detailed landscape-level plan that would help meet the recovery objectives of the USFWS, contribute to the conservation efforts of the President's Northwest Forest Plan, and make a significant contribution to maintaining and protecting marbled murrelet populations in western Washington over the life of the HCP.

Potential Benefits and Impacts to Marbled Murrelets

pg. IV.44 - add to the end of the first bullet:

There will likely be a small impact to the population from not including potential habitat on DNR-managed lands beyond 50 miles from marine waters.

C. Minimization and Mitigation for Other Federally Listed Species in All Planning Units

Oregon Silverspot Butterfly

pg. IV. 45 -new second paragraph under heading "Oregon Silverspot Butterfly":

In addition, DNR will not harvest timber, construct roads, or apply pesticides within 0.25 mile of an individual occurrence of an Oregon silverspot butterfly, documented by WDFW. In places where DNR believes that effective conservation can be provided in a more efficient way, DNR may present to the USFWS a site-specific management plan that provides adequate protection for the species or habitat occurring at that site. If the USFWS do not approve of the plan, then a multi-agency science team will be convened. The team will evaluate the plan and determine if it is adequate, and if it is not, recommend additional measures that should be taken to make it so.

Aleutian Canada Goose

No change

Bald Eagle

pg. IV.46 - add to the first paragraph:

...Under this HCP, all DNR forest management activities in the area covered by the HCP shall comply with state Forest Practices Rules and state wildlife regulations and shall be consistent with the policies set forth by the Board of Natural Resources. When developing a site management plan for bald eagle habitat pursuant to WAC 232-12-292 DNR will, where appropriate, consider perch/pilot trees and foraging areas associated with nesting sites, winter roost trees, and winter feeding concentration areas. In addition to protection of nesting trees and the immediate vicinity.

Peregrine Falcon

pg. IV.46 - change the last paragraph:

...In addition, in east- and west-side planning units and the Olympic Experimental State Forest, DNR shall restrict public access to DNR-managed lands within 0.5 mile of any peregrine falcon aerie, and DNR, U.S. Fish and Wildlife Service, and Washington Department of Fish and Wildlife shall keep the locations of aeries on DNR-managed lands confidential to the extent permitted by law where practicable:

- I review and, where necessary, manage public access to DNR-managed lands within 0.5 mile of a known peregrine falcon aerie,
- I conduct field review, by staff knowledgeable of peregrine biology and requirements, of all cliffs in excess of 150', and conduct surveys for peregrine falcon aeries at cliffs judged to have likely potential for use,
- I protect ledges on cliffs judged suitable for aeries,
- I retain trees along the base and top of cliffs judged suitable for aeries, especially perch trees along the top of cliffs, and
- I keep the location of peregrine falcon aeries on DNR-managed lands confidential to the extent permitted by law.

Gray Wolf

pg. IV. 47 - Insert new first paragraph under heading Gray Wolf:

The status of the gray wolf within the proposed HCP area is unknown. However, it is likely that even if absent now, wolves will emigrate and reside in this area during the Permit period. Biologically, the fate of the wolf is linked to that of its prey, which includes large herbivores such as elk and deer, and smaller mammals such as the snowshoe hare. No "recovery areas" have yet been designated for the gray wolf in the Washington Cascades. DNR will evaluate the amount of habitat for preferred wolf prey species and prioritize areas that have a higher likelihood of providing adequate habitat for the preferred prey species.

pg. IV.47 - change third paragraph:

Additional conservation of gray wolves and their habitat will be provided by the HCP riparian and spotted owl conservation strategies and by the following specific measures for managing potential gray wolf habitat on DNR managed lands in the area covered by the HCP. DNR believes that the combination of riparian and marbled murrelet strategies in western Washington, and the spotted owl strategy and improved road management plan in both western Washington and the east-side planning units will provide support to gray wolves. Additionally, DNR will attempt to avoid or minimize potential impacts to gray wolves by maintaining habitat in a condition that allows wolves and their important prey species to meet their essential biological needs by providing:

pg. IV.47 - add new first bullet:

- Den Site and Rendezvous Site Protection

pg. IV.47 - change second bullet:

- DNR, in consultation cooperation with the Washington Department of Fish and Wildlife or U.S. Fish and Wildlife Service, shall develop and implement practicable, economically reasonable, site-specific plans to limit human disturbance within the wolf habitat management area. If the USFWS does not approve of the plans, then a multi-agency science team will be convened. The team will evaluate the plans and determine if they are adequate, and if not, recommend additional measures that should be taken to make them adequate.

pg. IV.47 - add two additional bullets after last bullet:

- Provisions for Prey Habitat Conditions - Habitat management for wolves is primarily directed at habitat for its prey species (USFWS 1984). The most important prey species in the HCP area are deer and elk. The species use edges between cover (older forest) and forage habitats (stand initiation, shrub/sapling, and younger forest). The creation and maintenance of edge habitat through timber harvest activities will provide adequate habitat for wolf prey species.
- Road Management - DNR will attempt to provide more secure conditions for both prey species and wolves. Minimal contact with humans has been cited as the second most important biological necessity for wolf recovery (USFWS 1984). DNR has been involved in cooperative road closures with WDFW and the Forest Service to restrict vehicular activity to maintain or increase big game security and reduce hunting pressure. DNR will continue to participate in such cooperative activities. Ungulate fawning/calving and wintering areas are areas where wolves are most likely to occur. To the extent practicable, DNR will schedule forest management activities, including road construction and use, to occur at times of the year when wolves are least likely to be present.

Grizzly Bear

pg. IV.48 -insert after the first paragraph on Grizzly bears:

The federal and State wildlife agencies believe that grizzly bears occur, at least occasionally, within the North Cascades Grizzly Bear Recovery Zone. The Recovery Zone contains in excess of 6,000,000 acres including approximately 260,000 acres of DNR-managed forest lands. Less than 100,000 acres of the DNR-managed land, representing less than 2 percent of the Recovery Zone, is included within the area covered by the proposed HCP.

The DNR-managed lands covered by the HCP and within the Recovery Zone can be described as occurring in four locations: Skagit Valley, Spada Lake, the west side of the Methow Valley, and a group of separate sections between Wenatchee and Lake Chelan and surrounded by Forest Service land. In each of these areas, the DNR-managed lands lie on the periphery of the Recovery Zone between Federal ownership and areas of human occupancy and related activity. DNR believes the best use of lands it manages is to serve as a buffer between the federal ownership, where active recovery efforts are most likely to occur, and the areas of increased public use. DNR believes that this role will be sufficiently supported by the combination of other strategies contained within the HCP.

pg. IV.48 - change second Grizzly Bear paragraph:

~~Additional conservation of grizzly bears and their habitat will be provided by the HCP riparian and spotted owl conservation strategies and by the following specific measures for managing potential grizzly bear habitat on DNR managed lands in the area covered by the HCP. DNR believes that the combination of riparian and marbled murrelet strategies in western Washington, and the spotted owl strategy and improved road management plan in both western Washington and the east-side planning units will provide support to grizzly bears. In addition, DNR proposes to provide the following site-specific measures:~~

pg. IV.48 - change second bullet:

- I ~~DNR, in consultation cooperation with the Washington Department of Fish and Wildlife or U.S. Fish and Wildlife Service, shall develop and implement practicable, economically reasonable, site-specific plans to limit human disturbance in the grizzly bear habitat management area.~~

Columbian White-tailed Deer

No change

D. Riparian Conservation Strategy for the Five West-side Planning Units

Conservation Objectives

pg. IV.51 - add new fifth paragraph:

The Services are prioritizing watersheds for the conservation of salmon. DNR will consider the results of this prioritization when planning its participation in Watershed Analysis.

pg. IV.51 and IV.52 - change last paragraph on p. 51 and first paragraph on p. 52:
As described in Section C D of Chapter III titled Salmonids and the Riparian Ecosystem, salmonid habitat includes the entire riparian ecosystem, and therefore, conservation objective (1) requires maintaining or restoring the riparian ecosystem processes that determine salmonid habitat quality. Also, as described in Section C D of Chapter III, hydrological and geomorphological processes originating in upland areas may also affect salmonid habitat...

Conservation Components

pg. IV.52 - add to end of the fourth full paragraph:

A riparian buffer 100 feet wide shall be applied to both sides of Type 4 waters. Type 4 waters classified after January 1, 1992, are assumed to be correctly classified. Type 4 waters classified prior to January 1, 1992, must either have their classification verified in the field or be assumed to be Type 3 waters. In general it is currently standard practice for DNR staff to physically examine the classification of streams within a management unit when preparing the unit for a timber sale. If an area has already been classified post 1992 and prior to the effective date of this HCP, it is likely in a management activity that is probably sold and/or harvested. Therefore, for all practical purposes, stream typing will be examined or verified in the field whether they were typed before or after 1992.

pg. IV.52 - change sixth paragraph:

In the field, the width of the riparian buffer shall be measured as the slope horizontal distance from, and perpendicular to, the outer margin of the 100 year floodplain active channel margin. ~~For the purpose of mapping and accounting, the width of the riparian buffer will be reported as horizontal distance.~~

pg. IV.52 - delete entire last paragraph and replace with:

Average buffer widths are given in Table IV.7. as average horizontal distances measured outward from the outer margin of the 100-year floodplain on either side of the stream. The 100-year floodplain is the valley-bottom area adjoining the stream channel that is constructed by the stream under the present climatic regime and overflowed at times of very high discharge (i.e., flooding associated with storms of a 100-year recurrence interval; Dunne, T., and L.B. Leopold. 1987). One-hundred-year floodplains commonly are delineated by the Federal Emergency Management Agency (FEMA) on Flood Insurance Rate Maps (FIRM) for each county of the state. The 100-year floodplain includes meandering, braided (i.e., multiple channel braids), and avulsion channels, as well as side channels that transport water from one part of a mainstream channel to another. Avulsion channels are portions of mainstream and side channels that have been abandoned temporarily by lateral displacement of the channel network elsewhere on the floodplain but are expected to be reoccupied when the network migrates back across the valley bottom.

The 100-year floodplain, which often encompasses the channel-migration zone, frequently occupies a several-hundred-foot wide section of the valley bottom on low-gradient, alluvial river systems. On higher-gradient streams in moderate to steep terrain,

the 100-year floodplain typically coincides with the active channel margin or extends only a few feet beyond the active (e.g., the high-water mark). The active channel consists of the wetted area and bed or bank surfaces exposed during low flows, as well as portions of the valley bottom nearest the channel that are inundated during typical flood events (i.e. comparable to the two-year recurring flood). Active channel margins commonly are identified in the field by piles of accumulated flood debris, overbank sediment deposits, streamside vegetation altered or damaged by channel flows, bank scour, and the absence of aquatic biota (e.g., algae) normally found in slack-water channels. In the five west-side planning units and the OESF, DNR manages only a few hundred acres on 100-year floodplains of the major river systems. Most floodplain acreage is privately owned or federally managed. FEMA maps indicate that most 100-year floodplains are associated with Type 1 and 2 water. Collectively, Type 1 and 2 waters represent less than 5 percent of stream miles on DNR-managed lands. Hence, the impact to DNR management associated with using the 100-year floodplain as the inner margin of riparian management zones is relatively negligible.

pg. IV.54 - delete bullets (1) through (4) at top of page and add new paragraph:

If Type 4 and 5 waters without fish become fishbearing upon removal of obstructions, they will be reviewed for proper typing. Type 4 or 5 waters documented to contain fish that are proposed or candidates for federal listing or federal species of concern will be treated as Type 3 waters, if appropriate.

pg. IV.54 - change second paragraph:

All Type 5 waters that flow through an area with a high risk of mass wasting shall be protected as described in the subsection below... In addition, during this interim 10-year period, a research program shall be initiated to study the effects of forest management along Type 5 waters ~~on aquatic resources~~ located on stable slopes. At the end of the 10 years, a long-term conservation strategy for forest management along Type 5 waters shall be developed and incorporated into this HCP as part of the adaptive management component of this HCP.

pg. IV.54 - insert new paragraph prior to heading "Wind Buffers":

Type 5 waters classified after January 1, 1992 are assumed to be correctly classified. Type 5 waters classified prior to January 1, 1992, will either have their classification verified in the field or be assumed to be Type 3 waters.

pg. IV.54 - change subparagraph (1) at bottom of page:

(1) No timber harvest shall occur within the first 25 feet (~~slope~~ horizontal distance) from the outer margin of the 100 year floodplain.

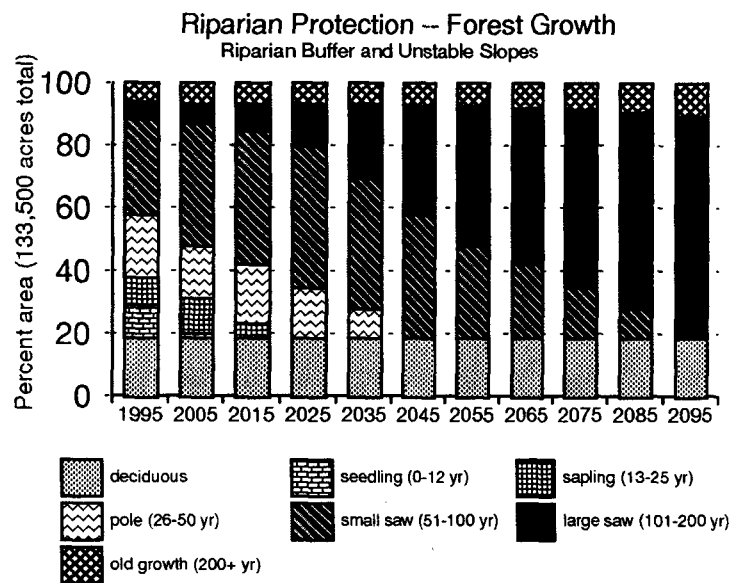
pg. IV.55 - change subparagraph (2) at top of page:

(2) The next 75 feet of the riparian buffer shall be a "minimal-harvest" area. Activities occurring between 25 and 100 feet (~~slope~~ horizontal distance) from the ~~active channel~~ 100 year floodplain must not appreciably reduce stream shading, the ability of the buffer to intercept sediment, or the capacity of the buffer to contribute detrital nutrients and large woody debris...

pg. IV.55 and 56 - delete last three paragraphs on pg. IV.55 and the first paragraph on pg. IV.56, and replace with:

To accommodate the greater flexibility afforded by managing riparian areas on a site-specific basis and the uncertainties surrounding the results of these activities conducted over time, an adaptive-management process will be used to specify management activities within riparian-management areas. Mechanisms used to achieve conservation objectives will vary as new information becomes available.

DNR believes that this strategy will lead, over time, to an age-class distribution within the riparian zones as depicted by the following graph:



Methods for making site-specific, forest-management decisions in the riparian management zones and wind buffers will be described in DNR's implementation guidelines. These guidelines will be developed by DNR and provided to the Services for their review prior to being implemented. These guidelines will, at a minimum:

- a. Describe in detail the conservation objectives. These objectives will include desired outcomes for such items as maintaining bank stability, water temperature, shade, and natural sedimentation rates; retention of large trees and snags necessary to support viable populations of riparian wildlife and recruit future snags, coarse woody debris (downed logs on land), and large woody debris (in-stream logs); and maintaining the natural capacity of these areas to provide

diversity including overstory composition, understory composition, detritus inputs, and natural pool frequencies.

- b. Define terminology, activities, and prescriptions. For example, single-tree removal may be defined in terms of distance between removed trees and years between entries and may vary by site. It is expected that additional considerations such as lean of the tree, distance from stream bank, size, soundness, and abundance of other mature conifer would be factors considered during a site-specific analysis. The implementation procedures will provide guidance on how to incorporate those types of considerations. Similarly, the implementation procedures may describe how considerations of the rooting zone may extend the 25-foot no-harvest area on a site-specific basis using canopy diameters or other such indicators. Terms such as restoration, single-tree removal, minimal harvest, low harvest, etc. would be defined for each component of the riparian management zones and wind buffers. Prescriptions for placement of yarding corridors and other such activities would also be included.
- c. Detail the monitoring methods to be used in the feedback process for adaptive management designed to ensure the riparian-management zones and wind buffers are adequately providing the desired characteristics (e.g., LWD, stream stability, water temperature, snag densities, etc.); and
- d. Describe the training to be provided to agency staff.

These procedures will be developed by DNR and presented to the Services within 12 months of the signing of the HCP documents. If the Services do not agree with the procedures developed by DNR, a multi-agency science team will be convened to review the sufficiency of the procedures. Timber harvesting conducted within the riparian management zones and wind buffers prior to agreement on the proposed agency procedures will be subject to the following limitations:

- a. Within the 25-foot "no harvest" zone, only commonly accepted restoration activities may occur; and
- b. Within the "minimal harvest zone," "low harvest zone," and "wind buffer," partial harvests may occur that remove no more than 10% of the conifer volume and/or 20% of the hardwood volume per rotation.

However, if 3 months have passed since the Services have received procedures developed by DNR and the agencies have been unable to reach agreement on their sufficiency, DNR may increase timber harvest within the riparian management zones and wind buffers with the following limits:

- a. Within the 25-foot "no harvest" zone, only commonly accepted restoration activities may occur;

-
- b. Within the "minimal harvest zone," single tree or partial harvests may occur that remove up to 10% of the volume;
 - c. Within the "low harvest zone," partial harvests may occur that remove up to 25% of the volume; and,
 - d. Within the "wind buffer," partial harvests may occur that remove up to 50% of the volume.

pg. IV. 56 - change the second paragraph:

~~No harvest shall occur on hillslopes with a high risk of mass wasting.~~ Unstable hillslopes will be identified through field reconnaissance or identified with slope geomorphology models (e.g., Shaw and Johnson 1995) and verified through field reconnaissance with qualified staff... A method for delineating on a site-specific basis the portions of hillslopes with a high risk of mass wasting will be described in agency procedures to be developed for this HCP. Where slope stability models are less accurate (i.e., Southwest Washington), DNR will also rely on additional information, such as soil types databases.

pg. IV.56 - change the second bullet:

- I a site-specific assessment of alternatives to new road construction (e.g., yarding systems) and the use of such alternatives where they are economically reasonable practicable and consistent with conservation objectives;

pg. IV.56 - add the following to the end of the section on "Road Network Management":

Background

Impacts from roads have been indicated as important potential influences on many species of wildlife and fish and their habitats. For example, elk use closed roads as travel corridors (Ward 1976). Also, both elk and deer use of habitat increases with increasing distance from open roads (Lyon and Jensen 1980; Lyon 1979; Perry and Overly 1977).

Grizzly bears generally avoid roads and associated human disturbance, and the Grizzly Bear Recovery Plan recognizes road management as the single most important tool to manage and maintain suitable grizzly habitat (USDI 1993).

Wolf dens and rendezvous sites are often characterized by distance from human activity, and the Rocky Mountain Wolf Recovery Plan states, "Habitat for wolves is an adequate supply of vulnerable prey (ideally in an area with minimal opportunity for exploitation of wolves by humans)" (USDI 1987).

The WDFW Draft Bull Trout/Dolly Varden Management and Recovery Plan (1992) recommends closing roads permitting public access to spawning areas or access that facilitates poaching. Additional riparian impacts include increased sedimentation from road runoff and increased rates of slope failure caused by improperly constructed or poorly maintained roads (Murphy 1995.).

The effects that roads have on the environment are influenced by what happens during the six distinct phases of road development: planning, design, construction, use, maintenance, and abandonment.

The planning phase determines road location across a landscape and has the single most significant impact on road density and road net configuration. In general, road spacing is determined by an economic balance between environmentally sound road transportation costs and environmentally sound yarding costs. At the site level, road spacing is controlled by topography that controls landing locations which are ultimately connected by a road network. Unstable slopes, wetlands, sensitive habitat, and other environmental issues are best addressed at this early stage as the location of a road will likely change very little once the control points are established.

The design phase ensures that a road will be built from one control point to another with sufficient width, usable grades, proper alignment, use of non-erosive surfacing material, adequate water drainage features, and stable cut-and-fill slopes.

Compliance with construction standards ensures that the road is built to the design specifications and ensures that the construction techniques minimize the amount of sediment moving from the road prism. If not carefully controlled, the construction phase can represent a significant percentage of the life cycle contribution of road sediment.

Forest roads are designed to handle designed traffic at some level of normal operations (road use). Roads are not typically designed to handle excessive loads or high volume traffic during very wet weather or during the thawing cycle associated with cold weather. Uncontrolled traffic can generate the largest percentage of the life cycle contribution of road sediment.

Maintenance operations attempt to keep the road at the designed level of performance. Maintenance primarily deals with keeping drainage structures functional and keeping the running surface usable. Maintenance cannot solve problems associated with a bad location, improper design, poor construction, or misuse.

Abandonment is an alternative to maintenance when the cost of maintaining any road segment is greater than the benefits of keeping the road open and environmentally sound.

DNR's Current Road Management Strategy

Current direction for the DNR's road construction and maintenance program comes from Forest Practices regulations (Chapter 222-24 WAC) and the 1992 Forest Resource Plan.

The objectives of DNR's current road management program are to:

1. minimize further road related degradation of riparian, aquatic, and identified species habitat,
2. plan, design, construct, use, and maintain a road system that serves DNR's management needs, and
3. remove unnecessary road segments from the road net.

Planning. In general, DNR plans for high lead (800 foot optimum average yarding distance) yarding systems on land with slopes above 40 percent, and ground based systems (1000 foot average yarding distance) below that. This together with topography results in typical road densities between 0.5 to 6.0 miles per square mile.

Design. DNR's design specifications meet or exceed Forest Practices regulations and hydraulic code requirements. Current road design standards call for 100-year flood design levels for water crossing structures, abutments of bridges to be outside the ordinary high water mark of streams, 18 inch minimum cross drain culverts, 12 foot running surfaces with 12 percent adverse and 18 percent favorable grades, and 60 foot minimum curve radius. Backslopes are designed according to soil type and meet or exceed the recommended angles required by Forest Practices regulations. Most Regions require that all roads on land with slopes greater than 40 percent be full bench construction with endhaul of excavated material when slopes exceed 55 percent or when within 100 feet of Type 1, 2 or 3 waters and wetlands. DNR also has minimum requirements for rock hardness and soluble degradation to reduce the amount of surface erosion generated from traffic.

Construction. DNR's road construction specifications meet or exceed the Forest Practices minimums. DNR requires compaction of fills in 2-foot layers, prohibits any woody debris from being incorporated into the fills, and often requires that the subgrade surface be compacted and graded prior to surface application. DNR prohibits construction during inclement weather and generally restricts construction to the dryer summer months.

Road Use. DNR currently allows all-season use of roads except for log truck traffic which may be restricted during periods of freeze-thaw cycles. DNR occasionally closes roads in agreement with the Washington Department of Fish and Wildlife for the purpose of game management. DNR also has occasional road closures related to fire control.

Maintenance. DNR road maintenance specifications meet or exceed the Forest Practices minimums. Road maintenance activities focus on four main activities: Timber sales, forest management, fire control access, and recreation. All roads are maintained to meet Forest Practices environmental and forest road safety standards. Each type of road has a different driveability standard that is linked to the type of vehicle used for each activity.

Abandonment. When a road segment is determined to be too expensive to maintain, or is no longer needed, it is stabilized and abandoned. DNR is currently building more road per year than it is abandoning. While the number of miles of road per section is getting lower, the need to keep roads open longer coupled with the need to access additional acreage means the road network keeps growing. The need to keep roads open longer is driven by new environmentally sensitive approaches to harvesting, such as partial cutting and staggered settings. These silvicultural techniques dictate the need for multiple entries into a stand over the long term.

DNR's HCP Road Management Strategy

In 1994, an analysis of the transportation information contained in the DNR GIS system showed that the average density of roads in the 9 HCP planning units ranged from 1.69 to 3.29 miles per square mile although road density varies greatly within each planning unit.

The options available to the DNR to reduce the mass wasting and surface erosion impacts to streams primarily focus on the amount and location of problem roads that are currently unnecessary and on how well necessary roads are managed. Road management can best be addressed with improved design, construction compliance, control of use, and maintenance management. Potential problems can be best addressed during a landscape level planning phase.

DNR will initially focus on improvements in the more sensitive areas of a landscape with priority given to locations on steep slopes with unstable soils and high precipitation, and locations within 100 feet of Type 1, 2, and 3 waters and wetlands.

Planning. DNR will ensure that planning processes specifically include the consideration of longer yarding capacity systems whenever faced with placing roads in unstable areas. The alternatives generated during the planning process will be reviewed by an interdisciplinary team of foresters, scientists, and engineers who will evaluate the environmental, silvicultural, public use, and economic benefits and costs of these alternatives and recommend harvest strategies for these sensitive areas. Alternate locations for new roads will be considered in more sensitive areas where other slope-parallel roads exist. The selection process will emphasize the overall goals of the HCP.

In considering road densities, it is assumed that the current emphasis on small staggered settings with greenup requirements, and partial cut silvicultural systems designed to achieve environmental objectives will continue. These systems will, by their nature, result in more extensive road systems which will be active for longer periods of time. While expansion is inevitable as new areas are accessed, DNR's goal will be to reduce the additional amount of new roads needed through careful planning and control the overall size of the network by effective abandonment.

Design.

1. In unstable areas DNR will consider options such as:
 - a. road designs by professional engineers,
 - b. narrower running surfaces,
 - c. less steep cut and fill slopes,
 - d. more comprehensive slope revegetation/stabilization systems,
 - e. designed slope retaining structures,
 - f. larger and more frequent cross drains,
 - g. full bench on all roads located on 40 percent or greater side slopes,
 - h. endhaul of waste on all sideslopes greater than 55 percent,
 - i. subgrade and surfacing matrix enhancers (fabric, lime, concrete),
 - j. outsliping where appropriate,
 - k. permeable fills to stabilize sub-grades, and

1. other techniques for road-benching, including sliver-fills, back casting, and multi-benching.
2. When within 100 feet of Type 1, 2, or 3 waters or wetlands DNR will consider options such as:
 - a. higher quality rock surfacing specifications or the use of surfacing binders such as asphalt or lining sulfonate,
 - b. more comprehensive cut and fill slope revegetation/stabilization systems,
 - c. design of culverts and bridges for debris capacity as well as 100-year flood hydraulic criteria, and
 - d. placing sediment traps to avoid delivery of surface erosion into stream crossings, particularly at sites of through-cuts.

Construction.

1. In unstable areas DNR will consider options such as:
 - a. slope stake design and compliance on road construction on 55 percent sideslopes,
 - b. thorough compaction of subgrade,
 - c. prohibition of woody debris from all fills,
 - d. compact fills on slopes between 40 percent and 55 percent in 6 inch lifts with compacting machines designed for that purpose,
 - e. control of road construction shutdowns using moisture content indicators,
 - f. controlled blasting, (e.g., pre-splitting) in order to avoid triggering landslides, especially during wet conditions, and
 - g. employing a backhoe rather than dozer to reduce ground-disturbance.
2. When within 100 feet of Type 1, 2, or 3 waters or wetlands DNR will consider options such as:
 - a. thorough compaction of subgrade,
 - b. filter barriers downslope of construction,
 - c. full diversion of flowing waters during culvert installation,
 - d. silt filter devices at outlets of cross drains,
 - e. shut down of construction during inclement weather, and
 - f. limiting the extent of exposed soils adjacent to a watercourse.
3. Reconstruction of necessary roads on unstable soils will be given high priority.

Road Use.

1. In unstable areas DNR will consider options such as closing roads to log truck traffic during high rainfalls.
2. When within 100 feet of Type 1, 2, or 3 waters or wetlands DNR will consider options such as:
 - a. closing roads to log truck traffic during high rainfalls,
 - b. placing limits on volume hauled per day on marginal road segments,
 - c. restricting hauling on some road systems to low pressure tire hauling vehicles (Central Tire Inflation).

- d. closing temporarily inactive road segments with gates, and
- e. silt filter devices at outlets of cross drains.

Maintenance.

1. In unstable areas DNR will consider options such as:
 - a. road stabilization techniques that reduce the size of the road prism,
 - b. stabilizing and armoring cut and fill slopes, and
 - c. more frequent ditch and drainage structure maintenance,
2. When within 100 feet of Type 1, 2, or 3 waters or wetlands DNR will consider options such as:
 - a. paving or lignin sulfonate surfacing stabilizers,
 - b. more frequent ditch and surface maintenance, and
 - c. resurfacing projects.

