United States
Department of
Agriculture

**Forest
Service**

May 2007

Decision Notice

Little Nestucca Restoration Project

Hebo Ranger District
Siuslaw National Forest
Lincoln and Yamhill Counties, Oregon

Lead Agency: **USDA Forest Service**

Responsible Official: **George T. Buckingham, District Ranger**
Hebo Ranger District
Siuslaw National Forest
31525 Hwy 22
P.O. Box 235
Hebo, OR 97122-0235

For Information Contact: **Wayne Patterson,**
Hebo Ranger District
31525 Hwy 22
P.O. Box 235
Hebo, OR 97122-0235
(503) 392-5136
wpattersons@fs.fed.us

Decision Notice
and Finding of No Significant Impact

Little Nestucca Restoration Project

USDA Forest Service
Hebo Ranger District, Siuslaw National Forest
Lincoln and Yamhill Counties, Oregon

T5S, R9W, Sections 14-16, 20-23, 26-36 and T5S, R10W, Sections 4- 9, 15-18, 20- 23, 25-29, 33-36 and T6S, R8W, Sections 6-7; T6S, R9W, Sections 1-13 and T6S, R10W Sections 1- 3, 11-12., Willamette Meridian.

Decision and Reasons for the Decision

Background

The Little Nestucca Restoration Project (the Project) includes actions designed to accelerate the development of late-successional forest habitat and enhance water quality and stream function on National Forest System (NFS) lands.

The project area is contained within the Little Nestucca Non-Key Watershed. The legal description for the Project is T5S, R9W, Sections 14-16, 20-23, 26-36 and T5S, R10W, Sections 4- 9, 15-18, 20- 23, 25-29, 33-36 and T6S, R8W, Sections 6-7; T6S, R9W, Sections 1-13 and T6S, R10W Sections 1- 3, 11-12., Willamette Meridian, Lincoln and Yamhill Counties, Oregon.

The needs requiring actions in the Project area were identified in chapter 1 of the Little Nestucca Restoration Project Environmental Assessment (EA):

- The need for forest habitat is the need for a healthy forest ecosystem with habitat that would support populations of native species (particularity those associated with late-successional and old growth forests) and includes protection for riparian areas and waters" (ROD, page 26)

- "The need for forest products from forest ecosystems is the need for a sustainable supply of timber and other forest products that would help maintain the stability of local and regional economics on a predictable and long term basis." (ROD, page 26)

To maintain or improve habitat for aquatic and terrestrial species by accelerating the development of late-successional forest habitat:

The Northwest Forest Plan allocated most of the Siuslaw National Forest to late-successional and riparian reserves. Forests on the coast have very high growth rates. The Siuslaw has great potential for successfully creating late-successional habitat, with old-growth characteristics, at a landscape level. Most of the Siuslaw has been heavily harvested in the past and plantations are densely stocked with Douglas-fir. Research has clearly shown that the current landscape of densely stocked, uniform plantations of Douglas-fir is much different than the complex and diverse old-growth forests.

Based on past and ongoing studies, thinning similarly aged plantations speeds the growth of the remaining trees and allows them to develop both horizontally and vertically. Variable thinning (thinning at different levels in different areas); snag and down wood creation; gap creation, and underplanting (using various native tree species) also increases habitat diversity and complexity in stands. Leaving some felled trees on the ground adds to the richness on the forest floor, creating habitat as well as supplying critical nutrients. Creating cavities and snags provides a multitude of forage, nesting, and roosting opportunities. I believe these actions, as described in Alternative 2, are necessary to accelerate the development of healthy late-successional forest habitat. **Alternative 2 is designed to maximize benefits and minimize adverse effects to wildlife, which is a primary Forest Service objective**.

The effects of building new temporary roads are basically limited to localized soil compaction and displacement because they will be located on stable ground and will not cross streams. No increase in soil compaction is expected from temporarily reopening and using existing roads. Past and project-related soil compaction and displacement is expected to be well under the Siuslaw Forest Plan threshold of 15 percent in affected plantations.

The effects of building 600 feet of new non-key system road is also limited to localized soil compaction and displacement and will be located on stable ground and will not cross streams. Approximately 7 miles of non-key system roads will be decommissioned within the Project area. Therefore, there will be no net increase in roads. The new road is not located in inventoried roadless area. The area does not meet the requirements to be a candidate unroaded area.

