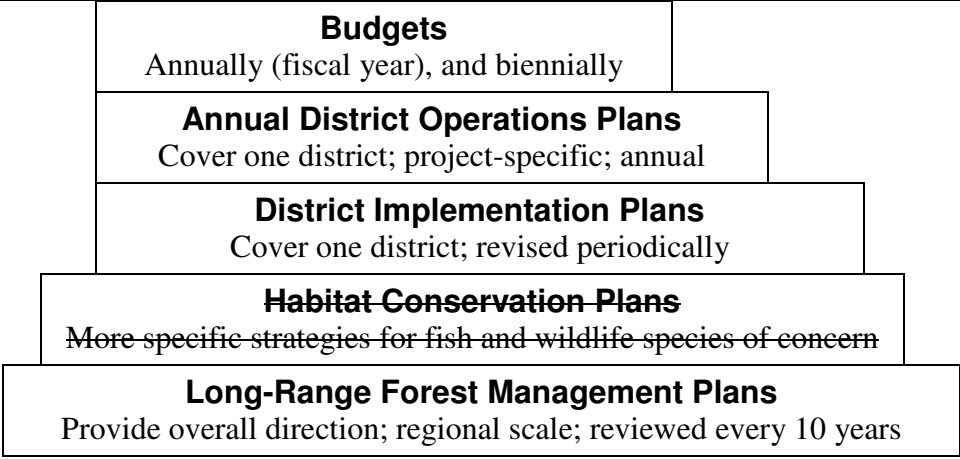


**Language adjustments in the Northwest FMP  
in response to Board of Forestry direction (June 3, 2009)**

Chapter / Page	Current language in the FMP
Exec. Summary	
S-3	<p><b>Management planning for state forests</b> — Management planning for Oregon state forests involves <del>five main elements</del><u>three planning levels, and fiscal and biennial budgeting</u>. As shown in the figure below, planning begins with broad-scale, long-range planning, <del>which may include a habitat conservation plan</del>.</p>
S-3	 <p align="center"><b>Figure S-1. Five Elements of Planning for Oregon State Forests</b></p>
S-4	<p>The 2009 plan revision was based on the Board of Forestry’s deliberation on the <u>balance of economic, social, and environmental values provided through implementation of the Northwest Forest Management Plan (NW FMP) on the Tillamook and Clatsop State Forests</u>. As this plan has been implemented on the three North Coast Districts (Tillamook, Forest Grove, and Astoria), the Department has <u>refined its information and learned from its management activities</u>. With this updated knowledge, it had become apparent the expected economic output falls short of the predicted outputs, necessitating the adaptive management discussions with the Board. <u>The process included meetings with stakeholders and the Forest Trust Land Advisory Committee, and numerous Board of Forestry meetings where public testimony was heard</u>. Further details on the Board of Forestry work can be found in the meeting materials prepared for each meeting.</p>
S-7	<p>Of the many wildlife species potentially found on the northwest Oregon state forests, <del>four</del> <u>three</u> bird species are listed as threatened or endangered under either (or both) the federal and state Endangered Species Acts. Populations of some fish species are also listed.</p> <ul style="list-style-type: none"> <li>• <b>Bald eagle</b> — <del>Federally and s</del>State listed as threatened in Oregon. Currently, there are <del>eight</del> <u>13</u> known nesting territories on northwest Oregon state forests, and <del>nine</del> <u>27 more</u> <del>additional</del> nesting territories located within one mile of northwest Oregon state forests.</li> </ul>