Abandonment. The DNR will become more aggressive in abandoning unneeded unstable roads and will increase the level of integrating abandonment of short use spurs in conjunction with timber sale activities.

pg. IV.57 - add to the end of the third bullet:

(e.g., because land is in mines, farms, or housing developments). In such situations an interdisciplinary team of scientists will be convened to develop a prescription for DNR-managed land within the drainage basin and economic considerations will be included in their deliberations.

pg. IV.58 - change the end of the second paragraph:

Wetlands...In the field, the width of the wetlands buffer shall be measured as the slope horizontal distance from, and perpendicular to, the edge of the wetland. ~~For purposes of mapping and accounting, the width of the riparian buffer will be reported as horizontal distances.~~ Seeps and wetlands smaller than 0.25 acre will be afforded the same protection as Type 5 waters. That is, such features will be protected where part of an unstable hillslope. Research to study the effects on aquatic resources of forest management in and around seeps and small wetlands will be included in research program for Type 5 waters.

pg. IV.58 - change the last paragraph:

Forestry operations in wetlands and wetland buffers shall be in accordance with DNR's policy of no overall net loss of wetland function. Forest management in forested wetlands and in buffers of nonforested wetlands will minimize entries into these areas and utilize practices that minimize disturbance, such as directional felling of timber away from wetlands and equipment that cause minimal soil disturbance (e.g., tractors with low pressure tires). If ground disturbance caused by forest management activities alters the natural surface or subsurface drainage of a wetland, then restoration of the natural drainage shall be required...

Rationale for the Conservation Components	No change
Effects of the Riparian Conservation Strategy on Salmonid Habitat	No change

E. Olympic Experimental State Forest Planning Unit

Integrated Approach to Production and Conservation

pg. IV.70 - delete subparagraph (4) and replace with:

(4) To learn to integrate older forest ecosystem values and their functions with commercial forest activities using, as a working hypothesis, that landscapes managed for a fairly even apportionment of forest cover among stands in all stages of development, from stand initiation to old growth (Oliver and Larson 1990) will support desirable levels of both commodities and ecosystem functions.

Conservation Strategy for the Northern Spotted Owl in the Olympic Experimental State Forest

pg. IV.77 - change the fourth paragraph:

...See Table IV.5. ~~It is likely that the best estimates of potential habitat are intermediate between those, based on stands more than 50 and 70 years old.~~ These estimates of the abundance of potential habitat based on stand age are not perfect. For example, some stands not much older than 100 years would be classified as sub-mature habitat based on their structure and composition, just as some 75 year-old stands with a substantial component of older trees would be classified as old-forest habitat. But it is likely that estimates of the abundance of old-forest habitat are relatively unbiased, that is, some stands estimated to be old-forest habitat are really sub-mature and some stands estimated to be sub-mature are really old-forest. Similarly, estimates of the abundance of sub-mature habitat are likely to be relatively unbiased. However, the abundance of young-forest marginal habitat is likely overestimated based on the abundance of stands currently over 50 years old. The structure and composition of some of these stands are such that they would offer too few opportunities for foraging and roosting to be classified as young-forest marginal habitat. It is likely that the current abundance of young-forest marginal habitat is some proportion of the abundance of forest stands between 51 and 70 years of age and that proportion varies among landscape planning units with stand-level and landscape-level features that are unique within landscapes. Currently, potential spotted owl habitat⁶ probably does not constitute much more than 40 percent of any landscape planning unit, although old-forest habitat appears to be at or above the 20 percent threshold in ~~five~~ several landscape planning units (Table IV.5).

⁶In discussions regarding northern spotted owls and the OESF, the term "potential spotted owl habitat" is used to generally characterize forest stands that, because of their structure and composition, are similar to those described as young- or old-growth forest spotted owl habitat by Hanson et al. (1993). The adjective "potential" is used to acknowledge that not all such stands will actually be used (become habitat) by owls, for a variety of reasons including that they occur in landscapes dominated by clearcuts and young plantations and are thus incapable of supporting owls. (Note: All footnote numbers in this chapter would increase by one.)

pg. IV.85 - change the footnotes to Table IV.6:

²Non-habitat is ~~estimated as~~ assumed to be either a) untreated stands 50 years old or younger, or b) ~~stands older than 70 that were 71 years old or older that were treated with~~

a partial harvest not more than 10 years previously when they were partially-harvested within the past 10 years.

³Young-forest marginal habitat is estimated as stands 50-70 to be either a) untreated stands 51-70 years old, or b) stands older than 70 years that were treated with a partial harvest 11-30 years previously that were 71 years old or older when they were partially-harvested within the past 11-30 years.

⁴Sub-mature habitat is estimated as stands 71-100 to be either a) untreated stands 71-100 years old, or b) stands older than 70 years that were treated with a partial harvest 31-50 years previously that were 71 years old or older when they were partially-harvested within the past 31-50 years.

⁵Old-forest habitat is estimated as stands 101 to be either a) untreated stands 101 years old or older, or b) stands older than 70 years that were treated with a partial harvest 51 or more years previously that were 71 years old or older when they were partially-harvested over 51 years ago.

pg. IV.86 - change last paragraph:

(4) Harvests of available young- and old-forest habitat will be evenly distributed over the duration of the restoration phase, i.e., over the first 40 to 60 years of the HCP. Available habitat will be calculated for each landscape planning unit, and harvests of that habitat will be scheduled and conducted so that they are evenly distributed by decade over the duration of the restoration phase of the HCP.

pg. IV.87 - insert new first paragraph:

(5) Harvests of available young- and old-forest habitat will be scheduled in consideration of the value of individual owl sites to conservation, research, and validation monitoring in the OESF. DNR will consider the recommendations of USFWS when scheduling these harvests during the first decade of the HCP.

pg. IV.87 - renumber first subparagraph on page (5) to (6):

Riparian Conservation Strategy for the Olympic Experimental State Forest

pg. IV.97 and 98 - delete the entire last paragraph on pg. 97 and the text on pg. 98 through the end of the paragraph beginning with "Active channel margins..." and replace with:

Average buffer widths are given in Table IV.7, as average horizontal distances measured outward from the outer margin of the 100-year floodplain on either side of the stream. The 100-year floodplain is the valley-bottom area adjoining the stream channel that is constructed by the stream under the present climatic regime and overflowed at times of very high discharge (i.e., flooding associated with storms of a 100-year recurrence interval; Dunne, T., and L.B. Leopold, 1987). One-hundred-year floodplains commonly are delineated by the Federal Emergency Management Agency (FEMA) on Flood Insurance Rate Maps (FIRM) for each county of the state. The 100-year floodplain

includes meandering, braided (i.e., multiple channel braids), and avulsion channels, as well as side channels that transport water from one part of a mainstream channel to another. Avulsion channels are portions of mainstream and side channels that have been abandoned temporarily by lateral displacement of the channel network elsewhere on the floodplain but are expected to be reoccupied when the network migrates back across the valley bottom.

The 100-year floodplain, which often encompasses the channel-migration zone, frequently occupies a several-hundred-foot wide section of the valley bottom on low-gradient, alluvial river systems. On higher-gradient streams in moderate to steep terrain, the 100-year floodplain typically coincides with the active channel margin or extends only a few feet beyond the active (e.g., the high-water mark). The active channel consists of the wetted area and bed or bank surfaces exposed during low flows, as well as portions of the valley bottom nearest the channel that are inundated during typical flood events (i.e., comparable to the two-year recurring flood). Active channel margins commonly are identified in the field by piles of accumulated flood debris, overbank sediment deposits, streamside vegetation altered or damaged by channel flows, bank scour, and the absence of aquatic biota (e.g., alea) normally found in slack-water channels. In the five west-side planning units and the OESF, DNR manages only a few hundred acres on 100-year floodplains of the major river systems. Most floodplain acreage is privately owned or federally managed. FEMA maps indicate that most 100-year floodplains are associated with Type 1 and 2 water. Collectively, Type 1 and 2 waters represent less than 5 percent of stream miles on DNR-managed lands. Hence, the impact to DNR management associated with using the 100-year floodplain as the inner margin of riparian management zones is relatively negligible.

pg. IV.99 - change the last paragraph on the page:

There are no available quantitative models or databases that specify which Type channels require buffer protection...In addition, streams listed as Type 9 (unclassified) or streams not in DNR's hydrology databases will be treated similarly. Type 4 or 5 streams documented to contain fish that are proposed or candidates for federal listing will be treated as Type 3 waters. Type 5 channels with a potential for delivering water, wood, sediment, nutrients, and energy to the channel network will be protected from the active channel margin outward to the topographic break in slope on either side of the channel, as well as upstream to the channel initiation point and downstream to the channel confluence. (See Figure IV.9).

pg. IV.99, and 104 - change the last paragraph on pg. 99 (that continues on pg. 104):

Figures IV.10, IV.11, and IV.12 demonstrate the one of several potential scenarios for the adjustment of riparian-buffer widths to meet site conditions. These buffer configurations are based on mass-wasting inventories and field assessments of physical and ecological riparian conditions. Figure IV.10 shows the application of the expected average interior-core and exterior buffer widths to a segment of the Clallam River and its tributaries. Figure IV.11 compares the expected average riparian buffer widths for the same area and buffers designed solely on the basis of mass-wasting inventories. Figure IV.12 shows the one potential example of a buffer configuration that would include mass-wasting sites and

meet riparian conservation objectives for maintaining physical and ecological functions of the riparian system.

pg. IV.103 - change the title of Figure IV.12:

Application of expected average riparian buffer widths adjusted for mass-wasting sites for a segment of the Clallam River and its tributaries: ~~one potential scenario~~

pg. IV.104 - change the last paragraph:

Widths for the exterior buffers were estimated by qualitatively evaluating historical patterns of windthrow resulting from average winter storms in the OESF (discussed in the Draft EIS that accompanies this HCP) and by reviewing the limited information available from local wind-buffer trials. As a starting hypothesis, the average width of exterior buffers will be 150 feet for Type 1 through 3 streams and 50 feet for Type 4 and 5 streams (Table IV.8), measured in ~~slope horizontal~~ distances laterally from the outer edge of the interior-core buffer on either side of the stream...

pg. IV.105 - change Table IV.8: Proposed average widths of exterior riparian buffers in the Olympic Experimental State Forest:

pg. IV.105 - change bullet (1):

(1) Standard procedure: To achieve the objective of wind-firm riparian forest, wind buffers will be placed on all riparian segments for which stand wind-firmness cannot be documented by historical information, windthrow modeling (e.g., Tang 1995), or other scientific means. Thirty-three percent or less, by volume, of the riparian trees in the designated exterior buffer may be removed for commercial purposes (~~i.e., excluding pre-commercial thinning and restoration activities~~) per rotation, until research is available supporting more frequent entry. This percentage corresponds to the lightest intensity partial harvest currently used in the Experimental Forest to produce forest stands that are robust and diverse, both structurally and compositionally...

pg. IV.106 - add bullets (6) through (8) under subheading Comprehensive Road-Maintenance Plans:

- (6) ~~minimize active road density~~
- (7) ~~prioritize roads for decommissioning, upgrading, and maintaining~~
- (8) ~~identify fish blockages caused by stream crossings and prioritize their retrofitting or removal~~

pg. IV.109 - change bullet (top of page) (1):

(1) the monitoring method ~~titled described in Standard Methodology for Conducting Watershed Analysis currently being developed for the state forest Practices Board (WFPA 1994 WFPB 1995b);~~

pg. IV.110 - change third paragraph:

Although the riparian conservation buffers have been established on the basis of physical arguments, DNR expects that these buffers will contribute ~~to the~~ maintenance and

recovery of ecological habitat complexity in aquatic and riparian systems. This hypothesis derives from the current understanding of the dynamics and processes of these systems. For that reason, research and monitoring can improve scientific knowledge and management practices in the Experimental Forest.

pg. IV.110 - add to end of the last paragraph:

...Estimated site potential tree heights for the Experimental Forest are: for Types 1 and 2 streams, 108 feet for a 50-year growing period, 155 feet for a 100-year period, and 168 feet for a 120-year period; and for Types 3 through 5 streams, 105 feet for a 50-year growing period, 153 feet for a 100-year period, and 165 feet for a 120-year period. Field measurements (McDade et al. 1990) indicate that buffer widths equal to approximately 60 percent of the average tree height will provide 90 percent of the natural level of instream large woody debris. Extrapolating from these results, a buffer width equal to approximately the 100-year site potential tree height, which is more than 60 percent of the 200-year site potential tree height (i.e., 60 percent of an old-growth tree height), should provide more than 90 percent of the natural level of instream large woody debris.

pg. IV.114 - change last paragraph:

Prior to landscape planning in each of the 11 landscape planning units in the Experimental Forest, watershed conditions will be evaluated and monitored through a 12-step watershed assessment procedure (described later). Results from assessments of physical and biological conditions obtained from the regulatory watershed-analysis process (WFPB 1994) will be used where possible, in lieu of those assessments required in the 12-step process. Therefore, following the implementation of the OESF, preliminary assessments and management activities will occur before landscape planning in most landscape planning units.

pg. IV.115 - change second paragraph:

....The agency may wish to sponsor a regulatory watershed analysis in lieu of some or all parts of the 12-step process. Given the watershed concerns in the OESF, however, DNR likely will go beyond the state Forest Practices Board (WFPB 1994) methods in order to account for issues not addressed in the Forest Practices Board Manual...

pg. IV.117 - change bullet (3):

(3) Conduct preliminary assessment of physical and biological watershed conditions. Use results from the regulatory watershed-analysis process, where available. Table IV.11 lists the components of this assessments, some or all of which might be included in the analysis. Methods and guidelines would be established in agency procedures developed for the OESF...

pg. IV.119 - change last sentence:

Management activities in the interior-core buffers, or forested wetland and their buffers, would exclude herbicide release and new road construction in riparian areas unless, in the case of riparian buffers, stream crossings are essential and herbicide release. Roads in wetlands or their buffers will require on-site and in-kind...

pg. IV.120 - change first bullet:

- I partial cuts of 33 percent or less by volume, ~~per rotation~~, aggregated or dispersed, depending on the operational objectives for maintaining wind-firm stands;

Multispecies Conservation Strategy for Unlisted Species in the Olympic Experimental State Forest

pg. IV.124 - change the fourth paragraph:

The habitats most critical for the conservation of unlisted species on DNR-managed lands in the OESF contain elements of late successional coniferous forest, riparian areas and wetlands, or both...Thus, special conservation measures for talus fields, caves, cliffs, ~~large snags~~, and large, structurally unique trees may be important to these species..

pg. IV.129 - change sixth paragraph:

Conservation measures for large ~~snags and large~~, structurally unique trees (described in the discussion of uncommon habitats in Section F of this chapter titled Multispecies Conservation Strategy in the Five West-side Planning Units) will retain ~~habitat for nesting and roosting structural elements required by pileated woodpeckers for nesting and roosting~~. Additional conservation measures for snags (also described in Section F of this chapter) will increase the density of snags, and consequently, opportunities for foraging.

Consistent with RCW 77.16.120, trees or snags that are known to contain active pileated woodpecker nests will not be harvested. ~~In addition, trees or snags that are known to have been used by pileated woodpeckers for nesting will not be harvested.~~ Green tree and snag retention are subject to the safety standards of the Department of Labor and Industries (WAC 296-54).

F. Multispecies Conservation Strategy for Unlisted Species in the Five West-side Planning Units

Introduction

pg. IV.134 - change first paragraph:

...Therefore, in places where DNR believes that effective conservation can be provided in a more efficient way, DNR through ~~consultation~~-cooperation with ~~the Washington Department of Fish and Wildlife~~ or the U.S. Fish and Wildlife Service, may develop a site-specific management plan that provides adequate protection for the species or habitat occurring at that site. When a management plan approved by ~~the Washington Department of Fish and Wildlife~~ or the U.S. Fish and Wildlife Service is in place, the special management prescriptions and/or additional mitigation specified in this HCP shall be waived.

pg. IV.134 - add to the end of the first full paragraph:

If, however, DNR discovers some active nesting, denning, or roosting sites in the course of forest management activities, or through voluntary surveys, or such sites are documented by the Washington Department of Fish and Wildlife on DNR-managed

lands, DNR shall provide the special protection described in the subsection titled Species by Species Conservation. At the time a new species is proposed for listing, and a written request to add that species to the permit is made by DNR, DNR will evaluate and consider additional protection measures such as seasonal restrictions and protection of nesting/denning sites.

Conservation Objectives

pg. IV.134 - change second full paragraph:

Within the five west-side planning units, ~~63~~ ⁵³ animal species are considered species of concern because information indicates they face some risk of extinction: nine are federally listed, ~~33 are federal candidates~~, ~~two, including the bull trout, are federal candidates~~, 22 are federal species of concern, two are listed by the state but have no special federal status, 11 are state candidates with no special federal status, ~~and bull trout~~ and seven species of anadromous salmonids have been or are under review by the federal government for listing.

pg. IV.134 - change last paragraph on IV.134 and first three bullets on pg. IV.135:

DNR had identified three conservation objectives for its multispecies strategy on DNR-managed lands in the five west-side planning units to provide habitat that:

- (1) ~~to provide habitat that~~ helps maintain the geographic distribution of unlisted species that have small annual or breeding-season home range areas (~~less than approximately 1 square mile~~);
- (2) ~~to provide habitat that~~ contributes to demographic support of populations of unlisted species with large home ranges (~~greater than approximately 1 square mile~~) on federal forest reserves (National Parks, National Forest Wilderness Areas, National Forest Late Successional Reserves, etc.); and
- (3) ~~to provide habitat that~~ can facilitate the dispersal of these wide-ranging species among federal forest reserves.

Conservation Strategy

No change

Benefits of the Species-specific Strategies to Unlisted Species

pg. IV.139 - change the last sentence of the second paragraph:

The conservation strategies for salmonids and marbled murrelets should serve to reduce the risk of extinction for many unlisted species, in particular those that have small home ranges and depend on riparian/wetland ecosystems or late successional forests...The conservation measures for talus fields, caves, cliffs, oak woodlands, ~~large snags~~, and ~~very large old large, structurally unique~~ trees described later in this section are intended to provide habitat for these species.

Protection of Uncommon Habitats

pg. IV.139 - change the first paragraph under this heading:

The conservation strategies for salmonids, spotted owls, and marbled murrelets protect habitat for many unlisted species particularly those associated with late successional forests or riparian ecosystems...These measures specifically address talus, caves, cliffs, oak woodlands, large snags, and ~~very large old large, structurally unique trees~~. The protection of talus, caves, cliffs, and oak woodlands is important because once altered or destroyed, these habitats are difficult to restore or recreate. ~~Very large old trees Large snags and large, structurally unique trees~~ are essential habitat elements that are generally scarce in managed forests.

pg. IV.140 - change the fourth paragraph:

The conservation objectives for the talus habitat are to maintain its physical integrity and minimize microclimatic change. To meet these objectives, avoid conflict with the conservation of salmonid habitat, and promote cost effective forest management, naturally occurring talus fields ~~that are 1-acre or larger~~ shall be protected as follows:

pg. IV.140 and 141 - delete all four bullets at the bottom of page 140 and the first bullet on page 141 and replace with:

Nonforested Talus - defined as exposed talus with 30 percent or less canopy closure

- No timber harvest will occur in talus fields greater than or equal to 1 acre.
- No timber harvest will occur in talus fields greater than 1/4 acre in spotted owl NRF and dispersal habitat management areas in the Columbia Planning Unit, except for the western half of the Siouxon and 2 isolated sections near Highway 12 where no timber harvest will occur in talus fields greater than 1 acre.
- A 100 ft wide timber buffer will be applied around talus fields identified above. The buffer will be measured from the edge of the nonforested talus field, i.e. where canopy closure first exceeds 30 percent.
- Timber harvest in the buffer must retain at least 60 percent canopy closure. Any yarding within the buffer will protect the integrity of the talus field.

Forested Talus - defined as exposed talus with greater than 30 percent canopy closure

- Timber harvest may remove not more than 1/3 of standing timber volume each harvest rotation from forested talus not located in talus buffers.

Nonforested and Forested Talus

- Road construction through talus fields and buffers will be avoided, provided that the routing of roads will be accomplished in a practicable and

economically feasible manner, that is consistent with other objectives of a comprehensive landscaped-based road network planning process.

█ The mining of rock from talus fields and buffers for road construction will be avoided, provided construction materials can be acquired in a practicable manner, consistent with other objectives of a comprehensive road network planning process.

If a functional relationship between relative density and canopy closure can be demonstrated, then relative density can be substituted for canopy closure in the above definitions of talus.

pg. IV.141 - change the third paragraph under CAVES:

The Washington Department of Fish and Wildlife definition of a cave is extraordinarily broad, and it is unlikely that all geomorphological features that fit this definition are important to wildlife. Under this HCP, when a cave is found, DNR shall determine, in consultation cooperation with the Washington Department of Fish and Wildlife or the U.S. Fish and Wildlife Service, whether it is important to wildlife habitat, and only those caves identified as important habitat shall be protected. The conservation objectives for such caves are to:

pg. IV.141 - change subparagraph (3):

(3) minimize human disturbance to bat hibernacula, and maternity colonies.

pg. IV.142 - change the first bullet on page:

- █ Roads shall not be constructed within 0.25 mile of a cave entrance, provided that the routing of roads around caves can be accomplished in a practicable and economically reasonable manner, consistent with other objectives of a comprehensive landscape-based road network planning process.

pg. IV.142 - change the second bullet on page:

- █ Where surface activities may disturb a cave passage, roads shall not be constructed within 300 feet of the cave passage, provided that the routing of roads around caves can be accomplished in a practicable and economically reasonable manner, consistent with other objectives of a comprehensive landscape-based road network planning process.

pg. IV.142 - change the fourth bullet:

- █ The location of caves will be kept confidential by DNR, the U.S. Fish and Wildlife Service, and the Washington Department of Fish and Wildlife to the extent permitted by law.

pg. IV.142 - change the third paragraph under CLIFFS:

The conservation objectives for cliff habitat are to minimize disturbance to geomorphic features and to protect species that inhabit cliffs. However, few management practices have been specifically developed for cliffs in managed forests. Therefore, management

prescriptions to meet these objectives shall be developed on a site-specific basis with consideration given to the following:

- During planning for harvest activities around cliffs greater than 25 feet tall and below 5,000 feet in elevation, DNR shall evaluate the cliff to determine if use by wildlife is likely (for example, are fissures/overhangs suitable for bats present, are ledges/perch trees suitable for nesting raptors present, etc.) and, if so, provide adequate protection measures including, but not limited to:
 - a. protection of integrity of cliffs judged suitable and likely for wildlife use (for example, during felling/yarding, logs should not be allowed to disturb cliff face),
 - b. retention of trees on cliff benches and along the base and top of cliffs judged suitable for nesting raptors, especially perch trees along the top of cliffs,
 - c. avoidance of damage to significant cavities, fissures, and ledges

- All cliffs in excess of 150 feet in height will be evaluated for peregrine falcon use as described elsewhere in this HCP (see Minimization and Mitigation for Other Federally Listed Species in All Planning Units)

- All cliffs with known peregrine falcon aeries will be protected according to Forest Practice regulations and the commitments contained in this HCP for peregrines (see Minimization and Mitigation for Other Federally Listed Species in All Planning Units).

pg. IV.142 - change the last paragraph under the heading Cliffs:

The mining of rock from cliffs for road construction shall be avoided, provided construction materials can be acquired in a practicable and economically reasonable manner, and is consistent with other objectives of a comprehensive landscape-based road-network planning process.

pg. IV.143 - change first paragraph:

...In the area covered by the HCP, DNR manages about 4,000 acres of oak woodland (i.e., where oak is the primary tree species) and an additional 7,000 acres of mostly ponderosa pine stands in which oak is a significant associate (~~DNR GIS 1995~~) (i.e., where oak is a secondary or tertiary tree species), but only about 500 acres of oak woodland are in the five west-side planning units (DNR GIS 1995).

pg. IV.143 - change the first bullet in the fifth paragraph:

Oak woodlands shall be managed as follows:

- Partial harvest may occur in oak woodlands. Such harvest will:
 - | retain all very large dominant oaks (greater than 20 inches dbh);
 - | maintain 25 to 50 percent canopy cover, ~~which include shrubs~~;
 - | remove encroaching conifers, except western white pine; and

| retain standing dead and dying oak trees.

pg. IV.143 - change the third bullet in the fifth paragraph:

- | Road construction through oak woodlands shall be avoided, provided that the routing of roads around oak woodlands can be accomplished in a practicable and economically reasonable manner, consistent with other objectives of a comprehensive landscape-based road network planning process.

pg. IV.144 - change the first four bullets in the fourth paragraph:

DNR shall conserve the habitat elements provided by large, structurally unique trees as follows:

- ~~| At least two live trees shall be retained for each acre harvested.~~
- | When selecting trees for retention, a preference shall be shown for large trees with structural characteristics important to wildlife, or those considered to be old-growth remnants.
- | At least half of the trees 1 tree per acre selected for retention shall belong to the largest diameter size classes class of living trees in the harvest management unit before harvest (by 2-inch increments). At least 1 other tree per acre shall belong to the dominant crown class.
- | The trees selected for retention will be left in the harvest unit where practicable, and may be clumped to improve wildlife habitat, protect trees from severe weather, or facilitate operational efficiency, but where practicable, the density of clumps may not be less than 1 clump per 5 acres.

pg. IV.144 - add new heading and paragraph at bottom of page:

SNAGS

DNR shall conserve the habitat elements provided by large snags as follows:

- | At least three snags shall be retained for each acre harvested, on average. DNR will try to leave all snags where safe and practical.
- | If available, snags retained will be at least 15 inches dbh and 30 ft tall. DNR will try to leave all snags where safe and practical.
- | Priority for retention will be given to large hollow snags, hard snags with bark, and snags that are at least 20 inches dbh and 40 feet tall.

-
- At least five live trees shall be retained permanently for each acre harvested, on average. Two of these trees will be as described in the section on large, structurally unique trees. The other three trees per acre will belong to the dominant, codominant, or intermediate crown classes, and, when available, will have at least one-third of their height in live crown.

 - Priority for retention will be given to tree species which have a propensity to develop cavities (e.g., maple), but the stand tree species diversity after harvest should be generally representative of the tree species diversity prior to harvest.

 - If fewer than three snags per acre are available prior to harvest, or if fewer than three snags can be left because of safety concerns, additional live trees will be retained so that the total number of stems per acre retained after harvest is, on average, at least 8 per acre. If additional live trees belong to the co-dominant or intermediate crown classes, and when available, will have at least one-third of their height in live crown. If intermediate crown-class trees are retained, shade-tolerant species with at least 1/3 of height in live crown will be selected.

 - Snags and trees selected for retention within the harvest units may be clumped to improve wildlife habitat, protect trees from severe weather, or facilitate operational efficiency, but where practicable, the density of clumps may not be less than one clump per five acres.

 - Snags and trees selected for retention will pose no hazard to workers during harvest operations per safety standards of the Washington Department of Labor and Industries (WAC 296-54 WAC).

pg. IV.144 - and second new heading and paragraph at bottom of page:

BALDS

Road construction through balds shall be avoided, provided that the routing of roads around balds can be accomplished in a practicable manner and is consistent with other objectives of a comprehensive landscape-based road network planning process.

pg. IV.144 - add third new heading and paragraph at bottom of page:

MINERAL SPRINGS

Mineral springs provide important resources for certain animal species, e.g., the band-tailed pigeon (*Columbia fasciata*). To prevent or reduce adverse impacts to this landscape feature and the wildlife species associated with it, DNR will cooperate with the U.S. Fish and Wildlife Service in planning management activities within 200 feet of known mineral springs. Such activities will be designed to (1) retain adequate trees for perching, and (2) maintain berry, fruit, and mast producing shrubs and trees, particularly in openings near mineral springs. Trees harvested near mineral springs will be felled away from the spring. DNR will avoid crossing mineral springs with yarding equipment

and will prohibit the crossing of mineral springs by ground-based logging equipment. Residual large green trees and snags within 25 ft of mineral springs will be left, and either clumped or scattered depending upon operational feasibility. In addition, DNR will continue to minimize the use of herbicides as directed by Forest Resource Plan Policy No. 33.

Species by Species Conservation for Unlisted Species of Concern	No change
Mollusks	No change
Arthropods	No change

Fish

pg. IV.146 - change the bullets (2) and (3) and add a fourth to the first paragraph:

(2) protecting lakes and ponds classifies as Types 1, 2, and 3 waters; and

(3) protecting Types 1, 2, 3, and 4 rivers and streams; and

(4) treating Type 4 and 5 waters documented to contain fish that are proposed candidates for federal listing as Type 3 waters, if appropriate.