To improve watershed condition:

The Project planning area has several miles of perennial and intermittent streams—some provide important fish habitat, some supply water for domestic use, and some streams do both. Water quality and quantity are directly tied to watershed health. Mid-slope roads block fish passage between tributaries and main-stem streams, and interfere with natural landslides that move upslope trees and debris into streams. Alternative 2 will improve fish habitat and water quality by removing culverts and associated fill material, and unstable sidecast fill material from some mid-slope roads. These actions will restore natural hydrologic processes and reduce the risk of human-caused landslides.

To sustain a supply of timber and other forest products that would help maintain the stability of local and regional economics.

There are many variables that influence the value of timber at the time of sale, including market conditions, competition during bids for timber sales, the type of timber-sale contract used and flexibility in the season of operations. Variable thinning (thinning at different levels in different areas); and underplanting (using various native tree species) will help sustain a future supply of timber.

Decision

I have decided to implement all the actions described under Alternative 2 (proposed action) of the Little Nestucca Restoration EA. In making this decision, I have reviewed the Little Nestucca Restoration Project EA, its appendices, and other project-file documents, including the associated comments received during the 30-day public comment period.

The following actions under Alternative 2 will be done to speed the development of late-successional habitat in late-successional and riparian reserves; improve watershed condition; and repair and maintain key forest roads:

- Commercially thin approximately 2,638 acres of 30 to 63 year old young managed conifer stands[1]. Cable yarding, ground based, and helicopter systems may be used.
- Commercially thin approximately 210 acres of 90 to 95 year old off-site Douglas- fir stands. Cable yarding, ground based, and helicopter systems may be used.
- Decommission approximately 7 miles of Forest system roads.
- Close some non-key roads in Forest system, which may include stabilizing, water barring and barricading roads.
- Construct approximately 2 miles of new temporary roads and reopen about 10 miles of existing temporary roads. The constructed temporary roads and other roads, including existing temporary closed roads would be stabilized and closed upon completion of harvest or end of current operating season, whichever comes first.
- Construct about 600 feet of new system road off of Forest Road 2234 to access stands 85-89.
- Road maintenance and reconstruction on the log haul routes that may include resurfacing, cleaning ditches, grading, brushing, adding ditch relief culverts and replacing 18 stream crossing culverts.
- Under-plant about 350 acres of commercially thinned 30 to 63 year old units[2] with shade-tolerant conifers.
- Under-plant about 200 acres of commercially thinned 90 to 95 year old units with a mix of shade-tolerant and shade-intolerant conifers from local seed sources.
- Dependant upon existing levels of snags and down logs (coarse woody debris, CWD) within units following harvest, between 2 to 20 snags and/or CWD per acre would be created if funding is available. Snag and CWD creation is also proposed in the "no harvest" buffers along streams where young conifers are crowded and need to be thinned, but commercial harvest might adversely impact the riparian-dependant species' habitat or water quality.
- Precommercially thin approximately 1000 acres.
- Maintain one 5 acre meadow.
- Enhance approximately 7 acres of meadow within stand 85.

Project design criteria, including mitigation and monitoring requirements will be incorporated to ensure protection of natural resources.

[1] Stand: The original clearcut area expressed in acres.
[2] Unit: Units refer to those areas where commercial harvest would occur.

In my review of the Little Nestucca Restoration Project EA, its appendices, and other project-file documents, I believe the information provided to me is adequate for a reasoned choice of action. I am fully aware that the selected alternative will have some unavoidable adverse environmental effects such as disturbance to wildlife, irreversible resource commitments such as continued use of existing roads, and irretrievable commitment of resources such as loss of vehicular access through the Forest as roads are closed or decommissioned. I have determined, however, that these risks will be outweighed by the likely benefits.

In making this selection, I have also reviewed information in the administrative record, including but not limited to the Siuslaw Forest Plan (1990), as amended by the Northwest Forest Plan (1994); the Little Nestucca Watershed Analysis (1998); the Late-Successional Reserve Assessment (1998), Siuslaw National Forest Roads Analysis (2003); consultation files and records involving the U.S. Fish and Wildlife Service; public and other agency comments; and applicable laws and regulations.