- **Peregrine falcon** — State listed as endangered in Oregon. No active nest sites are currently known on state forest lands.
- **Marbled murrelet** — Federally listed as threatened in Oregon. The marbled murrelet is a seabird that nests in mature or old growth coniferous forests within 50 miles of the ocean. Marbled murrelets currently nest in some areas of northwest Oregon state forests in the Coast Range. Currently, ~~8,6136,352~~ acres are in designated MMAs (marbled murrelet management areas) in northwest Oregon state forests.
- **Spotted owl** — Federally listed as a threatened species. In 1999, there were 20 pairs and 8 resident single owls on northwest Oregon state forests, and 61 pairs and 8 resident single owls known to be adjacent to these state forests. These figures add up to a total of 97 owl sites on or adjacent to northwest Oregon state forests. In 2008, there were 119 owl sites on or adjacent to northwest Oregon state forests, including 20 pair and four resident single sites on State Forests. Increases in spotted owl numbers may be partially related to increased survey efforts, as populations have generally declined since the spotted owl was added to the federal endangered species list in the early 1990's.

S-16 It will take many decades to produce the desired forest, riparian, and instream conditions. Over the short term, the integrated strategies may not provide the habitat necessary for some species of concern~~contribution of state forest lands to the maintenance or recovery of threatened, endangered, or sensitive species. To assure habitat for wildlife and fish species of concern, development of a habitat conservation plan (HCP) under the federal Endangered Species Act is also underway. This proposed *Western Oregon State Forests Habitat Conservation Plan* would cover all northwest and southwest Oregon state forests except for the Elliott State Forest (which has a separate HCP). For species of concern, additional strategies focus on~~ When necessary to provide short-term habitat considerations for wildlife and fish species of concern, additional conservation tools may be used, including anchor habitats or site protection. protection of anchor habitats, summarized in this plan and described in greater detail in the HCP. If the HCP is not adopted, this forest management plan will be expanded to include further detail on managing habitat for specific species or populations.

S-17

**Table S-1. Stand Structure Types: Percent of the Landscape in Each District**

Regeneration	5-15-25 percent ( <del>10%</del> used for analysis)
Closed Single Canopy	10-20-15 percent ( <del>15%</del> used for analysis)
Understory	15-35-30-40 percent ( <del>25%</del> used for analysis)
Layered	20-30-15-25 percent ( <del>25%</del> used for analysis)
Older Forest Structure	20-30-15-25 percent ( <del>25%</del> used for analysis)

S-17 The percentages in Table S-1 assume that such an array of stand types, properly arranged on the landscape, will contribute to the habitat needs of all native species. The

	<p>Department of Forestry will conduct a <u>n ongoing comprehensive review of this strategy through adaptive management and the specific array described when 30% in aggregate of layered and older forest structure stands is achieved on lands in the planning area.</u></p>
S-19	<p><b>1. Apply management standards for aquatic and riparian management areas —</b> Establish and maintain riparian management areas adjacent to all streams, in accordance with the standards described in the <del>proposed <i>Western Oregon State Forests Habitat Conservation Plan</i></del>, and Appendix J of the forest management plan (this plan) , and species of concern strategies where they apply.</p>
S-20	<p><b>2. Slope stability management —</b> The Department of Forestry will use a three-level approach to manage slope stability concerns in forest planning and operations on state forest lands in the planning area. <del>This approach is described in more detail in the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i>.</del></p>
S-21	<p><u>The integrated management strategies described in this chapter are intended over time to result in habitat conditions on the landscape and in aquatic and riparian areas that will provide functional habitat conditions for native species. As described, these more diverse and potentially functional habitats will take many decades to create. While moving the landscape toward a more diverse habitat condition, there are expected to be individual species, referred to as “species of concern,” or habitats that require special consideration. Additional conservation tools will be considered where determined necessary for species of concern, including the use of anchor habitats and site protection. Species of concern are fish and wildlife species that have been identified as being at risk due to declining populations or other factors (e.g., having a limited range).</u></p> <p><u>The strategy is to develop or maintain habitat areas across the landscape for species of concern that can be readily colonized as species abundance increases or distribution expands. Anchor habitat areas are intended to provide locales where populations will receive a higher level of protection in the short-term until additional suitable habitat is created across the landscape. Anchor habitat areas are not intended to be permanent reserves; however, they will be maintained until it can be demonstrated through adaptive management that the</u> For individual species of concern, including salmonids, northern spotted owls, marbled murrelets, and other sensitive species, additional strategies focus on short-term protection of anchor habitats. These strategies will provide a higher short-term level of protection to existing key habitat areas for these species, and will fulfill state and federal Endangered Species Act obligations for northwest Oregon state forests. This plan and the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i> contain strategies intended to protect existing key habitat areas and/or sites considered critical to the short-term survival of individuals or populations.</p> <p><del>The anchor habitat areas are intended to allow species with low mobility, limited dispersal ability, or high site fidelity to recolonize new habitat that is being created over the landscape over time. The concept of stationary central blocks of habitat, or “anchors,” is a way to ensure that new habitat may be more readily colonized. While anchor habitat areas are not intended to be permanent reserves, they will be maintained until it can be demonstrated through adaptive management that the species concerned is colonizing new areas of habitat and persisting in those areas.</del></p>