Amphibians	No change
Reptiles	No change

Birds

pg. IV.151 - change fifth paragraph:

Large, structurally unique trees and large hollow snags will be protected as described previously in the subsection titled Protection of Uncommon Habitats...

pg. IV.152 - insert between fourth and fifth paragraphs:

Conservation measures for large snags and large, structurally unique trees will retain structural elements required by pileated woodpeckers for nesting and roosting. Additional conservation measures for snags will increase the density of snags, and consequently, opportunities for foraging.

pg. IV.152 - change fifth paragraph:

~~In addition, Consistent with RCW 77.16.120, trees or snags that are known to contain active pileated woodpecker nests will not be harvested. In addition, trees or snags that are known to have been used by pileated woodpeckers for nesting will not be harvested.~~

Green tree and snag retention are subject to the safety standards of the Department of Labor and Industries (WAC 296-54).

pg. IV.153 - delete the first paragraph entirely and replace with:

~~Conservation measures for large snags and large, structurally unique trees will retain structural elements required by purple martins for nesting.~~

pg. IV.153 - change the third paragraph:

~~Even-aged forest management throughout the five west-side planning units will continue to provide openings suitable for breeding, foraging, and resting habitat. Snags will be retained according to state Forest Practices Rules. Under WAC 222 30 020 (11), three wildlife reserve trees (typically snags) are left for each acre harvested in western Washington. The wildlife reserve trees must be 10 or more feet in height and 12 or more inches dbh. These minimum sizes do not guarantee that wildlife trees suitable for western bluebirds will be retained. The retention of large, structurally unique trees, as described previously in the subsection titled Protection of Uncommon Habitats, will provide a source for large snags. Conservation measures for large snags and large, structurally unique trees will retain structural elements required by western bluebirds for nesting.)~~

Mammals

pg. IV.153 - change the last sentence on page:

~~Talus fields, cliffs, and caves will be protected as described previously in the subsection titled Protection of Uncommon Habitats, and DNR will also protect large, structurally unique trees and large snags as described in the same subsection.~~

pg. IV.155 - insert a new paragraph before Additional Mitigation:

~~Conservation measures for large snags and large, structurally unique trees will retain structural elements required by fishers for denning and resting.~~

pg. IV.155 and 156 - delete the last paragraph on page 155 and the first paragraph on 156 and replace with:

~~In addition, under WAC 222-16-080 of the state Forest Practices Rules, the Forest Practices Board may adopt rules pertaining to management activities which impact western gray squirrels. These rules would provide further protection of the species' critical wildlife habitat.~~

Summary of Habitat Types Provided on DNR-managed Forest Lands in the Five West-side Planning Units

pg. IV.159 - change the heading at the top of the page:

HABITATS PROVIDED ON DNR-MANAGED LANDS NOT SUBJECT TO SPECIFIC HCP REQUIREMENTS

pg. IV.159 - delete first paragraph subheading and replace paragraph with:

After a natural disturbance, such as fire, a stand regenerates and develops through a succession of seral stages. Managed forests follow a similar pattern of succession following clearcut timber harvest. A variety of wildlife habitats on DNR-managed lands will occur in the different seral stages (Brown 1985) described below:

pg. IV.159 - change last paragraph on page:

Table IV.13 lists examples of representative species that could use the types of habitat expected to be provided under the HCP on DNR-managed lands in the five west-side planning units the types of habitat expected to be provided under the HCP on DNR-managed lands in the five west-side planning units. Examples of representative species that might use that habitat type, management activities that may be conducted, potential negative impacts that may result from the management activities, and benefits expected to accrue from the HCP are given for each habitat type. Additional details regarding the management activities are included in Section H (Forest Land Management Activities) of this chapter.

pg. IV.162 - add the following heading and paragraph after Table IV.13:

Provision of a Range of Forest Types Across the HCP Landscape

DNR management activities that will occur under the HCP will ensure a range of forest types in adequate amounts to provide for multi-species conservation across the landscape covered by the HCP. DNR has modeled the age-class distribution that will likely result from expected management under the HCP and existing policies. Results from this modeling have been used to develop a table (see Table IV.14) of expected percentages of each of several forest habitat/structural types, using age-class as a surrogate, that would likely exist 100 years following implementation of such management.

pg IV.163-167 - delete this section entirely and replace with:

G. Conservation Assessments for Federally Listed Plant Species, Candidate Plant Species, and Plant Species of Concern

In general, the federally listed and proposed endangered and threatened plant taxa described below have very limited ranges and narrow habitat requirements and are restricted to very small areas. Because of these factors, it is anticipated that they can be effectively managed while meeting other land-management objectives. DNR maintains a database on these species, including both site-specific and species-specific information,

that will be useful in locating and protecting known sites and potential habitat. However, no comprehensive inventories of these species exist for DNR-managed lands.

Federally Listed Plant Species

Brief statements about each species are provided below; additional information can be obtained from either the U.S. Fish and Wildlife Service Endangered Species office in Olympia or DNR's Natural Heritage Program.

ARENARIA PALUDICOLA

Swamp sandwort was historically known to occur in "swamps near Tacoma" but has not been seen or collected in Washington since the late 1800s. Reports from several other western Washington locations have been determined to be misidentifications. However, additional inventory in Washington is needed, primarily in wetlands within the Puget Lowlands. The only known extant site in the world is found in a brackish wetland in California. However, this species could occur in wetlands near the Pacific Coast, Willapa Bay, or Puget Sound. The HCP for the west-side planning units and the OESF would likely provide better protection of this species' habitat because of their better overall wetland and riparian protections.

HOWELLIA AQUATILIS

Water howellia is an aquatic annual generally found in vernal ponds or portions of ponds in which there is a significant seasonal draw down of the water level. All known ponds have a deciduous tree component around their perimeters; most have conifers as well. The species is currently known to occur in Washington, Idaho, and Montana. In Washington, it has been found in Clark, Pierce and Spokane Counties. Historically it was also known to occur in Thurston and Mason Counties, as well as in Oregon and California. There has been no inventory of water howellia on DNR-managed lands, but if water howellia does occur in the planning area, then the HCP would reduce adverse effects because it offers better overall wetlands protection.

LOMATIUM BRADSHAWII

Bradshaw's lomatium was thought to be endemic to the Willamette Valley in Oregon until 1994, when it was discovered in Clark County, Washington. The one site in Washington is a seasonally flooded wetland dominated by grasses, sedges and rushes. As far as is now known within the HCP planning area, this species is restricted to wetlands in flood-plain habitats at low elevations in the Columbia Planning Unit. Although not known to occur on DNR-managed lands, some DNR-managed lands may provide potential habitat. The HCP provides better protection of this species' habitat because of its better overall wetland and riparian protections. The OESF would have no effect, as the species is not known or expected to occur in the planning unit.

SIDALCEA NELSONIANA

Nelson's checkermallow was also thought to be restricted to Oregon until relatively recently. There are known sites in Cowlitz and Lewis Counties, Washington. These sites are in low elevation, moist meadows within the South Coast and Columbia HCP planning units. These sites may qualify as wetlands. There is a limited amount of DNR-managed land that contains suitable habitat. There is expected to be no change regarding the

effects of management on this species due to its restriction to open, moist meadow habitats.

Plant Species Proposed for Federal Listing

CASTILLEJA LEVISECTA

Golden paintbrush occurs from Thurston County northward to Vancouver Island. Historically it was also known to occur in the Willamette Valley in Oregon and in Clark County, Washington. The species is restricted to grasslands and areas dominated by a mixture of grasses and shrubs. Although this species occurs in grasslands, it could be affected by timber harvest through road building, yarding, or decking logs on adjacent grasslands. Where conifers invade *C. levisecta* habitat, the removal of trees is beneficial to the species. There are only 10 known sites with *C. levisecta* in the world, eight of which are in Washington and one of these is a DNR-managed natural area preserve. All sites are quite small in area and are subject to a variety of threats, the most serious of which is the invasion by a mixture of Douglas-fir, Scot's broom, blackberries, and roses. It is not known to occur, nor is it expected to occur within the OESF. There is little to no DNR-managed land adjacent to sites that harbor this species. The HCP is not expected to have any effect on this species.

Federal Candidate Plant Species

There is one vascular plant species that is a candidate for listing (as of February 1996) under the federal ESA which is known to occur, or is reasonably suspected of occurring, within the HCP planning area. Additional information about this species can be obtained from DNR's Natural Heritage Program.

SIDALCEA OREGANA VAR. CALVA

This taxon is restricted to the Chelan Planning Unit. It may occur on DNR-managed forest land. It can occur along small riparian areas and some of the sites would qualify as wetlands. The HCP can be expected to provide better protection due to the overall better riparian zone and wetlands protections. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

Plant Species of Concern

There are a number of vascular plant taxa that are species of concern to the U.S. Fish and Wildlife Service (as of February 1996) which are known to occur, or are reasonably suspected of occurring, within the HCP planning area. Additional information about these species can be obtained from DNR's Natural Heritage Program.

ABRONIA UMBELLATA SSP. ACUTALATA

This taxon is thought to be extirpated from the state of Washington. The historic locations were coastal sand dunes. Timber management under the HCP and OESF would have no effect.

ARTEMISIA CAMPESTRIS SSP. BOREALIS VAR. WORMSKIOLDII

This taxon is restricted to areas immediately adjacent to the Columbia River in Grant and Klickitat Counties. The areas do not support conifers and are far enough removed from DNR forest management that management activities are not likely to have any impact.

ASTER CURTUS

This taxon is restricted to grassland habitats in the lowlands of the Puget trough. It may occur in grasslands adjacent to DNR-managed forest land. It is not known nor expected to occur on the OESF. Because the plant is generally restricted to nonforested habitats, the HCP and the OESF are expected to have little effect on this species.

ASTRAGALUS AUSTRALIS VAR. OLYMPICUS

This taxon is restricted to relatively high elevations in the northeastern portion of the Olympic Peninsula. It is only known to occur in the Olympic National Park and Olympic National Forest.

ASTRAGALUS PULSIFERAE VAR. SUKSDORFII

In Washington, this taxon is restricted to the Klickitat Planning Unit and occurs in somewhat open ponderosa pine stands with a relatively sparse understory. One known site of *A. pulsiferae* is on DNR-managed land designated as a Dispersal habitat management area. Higher harvest levels may provide better habitat protection for this taxon than lower harvest levels. However, increased harvest levels may not be a recommended method for enhancing the habitat for this taxon; prescribed burns, or allowing natural fires to burn, would likely be a preferable method. The OESF would have no effect, as the taxon is not known or expected to occur on the OESF.

ASTRAGALUS SINUATUS

This taxon does not occur within the HCP planning area. It is restricted to a very small range east of the planning area in Chelan County.

BOTRYCHIUM ASCENDENS

This taxon appears to have a fairly broad ecological amplitude and wide geographic range. However, there is insufficient information available regarding its response to timber harvest activities to evaluate the HCP and its effects.

CALOCHORTUS LONGEBARBATUS VAR. LONGEBARBATUS

In Washington, this taxon is restricted to the Klickitat Planning Unit. It could occur on DNR-managed lands. It occurs primarily in open grasslands, but occasionally extends into open forest stands. Within the Yakama Indian Reservation, it can be found within harvested units and along roadway openings. Although this taxon could benefit from timber harvest in areas adjacent to meadow openings, it is anticipated that there will be no change regarding the effects of management on this species. The OESF will have no effect since the taxon is not known or expected to occur on the OESF.

CASTILLEJA CRYPTANTHA

This taxon does not occur and is not expected to occur, on DNR-managed lands within the HCP planning area. It is restricted to subalpine and alpine meadows around the northern perimeter of Mt. Rainier.

CIMICIFUGA ELATA

This taxon occurs in DNR Dispersal management areas and potentially within NRF management areas. The taxon occurs within the North Coast, Straits, South Puget, South Coast, and Columbia planning units. The HCP is expected to be beneficial due to the lower timber harvest levels in NRF and Dispersal management areas. The OESF would have no effect, since the taxon is not known or expected to occur on the OESF.

CORYDALIS AQUAE-GELIDAE

This taxon occurs primarily along Types 3 through 5 waters, including small seeps, and is restricted to the Columbia Planning Unit. It could occur on DNR-managed lands. The HCP is expected to provide better protection due to the overall better riparian zone protections.

CYPRIPEDIUM FASCICULATUM

This taxon occurs within a variety of coniferous stands within the Klickitat, Yakima, and Chelan planning units. It could occur on DNR-managed lands. There is insufficient information available regarding this species' response to timber harvest activities to evaluate the HCP and its effects.

DELPHINIUM LEUCOPHAEUM

This taxon is essentially a grassland species and is restricted to the South Coast Planning Unit. It could occur on DNR-managed lands. The HCP is expected to have no effect on this species. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

DELPHINIUM VIRIDESCENS

This taxon is restricted to the Chelan and Yakima planning units. It may occur on DNR-managed lands. It can occur along small riparian areas and some of the sites would qualify as wetlands. The HCP can be expected to provide better protection due to the overall better riparian zone and wetlands protections. The OESF is expected to have no effect since the taxon is not known or expected to occur on the OESF.

DODECATHEON AUSTROFRIGIDUM

In Washington, this taxon is currently known only to occur in the Mt. Colonel Bob Wilderness Area of the Olympic National Forest. However, in Oregon it is known to occur in lower elevation riparian areas. The HCP and the OESF would presumably provide better protection due to overall better riparian zone protections.

ERIGERON HOWELLII

In Washington, this taxon is restricted to the Columbia Planning Unit. It generally occurs in open areas. Canopy removal is not expected to have a negative impact, but ground-disturbing activity might. There is insufficient information to analyze how the HCP

would affect this species. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

ERIGERON OREGANUS

In Washington, this taxon is restricted to the Columbia Planning Unit. It occurs within owl dispersal habitat; however, it is found primarily on exposed rock. Canopy removal will not generally have a negative impact. There is probably no change regarding the effects of management on this species. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

FILIPENDULA OCCIDENTALIS

In Washington, this taxon is restricted to river and creek banks in southwest Washington, in the Columbia and South Coast HCP planning units. Some DNR-managed land is relatively close to known sites for this taxon. It is expected that the HCP could provide more protection because of its better riparian protections. The deferrals and protections for the marbled murrelet provided by the HCP could also benefit this species. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

HACKELIA VENUSTA

This taxon is restricted to the Chelan Planning Unit. All known sites are on USFS lands. Some DNR-managed land occurs within the range of this species. Canopy removal would not have a negative impact and in fact might be beneficial. However, ground-disturbing activities could have a negative impact. At present, there is insufficient data to analyze the HCP and its potential effects on this species.

LATHYRUS TORREYI

This taxon was thought to be extirpated from the state of Washington. The historic locations were scattered in Clark and Pierce Counties. The only extant site is at McChord Air Force Base, where it inhabits a mature conifer stand with an open understory. Timber management on DNR-managed lands under the HCP and OESF is unlikely to have an adverse effect.

LOMATIUM SUKSDORFII

In Washington, this taxon is restricted to the Klickitat Planning Unit. It may occur on DNR-managed lands. It can occur within riparian areas, but it is not restricted to such areas. It occurs on slopes that may support scattered individual conifers, on the edges of conifer stands, or in stand openings. There is likely no change regarding the effects of management on this species. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

LOMATIUM TUBEROSUM

This taxon is restricted to talus slopes, mostly in nonforested areas, although there can be trees adjacent to the talus. Conservation measures for talus slopes will benefit this species. Within the HCP planning area, this taxon is known only to occur within the Yakima Planning Unit.

LUPINUS SULPHUREUS VAR. KINGAIDII

This taxon is essentially a grassland species and, in Washington, is restricted to the South Coast Planning Unit. It is unlikely to occur on DNR-managed lands. The HCP is expected to have no effect on this species. The OESF is expected to have no effect since the taxon is not known or expected to occur on the OESF.

MECONELLA OREGANA

This taxon occurs in grasslands, sometimes adjacent to forested areas, although generally in somewhat savannah-like conditions. It is expected that there would no change regarding the effects of management on this species. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

MIMULUS JUNGERMANNIOIDES

This taxon was historically known to occur in the Klickitat Planning Unit, but is currently thought to be extirpated from the state of Washington. It is restricted to seepage areas in exposed basalt. It is unlikely to occur on DNR-managed lands. The HCP is not expected to have any impact on this taxon. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

PENSTEMON BARRETTIAE

This taxon occurs primarily on exposed basalt in Washington and is known to occur only in the Klickitat Planning Unit. It may occur on DNR-managed lands. It may occur within riparian areas, although it is not restricted to riparian areas. There is expected to be no change regarding the effects of management on this species. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

PETROPHYTUM CINERASCENS

This taxon is within the very eastern edge of the Chelan Planning Unit. In fact, it is restricted to rock outcrops adjacent to the Columbia River.

RANUNCULUS RECONDITUS

This taxon is known to occur in Klickitat County, but not within the HCP planning area.

RORIPPA COLUMBIAE

This taxon is restricted to the immediate shores of the Columbia River and islands in the Columbia River along the Hanford Reach and in Skamania County. No DNR-managed lands are known to harbor this species and timber management under the HCP is not expected to have an impact.

SILENE SEELYI

This taxon is restricted to cracks in exposed rock in a small portion of the Chelan, and maybe the Yakima, planning units. Although it is not known to occur on DNR-managed lands, some DNR-managed lands are in close proximity to known locations for this species. The species is probably not affected to any great degree by canopy removal. It is expected that there would be no change regarding the effects of management on this species.

SISYRINCHIUM SARMENTOSUM

In Washington, this taxon is restricted to the Klickitat Planning Unit. It may occur on DNR-managed lands. It occurs in moist meadows and small forest openings, and it may occur in riparian and/or wetland areas. The HCP can be expected to provide better protection due to the better riparian and wetland protections. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

SULLIVANTIA OREGANA

In Washington, this taxon is known to occur only in the Columbia Planning Unit and occurs within waterfall spray zones and seepage areas. A site with *S. oregana* is located in a DNR-managed natural area preserve, and other sites may occur in DNR-managed parcels adjacent to the preserve. The HCP is expected to provide better protection because of its better riparian and wetland protections. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

TAUSCHIA HOOVERI

This taxon is restricted to lithosolic, nonforested habitats. It is known to occur on DNR-managed land. It occurs mostly east of the HCP planning area, although some sites are within the Yakima and perhaps the Klickitat planning units.

TRIFOLIUM THOMPSONII

This taxon is known to occur only in the Chelan Planning Unit. It is a grassland species, but it also occurs on the edge of forest stands. Fire is important in maintaining its habitat. This species is known to occur on DNR-managed lands. There is expected to be no change regarding the effects of management on this species. The OESF would have no effect since the taxon is not known or expected to occur on the OESF.

H. Forest Land Management Activities

Introduction

pg. IV.169 - change third paragraph:

The ranges of activity level (summarized in Table IV.44 15 at the end of this section) are based upon (1) historical levels, (2) estimates of activity required to achieve conservation objectives in the harvest simulator model, (3) evaluation of current criteria for selecting potential forest stands for various silvicultural treatments, and (4) estimates from DNR Regions of the level of activity that could occur operationally over the next decade...

pg. IV.170 - delete entire fifth paragraph

Activities Common to All Planning Units

pg. IV.171 - add to the first paragraph on pg: 171:

...The rate of land transactions will be influenced by opportunity and funding. (See the Implementation Agreement.) Land transactions are not expected to increase the level of take for any species covered by the incidental take permit. DNR commits to maintaining the conservation objectives described in Chapter IV of the HCP in the course of its land

disposition program, as outlined in the Implementation Agreement. In the event that a land disposition increases the level of take, or if land disposed of by DNR does not remain subject to the HCP and the cumulative impact of the disposition would have a significant adverse effect on a particular species, DNR will follow the process for making a major amendment to the HCP and the ITP as outlined in the Implementation Agreement. The land transaction program is not intended to alter DNR's obligations for mitigation as set forth in this HCP.

pg. IV.171 - change paragraph under heading Nontimber Resources and add:

...DNR markets nontimber resources that include but are not limited to road use permits, sand and gravel sales, sales of special forest products such as boughs and brush, prospecting leases and mining contracts, oil and gas leases, grazing permits and leases, electronic site leases, and other special permits, licenses, sales, and leases. ~~(See the Implementation Agreement.)~~ At the 1996 level of these activities, no take, or insignificant (i.e., *de minimis*) take is occurring. Beginning no later than January 1, 1999, new/renewed permits, contracts, or leases for such activities will include the commitments of the HCP, such that they will not increase the level of take beyond a *de minimis* level. The level of impact resulting from these activities will be reviewed by DNR and the Services during the annual meetings as described in subsection 16.2b of the Implementation Agreement. DNR will monitor the level of such activities and provide this information to the Services prior to their annual meetings.

Many nontimber resource activities are subject to review under SEPA (WAC 197-11). Except for those actions that are categorically exempt (WAC 197-11-800), other government agencies and interested parties are notified of proposed actions as required by SEPA. As a matter of course, DNR notifies the Department of Fish and Wildlife, Department of Ecology, and the appropriate county and tribal governments. Government agencies and interested parties are notified by issuing either a determination of nonsignificance, a mitigated determination of nonsignificance, a public scoping notice, or a draft IS. Agencies and interested parties can comment on and appeal the findings of the SEPA determination.

Current DNR nontimber resource uses are described, including the current level of each activity, below:

Rights of way - Policy No. 26 of the Forest Resource Plan addresses granting public rights of way. It says:

"The department will grant rights of way to private individuals or entities when there is an opportunity for enhancing trust assets and when detriments are offset."

Easements for rights of way are granted for roads, powerlines, and pipelines. During the 9-year period between 1983 and 1991, approximately 2,100 rights-of-way were issued. These involved approximately 105 miles of new road construction and removed approximately 2,500 acres from timber production. Typically, these roads are part of the same road network used for forest management and would be subject to the same conservation measures for design, construction, use, maintenance, and abandonment

described in the HCP. Large powerline and pipeline rights of way are subject to review under SEPA.

DNR has adopted the following SEPA policy for granting rights of way (WAC 332-41-665):

“Recognizing that construction and/or reconstruction under upland right of way grants can create adverse impacts to the elements of the environment, it is the policy of the department to condition grants where necessary:

- (i) to protect all surface resources including but not limited to soil and water, through authorized right of way operation on public lands, and to cause rehabilitation or reestablishment on a continuing basis the vegetative cover, soil stability, and water condition appropriate to intended subsequent use of the area;
- (ii) to meet air quality standards; and
- (iii) to protect recreational and special use areas under lease by requiring mitigating action.”

Special Forest Products - Policy No. 8 of the Forest Resource Plan addresses special forest products. It says:

“The department will encourage and promote the sale of special forest products where appropriate and will market them in a manner consistent with the overall policies of this plan.”

western greens (salal, beargrass, huckleberry, rushes, ferns, mosses) - Currently there are approximately 65 leases covering 30,000 acres (average 460 acres/lease) and 240 one-year individual, nonexclusive permits for designated blocks of DNR-managed land. Over the term of the HCP, it is expected that individual permits will slightly increase and the amount of leased acreage will decrease. The long-term decrease in leased acreage is projected from the current trend in decreasing U.S. share of the international market in floral greens. Collection of branches from salal, evergreen huckleberry, and ferns is a self-limiting process because only part of foliage of any plant meets commercial quality standards. Thus, harvesting practices result in retention of most of the plant, and consequently a photosynthetic base for the regeneration of new foliage (USFS 1995). No significant environmental damage has been observed as a result of DNR leases, though no formal assessment has been conducted. The long-term ecological effects of floral green collection are unknown. Monitoring of such activities would allow for adjustment of lease conditions should adverse environmental impacts be documented. Collection of moss has potential negative environmental impacts (FEMAT 1993). Collection of moss from DNR-managed lands is not currently a large program. Should this situation change, however, some monitoring of effects of moss collection and/or regulation of moss collection may be needed. Leases for brush picking are categorically exempt from SEPA review (WAC 197-11-800). Actions or activities that are categorically exempt are those that would not normally have significant adverse environmental impacts. An action or activity that is categorically exempt may be subject to review under SEPA if it occurs in an environmentally sensitive area. For example, a categorically exempt action occurring in a wetland or in an area with a state listed species may be subject to review under SEPA.

Christmas greens (cut noble fir, silver fir, white pine, red cedar, and Douglas fir boughs) - There are 14 current 1- to 3-year sales involving 9,000 acres total and 3, 10-year leases

involving 3,000 acres total. Additionally, small volumes under \$1,000 in value and involving less than 1,000 acres are permitted to approximately 15 individuals or small companies per year. A determination of nonsignificance was issued under SEPA for the collection of Christmas greens.

mushrooms - No commercial harvesting is allowed. Recreational harvesting is allowed with restrictions on quantity. Recreational harvest is limited to 3 gallons per person per day of a single species and no more than 9 gallons per person per day total. Compliance is not currently monitored and some commercial-scale harvest may be occurring on DNR-managed lands. Most mushroom harvesting on DNR-managed lands occurs in the South Puget Sound planning unit, with some occurring on the Olympic Peninsula and in the western portion of the Klickitat Planning Unit. Individual commercial permits are currently under consideration. Over the term of the HCP, it is expected that harvest from the wild will increase. It is likely that access to lands for mushroom collection will diminish due to road closures. Mushroom collection does not appear to occur very distant from roads. Most edible mushrooms are the fruiting bodies of ectomycorrhizal fungi, which play important roles in forest ecosystem processes, including providing forage for northern flying squirrels, which are an important prey item of spotted owls. The long-term ecological effects of mushroom collection are unknown (FEMAT 1993). No environmental impact assessment of mushroom collection has been conducted specifically on DNR-managed lands. It is thought that the highest potential for negative damage to the resource could come from disruptive collection methods such as raking (USFS 1995). This type of collection method has not been widely observed on DNR-managed lands. Monitoring of mushroom collection levels and utilization of any relevant research on the ecological effects of mushroom harvesting would assist in HCP implementation.

Christmas trees - There are currently 5 leases to grow Christmas trees on DNR-managed lands covering less than 600 acres. All current leases expire within the next 8 years. It is not expected that this program will expand in the future, and may be eliminated altogether due to lack of market demand. Leases for Christmas tree harvesting are categorically exempt from SEPA review (WAC 197-11-800).

medicinals - DNR is not involved in any medicinal research or management at this time. There are 1 to 2 small-value annual permits (for example, cascara bark).

firewood - The Revised Code of Washington (RCW 76.20) requires that DNR offer firewood, up to 6 cords per person per year, for free and authorizes direct sales and bid/auction sales. In most Regions, demand for free personal use firewood is greater than supply. The Regions make available what they can and there is no estimate available for the amount of material removed or the acreage involved. Wood collected as personal use firewood is generally down logs located near roads or landings. Over the course of the HCP, it is expected that firewood removal will decrease because of more restrictions on woodstove use in urban areas and concerns for wildlife and biomass loss. At present, licenses or approvals for firewood removal are categorically exempt from SEPA review (WAC 197-11-800).

Valuable Material Sales- Sand and gravel sales are handled under sale contracts. Current contracts cover approximately 30 to 40 acres each and total less than 1,000 acres. Most commercial contracts do not apply to forested areas. However, 15 to 20 commercial contracts are in forested areas, including some smaller pits that are primarily for DNR use but from which occasional loads are sold to other forest land managers. If the sand or gravel material is sold, then the activity is subject to review under SEPA, and the purchaser is responsible for obtaining all necessary permits. DNR has adopted a SEPA policy for surface mining (WAC 332-41-665), described below, that applies to sand and gravel mines which are subject to SEPA.

Water quality in the vicinity of sand and gravel mines is protected through the National Pollutant Discharge Elimination System Permit Program (WAC 173-220). The Department of Ecology administers this program and issues NPDES permits only to facilities that can meet the surface and groundwater standards described in WAC 173-201A and WAC 173-200, respectively.

The purchaser must file a plan of operations that is reviewed by the DNR administrative Region. Under the HCP, the plan of operations would be reviewed to ensure compliance with the commitments of the HCP. Exploration holes drilled on DNR-managed land in search of sand and gravel deposits are plugged and the site restored. For example, if the site was used for timber production before exploration, then, where feasible, the site is restored for continued timber production. The reclamation of surface mines, excluding those used for on-site forest road construction or maintenance, is regulated by the Surface Mining Act (RCW 78.44), which is enforced by DNR.

Prospecting Leases/Mining Contracts - A mineral prospecting lease permits the lessee to prospect for metallic and industrial (nonmetallic) minerals. The lease must be converted to a mining contract before mine development or operations commence. There are 13 existing leases in the HCP Planning Area. Most prospecting leases are 500 to 600 acres. Activities conducted under mineral prospecting leases are exempt from SEPA, unless it is determined that a specific activity needs to undergo a SEPA review. The lessee is responsible for obtaining all necessary permits, although there are limited permits required for exploration. Before any surface disturbing work is conducted on a leased area, the lessee must file a plan of operations that is reviewed by the DNR administrative Region. Under the HCP, the plan of operations would be reviewed to ensure compliance with the commitments of the HCP. Exploration holes drilled on DNR-managed land in search of mineral deposits are plugged and the site restored. Roads may be constructed during mineral exploration. Typically, these roads are part of the same road network used for forest management and would be subject to the same conservation measures for design, construction, use, maintenance, and abandonment described in the HCP.