Decision Rationale

My decision was based on several factors. Alternative 2 was selected because it best meets the late-successional habitat need, best meets the need to restore watershed health in the long term, and best meets the need for forest products– these needs are described in chapter 1 of the Little Nestucca Restoration Project EA.

Project actions under Alternative 2 are designed to protect affected resources in the short term and maintain or enhance the quality and productivity of these resources in the long term.

Through the Magnuson-Stevens Act, NOAA-Fisheries has the regulatory responsibility to conserve and enhance essential fish habitat associated with coho and Chinook salmon in the planning area. They have no statutory requirements or obligations to protect and restore the ecosystems and habitats of other aquatic or terrestrial species associated with the planning area.

The Little Nestucca interdisciplinary team of specialists considered the activities involved with implementing the proposed action and determined that they are not expected to adversely impact Essential Fish Habitat (EA, pages 58 and 67).

Other Alternatives Considered

In addition to the selected alternative, I considered two other alternatives. A comparison of these alternatives can be found in the Little Nestucca Restoration Project EA on page 22.

Alternative 1
No Action

Under the No Action alternative, current management plans would continue to guide management of the project area.

Alternative 1 is fully described in chapter 2 of the Little Nestucca Restoration Project EA, page 12. The analysis of the effects of Alternative 1 is disclosed in chapter 3 of the EA. The no-action alternative forms

the basis for a comparison between meeting the project needs and not meeting the project needs. This alternative provides baseline information for understanding changes associated with Alternatives 2 and 3 and expected environmental responses as a result of past management actions.

The no-action alternative does not create obvious negative effects, but it also does not meet any of the Project needs. And, without some restorative actions, some watershed conditions—including water quality and fish habitat—would continue to degrade.

Alternative 3
No New Temporary Roads

Alternative 3 is fully described in chapter 2 of the Little Nestucca Restoration Project EA, pages 21 and 22. The analysis of the effects of Alternative 3 is disclosed in chapter 3 of the EA. This alternative would not build temporary roads or 600 feet of non-key system roads. Alternative 3 was developed in response to public comments on this project.

By not building new roads, approximately 330 acres would not be commercially thinned, potentially delaying the development of late successional forest habitat, and forgoing timber revenue from these acres and raising the cost of the project.

In comparing Alternative 3 with Alternative 2, I felt that the minor soil impacts associated with building new temporary roads or 600 feet of non-key system roads under Alternative 2 did not warrant the selection of Alternative 3, with its lesser sale value and reduced potential for late successional habitat development. Therefore, Alternative 3 was not selected.

Alternatives considered but eliminated from detailed study

I considered several alternatives, based largely on public scoping comments. The following alternatives represent those that I considered, but for various reasons, were eliminated from detailed study.

Helicopter yarding

Most of the proposed units can be accessed by an existing transportation system, thereby allowing the utilization of conventional yarding methods. Helicopter yarding costs approximately 50 percent more than skyline yarding. This would reduce the value of the sale thereby decreasing the receipts to the Forest. Reduced receipts would decrease the amount of LSR enhancement projects that could be funded.

Commercially thin all available young managed stands

Transportation access to thin all young managed stands that are economically feasible was the main reason this alternative was eliminated. To access all portions of these stands it would be necessary to construct some temporary roads in unstable areas. Temporary roads through these types of areas could cause slumps or slides, delivering sediment into adjacent fish bearing streams. Unthinned portions of stands provide structural diversity within the stand. In addition, two stands in the project area were dropped from further consideration because they required extensive temporary road development – the

value of wildlife habitat improvement by thinning was offset by the loss of wildlife habitat due to road construction.

Public Involvement

The need for this action arose in spring 2004 and a proposal to commercially thin was listed in the Schedule of Proposed Actions. The proposal was provided to the public and other agencies for comment during scoping July 12, 2004 through August 12, 2004. In addition, as part of the public involvement process, the agency sent a public notice soliciting comments about the project to be published in the *Tillamook Headlight Herald* newspaper. From this scoping method the Forest Service received 5 letters. These comments are located in the project analysis file.