The proposed HCP has several key anchor habitat strategies, including:

- ~~Northern spotted owl habitat clusters~~ — These areas encompass the majority of existing viable owl sites within the Astoria, Tillamook, and Forest Grove Districts, a total of approximately 38,000 acres.
- ~~Marbled murrelet nest site and buffer areas~~ — These areas encompass all known murrelet nesting sites on state lands in the planning area, a total of approximately 5,000 acres.
- ~~Salmonid emphasis areas~~ — A set of sub-watersheds will be identified in the planning area, based on an analysis of existing habitat and fish abundance information. In these areas, management standards will focus on accelerated restoration and enhancement actions, and management guidelines will lower the risk of adverse effects from forest management activities.

In addition to these anchor habitat strategies, the HCP describes protection measures for additional northern spotted owl sites not included within the cluster strategy, but considered important sites to maintain population viability in the short term.

The HCP also details specific strategies for other species of concern, including bald eagle, peregrine falcon, northern goshawk, fisher, Townsend's big-eared bat, Cascades frog, and western pond turtle.

In addition to anchor habitats, some species of concern will be protected through site-specific management approaches. Species receiving site-specific protection will be those with habitat needs that otherwise might not be met with the provisions of this management plan, or with the anchor habitat approach. Site-specific management approaches will address both habitat protection and protection from disturbance, if applicable

Chapter One						
1-14	Management planning for Oregon state forests involves <del>five main elements</del> <u>three planning levels</u> , and fiscal and biennial budgeting. As shown in the figure below, planning begins with broad-scale, long-range planning, <del>which may include a habitat conservation plan</del> . Intermediate level planning is done at the level of ODF administrative districts and is documented through district Implementation Plans (IPs). Annual operations plans and budgets (both biennial and fiscal) are designed to achieve the objectives of the IP for short-term periods of time (1 or 2 years).					
1-14		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><b>Budgets</b> Annually (fiscal year), and biennially</td> </tr> <tr> <td style="text-align: center;"><b>Annual District Operations Plans</b> Cover one district; project-specific; annual</td> </tr> <tr> <td style="text-align: center;"><b>District Implementation Plans</b> Cover one district; revised periodically</td> </tr> <tr> <td style="text-align: center;"><b>Habitat Conservation Plans</b></td> </tr> </table>	<b>Budgets</b> Annually (fiscal year), and biennially	<b>Annual District Operations Plans</b> Cover one district; project-specific; annual	<b>District Implementation Plans</b> Cover one district; revised periodically	<b>Habitat Conservation Plans</b>
<b>Budgets</b> Annually (fiscal year), and biennially						
<b>Annual District Operations Plans</b> Cover one district; project-specific; annual						
<b>District Implementation Plans</b> Cover one district; revised periodically						
<b>Habitat Conservation Plans</b>						

More specific strategies for fish and wildlife species of concern
<b>Long-Range Forest Management Plans</b> Provide overall direction; regional scale; reviewed every 10 years