There are 17 mining contracts in the HCP Planning Area, but there are no active open-pit metallic or open-pit industrial mineral mines or underground mines on DNR-managed land. The only activity occurring under these contracts is exploration. Conversion of a mineral prospecting lease to a mining contract requires a phased review under SEPA. This review is phased since the location and scope of future activities is not known. An

EIS may be required if large-scale mining is contemplated. DNR has adopted the following SEPA policy for surface mining (WAC 332-41-665):

“To provide that the usefulness, productivity, and scenic values of all lands and waters involved in surface mining within the state will receive the greatest practical degree of protection and restoration, the following aspects of surface mining will be conditioned:

- (i) proposed practices to protect adjacent surface resources;
- (ii) specifications for surface gradient restoration to a surface suitable for the proposed subsequent use of the land after reclamation is completed, and proposed method of accomplishment;
- (iii) matter and type of revegetation or other surface treatment of disturbed areas;
- (iv) method of prevention or elimination of conditions that will create a public nuisance, endanger public safety, damage property, or be hazardous to vegetative, animal, fish, or human life in or adjacent to the area;
- (v) method of control of contaminants and disposal of surface mining refuse;
- (vi) method of diverting surface waters around the disturbed area;
- (vii) method of restoration of stream channels and stream banks to a condition minimizing erosion and siltation and other pollution.”

Any mining activities would comply with the commitments of the HCP.

Water quality in the vicinity of underground and open pit mines is protected through the National Pollutant Discharge Elimination System Permit Program (WAC 173-220). The Department of Ecology administers this program and issues NPDES permits only to facilities that can meet the surface and groundwater standards described in WAC 173-201A and WAC 173-200, respectively.

Metals mining and milling is regulated by the Metals Mining and Milling Operations Act (RCW 78.56), which is mainly enforced by the Department of Ecology. An EIS is required for any proposed metal mining and milling operation. Any tailings facility must be designed to prevent the release of pollution and a waste rock management plan that emphasizes pollution prevention must be approved by the Department of Ecology (RCW 78.56.100). In Washington, there is a moratorium on the use of heap leach extraction processes and a prohibition on *in situ* extraction processes (RCW 78.56.160).

Another type of mining that could occur on DNR-managed forest land over the term of the HCP is placer mining. There are no commercial placer mines on DNR-managed forest lands, nor are there any commercial placer prospecting leases or mining contracts. But, recreational placer mining is growing in popularity. Recreational prospecting permits are issued by DNR (RCW 79.01.651). DNR establishes the rules for the location, equipment, methods, and other appropriate permit conditions of recreational prospecting on DNR-managed lands. Commercial placer prospectors and miners must obtain a hydraulic project approval permit from the Department of Fish and Wildlife (WAC 220-110), a NPDES permit from the Department of Ecology, a permit from the U.S. Army Corps of Engineers, and the action is subject to review under SEPA.

Oil and Gas Leases - There are approximately 77 existing leases and most are in the Puget Sound lowlands. Some are small leases but most leases cover full legal sections. The total acreage affected by all oil and gas leases is approximately 20,000 to 25,000 acres. Much oil and gas exploration is accomplished through a process known as "thumping." Thumping is the measurement of seismic tremors caused by the dropping of extremely large weights or the detonation of explosives. Exploration may also be accomplished through drilling. The on-site operations of exploratory wells can generally be contained in 5 acres or less. Historically, surface disturbance on these sites has been minimal. Only two wells have been drilled on DNR-managed land. One of these wells is currently being used for active exploration, and the other well has been abandoned and plugged. No oil or gas is currently produced on DNR-managed land. In fact, no oil or gas is currently produced in the state of Washington. All oil and gas leases go through a phased review under SEPA before the parcel is auctioned.

Potential adverse impacts of exploration and extraction on air and water are regulated by the Department of Ecology. Water quality in the vicinity of underground and open pit mines is protected through the National Pollutant Discharge Elimination System Permit Program (WAC 173-220). The Department of Ecology administers this program and issues individual permits only to facilities that can meet the surface and groundwater standards described in WAC 173-201A and WAC 173-200, respectively.

Oil and gas wells are regulated through the Oil and Gas Conservation Act (78.52) which is enforced by DNR. Sufficient safeguards to minimize hazards of pollution of all surface and ground waters is required. If acceptable safeguards cannot be provided, then a drilling permit is not issued (RCW 78.52.125). Exploration holes drilled in search of oil or gas deposits must be plugged in a manner as to prevent the pollution of fresh water supplies (RCW 78.52.150). DNR would also require that the site be restored. For example, if the site was used for timber production before exploration, then, where feasible, the site would be restored for continued timber production.

Because the location and scope of eventual activities are not known, the initial SEPA review does not include details (for example, the management of riparian zones), but subsequent phased reviews would occur if and when additional activities are planned, and the depth of the review would depend on the activities planned. Before any surface disturbing work is conducted on a leased area, the lessee must file a plan of operations that is reviewed by the DNR administrative Region. Under the HCP, the activities would be reviewed to ensure compliance with the commitments of the HCP. Roads may be constructed during oil and exploration or extraction. Typically, these roads are part of the same road network used for forest management and would be subject to the same conservation measures for design, construction, use, maintenance, and abandonment described in the HCP. Oil or gas produced at a well site may be transported by truck or by pipeline. Pipeline construction is also subject to SEPA review.

Grazing Permits - There are approximately 15 permit and 6 leased ranges located in Yakima and Klickitat counties (approximately 100,000 acres) and the Methow valley (approximately 5,000 acres). Grazing occurs only on DNR-managed lands east of the Cascade crest where DNR is not applying for unlisted species agreements.

Electronic Site Leases - There are 427 leases with 100 sites, totaling 106 acres, currently extant. Hence, electronic sites average only about 1 acre in size. Approximately 80 percent of the sites are on non-forested mountain tops and the remaining 20 percent are on second-growth highway corridors. Roads are constructed to access electronic sites, but these roads are part of the same road network used for forest management and would be subject to the same conservation measures for design, construction, use, maintenance, and abandonment described in the HCP. Occasional disturbance to wildlife may occur during periodic visits for maintenance and improvements. On DNR-managed lands the impacts of electronic site leases relative to the impacts of timber management are *de minimus*.

Recreational Sites - Policy No. 29 of the Forest Resource Plan addresses recreation on state forest lands. It says:

“The department will allow recreation on state forest land when compatible with the objectives of the Forest Resource Plan. As part of its efforts, the department will continue to comply with the Statewide Comprehensive Outdoor Recreation Plan.”

There are approximately 150 total sites, most affecting less than 20 acres, and 2 to 3 large (300 to 600 acres), leased sites. Acreage by DNR administrative Region is Olympic = 141 acres, Central = 696 acres, South Puget Sound = 315 acres, Southwest = 159 acres, Northwest = 515 acres, Northeast = 783, and Southeast = 630 acres. Total area of recreational sites is 3,239 acres. Many, if not most, recreational sites have been built in riparian areas. Under the HCP, future development of recreation sites would adhere to the riparian conservation strategy (HCP Chapter IV.D). Recreational activities conducted in DNR-managed forests include hiking, biking, horseback riding, skiing, ORV use (e.g., motorcycles, snowmobiles, 4-wheel drive trucks), and camping. Some trails, including those used by ORVs, are located within riparian areas. DNR is concerned about damage to aquatic resources caused by recreational activity in high use areas, and has undertaken a program in the Tahuya State Forest to develop and monitor measures that will mitigate these impacts. In general, on DNR-managed lands the impacts of recreational activity relative to the impacts of timber management are *de minimus*.

Activities in the East-side Planning Units

pg. IV.172 - add to end of the second paragraph:

...However, current insect populations indicate it is reasonable to expect between 2,000 and 15,000 acres of treatment in the east-side planning units during the first decade. Appropriate treatment might include site-specific application of insecticides. At some of these sites the application of insecticides could result in the incidental take of federally listed invertebrate species. Such activities shall be covered under the incidental take permit except for aerial application of pesticides, which shall be covered upon the Service's approval of a site-specific plan presented by DNR. If the Service disapproves such a plan, or if Service approval of such a plan is not forthcoming within 30 days of the Service's receipt of the plan, a multi-agency science team may be convened to resolve questions regarding the biological basis of the Service's decision.

Activities in the Five West-side Planning Units

pg. IV.175 - add to end of the fourth paragraph:

...Should unforeseen attacks by forest defoliators occur, they might require appropriate treatment to be determined at that time. Such appropriate treatment might include site-specific application of insecticides. At some of these sites the application of insecticides could result in the incidental take of federally listed invertebrate species. Such activities shall be covered under the incidental take permit except for aerial application of pesticides, which shall be covered upon the Service's approval of a site-specific plan presented by DNR. If the Service disapproves such a plan, or if Service approval of such a plan is not forthcoming within 30 days of the Service's receipt of the plan, a multi-agency science team may be convened to resolve questions regarding the biological basis of the Service's decision.

pg. IV.178 - change second full paragraph on page and separate into two paragraphs:

Various methods can be used to control competing vegetation. Site-specific conditions and management objectives are considered when choosing a control method. Forest Resource Plan Policy No. 33 tacitly directs DNR to minimize the use of herbicides. The policy directs DNR to weigh the effectiveness of herbicide use against likely adverse effects on public water supplies, public health, fish health, and fish and wildlife habitat. The strategy for minimizing herbicide use presented in Policy No. 33 (1992) is a conservation measure which is part of DNR's HCP.

Hand slashing or cutting of unwanted vegetation, ground or aerial application of herbicide, and combinations of these methods may be used...

Activities in the Olympic Experimental State Forest Planning Unit

pg. IV.181 - change last paragraph on page:

Due to the experimental nature of the OESF, it is difficult to quantify potential management activities. However, based on current inventory, the conservation strategies, and potential harvest opportunities, one can reasonably expect approximate ranges described in Table IV.14 15 at the end of this section...

V. Plan Implementation

Monitoring

pg. V.1 - change last paragraph:

...Such monitoring will be primarily accomplished through reporting methods that rely upon DNR's geographic information system and the use of remote sensing data and will likely involve little field data collection. Limited field work may be necessary to evaluate these methods. DNR's planning and tracking, and geographic information systems. Statistically valid sampling of management activities will be conducted to evaluate the reliability of information stored in these databases.

**pg. V.1 - insert subheadings and text before Monitoring heading:
Funding**

DNR shall submit to the Washington State Legislature, on at least a biennial basis, an agency operating and capital budget for asset management that will be adequate to fulfill DNR's obligations under the HCP, ITP, and IA. Failure by DNR to ensure that adequate funding is provided to implement the HCP shall be grounds for suspension or partial suspension of the ITP.

Transition Activities

Timber sales prepared by DNR normally require approximately 24 months of preparation between the planning of the sale and its eventual auction. The HCP conservation strategies call for certain actions to occur (for example, the designation of the 300-acre spotted owl nest patches) and certain materials be prepared (for example, implementation guidelines for riparian areas) in the first year after approval. Additionally, once implementation guidelines are completed, training will be required for DNR staff. For these reasons, following approval of the HCP and issuance of the ITP, a transition period will be required. Timber sales in the DNR "pipeline" at the time of approval of the HCP will continue to be brought forward by DNR through the end of calendar year 1998, provided such sales are consistent with spotted owl survey agreements in effect between DNR and the USFWS. Such sales will not include known occupied marbled murrelet sites or unsurveyed, suitable marbled murrelet habitat. Because of current DNR actions such as spotted owl survey efforts and the deferral of sale of marbled murrelet habitat, it is believed that take of any listed species will be limited to non-existent. Mitigation for any such take has been included in the conservation strategies contained within the HCP.

pg. V.2 - change second paragraph:

Validation monitoring, which will occur only within the OESF Planning Unit, will document spotted owl and marbled murrelet use of areas managed to provide nesting habitat, and salmonid use of streams crossing DNR-managed lands. For spotted owls and marbled murrelets, validation monitoring will rely upon surveys to detect changes in site occupancy, numbers and locations of breeding pairs, and reproduction, as appropriate for each species. For salmonids, validation monitoring will employ surveys to detect changes in the productivity of spawning adults and salmon-habitat relationships. As an additional objective for the OESF, validation monitoring reflects the emphasis on experimentation that defines the OESF...

pg. V.2 - change third paragraph:

...Implementation and effectiveness monitoring will be carried out for all of these major strategies. ~~In addition, validation monitoring will be carried out for spotted owl and marbled murrelet nesting habitat in the OESF. However, validation monitoring will not be undertaken for other conservation strategies.~~ The spotted owl conservation strategy, current spotted owl and marbled murrelet habitat, and current riparian ecosystem conditions are not uniform across planning units. Effectiveness monitoring will necessarily be tailored to the conservation strategy and habitat or ecosystem conditions in each planning unit.

pg. V.2 - add to the beginning of the fourth paragraph:

Validation monitoring will be carried out for spotted owl nesting habitat, marbled murrelet nesting habitat, and salmonid habitat in the OESF. Validation monitoring will not be undertaken for the other conservation strategies or in other planning units. ~~Not~~ Validation monitoring will not be undertaken for spotted owl dispersal habitat. ~~Because~~ The OESF spotted owl conservation strategy does not draw the management distinction between NRF habitat and dispersal habitat that prevails in other HCP planning units, ~~this issue does not pertain there.~~ In the other planning units, an evaluation of the cause-and-effect relationship between conditions on DNR-managed lands and the ability of juvenile spotted owls to disperse successfully across the landscape would be difficult to design, expensive to implement, and impractical to undertake, given the distribution of DNR-managed lands...

pg. V.2 - last paragraph:

Validation monitoring for salmonid habitat will be focused to detect changes in the productivity of spawning adults and salmon-habitat relationships, parameters that are not affected by marine conditions and downstream fisheries ~~will not be undertaken for riparian/salmonid habitat.~~ This will involve estimating numbers of spawning adults and numbers of recruits, (i.e., out migrating smolts or rearing juveniles), and surveying different stream habitat types and conditions to determine fish numbers, species composition, and densities. Validation monitoring for salmonid habitat will be conducted in an appropriate watershed unit comprised primarily of DNR-managed lands, to minimize the potential influences of management activities not under DNR's control. ~~Attempts to evaluate cause and effect relationships between conditions on DNR-managed lands and salmonid populations would be confounded by the watershed level effects of a wide range of forestry and non-forestry activities involving other jurisdictions, and by at-sea effects including salmon fisheries. Resources for monitoring the HCP's success in providing riparian/salmonid habitat will be better directed at in-stream and bank conditions, and riparian forest conditions throughout the west side HCP planning units. Data needed to "validate" the model underlying the OESF riparian conservation strategy will be collected as part of effectiveness monitoring or through research. Validation monitoring will not be conducted for any other, non-salmonid fish species, or for wildlife species (other than spotted owls and marbled murrelets) influenced by the riparian/salmonid conservation strategy.~~

pg. V.3 - change first full paragraph:

Effectiveness and validation monitoring need not be undertaken while the interim murrelet conservation strategy is in effect. Although lower quality habitat types that support up to 5 percent of the total murrelet use of DNR-managed lands within each of the five west-side and the OESF planning units may be harvested under the interim strategy, DNR will not alter or manage the ~~95 percent~~ higher quality murrelet nesting habitat which supports 95 percent of potentially occupied sites during this period...

pg. V.3 - add new paragraph prior to heading "Monitoring Procedures":

DNR recognizes the substantial financial commitment that the HCP monitoring program entails. DNR will provide adequate funding for monitoring to the extent that DNR is given the flexibility to make such budget decisions. DNR shall request funds from the

Legislature to cover the costs of the monitoring program. The exact funding level may vary from year to year, depending on actions of the Legislature.

pg. V.3 - change last paragraph:

...Monitoring procedures will be prepared by ~~DNR in consultation with the U.S. Fish and Wildlife Service~~ a team of scientists from DNR, U.S. Fish and Wildlife Service, and National Marine Fisheries Service. Implementation, effectiveness, and validation monitoring procedures will be completed and reviewed before forest management activities consistent with a conservation strategy are first undertaken. Tables V.2 and V.3 outline some of the environmental variables that will be measured as part of effectiveness monitoring for the spotted owl and riparian conservation strategies, respectively.

Research

pg. V.5 - change both bullets and add a third bullet under subheading Priority 2 - Riparian:

- I Determine how to harvest timber and meet conservation objectives within riparian buffers areas.
- I Determine how to harvest timber and meet conservation objectives on hillslopes with high mass-wasting potential without triggering land slides and causing adverse effects to fish habitat.
- I Determine the best approach to growing healthy riparian buffers while managing the buffer for economic return.

pg. V.6 - change the first bullet on page:

- I Determine whether it is possible to harvest timber at or near breeding sites and meet conservation objectives.

pg. V.6 - delete last bullet on page and make a sentence:

Other research topics may arise as the HCP is implemented and new knowledge is obtained.

Reporting	No change
VI. Alternatives to the Habitat Conservation Plan that Would Avoid Take	No change
No Action/No Change (Current Practices)	No change
No Harvest/No Take	No change
A Appendix	No change
Geographic Analysis	No change

B Appendix

Draft Implementation Agreement (Under separate cover)

(Note: The complete revised Implementation Agreement is published as final is Appendix 4 of the Final EIS.)

References

Chapter I Literature Cited
Chapter II Literature Cited

No change
No change

Chapter III Literature Cited

Add to the reference list:

Kasworm, W. F., and T. L. Manley. 1989. Road and trail influences on grizzly bears and black bears in northwest Montana. *Int. Conf. Bear Res. and Manage.* v. 8, p. 79-84.

Mace, R. D., and T. L. Manley. 1993. South Fork Flathead River Grizzly Bear Project: Progress Report of 1992. Montana Department Fish, Wildlife, and Parks, Helena, MT.

McLellan, B. N., and D. M. Shackleton. 1988. Grizzly bears and resource-extraction industries: effects of roads on behaviour, habitat use, and demography. *Journal of Applied Ecology.* v. 25, p. 451-460.

Chapter IV Literature Cited

Add to the reference list:

Anthony, R. G., R. L. Knight, G. T. Allen, B. R. McClelland, and J. I. Hodges. 1982. Habitat use by nesting and roosting bald eagles in the Pacific Northwest. *In* K. Sabol, ed. *Transactions of the forty-seventh North American Wildlife and Natural Resources Conference*, Portland, OR. 1982. Wildlife Management Institute, Washington, DC. p. 332-242.

Buskirk, S. W. and R. A. Powell. 1994. Habitat ecology of fishers and American martens. *In* Buskirk, S. S.; Harestad, A.; Raphael, M.; comps. eds. *Biology and conservation of martens sables and fishers.* Ithaca, NY. Cornell University Press. p. 283-296.

Dunne, T., and L. B. Leopold. 1987. *Water in environmental planning.* Freeman and Company, San Francisco. 818 p.

Lyon, L. J. 1979. Habitat effectiveness for elk as influenced by roads and cover. *Journal of Forestry.* v. 77, no. 10, p. 658-660.

Lyon, L. J., and C. E. Jensen. 1980. Management implications of elk and deer use of clear-cuts in Montana. *Journal of Wildlife Management.* v. 44, p. 352-362.

Mongillo, P. E. 1993. The distribution and status of bull trout/Dolly Varden in Washington State, June 1992. Washington Department of Wildlife, Fisheries Management Division, Olympia. Report no. 93-22. 45 p.

-
- Murphy, M. L. 1995. Forestry Impacts on Freshwater Habitat of Anadromous Salmonids in the Pacific Northwest and Alaska. Requirements for Protection and Restoration. NOAA Coastal Ocean Program Decision Analysis Series No. 7. NOAA Coastal Ocean Office, Silver Spring, MD. 156 p.
- Parsons, G. L., et al. 1991. Invertebrates of the H. J. Andrews Experimental Forest, Western Cascade Range, Oregon. V: An Annotated List of Insects and Other Arthropods. U. S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland OR. GTR-PNW-290.
- Perry, C., and R. Overly. 1977. Impact of roads on big game distribution in portions of the Blue Mountains of Washington, 1972-73. Washington Game Department Appl. Res. Sect., Bull. 11, Olympia. 39 p.
- Pyle, R. M. 1989. Washington butterfly conservation status report and plan. Washington Department of Wildlife, Nongame Program, Olympia. 217 p.
- Raley, C. M., G. W. Tumb, and K. B. Aubrey. 1994. Characteristics of roost trees used by pileated woodpeckers on the Olympic Peninsula in western Washington. Abstract. 112th Annual Meeting, American Ornithologists' Union, Missoula, MT.
- Thomas, J. W. et al. 1993. Viability assessments and management considerations for species associated with late successional and old-growth forests of the Pacific Northwest. U.S. Department of Agriculture, National Forest System, Forest Service Research, Washington, D.C. 530 p.
- U. S. Department of the Interior. 1993. Grizzly bear recovery plan. U.S. Department of the Interior, Fish and Wildlife Service, Missoula, MT. 181 p.
- U.S. Fish and Wildlife Service. 1984. Northern Rocky Mountain wolf recovery plan. U.S. Department of the Interior, U.S. Fish and Wildlife Service, Denver, CO.
- U. S. Fish and Wildlife Service. 1987. Northern Rocky Mountain wolf recovery plan. U.S. Department of the Interior, U.S. Fish and Wildlife Service, Denver, CO. 119 p.
- U. S. Fish and Wildlife Service. 1995. Soaring to recovery. Endangered Species Bulletin v. 20, no. 4, p. 18-19.
- Ward, A. L. 1976. Elk behavior in relation to timber harvest operations and traffic on the Medicine Bow Range in south-central Wyoming. In S. R. Hieb, ed. Proc. Elk-Logging-Roads Symposium, University of Idaho, Moscow. p. 32-43.
- Washington Department of Natural Resources. 1995. Geographic information system. Washington Department of Natural Resources, Information Technology Division, Geographic Information Section, Olympia.
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Washington Forest Practices Board. 1995. Washington forest practices: Board manual, standard methodology for conducting watershed analysis under chapter 222-22 WAC, version 3.0, November 1995. Washington Department of Natural Resources, Forest Practices Division, Olympia. 1 v., looseleaf.

pg. 47 - delete from reference list:

~~Washington Department of Natural Resources, Olympic Region. 1995. Clallam River landscape plan. Washington Department of Natural Resources, Olympic Region, Forks, WA. 86 p.~~

Chapter V Literature Cited	No change
Unpublished References	No change
Personal Communications	No change
Glossary	No change

Tables

I.1	DNR-managed HCP lands by dominant size class and area for uneven-aged stands	No change
I.2	Acreage by ownerships in the area covered by the HCP	No change
I.3	Vegetative zones in the area covered by the HCP	No change
I.4	Major features and acreage of DNR-managed lands by planning unit and planning area	No change
III.1	Estimates of forest cover types on lands of different ownerships in the Olympic Experimental State Forest area, July 1991	No change
III.2	Northern spotted owl site centers on or affecting DNR-managed lands as of the end of the 1995 survey season	No change
III.3	Characteristics of nest stands used by the marbled murrelet	No change
III.4	Characteristics of nest trees used by the marbled murrelet	No change
III.5	Old-growth, large-saw, and small-saw forests below 3,500 feet and less than 66 miles from marine waters, by ownership	No change
III.6	Allocation of survey areas in each planning unit, by habitat type and distance from marine waters	No change
III.7	Prescribed number of visits for each survey area for both years of the DNR marbled murrelet forest habitat relationships studies	No change
III.8	Federally listed wildlife, their state status, and their potential occurrence in HCP planning units	No change
III.9	Life cycles of western Washington anadromous salmonids in freshwater, by species and run	No change
III.10	Status of salmonid stocks in the five west-side planning units and the Olympic Experimental State Forest	No change
III.11	Percent of DNR-managed forest land west of the Cascade crest in Watershed Analysis Units that contain salmonids	No change
III.12	Estimated miles of fishbearing streams on DNR-managed lands west of the Cascade crest	No change
III.13	Percent of total land area west of the Cascade crest that impacts salmonids and is managed by DNR	No change

pg. III.75 - change Table III.14

Table III.14 Other species of concern, by federal and state status and their potential occurrences in the HCP planning units

Federal candidate, category 1 - Substantial data support listing the species as endangered or threatened; listing proposals are either under way or delayed.

Federal candidate, category 2 - Data point to listing species but not conclusively; additional data are being collected.

Under state status, S = state; E = endangered; T = threatened; C = candidate; M = monitor; G = game; Sen = sensitive. OESF = Olympic Experimental State Forest.

Species	State status	Planning Unit								
		Klickitat	Columbia	South Coast	South Puget	Yakima	Chelan	North Puget	Straits	OESF
Federal candidate - category 1										
spotted frog	SC	X	X		X	X	X	X		
Federal candidate - category 2 species of concern										
Newcomb's littorine snail	SM			X						
California floater	—	X	X			X	X			
great Columbia River spire snail	SC	X	X							
Beller's ground beetle	SC				X			X		
Hatch's click beetle	SC				X			X		
Fender's soliperlan stonefly	—		X		X					
Lynn's clubtail	—	X				X				
river lamprey	—		X	X	X			X	X	X
Pacific lamprey	—	X	X	X	X			X	X	X
green sturgeon	—		X	X						
Olympic mudminnow	SE		X	X	X				X	X
Larch Mountain salamander	SSen	X	X							
tailed frog	SM	X	X	X	X	X	X	X	X	X
northern red-legged frog	—		X	X	X			X	X	X
Cascades frog	—	X	X		X	X		X	X	X

Table III.14 Other species of concern, by federal and state status and their potential occurrences in the HCP planning units (continued)

Species	State status	Planning Unit								
		Klickitat	Columbia	South Coast	South Puget	Yakima	Chelan	North Puget	Straits	OESF
Federal candidate - category 2 species of concern (continued)										
northwestern pond turtle	SE	X	X		X			X		
Harlequin duck	SG	X	X	X	X	X	X	X	X	X
northern goshawk	SC	X	X	X	X	X	X	X	X	X
black tern	SM	X	X	X	X	X	X	X		
olive-sided flycatcher	—	X	X	X	X	X	X	X	X	X
little willow flycatcher	—	X	X	X	X	X	X	X	X	X
long-eared myotis	SM	X	X	X	X	X	X	X	X	X
fringed myotis	SM	X	X			X				
long-legged myotis	SM	X	X	X	X	X	X	X	X	X
small-footed myotis	SM	X	X			X				
Yuma myotis	—	X	X	X	X	X	X	X	X	X
spotted bat	—	X				X	X			
Townsend's big-eared bat	SC	X	X	X	X	X	X	X	X	X
Pacific fisher	SC		X	X	X	X	X	X	X	X
California wolverine	SM		X		X	X	X	X		
lynx	ST						X			
California bighorn sheep	SG					X	X			
State-listed, no federal status										
sandhill crane	SE	X	X							
western gray squirrel	ST	X			X	X	X			

Table III.14 Other species of concern, by federal and state status and their potential occurrences in the HCP planning units (continued)

Species	State status	Planning Unit								
		Klickitat	Columbia	South Coast	South Puget	Yakima	Chelan	North Puget	Straits	OESF
State candidate, no federal status										
green sturgeon	—		X	X						
long-horned leaf beetle	SC							X		
Dunn's salamander	SC			X						
Van Dyke's salamander	SC		X	X	X				X	X
California mountain kingsnake	SC	X	X							
common loon	SC			X	X		X	X	X	X
golden eagle	SC	X	X	X	X	X	X	X	X	X
Vaux's swift	SC	X	X	X	X	X	X	X	X	X
Lewis' woodpecker	SC	X	X	X	X	X	X	X	X	
pileated woodpecker	SC	X	X	X	X	X	X	X	X	X
purple martin	SC	X	X	X	X			X	X	
western bluebird	SC	X	X	X	X	X	X	X	X	
Other sensitive species										
Lynn's clubtail	—	X				X				
Olympic mudminnow	SC		X	X	X				X	
northern red-legged frog	—		X	X	X			X	X	X
Harlequin duck	SG	X	X	X	X	X	X	X	X	X
little willow flycatcher	—	X	X	X	X	X	X	X	X	X
Yuma myotis	—	X	X	X	X	X	X	X	X	X

III.15 Federally listed and proposed vascular plant taxa in the area covered by the HCP

No change

pg. III-101 and III-102 - create a new Table III.16

Table III.16: Federal candidate vascular plant taxa in the area covered by the HCP

NHP = Natural Heritage Program; POEX = possibly extinct or extirpated; E = endangered; T = threatened; S = sensitive; OESF = Olympic Experimental State Forest; WW = western Washington; EW = eastern Washington within the range of the northern spotted owl.