Using the comments from the public, other agencies, Native American tribes and special interest groups, the interdisciplinary team identified several issues regarding the effects of the proposed action. The main issue of concern included the anticipated impacts of the proposed actions to water quality and aquatic habitat (see EA pages 10 and 11). To address these concerns, the Forest Service created the alternatives described above.

After considering the identified problems to be addressed with this project and developing a proposal to correct the problems, letters describing the actions considered in the proposed Little Nestucca Restoration Project were mailed to individuals, agencies, and organizations identified as potentially interested in the proposed project and analysis. Public comment on the proposed project was solicited through the Siuslaw National Forest's quarterly "Project Update" publications.

Public comments contained a wide variety of suggestions to consider. Comments not outside the scope of the project and not covered by previous environmental review or existing regulations were reviewed for substantive content related to the project. Based largely on public comment, some alternatives were considered, but eliminated from detailed study, while others were considered in detail. The alternatives are discussed in chapter 2. Comments, relevant to clarifying how the project will be implemented or disclosing the effects of implementing the project, are addressed in chapters 2, and 3 or the project file.

The notice of availability for Little Nestucca Restoration Project Environmental Assessment was published in the *Tillamook Headlight Herald,* February 21, 2007 informing the public that the environmental assessment was available for a 30-day review and comment period. Copies of the environmental assessment, along with cover letters announcing that the environmental assessment was available for a 30-day public comment period, were mailed to those who commented on the proposed project or who requested a copy of the document. The legal notice and letters indicated the beginning and end of the comment period, described the comment process, and identified a Forest Service contact person. Copies of the environmental assessment were also made available at the Siuslaw National Forest Headquarters in Corvallis, and the District office in Hebo. A copy was also posted on the Siuslaw National Forest website. The comment period ended at the close-of-business on March 23, 2007. One individual responded to this request. Response to their comments can be found in Appendix B of the EA.

In their biological opinions of the following Siuslaw National Forest programmatic biological assessments, the U.S. Fish and Wildlife Service (FWS) has concurred with our findings that the project will not jeopardize the existence of bald eagles, northern spotted owls, and marbled murrelets:

- Programmatic Biological Assessment of Fiscal Year 2006-2007 Activities in the North Coast Province Which Might Disturb Bald Eagles, Northern Spotted Owls, or Marbled Murrelets. (FWS biological opinion reference #: 1-7-05-F-0664).
- Programmatic Biological Assessment for Effects to Northern Spotted Owls and Marbled Murrelets from the North Coast Province Fiscal Year 2007 – 2008 activities that have the potential to adversely affect, due to habitat modification and disturbance (FWS biological opinion reference #: 1-7-06-F-0192).

Finding of No Significant Impact

After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. I base my finding on the following:

Context

This action is very small in terms of society as a whole. Project activities have been viewed and approved in a Regional context through the Siuslaw National Forest Land and Resource Management Plan (USDA 1990) as amended by the Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl (USDA, USDI 1994). This action only affects a small portion of the Forest, which in turn, is a very small portion of the Region.

The site-specific activities that are authorized and guided by this decision are limited in scope and duration. Some minor adverse effects are expected. However, given the renewable nature of the resources and the high growth rates of coastal vegetation, these effects are expected to be short-term. No long-term adverse effects are expected.

Intensity

1. **Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal Agency believes that on balance the effect will be beneficial.**

   Discussion: Project actions will have both beneficial and adverse effects. Decommissioning roads or commercial thinning may be considered adverse effects. However, I have considered the benefits that the ecosystem will receive from implementing the Project actions and find that the overall beneficial effects to the ecosystem outweigh any short-term adverse effects. Further, I find that when considered alone, the adverse effects of this project are not significant (EA, chapter 3).

2. **The degree to which the proposed actions affect public health or safety.**

   Discussion: There will be no significant effects on public health and safety.

3. **Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas.**

   Discussion: The characteristics of the geographic area do not make it uniquely sensitive to the effects of project actions. Past actions of similar intensity in similar areas have not indicated any significant adverse effects. (EA Chapter 3)

4. **The degree to which the effects on the quality of the human environment are likely to be highly controversial.**

   Discussion: The effects on the quality of the human environment are not likely to be highly controversial, because there is no known scientific controversy over the impacts of the project.