Scientific name	NHP status	HCP planning areas	Geographic area and/or habitat
<i>Sidalcea oregana var. calva</i>	E	EW	Wenatchee Mountains; meadow and forest

pg. III-101 and III-102 - renumber, rename, and change Table III.16:

Table III.1617: Federal candidate Federal species of concern vascular plant taxa in the area covered by the HCP

delete two species, add three new species and one footnote:

Scientific name	HCP status	HCP planning area	Geographic area and/or habitat
<i>Astragalus australis var. olympicus</i>	T	WW	NE Olympic Mts. talus/scree
<i>Castilleja cryptantha</i>	S	WW	Mt. Rainier moist meadows
<i>Lathyrus torreyi</i>	***	WW	Clark, Pierce counties mixed conifer forest
<i>Poa unilateralis</i>	T	WW	Pacific County, ocean bluffs
<i>Sidalcea oregana var. Calva</i>[‡]	E	EW	Wenatchee Mountains; exposed rock

** The NHP status of *Lathyrus torreyi* was undetermined as of August 1996. It was thought to be possibly extirpated until a population was discovered on McChord Air Force Base in 1994

- IV.1 Spotted owl nest tree characteristics in western Washington No change
- IV.2 Spotted owl nest stand characteristics in western Washington No change
- IV.3 Recommended method for estimating habitat quality for spotted owls using tree- and stand-level indices of mistletoe infection No change
- IV.4 Summaries of current spotted owl habitat conditions by planning unit No change

pg IV.78 - change the fourth column of Table IV.5:

Table IV.5: Two estimates of the current abundance of potential spotted owl habitat in proposed landscape planning units of the Olympic Experimental State Forest

Old Forest³
Inv./TM
 3/9
~~2~~ 3/14
 14/14
~~4~~ 5/23
~~25~~ 27/27
~~19~~ 21/18
 22/23
~~16~~ 18/13
~~26~~ 30/25
~~13~~ 16/16
~~22~~ 23/16

IV.6 An estimate of the future abundance of potential spotted owl habitat in proposed landscape planning units of the Olympic Experimental State Forest and the forest at large based on one set of harvest regimes No change

pg. IV.98 - change Table IV.7

IV.7 Expected average widths of interior-core riparian buffers in the Olympic Experimental State Forest

Buffer widths will be determined on a site-specific basis using the proposed 12-step watershed assessment procedure (see text) and might vary locally with landform characteristics. Average widths are not expected to vary significantly, however, because these values are derived from a statistical analysis of buffer protection previously applied to about 55 percent of DNR-managed lands in the OESF. (See text for discussion.) Widths are expressed for each stream type as average ~~slope~~ horizontal distances measured outward from the ~~active channel margin~~ 100-year floodplain on either side of the stream.

Stream type	Width of riparian interior-core buffer (slope horizontal distances, rounded to the nearest 10 feet)
1	150
2	150
3	100
4	100
5	width necessary to protect identifiable channels and unstable ground (see text)

pg. IV.105 - change Table IV.8:

Table IV.8: Proposed average widths of exterior riparian buffers in the Olympic Experimental State Forest

Widths are expressed as average slope horizontal distances measured outward from the interior-core buffer on either side of the stream. Widths are proposed as a working hypothesis and are based on local knowledge of windthrow behavior. Buffer widths and design will be evaluated through experiments in buffer design in the OESF. Buffers will be applied where necessary (see text).

Stream type	Width of riparian exterior buffer (slope horizontal distances, rounded to the nearest 10 feet)
1	150
2	150
3	150
4	50
5	50

IV.9 Proposed protection of forested and nonforested wetlands in the Olympic Experimental State Forest

No change

pg. IV.111 - change Table IV.10

Table IV.10: Comparison of average riparian buffer widths expected as a result of applying the Olympic Experimental State Forest riparian conservation strategy and buffer widths proposed in the literature for several key watershed parameters

Buffer widths are given as average ~~slope~~ horizontal distances (or range of averages) outward from the active channel margin.

Buffer width by stream type - proposed for the OESF

Key watershed parameter	1	2	3	4	5
Mass wasting	150 ft all Type 1 streams will be protected	150 ft all Type 2 streams will be protected	100 ft all Type 3 streams will be protected	100 ft all Type 4 streams will be protected	0-500+ ft; depends on size of contribution area ¹ and amount of unstable ground ²
Mass wasting and windthrow combined	150 ft inner, 150 ft outer ³	150 ft inner, 150 ft outer ³	100 ft inner, 150 ft outer ³	100 ft inner, 50 ft outer ³	variable inner, 50 ft outer ³

Buffer width by stream type - proposed in the literature⁴

Key watershed parameter	1	2	3	4	5
Coarse-woody-debris recruitment ⁵	108-168 ft	108-168 ft	105-153 ft	105-153 ft	105-153 ft
Stream shade availability ⁵	108-168 ft	108-168 ft	105-153 ft	105-153 ft	105-153 ft
Riparian forest microclimate ⁶	300 ft	300 ft	250 ft for >5-ft-wide channels	125 ft	
Channel bank stability	Commensurate with mass-wasting buffer protection on stream channels.				
Lateral channel migration	Commensurate with combined mass-wasting and windthrow protection on stream channels.				
Water quality ⁵	108-168 ft	108-168 ft	105-153 ft	105-153 ft	105-153 ft
Water quantity	Unknown. Objectives of proposed buffers are to help moderate peak-flow discharges related to removal of vegetation (e.g., harvest) by ensuring hydrologic maturity of forests, as per Washington Forest Practices Board (1994).				
Windthrow	Unknown. Objectives of proposed buffers are to enhance stand wind-firmness by decreasing tree height/diameter ratios, fetch distances in adjacent harvest units, and edge effect.				
Surface and road erosion	Variable, depending on site conditions. Objectives are to minimize erosion through implementation and comprehensive road-maintenance plans for each landscape unit (see text).				

¹"Contribution area" refers to upslope channel heads, bedrock hollows, unchanneled valleys, and topographic depressions; see discussion of OESF Type 5 drainages in the Draft EIS that accompanies this HCP.

²Refer to discussion of Type 5 drainages in the Draft EIS that accompanies this HCP.

³Exterior (wind) buffer, where harvest and management activities are allowed. On Type 5 streams, exterior buffers will only be applied as necessary where there are interior-core buffers. See text.

⁴See discussion in this section of the text for citations of current literature.

⁵Buffer widths are based on available literature citing one site potential tree height for each stream type as the ecologically appropriate measure; see

IV.11	Components of a preliminary assessment of physical and biological watershed conditions for the 12-step watershed assessment procedure for the Olympic Experimental State Forest	No change
IV.12	Number of acres and percent of land base projected in the Olympic Experimental State Forest riparian interior-core buffer, exterior buffer, and combined (total) buffer, by forest age class	No change

**pg. IV.160-162 - delete Table IV.13 entirely and replace with:
Table IV.13: Habitats and representative wildlife species covered by
this HCP for the west-side planning units**

(Source: Brown 1985 Thomas et al. (1993), Parsons et al. (1991) and Pyle (1989).

Type of habitat	Representative species that can use these habitat types
Spotted owl high quality nesting habitat	dusky shrew, long-eared myotis, northern flying squirrel, Pacific fisher, wood duck, northern goshawk, barred owl, pileated woodpecker, olive-sided flycatcher, northern spotted owl, hoary bat, bushy-tailed woodrat, red tree vole, harlequin duck, marbled murrelet, Vaux's swift, red-breasted nuthatch, Dunn's salamander, Larch Mountain salamander, Van Dyke's salamander, tailed frog, pine white butterfly, Johnson's hairstreak butterfly, <i>Acalypta saundersi</i> (a lace bug), <i>Cychrus tuberculatus</i> (a carabid beetle), <i>Lobosoma horridum</i> (a weevil), <i>Omus dejeani</i> (a tiger beetle)
Spotted owl sub-mature habitat	dusky shrew, long-legged myotis, northern flying squirrel, Pacific fisher, wood duck, hairy woodpecker, northern goshawk, barred owl, olive-sided flycatcher, northern spotted owl, hoary bat, bushy-tailed woodrat, red tree vole, red-breasted nuthatch, Dunn's salamander, northwestern salamander, Van Dyke's salamander, tailed frog, northern alligator lizard, pine white butterfly, coral hairstreak butterfly, California hairstreak butterfly, <i>Cychrus tuberculatus</i> (a carabid beetle), <i>Lobosoma horridum</i> (a weevil), <i>Omus dejeani</i> (a tiger beetle)
Spotted owl dispersal habitat	Douglas' squirrel, sharp-shinned hawk, Swainson's thrush, evening grosbeak, dusky shrew, northern spotted owl, long-legged myotis, mountain beaver, creeping vole, bobcat, elk, Vaux's swift, orange-crowned vireo, northern alligator lizard, rubber boa, long-toed salamander, <i>Cychrus tuberculatus</i>

Table IV.13: Habitats and representative wildlife species covered by this HCP for the west-side planning units (continued)

Type of habitat	Representative species that can use these habitat types
Spotted owl dispersal habitat (continued)	(a carabid beetle), <i>Lobosoma horridum</i> (a weevil), <i>Omus dejeani</i> (a tiger beetle)
Marbled murrelet habitat	dusky shrew, long-legged myotis, northern flying squirrel, Pacific fisher, wood duck, northern goshawk, barred owl, hairy woodpecker, Oliver-sided flycatcher, marbled murrelet, hoary bat, bushy-tailed woodrat, red tree vole, harlequin duck, Vaux's swift, red-breasted nuthatch, Dunn's salamander, Larch Mountain salamander, Van Dyke's salamander, tailed frog, pine white butterfly, Johnson's hairstreak butterfly, <i>Acalypta saundersi</i> (a lace bug), <i>Cychnus tuberculatus</i> (a carabid beetle), <i>Lobosoma horridum</i> (a weevil), <i>Omus dejeani</i> (a tiger beetle)
Conifer-dominated riparian ecosystems	long-legged myotis, Pacific fisher, mink, wood duck, sharp-shinned hawk, ruffed grouse, olive-sided flycatcher, purple martin, Dunn's salamander, Van Dyke's salamander, salamander, tailed frog, dusky shrew, Trowbridge's shrew, southern red-backed vole, river otter, Barrow's goldeneye, band-tailed pigeon, long-eared owl, red-breasted sapsucker, hermit thrush, evening grosbeak, Cascade frog, bull trout, coho salmon, steelhead salmon, mayflies, stoneflies, caddisflies, midges, arborvitae hairstreak butterfly
Hardwood-dominated riparian ecosystems	long-legged myotis, mink, wood duck, purple martin, northwestern pond turtle, common garter snake, Dunn's salamander, northern red-legged frog, ruffed grouse, dusky shrew, shrew mole, yellowpine chimunk, river otter, Barrow's goldeneye, Cooper's hawk, band-tailed pigeon, downy woodpecker, black-headed grosbeak, Olympic salamander, Olympic mudminnow, mayflies, stoneflies, caddisflies, dreamy duskywing butterfly, western tiger swallowtail

Table IV.13: Habitats and representative wildlife species covered by this HCP for the west-side planning units (continued)

Type of habitat	Representative species that can use these habitat types
Nonforested wetland	northern harrier, common snipe, northwestern pond turtle, northern red-legged frog, spotted frog, Beller's ground beetle, long-horned leaf beetle, Hatch's click beetle, mallard, mink, dusky shrew, Pacific shrew, coast mole, Yuma myotis, long-tailed vole, American bittern, little willow flycatcher, common loon, sandhill crane, black tern, coho salmon, Olympic mudminnow, dragonflies, damselflies, sonora skipper butterfly
Forested wetland	long-legged myotis, Pacific fisher, ruffed grouse, sharp-shinned hawk, barred owl, olive-sided flycatcher, purple martin, Van Dyke's salamander, northern red-legged frog, mink, spotted frog, dusky shrew, water shrew, bushy-tailed woodrat, common merganser, band-tailed pigeon, northern saw-whet owl, red-breasted sapsucker, western toad, dragonflies, flies, cad-disflies, pale tiger swallowtail butterfly
Cliffs	fringed myotis, long-legged myotis, Yuma myotis, mountain goat, peregrine falcon, turkey vulture, black swift, cliff swallow, western fence lizard, bushy-tailed woodrat, golden eagle, wasps, shorttailed black swallowtail butterfly
Caves	Townsend's big-eared bat, fringed myotis, long-legged myotis, Yuma myotis, coyote, California wolverine, mountain lion, bobcat, black swift, Larch Mountain salamander, crickets
Oak woodland	western gray squirrel, Lewis' woodpecker, California mountain kingsnake, Propertius' duskywing butterfly, Oregon green hairstreak butterfly
Talus	Cascade golden-mantled ground squirrel, mountain goat, Pacific fisher, California wolverine, bobcat, white-tailed ptarmigan, common nighthawk, rosy finch, western fence lizard, Larch Mountain salamander, Dunn's salamander, Van Dyke's salamander, wolf spiders, jumping spiders, small-footed myotis

Table IV.13: Habitats and representative wildlife species covered by this HCP for the west-side planning units (continued)

Type of habitat	Representative species that can use these habitat types
Grass/forb forest stage	coast mole, vagrant shrew, Townsend's vole, coyote, long-tailed weasel, black-tailed deer, common nighthawk, white-crowned sparrow, northwestern garter snake, western fence lizard, northwestern salamander, western bluebird, wolf spiders, grasshoppers, mariposa copper butterfly, silvery blue butterfly, Blackmore's blue butterfly, western meadow fritillary butterfly, <i>Oncocnemis dunbari</i> (a moth), <i>Formica neorufibarbis</i> (an ant)
Shrub forest stage	coast mole, Townsend's vole, mountain beaver, coyote, long-tailed weasel, black-tailed deer, common nighthawk, blue grouse, rufous hummingbird, hermit thrush, white-crowned sparrow, rufous-sided towhee, northwestern garter snake, western fence lizard, northwestern salamander, western bluebird, Pacuvius' duskywing butterfly, satyr anglewing butterfly
Open sapling/pole forest stage	coast mole, Douglas' squirrel, mountain beaver, black-tailed deer, long-tailed weasel, coyote, blue grouse, rufous hummingbird, American robin, hermit thrush, rufous-sided towhee, western fence lizard, western bluebird, Phoebus parnassian butterfly, golden hairstreak butterfly, western tailed blue butterfly, bobcat, snowshoe hare
Closed sapling/pole/sawtimber forest stage	Douglas' squirrel, sharp-shinned hawk, Swainson's thrush, evening grosbeak, dusky shrew, long-legged myotis, mountain beaver, creeping vole, bobcat, elk, Vaux's swift, orange-crowned vireo, northern alligator lizard, rubber boa, long-toed salamander, <i>Cychrus tuber-culatus</i> (a carabid beetle), <i>Lobosoma horridum</i> (a weevil), <i>Omus dejeani</i> (a tiger beetle)

Table IV.13: Habitats and representative wildlife species covered by this HCP for the west-side planning units (continued)

Type of habitat	Representative species that can use these habitat types
Large sawtimber forest stage	dusky shrew, long-legged myotis, northern flying squirrel, Pacific fisher, wood duck, hairy woodpecker, northern goshawk, barred owl, olive-sided flycatcher, hoary bat, bushy-tailed woodrat, red tree vole, red-breasted nuthatch, Dunn's salamander, northwestern salamander, Van Dyke's salamander, tailed frog, northern alligator lizard, coral hairstreak butterfly, pine white butterfly, California hairstreak butterfly, <i>Cychrus tuberculatus</i> (a carabid beetle), <i>Lobosoma horridum</i> (a weevil), <i>Omus dejeani</i> (a tiger beetle)
Old-growth forest stage	Johnson's hairstreak butterfly, pine white butterfly, <i>Acalypta saundersi</i> (a lace bug), <i>Cychrus tuberculatus</i> (a carabid beetle), <i>Lobosoma horridum</i> (a weevil), <i>Omus dejeani</i> (a tiger beetle); and see list for spotted owl high quality nesting habitat

pg. IV.162 - add a new Table IV.14:

IV.14 DNR HCP Stand Structure Objectives at Year 100 (in percent of land area)

Stand Stage ¹	West-side Planning Units Excluding the OESF	OESF Planning Unit
Open (0-10 Years)	5-10	5-15
Regeneration (10-20 years)	5-15	5-15
Pole (20-40 years)	15-25	5-15
Closed (40-70 years)	25-35	5-15
Complex (at least 70 years)	25-35	60-70
Fully Functional (Subset of Complex)	(At least 150 years) 10-15	(At least 200 years) 10-15

¹Stand stages are defined as:

Open - earliest seral stage; overstory has been removed; dominated by herbs and shrubs with some young conifer and deciduous trees present.

Regeneration - shrubs and saplings; branches beginning to intertwine; dense canopies from ground-level upwards.

Pole - early stages of stem exclusion; stems closely spaced and numerous; little understory; limited self-pruning; and insufficient canopy lift to allow larger birds to penetrate.

Closed - have undergone some stem exclusion and competition mortality; have achieved some canopy lift from self-pruning; have well-developed, deep canopies; and lacking complex structural characteristics of older types.

Complex - stocked with large trees with a variety of diameters and heights evident; mortality within the stand (or residual trees, snags, and logs) provides cavities in standing snags, downed logs, deformities in standing live trees; large horizontal branches; and a complex canopy with conifer establishment occurring under opening in the canopy.

Fully Functional - a subset of complex forests but more mature and structurally complex.

²Age-classes shown are a surrogate for stand structure. If and when it can be shown that appropriate structure can be obtained at a different age, different age classes may be used.

Assumptions used in the modeling included policies from the Forest Resource Plan and are described in Appendix 5 of this document. The FRP states that the goal for average rotation age for west-side conifer dominated forests will be 60 years. At present, DNR expects to continue this policy and information regarding the average rotation age will be provided to the Services at scheduled inter-agency reviews of the HCP. However, as long as DNR can show that reaching the stand structure objectives is likely, other rotation ages may be used. Additionally, DNR maintains the flexibility to harvest specific stands at an earlier age to address specific silvicultural situations (for example, a 30- to 35-year old stand that was not thinned at an appropriate age may be more quickly converted into a healthy, productive stand by clear-cutting the stand and "starting over").

Subsequent to the modeling exercise, DNR and the Service negotiated a 70-year term for this agreement, with provisions for up to 3, 10-year extensions (see IA). Such extensions could occur at DNR's option if commitments of the HCP are met at year 70, or at the Service's option if commitments have not been met at year 70. Currently no projections are available for the forest structure expected at year 70. However, during the first year following approval of the HCP, additional modeling will be conducted by DNR by decade and the resulting projections provided to the Service at or by the first annual review. These decadal projections will be used by the DNR as part of its monitoring process.

The projections for year 70 will be a part of the Service's evaluation of whether DNR has met the commitments of the HCP at year 70. In that evaluation the Service will also review DNR's progress in meeting the conservation objectives included in Chapter IV of the HCP. The DNR HCP provides for the conservation of both listed and unlisted species. Detailed, specific conservation measures are described elsewhere in this chapter for the northern spotted owl and a long-term strategy will be developed for the marbled murrelet with additional important, but more limited, measures described for certain other listed species. Conservation measures affecting the unlisted species include those undertaken for listed species and additional measures described for certain important habitat types. However, the most important conservation measures affecting unlisted species are those associated with the HCP riparian conservation strategy.

Of the HCP's three primary conservation components (spotted owl conservation strategy, marbled murrelet conservation strategy, and riparian conservation strategy), one, that for the marbled murrelet, is interim in nature. A long-term strategy will not be developed for a number of years. Because of this, an adequate and appropriate means of evaluating commitments for the marbled murrelet at year 70 cannot be described at this time except in terms of compliance with the strategy described in the HCP.

The riparian conservation strategy will be implemented in the five west-side planning units and the OESF. DNR's compliance and effectiveness monitoring plan for riparian areas should provide sufficient information for the Service to determine whether commitments in this area have been met at year 70.

The spotted owl conservation strategy sets specific goals for developing/maintaining NRF and dispersal habitat in specific amounts and locations (by WAU). Approximately 200,000 acres are designated for a NRF habitat role and 125,000 of those acres (62.5%) are in WAUs that are already at or above the goals set in the HCP. The conditions in the remaining WAUs, those that are not currently at or above the goal, will be reviewed by the Service at year 70, as part of the evaluation of whether the DNR has met its obligations under the HCP.

As described above, the 70 year term should be sufficient for all species based upon the anticipated response of the habitats to implementation of the HCP. Riparian areas and uncommon/special habitats (e.g., talus, caves, wetlands) are expected to improve as wildlife habitat over the life of the permit. Older stand structures (i.e., Structurally Complex Forest and Fully Functional Forest) increase or remain constant when

comparing the current conditions with those anticipated at the end of the permit period. Healthy riparian systems, mature forest with structure, and uncommon/special habitats comprise the major concerns regarding adequacy of habitats. Younger forests (less than 40-70 years) will continue to be provided as a result of timber management. In addition, the long-term plan for murrelets will be developed in consideration of the 70-year permit term to ensure its adequacy. Finally, as mentioned above in this section, the Services will review DNR's progress in meeting the conservation objectives and will have the option for approving an extension of the HCP in the event the conservation objectives are not met.

pg. IV.182 - renumber Table IV.14:

IV.14 15 Estimated amount of forest land management activities on DNR-managed lands in the area covered by the HCP during the first decade of the HCP

pg. IV.183 - renumber Table IV.15:

IV.15 16 Estimated amount of habitat on DNR-managed lands in the area covered by the HCP at the end of the first decade of the HCP

pg. V.3 - change Table V.1:

Table V.I: Outline of the HCP monitoring program

Monitoring objective	HCP habitat goals			
	Spotted owl nesting, roosting, foraging habitat	Spotted owl dispersal habitat	Marbled murrelet nesting habitat ¹	Riparian/salmonid habitat
Implementation	All planning units	All planning units	Five west-side planning units and the OESF	Five west-side planning units and the OESF
Effectiveness	All planning units	All planning units	Five west-side planning units and the OESF	Five west-side planning units and the OESF
Validation	OESF Planning Unit only		OESF Planning Unit only	OESF Planning Unit only (salmonid habitat only)

¹Only implementation monitoring will be done during the interim conservation strategy for the marbled murrelet. See text.

pg. V.3 - add two new tables:

Table V.2: Environmental variables to be measured in effectiveness monitoring for the Spotted Owl Conservation Strategy

Environmental Variables	
Spotted owl nesting, roosting, and foraging habitat	Spotted owl dispersal habitat
density of nesting structures snag density snag diameter distribution	
tree density tree species composition tree diameter distribution canopy closure canopy height woody debris ground cover prey density	

Table V.3: Environmental variables to be measured in effectiveness monitoring for the Riparian Conservation Strategy

Salmonid Habitat Element	Environmental Variables
Large Woody Debris	linear density size category tree species shape of form decay category location category poolforming function
Channel characteristics	bankfull width bankfull depth stream gradient total water surface area pool maximum depth pool residual depth pool location pool frequency
Sediments	percent fine sediment in spawning gravel

Salmonid Habitat Element	Environmental Variables
Riparian Forest	stand age stand species composition canopy closure

Figures

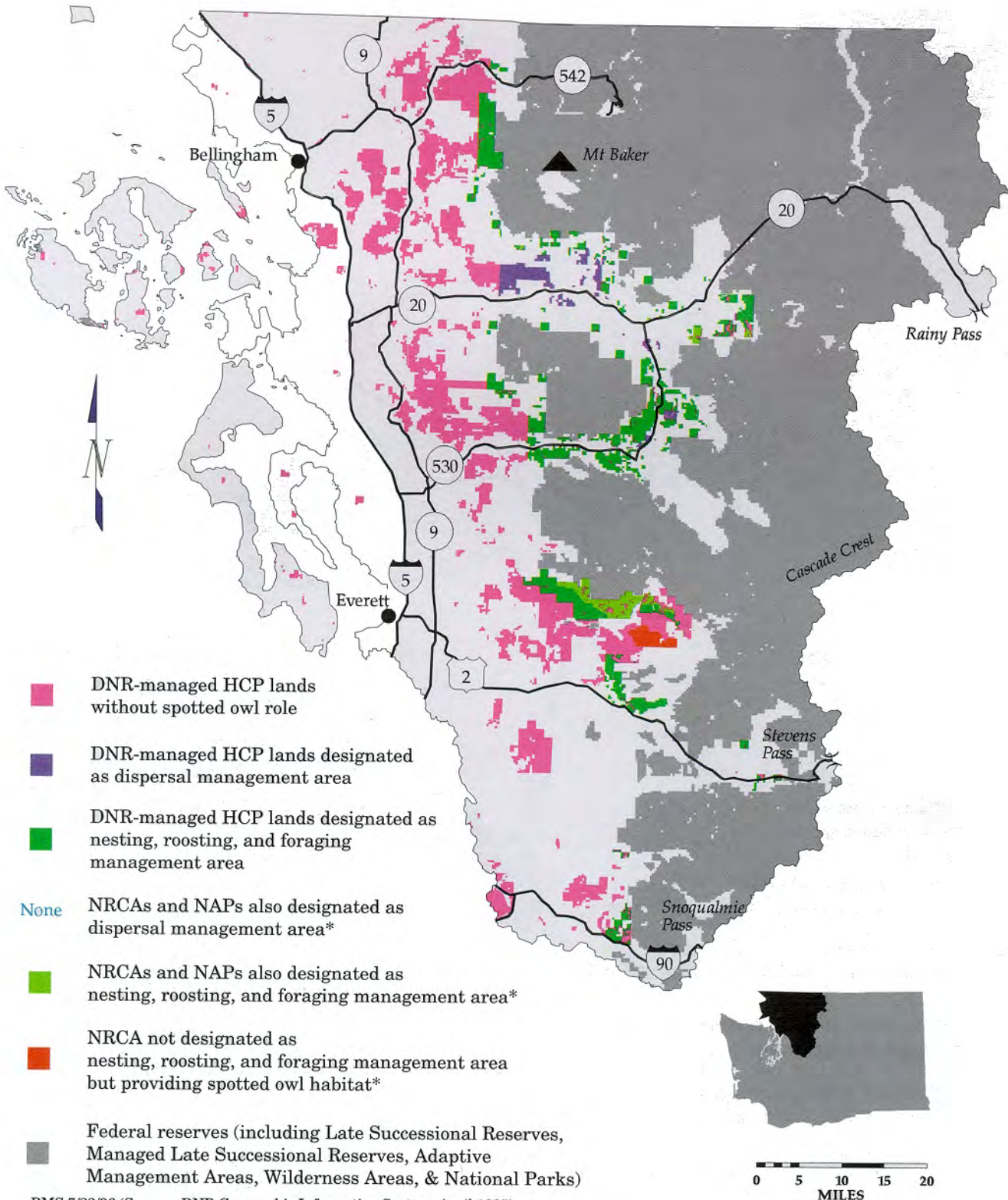
- 3 I.1 DNR-managed HCP lands by age class and area for even-aged stands
- 58 III.1 The riparian ecosystem
- 60 III.2 Relation between effectiveness of terrestrial elements of salmonid habitat and distance from stream channel
- 30 IV.1 Age-class distribution in the five west-side planning units in 1996
- 31 IV.2 Projected age-class distribution in the five west-side planning units in 2046
- 32 IV.3 Projected age-class distribution in the five west-side planning units in 2096
- 33 IV.4 Projected age-class distribution in DNR NRF areas in the five west-side planning units from 1996 to 2096
- 34 IV.5 Projected age-class distribution in DNR dispersal areas in the five west-side planning units from 1996 to 2096
- 37 IV.6 Contribution of habitat from DNR-managed lands to known spotted owl circles in the five west-side and all east-side planning units
- 53 IV.7 The relationship between the riparian ecosystem and DNR's riparian management zone
- 96 IV.8 Geomorphic features associated with riparian areas
- 100 IV.9 Example of management protection (riparian buffer) placed on Type 5 channel system
- 101 IV.10 Application of expected average interior-core and exterior buffer widths to a segment of the Clallam River and its tributaries
- 102 IV.11 Comparison of expected average riparian buffer widths and buffers applied to protect only mass-wasting sites for a segment of the Clallam River and its tributaries
- 103 IV.12 Application of expected average riparian buffer widths adjusted for mass-wasting sites for a segment of the Clallam River and its tributaries
- 116 IV.13 Twelve-step watershed assessment procedure for meeting riparian conservation and management objectives in the Olympic Experimental State Forest

Maps

- I.1 DNR-managed lands covered by the Habitat Conservation Plan No change
- I.2 Location of uneven-aged and even-aged stands on DNR-managed lands covered by the HCP No change
- I.3 DNR-managed lands and adjacent ownerships in the area covered by the HCP No change
- I.4 HCP Planning Units No change
- I.5 North Puget Planning Unit No change

I.6	South Puget Planning Unit	No change
I.7	Columbia Planning Unit	No change
I.8	Straits Planning Unit	No change
I.9	South Coast Planning Unit	No change
I.10	Klickitat Planning Unit	No change
I.11	Yakima Planning Unit	No change
I.12	Chelan Planning Unit	No change
I.13	The Olympic Experimental State Forest Planning Unit	No change
II.1	DNR-managed trust lands in the area covered by the HCP	No change
III.1	Physiographic provinces of the northern spotted owl	No change
III.2	Range of the marbled murrelet and population sizes along the Pacific coast	No change
IV.4	Role of DNR-managed lands in providing mitigation for the northern spotted owl in the Straits Planning Unit	No change
IV.5	Role of DNR-managed lands in providing mitigation for the northern spotted owl in the South Coast Planning Unit	No change
IV.7	Role of DNR-managed lands in providing mitigation for the northern spotted owl in the Yakima Planning Unit	No change
IV.8	Role of DNR-managed lands in providing mitigation for the northern spotted owl in the Chelan Planning Unit	No change
IV.9	Preliminary boundaries for landscape planning units in the Olympic Experimental State Forest	No change

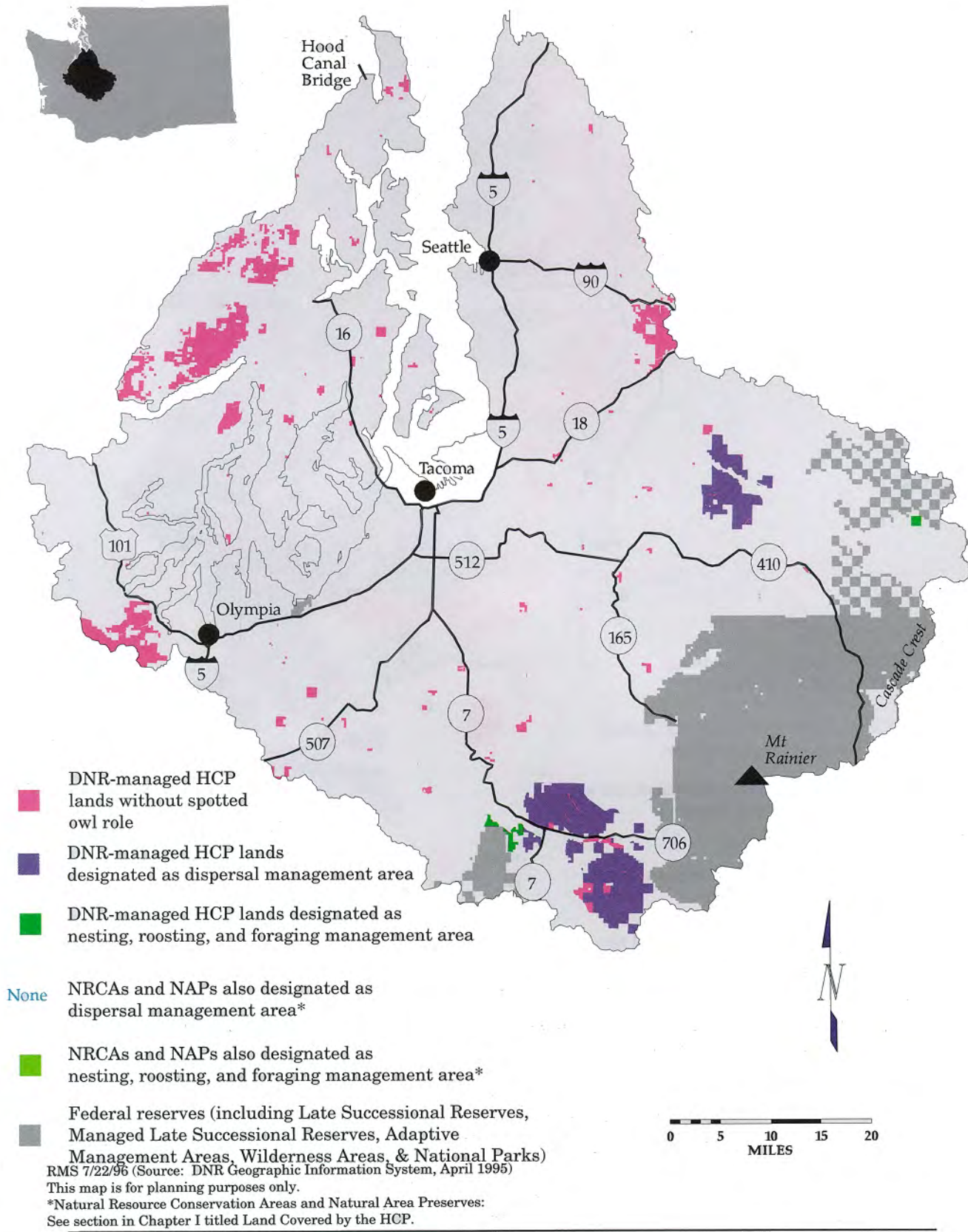
Map IV.1: Role of DNR-managed lands in providing mitigation for the northern spotted owl in the North Puget Planning Unit



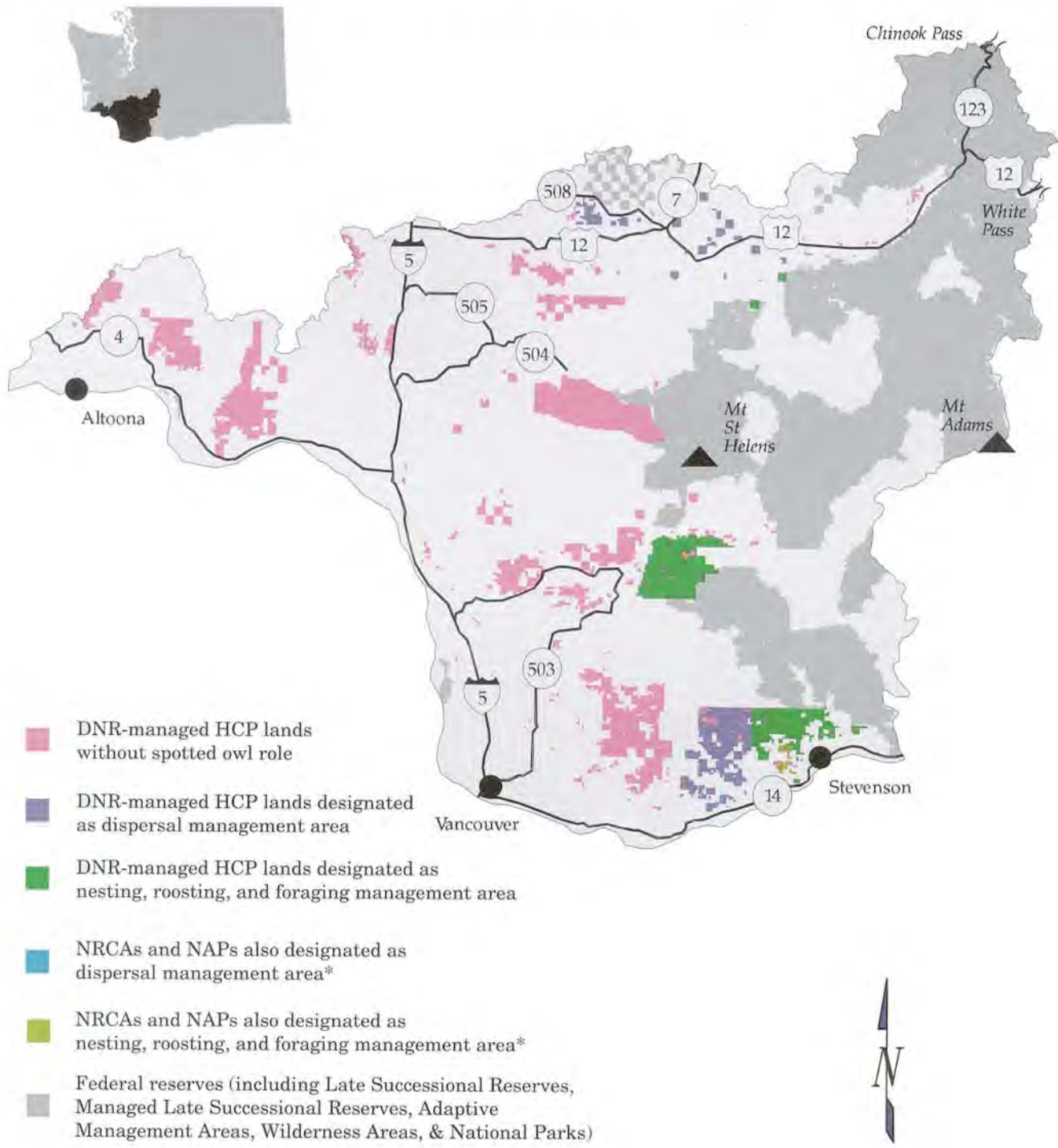
RMS 7/22/96 (Source: DNR Geographic Information System, April 1995)
 This map is for planning purposes only.

*Natural Resource Conservation Areas and Natural Area Preserves:
 See section in Chapter I titled Land Covered by the HCP.

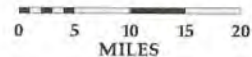
Map IV.2: Role of DNR-managed lands in providing mitigation for the northern spotted owl in the South Puget Planning Unit



Map IV.3: Role of DNR-managed lands in providing mitigation for the northern spotted owl in the Columbia Planning Unit

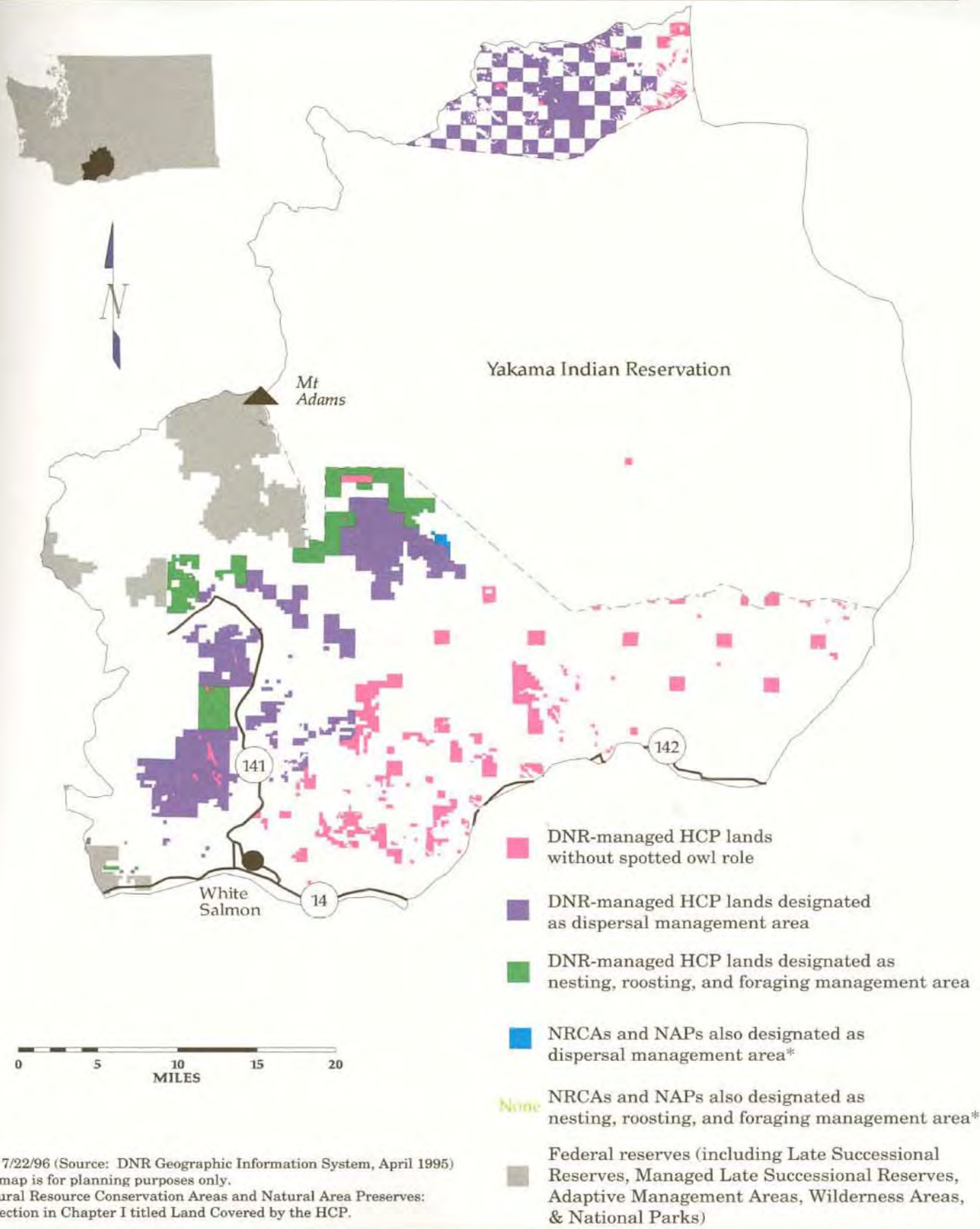


RMS 7/22/96 (Source: DNR Geographic Information System, April 1995)
 This map is for planning purposes only.
 *Natural Resource Conservation Areas and Natural Area Preserves:
 See section in Chapter I titled Land Covered by the HCP.



IV.4	Role of DNR-managed lands in providing mitigation for the northern spotted owl in the Straits Planning Unit	No change
IV.5	Role of DNR-managed lands in providing mitigation for the northern spotted owl in the South Coast Planning Unit	No change

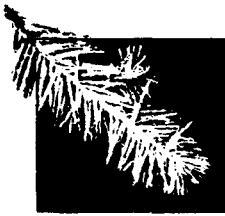
Map IV.6: Role of DNR-managed lands in providing mitigation for the northern spotted owl in the Klickitat Planning Unit



RMS 7/22/96 (Source: DNR Geographic Information System, April 1995)
 This map is for planning purposes only.
 *Natural Resource Conservation Areas and Natural Area Preserves:
 See section in Chapter I titled Land Covered by the HCP.

IV.7	Role of DNR-managed lands in providing mitigation for the northern spotted owl in the Yakima Planning Unit	No change
IV.8	Role of DNR-managed lands in providing mitigation for the northern spotted owl in the Chelan Planning Unit	No change
IV.9	Preliminary boundaries for landscape planning units in the Olympic Experimental State Forest	No change

Appendix 4 - Implementation Agreement



Appendix 4. Implementation Agreement

IMPLEMENTATION AGREEMENT FOR THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES HABITAT CONSERVATION PLAN

THIS AGREEMENT is made and entered into as of the ___ day of _____, 1996, by and between the Secretary of the Interior acting through the United States Department of the Interior, as represented by the UNITED STATES FISH AND WILDLIFE SERVICE ("USFWS"), an agency of the federal government, the Secretary of Commerce acting through the NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION as represented by the NATIONAL MARINE FISHERIES SERVICE ("NMFS"), an agency of the federal government, and the WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES, ("DNR"), an agency of the State of Washington, which includes the WASHINGTON STATE BOARD OF NATURAL RESOURCES ("BOARD").

BACKGROUND

1.0 DNR manages approximately 2.1 million acres of forest lands within the State of Washington.

2.0 Approximately 1.6 million acres of DNR-managed forest lands are within the range of the Northern Spotted Owl (*Strix occidentalis caurina*), ("the Owl").

3.0 The Marbled Murrelet (*Brachyramphus marmoratus*), Bald Eagle (*Haliaeetus leucocephalus*), Grizzly Bear (*Ursus arctos*), Gray Wolf (*Canis lupus*), Peregrine Falcon (*Falco peregrinus*), Columbian White-tailed Deer (*Odocoileus virginianus leucurus*), Aleutian Canada Goose (*Branta canadensis leucopareia*), and Oregon Silverspot Butterfly (*Speyeria zerene hippolyta*) (hereafter known collectively as "other federally listed species") occur or may occur on the PERMIT LANDS.

4.0 The aforementioned species are listed as threatened or endangered under the Federal Endangered Species Act, 16 U.S.C. § 1531, *et seq.*, ("ESA"), and any taking, as that term is used in the ESA, of these species is prohibited, except as permitted by the ESA.

5.0 Incidental takings in accordance with an Incidental Take Permit ("ITP") issued by the SERVICES in conjunction with approval of a Habitat Conservation Plan ("HCP") are authorized by the ESA.

6.0 DNR, with technical assistance from the SERVICES and others, has prepared an HCP for the Owl and other species that may use the types of habitat that occur on the PERMIT LANDS.

7.0 DNR has applied to have the ITP include the Owl and other federally listed species that may currently use the types of habitats that occur on PERMIT LANDS; and to have the ITP, as amended from time to time, include every species that becomes listed after the effective date of this Implementation Agreement ("Agreement") and that may now or hereafter use the types of habitats that occur within the five Westside Planning Units of the PERMIT LANDS and the Olympic Experimental State Forest (OESF).

8.0 The SERVICES require an Implementation Agreement to be signed by all PARTIES associated with issuance of an ITP for a long-term HCP.

9.0 The purposes of this Agreement are to obtain an approved HCP and ITP covering DNR-management activities on the PERMIT LANDS; to implement the HCP; to commit the PARTIES to fulfill and faithfully perform their respective obligations, responsibilities, and tasks to the extent consistent with their respective authorities; to identify remedies and recourse should any of the PARTIES fail to perform such obligations, responsibilities, and tasks; and to provide for regulatory relief, stability, and species conservation.

10.0 The SERVICES have given full consideration to the HCP and this Agreement and found them to meet the requirements for issuance of an ITP under the ESA.

11.0 DNR has given full consideration to the HCP, its alternatives, the ITP, and this Agreement and found the HCP, the ITP, and this Agreement to be in the best interest of each of the trusts.

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained below, the PARTIES agree as follows:

AGREEMENT

12.0 Definitions. The terms of the HCP, and this Agreement shall be interpreted as supplementary to each other, but in the event of any direct contradiction between the terms of the HCP and this Agreement, the terms of this Agreement shall control. Terms capitalized in this document shall have the meanings set forth in this section.

12.1 The terms "PARTY" and "PARTIES" shall mean one or all of the following: the Secretary of the Interior acting through the United States Department of the Interior, as represented by the USFWS, the Secretary of Commerce acting through the National Oceanic

and Atmospheric Administration, as represented by NMFS, and DNR, including the BOARD.

12.2 The terms "SERVICE" and "SERVICES" shall mean the USFWS and/or the NMFS acting on behalf of their respective Secretaries.

12.3 The terms "ITP" and "PERMIT" shall mean an incidental take permit issued to DNR pursuant to Section 10(a) of the ESA to authorize any incidental take of listed species which may result from otherwise lawful DNR-management activities on PERMIT LANDS, which are conducted in accordance with the HCP and this Agreement.

12.4 The term "PERMIT LANDS" shall mean the lands covered by the ITP and HCP, as referred to in section 15.1 of this Agreement.

12.5 The term "HCP" shall mean the Habitat Conservation Plan prepared by DNR, and as amended.

12.6 The term "SPECIES ADDRESSED IN THE HCP" includes all species currently listed as threatened or endangered that may use the types of habitat found on the PERMIT LANDS, and all species hereafter listed as threatened or endangered that may use the types of habitat found within the five Westside Planning Units and the OESF. These species include species listed under the ESA or afforded similar status or protection by federal law or regulation applicable to or affecting the PERMIT LANDS during the term of the HCP.

12.7 The term "DAYS" shall mean calendar days.

12.8 The term "COMPLIANCE" shall mean substantial compliance with the commitments of the HCP, ITP, and this Agreement.

12.9 The terms "DEMONSTRATES" and "DEMONSTRATING" shall mean to establish the existence of a condition or development by use of the best scientific and/or commercial data available.

12.10 The term "PEER REVIEWED" shall mean that consistent with section B(1) of the Interagency Cooperative Policy for Peer Review in Endangered Species Activities (59 Fed. Reg. 34,270), the SERVICES will provide for peer review of the scientific data on which the agencies base any finding requiring peer review in this Agreement to ensure that any such findings are based on the best scientific and commercial data available. The SERVICES will request peer review so that the reviews will be completed within seventy-five (75) DAYS of DNR's request. In the event peer review of such data is not available in time to enable the SERVICES to meet their obligations established by statute, regulation, or this Agreement, the required finding or decision based on such data will be effective, but will be reconsidered by the SERVICES as soon as that information becomes available.

13.0 Incorporation by Reference. The HCP is intended to be, and by this reference is, incorporated herein.

14.0 Responsibilities of the PARTIES. The PARTIES agree to be bound by and to the commitments of the HCP, the ITP, and this Agreement, subject to amendment, renewal, or termination as provided herein.

15.0 PERMIT LANDS.

15.1 PERMIT LANDS Description. Contained in Map I.1 of the HCP, and incorporated herein by reference, are Geographic Information Systems (GIS) data describing the PERMIT LANDS subject to the HCP, the ITP, and this Agreement. Said lands are referred to in the HCP, the ITP, and this Agreement variously as the "DNR-managed lands in the area covered by the HCP," "PERMIT LANDS," the "DNR forest lands," the "DNR-managed lands," the "lands within the planning units," and other similar terms. All such terms, unless otherwise indicated, used in the HCP, the ITP, or this Agreement refer to those lands identified in Map I.1 of the HCP as "DNR-managed HCP lands."

15.2 Natural Area Preserves and Natural Resource Conservation Areas. DNR manages approximately 45,000 acres of Natural Area Preserves ("NAPs") and Natural Resource Conservation Areas ("NRCAs") that lie within the range of the Owl. Approximately 14,765 acres of these lands have been designated as important for achieving the commitments of the HCP. It is expected that the designated lands will continue to provide this habitat in the future and this habitat will count as mitigation so long as such habitat remains present. DNR will notify the SERVICES if the designated lands, or a portion thereof, will no longer be managed consistent with the commitments of the HCP. While not subject to the commitments of the HCP or this Agreement, so long as they are managed consistent with the commitments of the HCP, the SERVICES will give DNR credit for the habitat provided by the designated lands in terms of meeting the commitments assigned to DNR in the HCP, the ITP, and this Agreement. Whether the designated lands continue to provide this habitat, and the mitigation if they do not, will be considered by the SERVICES at the time the SERVICES are notified by DNR that the designated lands will no longer be managed consistent with the commitments of the HCP. Take incidental to DNR-management activities on the designated lands is authorized by the ITP so long as such take is in COMPLIANCE with the HCP, the ITP, and this Agreement.

16.0 Forest Product Sales and Other Management Activities Other Than Land Sales, Purchases, and Exchanges.

16.1 Management Activities Subject to this Agreement. DNR has an active management program for its PERMIT LANDS, including but not limited to forest practices, forest product sales, other valuable material sales, licenses, permits, leases, rights-of-way, and public uses. So long as the SERVICES have not suspended or revoked the ITP under section 26.0 of this Agreement or DNR has not terminated the ITP under section 27.0, the ITP will authorize any incidental take otherwise prohibited by the ESA which may result from otherwise lawful DNR-management activities that are conducted in accordance with the HCP and this Agreement.

16.2 Management Activities in Progress or Under Way.

a. Timber Sales. DNR will incorporate the relevant commitments of the HCP into all timber sales sold on or after January 1, 1999. DNR may, but is not required to, incorporate the commitments of the HCP into timber sales sold prior to January 1, 1999.

b. Nontimber Resource Activities. Excepting designations and leases under subsection 25.3.a(2) of this Agreement, DNR will incorporate the relevant commitments of the HCP into all nontimber resource transactional documents pertaining to PERMIT LANDS including, but not limited to, leases, licenses, permits, contracts, and sales, executed on or after January 1, 1999. DNR may, but is not required to, incorporate the commitments of the HCP into nontimber resource transactional documents pertaining to PERMIT LANDS including, but not limited to, leases, licenses, permits, contracts, and sales, executed prior to January 1, 1999. As leases, licenses, contracts, and permits of PERMIT LANDS are renewed, DNR shall alter such leases, licenses, contracts, and permits, to the extent permitted by law, to ensure compatibility with the commitments of the HCP. The level of nontimber resource activity and associated take, if any, of SPECIES ADDRESSED IN THE HCP will be reviewed annually in conjunction with the annual meeting under subsection 17.2 of this Agreement. The annual review meetings will be used by the PARTIES to ensure that any expansion in the level of DNR's nontimber resource activities, as described in Chapter IV of the HCP, that occur on PERMIT LANDS do not result in increased incidental take of SPECIES ADDRESSED IN THE HCP. If increased incidental take will result, DNR will initiate the amendment process under subsection 25.3(b)-(c) of this Agreement. At the annual meeting, DNR will provide the SERVICES with the results of the nontimber resource monitoring efforts as described in the HCP.

16.3 Severability. Management activities on DNR lands are often accomplished through an agent, lessee, licensee, contractor, permittee, right-of-way grantee, or purchaser. Take incidental to otherwise lawful activities of these entities is authorized by the ITP so long as such take is authorized by DNR and is in COMPLIANCE with the HCP, the ITP, and this Agreement. A violation of the ITP by an agent, lessee, licensee, contractor, permittee, right-of-way grantee, or purchaser, which was not authorized by DNR, shall not result in the suspension, revocation, or termination of the ITP, nor shall it affect other benefits, rights, or privileges under the ITP, except as to that agent, lessee, licensee, contractor, permittee, right-of-way grantee, or purchaser.

17.0 Land Transfers, Purchases, Sales, and Exchanges. DNR has an active program of land acquisition and disposition, including but not limited to land transfers, sales, purchases, and exchanges. This program includes intergrant transactions. The HCP provides for continuation of this program.

17.1 Conservation Objectives of the HCP. The HCP and this Agreement recognize that it is necessary for DNR to continue to pursue an active land disposition program. In carrying out such an active land disposition program, DNR commits to maintaining the conservation objectives described in Chapter IV of the HCP in the course of its land disposition program. DNR may dispose of PERMIT LANDS, including PERMIT LANDS within any Watershed Administrative Unit ("WAU"), or any quarter-township in eastern

Washington, even though such a disposition is not in accord with the habitat goals for a particular WAU, or quarter-township, so long as the conservation objectives described in Chapter IV of the HCP are maintained. Annual and other meetings held under section 17.2 will address whether disposition of PERMIT LANDS would have a significant adverse effect on the conservation objectives described in Chapter IV of the HCP.

17.2 Notification and Annual Review of Land Transactions. The PARTIES will hold annual meetings in December of each year, unless otherwise mutually agreed upon by the PARTIES, to review proposed and completed land transactions involving PERMIT LANDS. At such meetings, DNR will notify the SERVICES in writing of any known proposed land transfers, purchases, sales, or exchanges expected to occur within the upcoming year involving PERMIT LANDS. A follow up meeting will be held within sixty (60) DAYS after the annual meeting, if needed. Additional meetings may be convened on a more frequent basis or incorporated into the scheduled comprehensive reviews contemplated under section 21.0 with the mutual consent of the PARTIES. DNR will mail to the SERVICES preliminary transactional documents at the time such documents are mailed to the BOARD for all land transactions involving PERMIT LANDS that were not discussed during the annual meetings. DNR will also mail the closing documents to the SERVICES within thirty (30) DAYS of closing for all transactions involving PERMIT LANDS. Neither SERVICE, however, shall have the power to veto any land transaction. DNR will amend annually, or more frequently if it desires, the HCP pursuant to section 25.3 of this Agreement to reflect lands added to or removed from the PERMIT LANDS. In no event will DNR conduct management activities that will result in take on lands that will be added to the ITP prior to amendment of the HCP.

17.3 Land Acquisition by Transfer, Purchase, or Exchange. The PARTIES shall, upon request by DNR, add lands acquired by transfer, purchase, or exchange within the range of the Owl to the HCP, ITP, and this Agreement. DNR will incorporate the relevant commitments of the HCP into the management of these new PERMIT LANDS. No additional mitigation will be required unless the management of these new PERMIT LANDS increases take beyond the level authorized in the ITP. If the management of these new PERMIT LANDS increases take beyond the level authorized in the ITP, then any additional mitigation will be determined through amendment of the HCP based on mutual agreement among the PARTIES. DNR, at its sole discretion, may at any time add acquired lands to the WAU or quarter-township base referred to in Chapter IV of the HCP, but is not required to do so. So long as land DNR seeks to add to the HCP in accordance with this paragraph does not increase the level of take, it shall be the subject of a minor amendment to the HCP pursuant to section 25.3 and shall thereafter be PERMIT LANDS.

17.4 Land Disposition by Transfer, Sale, or Exchange. DNR, at its sole discretion, may voluntarily dispose of PERMIT LANDS by transfer, sale, or exchange. DNR, at its sole discretion, may require that the recipient of the disposed land commit to managing the disposed land in accordance with the HCP and this Agreement. DNR is not required by the HCP, the ITP, or this Agreement to require continuation of the commitments of the HCP or this Agreement on the disposed land. If DNR sells or exchanges DNR-managed lands, NAPs, or NRCAs, and the acquiring entity commits in writing to the SERVICES that the lands disposed by DNR will be managed in a manner which maintains the commitments of

the HCP, DNR will continue to be given credit for such lands for the purpose of determining whether DNR is in COMPLIANCE with the HCP, the ITP, and this Agreement. If land disposed of by DNR does not remain subject to the provisions of the HCP, and the cumulative impact of the land disposition would have a significant adverse effect on the affected species, the PARTIES, based on the best scientific and commercial data available at the time, shall amend the HCP, this Agreement, and the ITP to provide replacement mitigation for the affected species pursuant to the standards and processes outlined in the extraordinary circumstances provisions of section 24 herein.

17.5 Federal Condemnation. In the event of condemnation of DNR-managed lands, NAPs, or NRCAs by the federal government, the PARTIES shall not be required to replace mitigation lost due to condemnation. The PARTIES' obligations relating to the condemned lands under the HCP and this Agreement shall be terminated.