5. **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.**

   Discussion: The Project's environmental effects are not uncertain or unknown. Planned actions are similar to those already accomplished on similar lands on the Forest and several scientific studies have been conducted that support the Project's treatment strategies for plantations. (EA Chapter 3)

6. **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**

   Discussion: Actions that will be implemented by the Project do not set a precedent for future actions, because similar actions have been implemented in the past. (EA Chapter 3)

7. **Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.**

   Discussion: The Little Nestucca Restoration Project Environmental Assessment has disclosed direct, indirect, and cumulative effects to soil, water, aquatic and terrestrial species, and other components of the human environment. There are no significant direct, indirect, or cumulative effects anticipated from implementing project actions. Project actions will speed the development of late-successional habitat in late-successional and riparian reserves and improve watershed function. The analysis of cumulative effects considered past, present, and reasonably foreseeable future actions on National Forest lands as well as for other ownerships in the affected watershed. (EA Chapter 3)

8. **The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources.**

   Discussion: Based on the pre-project survey and record search of the Project area, actions associated with the Project will have "no effect" (as defined in 36 CFR 800.5 [b]) on any listed or eligible heritage (cultural) resources. If a heritage site is discovered during project implementation, work will be stopped until the site is evaluated or the project has been altered to avoid the site. (EA page 68)

9. **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.**

   Discussion: The action will not adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species act of 1973 (see EA Ch 3). The effects on Federally listed terrestrial species are not found to be significant [(Biological Evaluation, Little Nestucca Restoration Project Wildlife Report and Biological Evaluation, December, 2006).]

10. **Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.**

    Discussion: The Project is in compliance with relevant Federal, State and local laws, regulations and requirements designed for the protection of the environment. The Project will meet or exceed State water and air quality standards. The action is consistent with the Siuslaw Land and Resource Management Plan. (EA Chapter 3)

Other Disclosures

All measures contained in the Little Nestucca Restoration Project EA will be incorporated to comply with the Record of Decision (October 2005) for the Pacific Northwest Region Invasive Plant Program, Preventing and Managing Invasive Plants Final Environmental Impact Statement. Actions will be designed to prevent the spread of invasive plants, including noxious and undesirable weeds. Cleaning of off-road equipment pursuant to Executive Order 13112, dated February 3, 1999, will be required.

Findings Required by Other Laws and Regulations

Based on the analysis in the Little Nestucca Restoration Project Environmental Assessment, I find the selected alternative to be consistent with the Siuslaw National Forest Land and Resource Management Plan (USDA 1990), as amended by the Northwest Forest Plan (USDA, USDI 1994) and is designed to meet or exceed the objectives of the Aquatic Conservation Strategy as set forth in the Northwest Forest Plan (EA, page 41).

Implementation Date

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Administrative Review or Appeal Opportunities

This decision is subject to appeal pursuant to Forest Service regulations at 36 CFR 215.7. Written notice of appeal must be postmarked or received by the Appeal Deciding Official, USDA Forest Service, P.O. Box 3623, Portland, OR 97208-3623 within 45 days of the date of publication of the notice for this decision in the Headlight Herald (Tillamook, Oregon). An appeal may be filed by any person or any non-Federal organization or entity that provided comment or otherwise expressed interest in this proposed action by the close of the comment period (36 CFR 215.11(2), 2002 rule). The appeal must meet the content requirements of 36 CFR 215.14:

- The appeal must state that the document is an appeal pursuant to 36 CFR 215;
- The name, address, and telephone number (if applicable) of the appellant must be included, and must identify the decision by title, subject, date of decision, and name and title of the Responsible Official;
- The appeal narrative must be sufficient to identify the specific change(s) to the decision sought by the appellant or portions of the decision to which the appellant objects, and must state how the Responsible Official's decision fails to consider comments previously provided; and
- If applicable, the appeal should state how the appellant believes this decision violates law, regulation, or policy.

Appeals (including attachments) may be filed by regular mail, fax, e-mail, hand delivery, express delivery, or messenger service. The publication date of the notice for this decision in the newspaper of record is the sole means of calculating the appeal-filing deadline, and those wishing to appeal should not rely on dates or timelines from any other source. E-mail appeals must be submitted to: appeals-pacificnorthwest-regional-office@fs.fed.us, and must be in one of the following three formats: Microsoft Word, rich text format (rtf) or Adobe Portable Document Format (pdf). FAX appeals must be submitted to: 503-808-2255. Appeals may be hand-delivered to the Resource Planning and Monitoring Office, 333 SW First Ave., Portland, between 8:00 AM and 4:30 PM Monday-Friday.

Contact

For additional information concerning this decision or the Forest Service appeal process, contact Wayne Patterson, Hebo Ranger District, P.O. Box 235, 31525 Hwy 22, Hebo, Oregon 97122, or by telephone at (503) 392-5136 between 8:00 AM and 3:45 PM on weekdays for further information.

May 18, 2007

George T. Buckingham
Hebo District Ranger

Date

References

Carey, A.B., V. Rapp, T.A. Spies, J.F. Franklin, F. Vanni, and J. Beranek, 2002. Restoring Complexity: Second-Growth Forests and Habitat Diversity, in PNW Research Station Science Update, USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon. May 2002.

Corkran, C.C., and Thoms C. 1996. Amphibians of Oregon, Washington, and British Columbia. Lone Pine Publishing, 175pp.

Franklin, Jerry F., 2001. Managing Young Stands to Meet LSR and Riparian Objectives, workshop keynote comments, Portland, Oregon, August 29, 2001.

Garman, S.L., J.H. Cissel, and J.H. Mayo, 2003. Accelerating Development of Late-Successional Conditions in Young Managed Douglas-Fir Stands: A Simulation Study, U.S. Geological Survey, Biological Resource Division, Biological Science Report.

GeoBOB. 2006. Inter-agency Geographic Biotic Observations. Ad hoc query of database located at http://www.or.blm.gov/geobob/SM_Data/default.asp.

Hunter, M.G., 2001. New Knowledge, pages 3-6, in Communique #3: Management in Young Forests, Cascade Center for Ecosystem Management, USDA Forest Service, Willamette National Forest. July 2001

Isaacs, F. B. and R. G. Anthony. 2003. Bald eagle nest locations and history of use in Oregon and the Washington portion of the Columbia River recovery zone, 1971 through 2003. Unpublished report. Oregon Cooperative Fish and Wildlife Research Unit, Oregon State University, Corvallis, OR. 21pp.

Johnson, D.H., and T.A. O'Neil. 2001. Wildlife-habitat relationships in Oregon and Washington. Oregon State Univ. Press. CD Rom and 736pp.

.

Joyce, L.A.; Birdsey, R. 2000. The impact of climate change on America's forests: a technical document supporting the 2000 USDA Forest Service RPA assessment. Gen. Tech. Rep. RMRS-GTR-59. Fort Collins, CO: United States Department of Agriculture, Forest Service, Rocky Mountain Research Station. 133 p.

Maser C., Mate B.R., Franklin J.F., and Dyrness C.T. 1981. Natural History of Oregon Coast Mammals. USDA-FS, Gen. Tech. Rtp. PNW-133. 496pp

McGarigal, K., R.G. Anthony, and F.B. Isaacs. 1991. Interactions of humans and bald eagles on the Columbia River estuary. Wildl. Monogr. 115. 47 pages.

Muir, P.S., R.L. Mattingly, J.C. Tappeiner II, J.D. Bailey, W.E. Elliot, J.C. Hagar, J.C. Miller, E.B. Peterson, and E.E. Starkey, 2002. Managing for biodiversity in young Douglas-fir forests of western Oregon, U.S. Geological Survey, Biological Resource Division, Biological Science Report.

Nott, P.M., DeSante, D.F., Pyle, P., and Michel N. 2005. Pacific Northwest forest bird population declines: Formulating population management guidelines from landscape-scale ecological analyses of MAPS data from avian communities on seven National Forests in the Pacific Northwest. The Institute for Bird Populations. 163pp.

Stalmaster, M. V., R.L. Knight, B.L. Holder, and R.J. Anderson. 1985. Bald eagles. Pages 270-290 *in* E.R. Brown, tech. ed. Management of wildlife and fish habitats in forests of western Oregon and Washington. U.S. Forest Service, Pacific Northwest Region.