17.6 Rights and Authorities Preserved. Except as otherwise specifically provided in this Agreement, nothing herein contained shall be deemed to restrict the rights, privileges, and powers of the State of Washington or DNR to manage the use of, or exercise all of the rights incident to, land ownership associated with the PERMIT LANDS. Nothing herein contained shall be interpreted to restrict the authority of the SERVICES to administer the ITP with respect to the PERMIT LANDS in accordance with this Agreement and the ESA.

18.0 Funding. DNR shall submit to the Washington State Legislature, on at least a biennial basis, an agency operating and capital budget for asset management that will be adequate to fulfill DNR's obligations under the HCP, ITP, and this Agreement. Failure by DNR to ensure adequate funding is provided to implement the HCP shall be grounds for suspension or partial suspension of the ITP.

The SERVICES shall include in their annual budget requests sufficient funds to fulfill their respective obligations under the HCP, ITP, and this Agreement.

19.0 Duration.

19.1 Term of PERMIT. The HCP, ITP, and this Agreement shall remain in full force and effect for a period of seventy (70) years from the effective date, or until revocation under section 26.0 or termination under section 27.0 of this Agreement, whichever occurs sooner. Amendments to the HCP, the ITP, or this Agreement shall be in full force and remain in effect for the then remaining term of this Agreement or until revocation under section 26.0 or termination under section 27.0 of this Agreement, whichever occurs sooner.

19.2 PERMIT Renewal. Unless revoked under section 26.0 or terminated under section 27.0 of this Agreement, DNR may renew the PERMIT, HCP, and this Agreement on the existing terms or other mutually agreeable terms three (3) times for a period of up to ten (10) years per renewal, provided:

- (a) DNR is in COMPLIANCE with the HCP and this Agreement;

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- (b) the PARTIES have met approximately three (3) years prior to the scheduled PERMIT or renewal period expiration date to discuss the renewal of the PERMIT, HCP, and this Agreement, and DNR provides the SERVICES with at least eighteen (18) months notice of its intent to renew the PERMIT;
 - (c) DNR finds that renewal of the PERMIT, HCP, and this Agreement would be in the best interest of each of the trusts; and
 - (d) the sum of the original PERMIT term and any continuation or renewal periods does not exceed one hundred (100) years.

19.3 PERMIT Continuation. Unless revoked under section 26.0 or terminated under section 27.0 of this Agreement, the SERVICES may require DNR to continue implementing the HCP, PERMIT, and this Agreement for up to three (3) periods of up to ten (10) years apiece, provided that:

- (a) at the end of the original PERMIT term or the continuation periods under this subsection, the SERVICES DEMONSTRATE that DNR has failed to achieve its commitments under the HCP as described in Chapter IV of the HCP;
- (b) the PARTIES have met approximately three (3) years prior to the scheduled expiration date to discuss the potential for continuation or renewal of the HCP, PERMIT, and this Agreement, and the SERVICES provide DNR with at least eighteen (18) months notice of their intent to require continuation of the HCP, PERMIT, and this Agreement; and
- (c) the sum of the original PERMIT term and any continuation or renewal periods does not exceed one hundred (100) years.

20.0 Reporting and Inspections. DNR will provide the SERVICES with two (2) copies of each report described in Chapter V of the HCP, at the addresses designated by the SERVICES, and any readily available existing information requested by either SERVICE to verify the information contained in such reports. Either SERVICE may inspect PERMIT LANDS in accordance with its then applicable regulations. Except as provided in its regulations, the inspecting SERVICE will notify DNR thirty (30) DAYS prior to the date they intend to make such inspections and allow DNR representatives to accompany SERVICE personnel when making inspections. To assist DNR in meeting its obligations under this Agreement, the SERVICE will brief DNR in writing on the factual information learned during any inspection within thirty (30) DAYS of such inspection, except as provided in its regulations.

21.0 Comprehensive Reviews. The PARTIES to this Agreement will conduct periodic reviews of the HCP, the ITP, and this Agreement, consulting with one another in good faith to identify any amendments that might more effectively and economically mitigate any incidental take. The PARTIES shall conduct comprehensive reviews within one month of the first, fifth, and tenth, anniversaries of the effective date and every tenth anniversary

thereafter for the full term that this Agreement is in effect. Upon mutual agreement of all the PARTIES, additional reviews may be scheduled at any time.

22.0 Adequacy and Certainty.

22.1 Assurances. The HCP provides habitat conservation for all SPECIES ADDRESSED IN THE HCP, while providing regulatory relief, certainty, flexibility, and stability for DNR. Specifically, the conservation strategies afforded all habitat types, and the species specific measures of the HCP and this Agreement, adequately provide for all SPECIES ADDRESSED IN THE HCP and contain measurable criteria for the biological success of the HCP. Unless the SERVICES have suspended or revoked the ITP under section 26.0 of this Agreement or have not added a newly listed species to the PERMIT under subsection 25.1(b) of this Agreement, DNR is assured by this Agreement that any incidental taking of a SPECIES ADDRESSED IN THE HCP in the course of its otherwise lawful management activities will be authorized under the ESA. The SERVICES are assured by this Agreement that the incidental taking authorized by the ITP is consistent with the conservation of the species under the ESA.

22.2 Findings by the SERVICES. Based upon the best scientific and commercial data available and after careful consideration of all comments received, the SERVICES have found that with respect to all SPECIES ADDRESSED IN THE HCP:

- (a) that any take on PERMIT LANDS under the HCP will be incidental;
- (b) the impacts of any incidental take under the HCP will, to the maximum extent practicable, be minimized and mitigated;
- (c) that DNR will ensure that adequate funding for the HCP will be provided in accordance with this Agreement and the HCP;
- (d) that any taking of a SPECIES ADDRESSED IN THE HCP will not appreciably reduce the likelihood of the survival and recovery of such species in the wild; and
- (e) that other measures and assurances required by the SERVICES as being necessary or appropriate for the purposes of the HCP are met.

23.0 Unforeseen Circumstances.

23.1 Unforeseen Circumstances Consultation. In the event of unforeseen circumstances arising in connection with the HCP, the ITP, or this Agreement, the appropriate SERVICE may request consultation with DNR regarding those circumstances and may suggest modifications to the commitments of the HCP, the ITP, or this Agreement. DNR shall consult with the SERVICE to explore whether there is a mutually acceptable means for adjusting the commitments of the HCP, the ITP, and this Agreement that maintains the interests of all PARTIES. If the cost of a mutually acceptable adjustment would be significant to DNR, then the PARTIES must strive to find further or different

voluntary adjustments that would avoid or minimize the cost to DNR. The SERVICES shall not seek from DNR without its consent a commitment of additional land or financial undertaking beyond the level of mitigation which is provided under the commitments of the HCP, the ITP, and this Agreement.

23.2 Findings of Unforeseen Circumstances. The SERVICES shall have the burden of DEMONSTRATING that unforeseen circumstances have arisen. If DNR, after consultation and in its sole discretion, does not agree voluntarily to implement the requested changes, then the SERVICE must look to section 24.0 regarding extraordinary circumstances if it wishes to continue to pursue changes, and must satisfy the provisions of section 24.0 regarding such desired changes. The SERVICES agree that so long as DNR is in COMPLIANCE with its commitments under the HCP, ITP, and this Agreement, they will not impose on DNR any nonconsensual additional land-use restrictions, financial obligations, or any other form of additional mitigation for any SPECIES ADDRESSED IN THE HCP except under extraordinary circumstances as addressed in section 24.0.

24.0 Extraordinary Circumstances.

24.1 Extraordinary Circumstances Defined. Additional mitigation requirements shall not be imposed upon DNR without its consent provided DNR is in COMPLIANCE with the HCP, the ITP, and this Agreement, and the HCP is properly functioning, except under extraordinary circumstances. Extraordinary circumstances shall mean that continued DNR-management activities in accordance with the HCP, the ITP, and this Agreement would result in a substantial and material adverse change in the status of a species that was not foreseen on the effective date of this Agreement which can be remedied by additional or different mitigation measures on the PERMIT LANDS. The SERVICES shall have the burden of DEMONSTRATING that extraordinary circumstances exist.

24.2 Findings of Extraordinary Circumstances. Findings of extraordinary circumstances must be clearly documented in writing and based upon reliable, PEER REVIEWED technical information regarding the status and habitat requirements of the affected species. Furthermore, in deciding whether any extraordinary circumstances exist with respect to a particular SPECIES ADDRESSED IN THE HCP, which might warrant additional mitigation, the SERVICES shall consider, but not be limited to the following factors:

- (a) the size of the current range of the affected species;
- (b) the percentage of range adversely affected by the HCP;
- (c) the percentage of range conserved by the HCP;
- (d) the ecological significance of that portion of the range affected by the HCP;
- (e) the level of knowledge about the affected species and the degree of specificity of the species conservation program under the HCP;

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- (f) whether the HCP was originally designed to provide an overall net benefit to the affected species and contained measurable criteria for assessing the biological success of the HCP; and
 - (g) whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the particular species in the wild.

Upon a finding of extraordinary circumstances, the SERVICES will have ninety (90) days to determine any additional mitigation necessary, during which time DNR will use its best efforts to avoid a substantial and material adverse change in the status of the affected species. If the SERVICES are unable to achieve appropriate additional mitigation, the SERVICES shall work with DNR to find the least disruptive method of continuing DNR-management activities.

24.3 Effect of Additional Mitigation Measures on the HCP. Any additional mitigation measures approved under this section shall change the original terms of the HCP only to the minimum extent necessary and shall be limited to modifications on the PERMIT LANDS, and any additional mitigation requirements under this Agreement shall not involve additional financial commitments by DNR or land use restrictions on DNR without its express written consent. The SERVICES may seek additional funding for mitigation from other sources.

24.4 SERVICES Free to Take Independent Action. Nothing in this Agreement shall be construed to limit or constrain either SERVICE from carrying out lawful additional mitigation actions at their own cost with respect to the protection of any listed species, or endeavoring to provide mitigation by means of other resources or financial assistance to DNR to the fullest extent possible in accordance with law and available appropriations.

24.5 Adaptive Management. 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. The following adaptive management practices shall be implemented by DNR as reasonably necessary to respond to the following changes of circumstances and are not subject to subsections 23.1, 23.2, 24.1, 24.2, and 24.3:

- (a) the best available scientific and commercial data indicate that an increase in the percentage of ground cover of dead and down wood is required for the support of the Owl in the definition of sub-mature habitat in Chapter IV section A of the HCP, provided DNR's responsibility shall be limited to 15 percent ground cover averaged over a stand;
- (b) the best available scientific and commercial data indicate that the model used to delineate mass wasting on a site-specific basis under

Chapter IV section D of the HCP can be reasonably improved to increase its accuracy;

- (c) the best available scientific and commercial data indicate that the landscape-based road network management process described in Chapter IV section D of the HCP can be reasonably and practically improved, considering both the costs and benefits of implementing the improvement;
- (d) the necessity for continued provision of nest patches has changed as a result of conducting research to determine the biological feasibility of using silvicultural techniques to create spotted owl nesting habitat;
- (e) with specific reference to the marbled murrelet, the habitat definitions will be refined for each planning unit as a result of DNR's habitat relationships study;
- (f) with specific reference to the marbled murrelet, the interim conservation strategy will be replaced with a long-term management plan upon completion of the inventory survey phase;
- (g) management activities allowed within the riparian management zones will be refined within the first decade of the HCP;
- (h) wind buffer management is refined as this priority research item is addressed;
- (i) a long-term conservation strategy for forest management along Type 5 Waters is developed and incorporated into the HCP at the end of the first ten years of the HCP; and
- (j) prescriptions resulting from a completed watershed analysis call for additional measures than those specified in the HCP.

All other adaptive management strategies are subject to subsections 23.1, 23.2, 24.1, 24.2, 24.3, and 24.4.

25.0 Amendments and Modifications.

25.1 PERMIT Amendments and Modifications. The ITP may be amended or modified as follows:

a. General Amendments to the ITP. The ITP can be amended or modified in accordance with SERVICE regulations as provided in this Agreement. If the federal regulations that govern PERMIT amendment have been modified from those codified at 50 C.F.R §§ 13.23, 220.11, 222.25, and 222.26, as of the effective date of this Agreement, the modified regulations will apply only to the extent the modifications are required by

subsequent enactment of the Congress or court order, or upon a determination by DNR that application of the modifications is in the best interests of the relevant trusts.

b. New Listings. The ITP for the Owl and other federally listed species that may currently use the types of habitats that occur on the PERMIT LANDS will be issued contemporaneously with the signing of this Agreement. In the future, the SERVICES shall add to the ITP, within sixty (60) DAYS of receipt by the appropriate SERVICE of a written request by DNR, each species that may use the types of habitats that occur within the five West Side Planning Units and the OESF that is listed as a threatened or endangered species during the term of this Agreement at the level of take requested by DNR and supported by the HCP without requiring additional mitigation, unless, within the specified sixty-day period, the SERVICE DEMONSTRATES that extraordinary circumstances under section 24.0 exist. If such extraordinary circumstances are found to exist, the SERVICE shall provide the appropriate additional mitigation or other amendments in a timely manner and amend the ITP to include the affected species if appropriated funds are available. If appropriated funds are not available, the SERVICES shall use all lawful means, including soliciting nongovernmental sources of funds and other alternative methods of mitigation or amendment, to endeavor to achieve the appropriate additional mitigation and amend the ITP to cover the particular species.

25.2 Amendments to the Agreement. This Agreement may be amended only with the written consent of each of the PARTIES.

25.3 HCP Amendments. The HCP may be amended as follows:

a. Minor HCP Amendments.

(1) The following types of minor amendments may be made to the HCP without notification, provided that the conservation objectives of the HCP are being maintained, there is no increase in the level of incidental take, and appropriate mitigation is provided. Amendments allowable under this subsection include the following:

- (a) land acquisition and disposition as described in section 17.0, which provides for periodic notice and review of DNR land transactions involving PERMIT LANDS;
- (b) corrections of typographic and grammatical errors and similar editing errors, which do not change the intended meaning of the HCP; and
- (c) corrections to any maps, GIS data, or exhibits to reflect previously approved changes in the HCP or other new information.

(2) So long as appropriate mitigation is provided, the alteration of an HCP commitment or commitments, the formal designation of urban lands pursuant to state law, and the leasing of PERMIT LANDS for commercial, residential, or industrial purposes, or the implementation of one or more of the adaptive management strategies described in Chapter IV of the HCP or subsection 24.5 of this Agreement, that does not increase the level

of take authorized by the ITP is a minor amendment effective sixty (60) DAYS after the SERVICES receive written notice from DNR, unless the appropriate SERVICE responds in writing with specific concerns during the sixty-day notification period.

b. Major HCP Amendments. For other amendments of the HCP, including those amendments that would increase the level of take, proposed by DNR, DNR shall provide a written description of the proposed amendment, the effects of the proposal on the HCP, and any alternative ways in which the objectives of the proposal might be achieved. The proposed amendments shall become effective upon written approval by the appropriate SERVICE. The SERVICE shall approve or disapprove the proposed amendment within 180 DAYS after receipt of the DNR proposal.

c. HCP Amendments and the ITP. HCP amendments that will result in an increased level of incidental take will require amendment to the ITP under subsection 25.1.a of this Agreement. HCP amendments that do not increase the level of incidental take will not require amendment to the ITP under subsection 25.1.a of this Agreement so long as appropriate mitigation is provided.

26.0 ITP Suspension or Revocation. The SERVICES maintain the right to suspend or revoke the ITP in accordance with federal law and this Agreement. The SERVICES agree, however, that so long as DNR is in COMPLIANCE with the HCP, the ITP, and this Agreement, they will not suspend or revoke the ITP, or otherwise sanction DNR except to the extent that the sanction, suspension, or revocation of the ITP is required by applicable federal law or the terms of this Agreement. Any revocation of the ITP, in whole or in part, automatically terminates the relevant commitments of the HCP and this Agreement, and subjects activities no longer covered by the ITP to all applicable provisions of the ESA and SERVICE regulations relating to the taking of a listed species. If federal regulations should be modified from those codified at 50 C.F.R. §§ 13.26-13.29, and/or § 222.27, as of the effective date of this Agreement, the modified regulations will apply only to the extent the modifications are required by subsequent enactment of the Congress or court order, or upon a determination by DNR that application of the modifications is in the best interests of the relevant trusts.

27.0 Termination and Mitigation after Termination.

27.1 Generally. DNR reserves the right to terminate for any reason the HCP and this Agreement with thirty (30) DAYS written notice to the SERVICES. For listed species, the written termination notice shall contain a statement describing the species taken, the level of take, and the species mitigation provided prior to termination. DNR management activities not resulting in incidental take may continue after termination. Unlisted species are treated in subsection 27.5. The PARTIES agree that DNR may terminate the HCP and this Agreement in whole, or in part.

27.2 Effect of Termination. Subject to the provisions of this section and subsection 29.1 of this Agreement, any termination of the HCP and this Agreement, in whole or in part by DNR under section 27, automatically terminates the relevant commitments of the HCP, the ITP and this Agreement, except as otherwise provided in this section 27, and subjects

activities no longer covered by the ITP to all applicable provisions of the ESA and SERVICE regulations relating to the taking of a listed species.

27.3 Mitigation After Termination for listed species. Subject to the provisions of subsection 29.1, if the HCP and this Agreement are terminated by DNR, in whole or in part, the appropriate SERVICE may require DNR to mitigate any incidental take of a listed species affected by the termination that occurred during the term of the HCP and this Agreement to the effective date of the termination. Such mitigation may require DNR to continue relevant mitigation measures of the HCP as to some or all of the PERMIT LANDS for some or all of the period which would have been covered by the HCP and this Agreement. The SERVICES shall not extend mitigation requirements to non-PERMIT LANDS, nor shall mitigation requirements be extended beyond the term of this Agreement. Mitigation requirements, if any, shall not exceed the difference between mitigation already provided under the HCP and that required by the HCP for listed species at the time of termination. Unlisted species are treated in subsection 27.5.

27.4 Delisting of a Species. In the event that a species is delisted under the ESA, the commitments of the HCP and this Agreement regarding such species shall be terminated. Mitigation measures designed primarily to benefit the delisted species need not be continued after delisting due to another species unless the appropriate SERVICE DEMONSTRATES that failure to continue those measures would not maintain the conservation objectives of the HCP for the other species, or DNR determines that continuation of such measures is in the best interest of the relevant trusts. The SERVICES shall have the burden of DEMONSTRATING that failure to continue the measures in question would not maintain the conservation objectives of the HCP for another species.

27.5 Unlisted Species. The PARTIES agree that DNR may terminate, in whole or in part, the commitments of the HCP and this Agreement regarding unlisted species upon seventy-five (75) DAYS written notice to the SERVICES. Termination of the commitments of the HCP with regard to an unlisted species relieves the SERVICES from their obligations under subsection 25.1.b to add the species to the ITP if it becomes listed.

Within said seventy-five (75) DAYS the SERVICES shall notify DNR in writing if they will require any mitigation as a result of such termination and, if so, the mitigation to be required. In order to require any mitigation after termination, the SERVICES shall DEMONSTRATE that termination would result in a substantial and material adverse change in the biological status of the affected species. Said DEMONSTRATION shall be based upon reliable, PEER REVIEWED technical information as to the species affected by the proposed termination.

To DEMONSTRATE whether the termination might warrant mitigation after termination and what mitigation might be required, the SERVICES shall consider, but not be limited to, the following factors:

- (a) the size of the current range of the affected species;
- (b) the percentage of range adversely affected by the termination of the HCP;

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- (c) the percentage of range conserved by the HCP;
 - (d) the ecological significance of that portion of the range affected and conserved by the HCP;
 - (e) the level of knowledge about the affected species and the mitigation provided to the species under the HCP; and
 - (f) whether the HCP was originally designed to provide an overall net benefit to the affected species.

During the said seventy-five (75) DAYS, DNR will use its best efforts to avoid a substantial and material adverse change in the status of the affected unlisted species. If the PARTIES are unable to agree on the necessity for or the amount of such mitigation, the SERVICES and DNR shall work to resolve any such dispute by using the interagency science team and non-binding mediation provisions under subsection 29.4 prior to final determination. The SERVICES shall not extend mitigation requirements to non-PERMIT LANDS, nor shall mitigation requirements be extended beyond the term of this Agreement. Requirements for such mitigation, if any, shall not exceed the difference between mitigation already provided under the HCP and that required by the HCP for unlisted species at the time of termination.

After the PARTIES mutually agree on a final determination of the potential mitigation to be provided after termination, if any, as to an unlisted species, DNR shall send final notice of such termination, or withdraw the notice of termination. Final notice of termination for an unlisted species shall be effective thirty (30) DAYS after written notice to the SERVICES.

28.0 Authority, Remedies and Enforcement. Each of the PARTIES to this Agreement shall have all remedies available in equity or at law to enforce the commitments of the HCP, the ITP, and this Agreement including specific performance. No PARTY shall be liable for damages to any other PARTY or person for any breach of this Agreement, any performance or failure to perform a mandatory or discretionary obligation imposed by this Agreement, or any other cause of action arising from this Agreement. The HCP, this Agreement, and the ITP shall be interpreted and administered in accordance with the ESA. Nothing contained in this Agreement is intended to unlawfully limit the authority or responsibility of the United States government or DNR to invoke penalties or otherwise fulfill their respective responsibilities as public agencies in accordance with law.

29.0 Informal Dispute Resolution Procedures.

29.1 Termination of the PERMIT. A SERVICE receiving a termination notice under section 27.0 of this Agreement shall notify DNR within sixty (60) DAYS after receipt of the notice if it disagrees with the statement of take or mitigation contained therein. Failure by a SERVICE to disagree with the statement of take or mitigation within sixty (60) DAYS shall constitute agreement with and approval of the statement. If the PARTIES cannot agree on the statement of take, or on necessary mitigation, if any, within sixty (60) DAYS after

receiving the notice of disagreement, the PARTIES shall endeavor in good faith to resolve their disagreement through nonbinding mediation.

29.2 In the Event of a Possible Violation. If either SERVICE has reason to believe that DNR may have violated the commitments of the HCP, the ITP, or this Agreement, written notice must be provided to DNR regarding the specific provisions which may have been violated and the mitigation that the responsible federal agency proposes to correct the alleged violation. DNR will have sixty (60) DAYS from the date of receipt of notice, or such longer period of time as may be mutually agreed upon, to respond. If the PARTIES cannot agree on the violation or necessary mitigation within thirty (30) DAYS after receiving DNR's response, the PARTIES shall endeavor in good faith to resolve their disagreement through nonbinding mediation.

29.3 Minor HCP Amendments Under Subsection 25.3.a(2). In the event that DNR receives timely notice from the appropriate SERVICE regarding a proposed minor HCP amendment under subsection 25.3.a(2), the proposed minor amendment shall not be effective and the PARTIES shall have thirty (30) DAYS from DNR's receipt of the notice within which to reach mutual agreement through discussion. DNR may convene an interagency science team to provide technical assistance on the disputed issue. If the issue is not resolved within the thirty (30) DAY time period, the PARTIES shall endeavor in good faith to resolve their disagreement through nonbinding mediation, unless an extension is mutually agreed upon by all PARTIES.

29.4 Scheduled Reviews. In the event that a dispute arises at one of the scheduled reviews under section 17.0 of this Agreement, the PARTIES shall have thirty (30) DAYS from receipt of the notice of disagreement to reach mutual agreement through discussion. DNR may convene an interagency science team to provide technical assistance on the disputed issue. If the issue is not resolved within the thirty (30) DAY time period, the PARTIES shall endeavor in good faith to resolve their disagreement through nonbinding mediation, unless an extension is mutually agreed upon by all PARTIES. For land transactions not discussed at the scheduled reviews referenced above, the PARTIES shall endeavor to reach mutual agreement through discussion; the convening of an interagency science team by DNR or other dispute resolution procedures described above will not occur until a scheduled review, absent mutual consent of the PARTIES.

29.5 Other Disputes. In the event of other significant disputes involving the HCP, the ITP, or this Agreement, any PARTY shall provide the other PARTIES with a written notice of disagreement. Within thirty (30) DAYS of receiving the notice of disagreement, the PARTIES shall endeavor in good faith to resolve the dispute through nonbinding mediation.

29.6 Termination of Mediation. Nothing in this Agreement shall prevent any PARTY from terminating nonbinding mediation at any time and seeking any remedy or enforcement procedure available by law or regulation.

30.0 General Provisions.

30.1 No Partnership. Except as otherwise expressly set forth herein, neither the commitments of the HCP, the ITP, nor this Agreement shall make or be deemed to make any PARTY to this Agreement the agent for or the partner of any other PARTY.

30.2 Not a Covenant Running With the Land. Neither the HCP, ITP, or this Agreement shall be construed to establish a covenant that runs with the land.

30.3 Severability. If any of the commitments of the HCP, the ITP, or this Agreement are found to be invalid or unenforceable, or this Agreement is terminated in part, all other commitments shall remain in effect to the extent they can be reasonably applied in the absence of such invalid, unenforceable, or terminated commitment or commitments.

30.4 Congressional Officials Not to Benefit. No member of or delegate to Congress shall be entitled to any share or part of this Agreement, or to any benefit that may arise from it.

30.5 Availability of Funds. Implementation and ongoing adherence to the HCP and this Agreement by all PARTIES shall be subject to the availability of appropriated funds. Failure by DNR to ensure adequate funding to implement the HCP shall be grounds for suspension or partial suspension of the ITP.

30.6 No Third Party Contract Beneficiaries. The commitments of the HCP, the ITP, and this Agreement are not intended to create, and do not create, any third-party beneficiary interest herein in the public or in any member thereof, nor shall it authorize anyone not a PARTY to this Agreement to maintain a suit based in whole or in part on any provision of this Agreement, the HCP, or ITP. The rights of the public under the ESA are set forth in 16 U.S.C. §1540(g) and nothing in this Agreement expands or otherwise alters the rights of citizens thereunder.

30.7 Counterparts. This Agreement may be executed in counterparts with each copy constituting an original. A complete original of this Agreement shall be maintained in the official records of each of the PARTIES hereto.

30.8 Entire Agreement. This Agreement supersedes any and all other agreements, either oral or in writing, among the PARTIES hereto with respect to the subject matter hereof, and contains all of the covenants and agreements among them with respect to said matters except for The 1979 Cooperative Agreement for Endangered Plants and The Agreement for Establishment and Operation of the Washington Cooperative Fish and Wildlife Research Unit. Further, each PARTY to this Agreement acknowledges that no representation, inducement, promise, or agreement has been made by another PARTY or anyone acting on behalf of another PARTY that is not embodied herein.

30.9 Contents Not Binding in Other Litigation. The contents of the HCP, ITP, and this Agreement shall not be construed as statements against interest or admissions and are not binding in litigation except in matters related to enforcement by the PARTIES of the

HCP, ITP, and this Agreement. In addition, DNR reserves the right to assert that its activities do not require an ITP.

31.0 Notices. The names, addresses, and telephone and facsimile numbers of the designated representatives may be changed at any time by written notice to the other PARTIES. Notices under this Agreement will be deemed received when delivered personally, on electronic confirmation that a facsimile message has been received at the "FAX" number most recently provided by the recipient representative, or five (5) DAYS after deposit in the United States mail, certified and postage prepaid, return receipt requested and addressed as above.

32.0 Designated Representatives. Each PARTY to this Agreement will designate a representative through whom notices under this Agreement shall originate and to whom notices under this Agreement shall be directed. The initial designated representatives are:

for DNR:

Department of Natural Resources
Administrator
Washington State Department of
Natural Resources
1111 Washington Street SE
P.O. Box 47000
Olympia, Washington 98504-7000
Telephone: (360) 902-1000
FAX: (360) 902-1796

for NMFS:

Regional Administrator
National Marine Fisheries Service
7600 Sand Point Way, N.E.
Seattle, Washington 98115-0070
Telephone: 206-526-6150
FAX: 206-526-6426

for USFWS:

Assistant Regional Director
U.S. Fish and Wildlife Service
911 N.E. 11th Avenue
Portland, OR 97232-4181
Telephone: (503) 231-6159
FAX: (503) 872-2771

IN WITNESS WHEREOF, THE PARTIES HERETO have executed this Implementation Agreement to be in effect as of the date last signed below.