Tappeiner, J.C., D. Huffman, D. Marshall, T.A. Spies, and J.D. Bailey, 1997. Density, ages, and growth rates in old-growth and young-growth forests in coastal Oregon, Can. J. For. Res. 27: 638 - 648, January 21, 1997.

Thysell, D.R. and Carey, A.B., 2001. Manipulation of Density of Pseudotsuga menziesii Canopies:Preliminary Effects on Understory Vegetation, Olympia, Washington, August 23, 2001.

[USDA FS] USDA Forest Service. 1990. Land and resource management plan (as amended by the 1994 Northwest Forest Plan). Corvallis, OR: Siuslaw National Forest.

[USDA FS] USDA Forest Service. 1992. Neotropical Migrants on National Forests of the Pacific Northwest. Portland, OR: United States Department of Agriculture, Forest Service, Pacific Northwest Region.

[USDA FS] USDA Forest Service. 1994. Access and travel management guide. Corvallis, OR: Siuslaw National Forest.

[USDA FS] USDA Forest Service. 1995. Assessment report: Federal lands in and adjacent to Oregon Coast Province. Two volumes. 200 p. Corvallis, OR: Siuslaw National Forest.

[USDA FS] USDA Forest Service. 1998. Little Nestucca watershed analysis. Corvallis, OR: Siuslaw National Forest. 87 p. plus maps and appendices.

[USDA FS] USDA Forest Service. 1999. Roads analysis: Informing decisions about managing the National Forest transportation system. FS-643. Washington, DC: United States Department of Agriculture, Forest Service. 119 p.

[USDA FS] USDA Forest Service. 2002. Preparing soil resource analyses for inclusion in NEPA documents. Portland, OR: United States Department of Agriculture, Forest Service, Pacific Northwest Region.

[USDA FS] USDA Forest Service. 2003. Road analysis report. Corvallis, OR: Siuslaw National Forest.

[USDA FS] USDA Forest Service 2006. Watershed Report, Little Nestucca Project. Corvallis, OR: Siuslaw National Forest.

[USDA FS] USDA Forest Service 2006. Transportation Plan and Roads Analysis; Little Nestucca Project. Corvallis, OR: Siuslaw National Forest.

[USDA FS] USDA Forest Service 2006. Biological Evaluation and Wildlife Report, Little Nestucca Project, Hebo, OR: Hebo Ranger District

[USDA FS] USDA Forest Service 2006. Silvicultural Prescription, Little Nestucca Project, Hebo, OR: Hebo Ranger District

[USDA FS] USDA Forest Service 2006. Soil and Watershed Report, Little Nestucca Project, Hebo, OR: Hebo Ranger District.

[USDA FS] USDA Forest Service 2006. Biological evaluation of proposed, endangered, threatened and sensitive vascular plant, bryophyte, lichen and fungi species, Little Nestucca Project, Corvallis, OR: Siuslaw National Forest.

[USDA FS] USDA Forest Service 2006. Invasive Species Assessment, Little Nestucca Project, Corvallis, OR: Siuslaw National Forest.

[USDA FS] USDA Forest Service 2007. Project review for heritage resources under the terms of the 2004 programmatic agreement among the USFS R6, ACHP, and SHPO, Little Nestucca Project. Hebo, OR: Hebo Ranger District

[USDA FS] USDA Forest Service 2007. Economic Analysis, Little Nestucca Project. Hebo, OR: Hebo Ranger District

[USDA FS] USDA Forest Service 2007. Fuels and Fire Assessment, Little Nestucca Project, Hebo, OR: Hebo Ranger District.

[USDA FS] USDA Forest Service. 2006. Biological assessment (fish), Little Nestucca project. Hebo, OR: Hebo Ranger District.

[USDA, USDI] USDA Forest Service, USDI Bureau of Land Management. 1994a. Final supplemental environmental impact statement on management of habitat for late-successional and old-growth species within the range of the northern spotted owl. Volume 1. Portland, OR.

[USDA, USDI] USDA Forest Service, USDI Bureau of Land Management. 1994b. Record of decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the northern spotted owl and standards and guidelines for management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl. Portland, OR.