WASHINGTON DEPARTMENT OF NATURAL RESOURCES
including THE BOARD OF NATURAL RESOURCES:

By _____

Title _____

Date _____

Approved as to Form Only:

by _____
Assistant Attorney General

THE SECRETARY OF THE INTERIOR as represented
by the U.S. FISH AND WILDLIFE SERVICE:

By _____

Title _____

Date _____

THE SECRETARY OF COMMERCE as represented by
THE NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
through the NATIONAL MARINE FISHERIES SERVICE:

By _____

Title _____

Date _____

Comparison of HCP Implementation Agreements

(Selected Provisions)

ISSUE	WDNR	PLUM CREEK	MURRAY PACIFIC	OREGON
Species covered	<p>§12.6: All species currently listed under the ESA found within the range of the spotted owl, and all species hereafter listed that are found within the five westside planning units and the OESF.</p>	<p>§2.9: "Permit Species" (spotted owl, marbled murrelet, grizzly bear, and gray wolf) are subject to incidental take;</p> <p>§2.12: "Plan Species" other presently unlisted vertebrate species subject to an unlisted species agreement. If a plan species were listed the permit could be amended.</p>	<p>II.I: Permit covers all currently listed species within permit area; species listed under the ESA after effective date added to permit within 60 days of MP request unless jeopardy found based on several extraordinary circumstances factors.</p>	<p>Spotted owl and marbled murrelet only; no unlisted species</p>
Activities covered by Agreement	<p>§16.1: "forest practices, forest product sales, other valuable material sales, licenses, permits, leases, rights-of-way, and public uses."</p> <p>§16.2: HCP commitments must be incorporated into all transaction documents by 1/1/99.</p>	<p>§1.1: "commercial timber production with some minor collateral uses such as rock quarries and electronic transmission sites."</p>	<p>II.I: "commercial forest management"</p>	<p>II.B: "lawful land use activity"</p>

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ISSUE	WDNR	PLUM CREEK	MURRAY PACIFIC	OREGON
<p>Land Transfers</p>	<p>§17.1: DNR commits to maintaining the conservation objectives found in Chap.IV of the HCP; for riparian and uncommon habitats, DNR will maintain objectives on undisposed habitat areas within 5 westside units and OESF.</p> <p>§17.2: Parties will review proposed and completed land transactions on an annual basis; DNR will provide Services with closing documents within 30 days of closing; Services do not have power to veto any land transaction.</p> <p>(cont.)</p>	<p>(see next page)</p> <p>(cont.)</p>	<p>II.O: Agreement constitutes a covenant running with the land; binding upon all successors.</p>	<p>II.M: State must give 90 days written notice to Services. Must include: description of land; whether new owner will become party to HCP; statement of take; mitigation to offset take; and necessary changes to mitigation to offset effect of conveyance.</p> <p>II.S.(3): Either party may request mediation if unable to reach agreement on mitigation to offset the effect of the conveyance; Service may use any legal remedy or enforcement if necessary to protect endangered or threatened species.</p>

ISSUE	WDNR	PLUM CREEK	MURRAY PACIFIC	OREGON
<p>Land Transfers (Cont.)</p>	<p>§17.3: Service will add land to HCP upon DNR request; DNR will incorporate commitments of HCP into management of lands; so long as land DNR seeks to add does not increase the level of take, it will be considered a minor amendment.</p> <p>§17.4: DNR may dispose of lands at its discretion; DNR is not required to continue HCP commitments on disposed land; if no longer subject to HCP, Services may suspend permit where land disposition conflicts with HCP conservation objectives.</p>	<p>§7.3.2(b): May add lands within Planning Area to HCP unless Service finds that doing so would result in additional incidental take not analyzed in the HCP.</p> <p>§7.3.2(d): May sell or exchange lands within Project Area provided: lands sold/exchanged will be managed consistent w/the HCP objectives; parcels of land less than 640 acres may be sold provided cumulative total of transactions does not exceed 5% of acreage covered by permit; total of all transactions in any township does not exceed 1,920 acres.</p>		
<p>Land Transfers -Condemnation</p>	<p>§17.5: In the event of condemnation, all HCP obligations to the condemned land are terminated.</p>	<p>§7.3.2(c): Exchange with Feds will remove lands from permit; services may review to ensure no compromise to HCP.</p>		

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ISSUE	WDNR	PLUM CREEK	MURRAY PACIFIC	OREGON
Term of Permit	§19.0: 70 years fixed initial maximum term (subject to 30 day termination clause). Option of Services to require continuation for up to 30 additional years if DNR is not in compliance with HCP; if in compliance, DNR may renew at its option for up to 30 additional years.	§4.0: 50 years and a Phase II extension (additional 50 years).	II.E: 100 years	II.G: 60 years

ISSUE	WDNR	PLUM CREEK	MURRAY PACIFIC	OREGON
<p>Unforeseen Circumstances</p>	<p>§23.1: Parties shall consult in the event of unforeseen circumstances to explore mutually agreeable means for adjusting the HCP commitments; the Services shall not seek w/o DNR consent additional land or financial undertaking beyond level of mitigation provided in HCP.</p> <p>§23.2; Services have burden of demonstrating that unforeseen circumstances exist; cannot impose nonconsensual land-use restrictions or financial obligations except under extraordinary circumstances.</p>	<p>§2.17 (definition): "change in circumstances or information that might give rise to the need to revise a [HCP] The listing of any Plan Species or the designation of critical habitat are not unforeseen circumstances."</p> <p>§§8.0(a)&(b): Services find that requirements of the "No Surprises Policy" have been met by agreement; Services will not seek further mitigation from PC to address unforeseen circumstances so long as PC is in compliance with the HCP.</p>	<p>II.J: If additional mitigation measures are necessary and MP is in compliance with the HCP, MP does not have the primary obligation to provide such mitigation; good faith consultation to find mutually acceptable means of adjusting terms; Services shall not seek commitment of additional land or financial obligation from MP beyond level provided in HCP.</p>	<p>II.K: Limitation on further mitigation - "except as otherwise provided by law or the term of this agreement, no further mitigation or compensation for the Owl or Murrelet will be required of the State within the Forest during the term of this Agreement."</p>

ISSUE	WDNR	PLUM CREEK	MURRAY PACIFIC	OREGON
<p>Extraordinary Circumstances</p>	<p>§24.1: Extraordinary circumstances shall mean that continued DNR-management activities would result in a substantial and material adverse change in the status of a species that was not foreseen as of the effective date.</p> <p>§24.2: Findings of extraordinary circumstances.</p> <p>§24.3: Additional mitigation resulting from extraordinary circumstances will change the terms of the HCP only to the extent necessary and will occur only on permit lands.</p> <p>§24.4: Services are free to take independent action at their own expense or effort.</p>	<p>§§8.0(c)&(d): Services' burden to demonstrate that extraordinary circumstances exist based upon peer reviewed data; factors that Services must consider are outlined; if additional mitigation is required, such mitigation shall be provided on federal land to the maximum extent possible; any additional mitigation required of PC will not include additional compensation or apply to harvest lands w/o PC consent.</p> <p>Peer review of basis for findings is to be completed within 30 days.</p>	<p>II.K: Definition: "the best scientific and commercial data available demonstrates that continued operation of the tree farm by [MP] in accordance with the amended HCP . . . would result in a major adverse impact to a species that was not foreseen on the effective date . . . and would result in the appreciable reduction of the likelihood of the species' survival and recovery in the wild. . . ."</p> <p>The Services have the burden of demonstrating that extraordinary circumstances exist.</p> <p>Services are free to take independent action at their own expense or effort, including reasonable compensation to MP.</p>	<p>See limit on further mitigation outlined under Unforeseen Circumstances section.</p>

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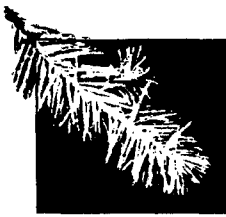
ISSUE	WDNR	PLUM CREEK	MURRAY PACIFIC	OREGON
Adaptive Management	§24.5: Ten specific issues outlined in detail to respond to new information and scientific developments.	§7.3.3: Section 5.4 of the HCP provides for adaptive management activities across project area.		
Termination of the Permit	<p>§27.1: DNR has right to terminate in whole or in part with 30 days notice.</p> <p>§27.2: Termination by DNR terminates the relevant commitments of the HCP and IA.</p> <p>§27.3: Following termination, DNR may be required to mitigate for take that occurred during the term of the permit. Services cannot extend mitigation to non-permit lands, nor beyond the term of the agreement.</p>	<p>§11.0: Any party may terminate in accordance with regulations in force on the date of termination; PC reserves right to terminate in accordance with regulations in effect at the time of permit issuance; PC must provide 90 days written notice of termination; mitigation for take prior to termination is required; termination of the permit as to a particular species also terminates relevant provisions of the HCP and IA; any party may terminate the HCP/IA for an unlisted species.</p>		<p>II.N: Either party may terminate with 30 days written notice; mitigation will be provided for the take that has occurred.</p>

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ISSUE	WDNR	PLUM CREEK	MURRAY PACIFIC	OREGON
Termination (Cont.)	<p>§27.4: If a species is delisted, the commitments of the HCP and IA regarding such species shall be terminated unless the Services demonstrate that failure to continue such measures would not maintain the conservation objectives as to another listed species.</p> <p>§27.5: DNR may terminate, in whole or in part, the HCP commitments as to an unlisted species upon 30 days notice.</p>			

ISSUE	WDNR	PLUM CREEK	MURRAY PACIFIC	OREGON
<p>General Provisions</p>	<p>§30.0: - agreement does not form a partnership - HCP is not a covenant running with the land - agreement is severable - Congressional officials not to benefit - dependent on availability of funds - no third party beneficiaries - agreement constitutes entire agreement - not binding in other litigation</p>	<p>§16.0: - no third party beneficiaries - agreement constitutes entire agreement - agreement is severable - agreement does not limit authority of the Services to fulfill responsibilities under ESA - implementation of the HCP and IA by the Services is subject to the availability of funds</p>	<p>- no third party beneficiaries - venue - inspections - Permit is binding on all successors and assigns - agreement is covenant running with the land</p>	<p>- no third party beneficiaries - severability</p>

Appendix 5 - Economic Information



Appendix 5. Economic Information

Harvest Projections and Economic Analysis

Appendix 5 provides background information regarding the process used by DNR in formulating harvest projections and conducting economic analysis of the proposed HCP. Results of this analysis formed the basis for the economic analysis conducted by the Service and included in the DEIS and modified in this FEIS. Material in this appendix is from two sources. First, text from a "Fact Sheet" prepared in May 1996 by DNR is reproduced for reference. Second, pages 30 through 36 from a report, *Background and Analytical Framework for the Proposed Draft Habitat Conservation Plan*, prepared by DNR for the Board of Natural Resources in October 1996 is included.

Economic Analysis Procedure for DNR's Habitat Conservation Plan

A habitat conservation plan (HCP) is a long-term land management plan authorized under the Endangered Species Act to conserve threatened and endangered species. For the Washington Department of Natural Resources (DNR), it means a comprehensive plan for state trust lands within the range of the northern spotted owl, that will allow timber harvesting and other management activities while emphasizing species conservation and ecosystem health as the basis for prudent trust management.

Overview of Analysis

DNR developed a sustainable harvest simulation program that was used in western Washington to forecast timber production capacity for each option of the proposed HCP conservation strategies. Simulations were designed to produce a "nondeclining even-flow" of timber. That is, timber is produced at a constant level until timber stocking levels allow an increase in harvest volume that can be sustained without a decline in the future.

The simulation looked at least 200 years into the future, time enough to assure that simulated harvests were unlikely to deplete the timber inventory to such an extent that timber production would have to be reduced in the future. Management activities and timber growth were simulated for 10-year periods.

Although the process aimed at calculating a sustainable level of timber harvest, it was not a sustainable harvest calculation as specified in the Forest Resource Plan, which sets forth DNR's current policies for managing forest resources. The Forest Resource Plan calls for

separate sustainable harvest calculations for each of several groups of trust land. However, with the number of HCP options that had to be analyzed, there would have been an inordinate number of simulator runs needed to calculate results under the Forest Resource Plan specification. Instead, the harvest simulation was run for each option in each HCP planning unit.

This approach to timber harvest calculation provided a satisfactory basis for comparing HCP alternatives in western Washington, even though the numbers would not be exactly the same as those produced by the calculation for the Forest Resource Plan.

Eastern Washington forest inventory data currently available did not support a sustainable harvest simulation. Instead, the eastern Washington analysis started with the sustainable harvest volume determined before protection of spotted owl habitat affected the amount of timber available. That volume was adjusted by estimating the proportion of land on which spotted owl habitat would be protected and the proportional impact on timber yields of protecting habitat.

In order to project sales revenues for DNR-managed trust lands covered by the HCP, the projected flow of timber over 200 years into the future in both western and eastern Washington was then analyzed by determining present net worth. Present net worth is calculated by valuing, in terms of current dollars, all future income minus all future costs.

Sustainable harvest simulator

The sustainable harvest simulator started with current forest inventory data as recorded in DNR's geographic information system. The simulator then made adjustments for planned silvicultural practices, including timber harvest, over the first 10 years and "grew" the inventory for 10 years.

The result of the first 10-year simulation formed the beginning inventory for the next 10-year period. The cycle was repeated for succeeding 10-year periods. If, at any time, the inventory showed that it would not support the simulated volume of timber harvest, the amount of harvest was reduced and the process was repeated. If, at the end of the simulation, an excessive amount of inventory was indicated, the harvest level was adjusted upward and the process was repeated. The condition of the inventory was judged by the amount of timber at harvest age or older.

When an acceptable level of ending inventory was achieved without the harvest volume declining between 10-year periods, the simulation was complete. The harvest volumes shown for each period are the amounts that the land is capable of producing.

Growth models

The sustainable harvest simulator used growth models to "grow" the forest for each 10-year period. In western Washington the simulator used:

- For Douglas fir — DFSIM, a widely used Douglas fir growth model developed by Robert Curtis of the Olympia Forest Sciences Laboratory, USDA Forest Service

■ For western hemlock — the Forestry Canada western hemlock growth model developed by James Flewelling

■ For red alder — DNR empirical yield functions developed by Charles Chambers

Outside review of DNR's analysis

DNR's methods for deriving the projected harvest levels and sales revenues were reviewed by an outside independent expert in resource economics and environmental analysis, who found the assumptions and methodology to be appropriate. A sensitivity analysis was subsequently done by the outside resource economist to provide additional information for the Board of Natural Resources, the policy-making body that will ultimately decide whether to adopt the HCP. In addition, a consulting firm performed a decision analysis that looked at the likely occurrence of future regulatory constraints that would govern DNR forest land management.

Harvest Volume and Financial Analysis

Introduction

DNR uses present net worth (PNW) analysis to demonstrate the economic value of the No Action and the HCP options. Economic analyses commonly use PNW as a tool in evaluating which alternative to select as financially preferable. PNW is calculated by valuing, in terms of 1995 dollars, all future income minus all future costs.

The calculation of Present Net Worth involves several steps. The land base within the boundaries of the northern spotted owl range is identified. Non-forest lands are excluded from the analysis as are off-base forest lands, such as genetic reserves, Natural Area Preserves and Natural Resource Conservation Areas.

The data within the starting land base include information about the age class of the trees, current and projected volume per acre by site class, expected management regime, the proximity to recently harvested lands, roads, streams, slope, unique habitat or landscape features, etc. These items reflect legal, regulatory and operational constraints on contemporary land managers. These data are further categorized by trust and region.

After establishing the starting land base, the No Action and the HCP options can be evaluated. The No Action option includes adjustments based on riparian management, limitations due to managing for the northern spotted owl, i.e. owl circles, the marbled murrelet, and other factors reflecting the full implementation of the 1992 Forest Resources Plan. For the HCP option a similar process is followed using alternative assumptions regarding riparian buffer widths, unstable slope constraints, protection for special habitat areas, harvesting constraints within designated nesting, roosting, foraging habitat and dispersal habitat, etc.

Once the data for each alternative are incorporated into the computer, a simulation can be performed to calculate the expected harvest for each trust and in total. The output comes in the form of estimated harvest level by decade over the next 20 decades.

Assumptions

Table 3 summarizes the assumptions used in determining the PNW and the estimated harvests, including management assumptions used on the OESF. The OESF is described to demonstrate the differences in management measures, which differ from the other lands due to the emphasis in the OESF on experimentation.

The model used to calculate future harvests uses existing policy; harvests are calculated for ten year time periods with the model seeking the highest harvest allowable without declining from one decade to another. In order to determine the value, during the harvest calculations the cost and timing of the management activities are projected. Based on knowledge of current costs and stumpage prices and assumptions of increase in future cost and prices, the present net value of the harvest is determined. (In the analysis costs and prices increased at 1% per year above inflation. A discount rate of 5% was used to calculate the present value of future costs and revenues.)

**Table 1: Draft Habitat Conservation Plan Assumptions
Riparian Strategy**

No Action	HCP Option	OESF No Change	OESF Option
Unstable Slopes			
No timber harvest on areas identified by geomorphological model as "most susceptible to mass wasting".	No timber harvest on areas identified by geomorphological model as "most susceptible to mass wasting".	No timber harvest on areas identified by geomorphological model as "most susceptible to mass wasting".	No timber harvest on areas identified by geomorphological model as "most susceptible to mass wasting".
Upgraded Type 4 Streams			
Assume that the 45% of Type 4 streams will be upgraded to Type 3.	Assume that the 45% of Type 4 streams will be upgraded to Type 3.	Not applicable.	Not applicable.
Unclassified (Type 9) Streams			
<p>Untyped (Type 9) stream reaches between typed stream reaches are of the same type as the downstream reach.</p> <p>All other untyped (Type 9) streams are Type 5.</p>	<p>Untyped (Type 9) stream reaches between typed stream reaches are of the same type as the downstream reach.</p> <p>All other untyped (Type 9) streams are Type 5.</p>	<p>Untyped (Type 9) stream reaches between typed stream reaches are of the same type as the downstream reach.</p> <p>All other untyped (Type 9) streams are Type 5.</p>	<p>Untyped (Type 9) stream reaches between typed stream reaches are of the same type as the downstream reach.</p> <p>All other untyped (Type 9) streams are Type 5.</p>

No Action		HCP Option			OESF No Change		OESF Option		
RIPARIAN PROTECTED AREA									
Width of Riparian Protected Area									
Water Type	Width (Feet)	Width (feet)			Water Type	Wind (feet)	Width (feet)		
		Water Type	Stream Buffer	Wind Buffer			Water Type	Int. Core	Ext. Buffer
1	196	1	150	100	1	150	1	150	150
2	196	2	150	100	2	150	2	150	150
3	85	3	150	50	3	100	3	150	150
4	55	4	100	0	4	100	4	100	50
5	0	5	0	0	5	100	5	100	50
		*80% of Type 1 and 2 streams, and 40% of Type 3 streams need wind buffers							
Timber Harvest in Riparian Protected Area									
No timber removed or timber management activity.		7% of conifer and 18% of alder will be harvested from riparian buffers and wind buffers at each entry.			No timber removed or timber management activity.		No timber harvest in the interior core 30% partial timber harvest in external buffers.		
WETLANDS									
Width of Wetland Buffers									
Wetland Size (acres)	Buffer Width (feet)	Wetland Size (acres)	Buffer Width (feet)	Wetland Size (acres)	Buffer Width (feet)	Wetland Size (acres)	Buffer Width (feet)	Wetland Size (acres)	Buffer Width (feet)
0.25-1	100	0.25-1	100	0.25-1	100	0.25-1	100	0.25-1	100
>1	150	>1	150	>1	150	>1	150	>1	150
Timber Harvest in Wetlands and Wetland Buffers									
Remove 40% of volume at each entry		Remove 40% of volume at each entry			Remove 40% of volume at each entry		Remove 40% of volume at each entry		

No Action	HCP Option	OESF No Change	OESF Option
HYDROLOGIC MATURITY/RAIN ON SNOW			
Harvest calculations need not be concerned with hydrologic maturity	Hydrologic maturity can be attained on at least 2/3 of DNR-managed lands within the rain on snow zone in 1000 acre basins when following current silvicultural practices of timber harvest is delayed until age 75 years.	Harvest calculations need not be concerned with hydrologic maturity	No provision for hydrologic maturity

Assumptions for Riparian Strategy

ALL OPTIONS

Assume that requirements for wildlife reserve trees, including additional trees provided under DNR policy, are met as follows:

- ▮ Associated with riparian areas and wetlands - No reduction factor for yields is required.
- ▮ Not associated with riparian areas and wetlands - Reduce yields by 5%.

MARBLED MURRELET HABITAT

NO ACTION

There would be no timber harvest on 2/3 of the stands with the following characteristics:

- ▮ Within 52 miles of salt water; and,
- ▮ At least eight conifer trees per acre which are at least 32 inches DBH.

HCP OPTION

There would be no timber harvest on 1/3 of the stands with the following characteristics:

- ▮ Within 50 miles of salt water, and,
- ▮ At least eight conifer trees per acre which are at least 32 inches DBH.

Table 2: Draft Habitat Conservation Plan Assumptions for Spotted Owl Strategy

NO ACTION	HCP OPTION	OESF ALTERNATIVE
<p>NUMBER OF OWL CIRCLES - An additional 46 spotted owls not yet located will be located on state land.</p> <p>ADDITIONAL HABITAT FOR OWLS IN CIRCLES WITH LESS THAN 40% HABITAT - All the non-habitat forest land located in a circle that is below 40% requirement for habitat will be managed so that no additional forest land will become habitat.</p> <p>OWL CIRCLES INCLUDING DNR AND PRIVATE OWNERSHIP - When a circle is located on both DNR and private land, the private landowner will have removed all habitat, leaving DNR trust land to supply 100% of the required habitat in the circle.</p>	<p>Entire HCP Area</p> <p>No timber harvest from NRF habitat devoted to providing the target amount.</p> <p>Area selected to provide target amount of NRF for a watershed administrative unit can move around within the WAU.</p> <p>Western Washington</p> <p>300-acre nesting areas are off base permanently.</p> <p>No new nesting habitat will be created.</p> <p>The 200-acre buffers will have the same impact on timber harvest as 200 acres of NRF habitat in addition to the target amount.</p> <p>HABITAT DEFINITIONS</p> <p>High quality nesting habitat is currently unattainable.</p> <p>The snag requirement is the limiting factor in providing sub-mature habitat.</p> <p>Sub-mature habitat can be achieved at age 70.</p>	<p>Definitions:</p> <p>Old forest - At least 100 years old.</p> <p>Spotted Owl Habitat - At least 70 years old, including old forest.</p> <p>Transition Period - The transition period lasts until stands on at least 40% of the state forest land in each landscape planning unit are at least 70 years old. Stands which are off base for riparian areas and marbled murrelet habitat count towards the 40% threshold. During the transition period the forest will be managed to meet the following standards:</p> <p>Maintain 20% of each landscape planning unit in old forest.</p> <p>Stands initially 31 to 99 years old are subject to final harvest when they reach harvest age.</p>

NO ACTION	HCP OPTION	OESF ALTERNATIVE
<p>(continued)</p> <p>OWL CIRCLES INCLUDING DNR AND FEDERAL OWNERSHIP - When a circle is located on both DNR and federal land, the DNR land will supply required habitat only when the federal land doesn't supply the habitat.</p> <p>OWL CIRCLES OVERLAP ON DNR LANDS - When 2 or more circles overlap, habitat enclosed by both circles will be counted as part of each circle's 40%.</p>	<p>(continued)</p> <p>20% of merchantable volume will be left on the ground at each commercial thinning operation and 25% at each regeneration harvest to meet the down wood requirement for sub-mature habitat.</p> <p>The tree size requirement is the limiting condition for dispersal habitat.</p> <p>The size requirement for dispersal habitat can be achieved at age 40.</p> <p>10% of merchantable volume will be left on the ground at each commercial thinning and 5% at each regeneration harvest to meet the down wood requirement for dispersal habitat.</p> <p>Eastern Washington</p> <p>Timber harvest for risk reduction will not affect sustainable harvest levels.</p> <p>Salvage logging will not affect sustainable harvest levels.</p>	<p>(continued)</p> <p>Commercial thinnings may be taken in these stands which are age 30 or younger at the time the plan is adopted. Final harvest may be taken in those stands as long as it does not delay reaching the 40% spotted owl habitat threshold or the 20% old forest threshold.</p> <p>After Transition - When stands on at least 40% of the state forest land in each landscape planning unit are at least 70 years old:</p> <p>Maintain in each landscape planning unit a minimum of 20% in old forest and 40% in spotted owl habitat.</p> <p>Stands off base for riparian areas and marbled murrelet habitat count toward the 20% and 40% thresholds.</p>

Appendix 6 - No Surprises Policy



Appendix 6. No Surprises Policy

The following is a reproduction of the U.S. Department of the Interior's and U.S. Department of Commerce's 1994 No Surprises Policy.

08/09/94

NO SURPRISES

ASSURING CERTAINTY FOR PRIVATE LANDOWNERS IN ENDANGERED SPECIES ACT HABITAT CONSERVATION PLANNING

"The Committee intends that the Secretary may utilize this provision [on HCPs] to approve conservation plans which provide long-term commitments regarding the conservation of listed as well as unlisted species and long-term assurances to the proponent of the conservation plan that the terms of the plan will be adhered to and that further mitigation requirements will only be imposed in accordance with the terms of the plan. In the event that an unlisted species addressed in an approved conservation plan is subsequently listed pursuant to the Act, no further mitigation requirements should be imposed if the conservation plan addressed the conservation of the species and its habitat as if the species were listed pursuant to the Act."

"It is also recognized that circumstances and information may change over time and that the original plan might need to be revised. To address this situation the Committee expects that any plan approved for a long-term permit will contain a procedure by which the parties will deal with unforeseen circumstances."

H. Rep. No. 835, 97th Cong., 2nd Sess. 30-31 (1982)

PURPOSE:

The purpose of this policy is to provide assurances to non-federal landowners participating in Endangered Species Act Habitat Conservation Planning (HCP) that no additional land restrictions or financial compensation will be required for species adequately covered by a properly functioning HCP in light of unforeseen or extraordinary circumstances.

SUPPLEMENTARY INFORMATION:

The HCP process promotes endangered species conservation and habitat protection within the context of land use or development. Ideally, HCPs contribute to the long-term conservation of federally listed and unlisted species, while providing predictability and economic stability for non-federal landowners.

Species receive a variety of benefits under a properly functioning HCP. Private financial resources supplement limited federal funding, essential habitat areas are often preserved, and comprehensive conservation programs are developed and promptly implemented. Although landowners must ultimately demonstrate that a species has been covered adequately under an HCP, the major benefit from the HCP process from the perspective of the development community is certainty. In exchange for adherence to long-term conservation commitments, an HCP permittee is provided assurance that development may move forward despite the incidental taking of protected species.

Significant development projects often take many years to complete, therefore adequate assurances must be made to the financial and developmental communities that an HCP permit will remain valid for the life of the project. In authorizing the HCP process, Congress recognized that permits of 30 years or more may be necessary to trigger long-term private sector funding and land use commitments for species conservation. Congress also recognized that circumstances may change over time, generating pressure to reconsider the mitigation commitments in an HCP agreement. Often referred to as "unforeseen" or extraordinary circumstances, Congress intended that additional mitigation requirements not be imposed upon an HCP permittee who has fully implemented his or her conservation commitments except as may be provided for under the terms of the HCP itself.

POLICY:

In negotiating "unforeseen circumstances" provisions for HCPs, the FWS shall not require the commitment of additional land or financial compensation beyond the level of mitigation which was otherwise adequately provided for a species under the terms of a properly functioning HCP. Moreover, FWS shall not seek any other form of additional mitigation from an HCP permittee except under extraordinary circumstances.

A. General Assurances Provided to Landowners

- * If additional mitigation measures are subsequently deemed necessary to provide for the conservation of a species that was otherwise adequately covered under the terms of a properly functioning HCP, the primary obligation for such measures shall not rest with the HCP permittee.
- * FWS shall not seek additional mitigation for a species from an HCP permittee where the terms of a properly functioning HCP agreement were designed to provide an overall net benefit for that particular species and contained measurable criteria for the biological success of the HCP which have been or are being met.
- * If extraordinary circumstances warrant the requirement of additional mitigation from an HCP permittee who is in compliance with the HCP's obligations, such mitigation shall limit changes to the original terms of the HCP to the maximum extent possible and shall be limited to modifications within Conserved Habitat areas or to the HCP's operating conservation program for the affected species. Additional mitigation requirements shall not involve the payment of additional compensation or apply to parcels or land available for development under the original terms of the HCP without the consent of the HCP permittee.

B. Determination of Extraordinary Circumstances

- * FWS shall have the burden of demonstrating that such extraordinary circumstances exist, using the best scientific and commercial data available. FWS findings must be clearly documented and based upon reliable technical information regarding the status and habitat requirements of the affected species.
- * In deciding whether any extraordinary circumstances exist which might warrant requiring additional mitigation from an HCP permittee, the FWS shall consider, but not be limited to, the following factors:
 - the size of the current range of the affected species
 - the percentage of range adversely affected by the HCP
 - the percentage of range conserved by the HCP
 - the ecological significance of that portion of the range affected by an HCP
 - the level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP
 - whether the HCP was originally designed to provide an overall net benefit to the affected species and contained measurable criteria for assessing the biological success of the HCP
 - whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild

C. Additional Conservation Authority

- * Nothing in this policy shall be construed to limit or constrain FWS or any other governmental agency from taking any additional actions at its own cost with respect to the conservation or enhancement of a species which is included under an HCP.