**Figure 1-1. Five Elements of Planning for Oregon State Forests**

1-17	<p><b>Habitat Conservation Plan</b></p> <p>Some state forest lands may be covered by a habitat conservation plan (HCP) under the federal Endangered Species Act. HCPs contain more specific conservation strategies for fish and wildlife species of concern, especially those which are listed as threatened or endangered. On districts covered by an HCP, the HCP strategies are implemented through district implementation planning, including the land management classification process. Two federal agencies, the U.S. Fish and Wildlife Service and National Marine Fisheries Service, may issue incidental take permits (ITPs) for species covered by an HCP. Forest land ITPs are typically issued for at least 50 years, which is a minimal time required for development of habitat with older forest characteristics. HCPs on Oregon state forests use an adaptive management approach. Management flexibility to respond to new science and changing conditions is designed into the strategies and the implementation agreement, along with opportunities for public input and scientific review.</p>
Chapter Two	
2-8	<p><u>The Harvest Scheduling Model used by the ODF to evaluate policy alternatives for State Forests has been significantly improved through two major projects since the adoption of the Northwest Oregon State Forest Management Plan in 2001: the Harvest and Habitat Model Project (2004 through 2006); and the Clatsop and Tillamook State Forests Strategies for the Achievement of the Board of Forestry Performance Measures (2008 and 2009). These model projects evaluated a range of alternatives similar to those examined when the FMP was initially developed. These updated models informed the Board of Forestry’s deliberations on the balance of economic, social, and environmental values provided through implementation of the Northwest Forest Management Plan on the Tillamook and Clatsop State Forests. The Board of Forestry’s discussions led to it directing a revision to this plan in 2009.</u></p>
2-30	<p>Because little inventory work or research has been conducted on state lands for other than state game species over the years, some species may be present but have not yet been detected or documented (e.g., pine marten, <del>goshawk</del>).</p>
2-30	<p>Of the many wildlife species potentially found on the northwest Oregon state forests, <del>four</del> <u>three</u> species are listed as threatened or endangered under either (or both) federal and state Endangered Species Acts.</p>
2-32	<p><u>The bald eagle was removed from the federal threatened and endangered species list in 2007, but is still listed as threatened by USFWS and the state of Oregon. Guidance for species recovery is currently provided under the Pacific Bald Eagle Recovery Plan (USDI Fish and Wildlife Service 1986) and a cooperative implementation plan</u></p>

	<p>developed by the Oregon and Washington Bald Eagle Working Team (Washington Department of Wildlife 1990). Most recovery goals have been met or exceeded, and the species has been proposed for delisting by USFWS. Currently, there are <u>8-13</u> known nesting territories in the planning area, and <u>9-27 more additional</u> nesting territories located within one mile of these state forests, on other ownerships. Since a pair of eagles often uses alternate nest sites, each nesting territory can include multiple nesting sites. Bald eagles are found on and adjacent to state forest lands year-round, using available habitats for nesting, foraging, and roosting.</p>
2-32	<p><b>Peregrine falcon</b> — The American peregrine falcon was removed from the federal threatened and endangered species list in 1999, but is still on the state list of endangered species. It is proposed to be downlisted to a state threatened species. A recovery plan for the Pacific states region was approved in 1982 by the USFWS. Extensive monitoring, research and reintroduction programs have occurred in Oregon and the West for the past 15 years and populations have slowly recovered. No active nest sites are currently known on state forest lands. However, preliminary surveys indicate that potential nesting habitat is present on the Tillamook, Astoria, and Santiam Districts. Most state forest lands would be considered potential foraging and perching habitat. Peregrines currently nest in close proximity to state forest lands and likely forage seasonally in coastal and Cascade areas.</p>
2-32	<p><b>Marbled murrelet</b> — The marbled murrelet is a seabird that uses mature or old growth coniferous forests within 50 miles of the ocean for nesting. Marbled murrelets do currently use some areas of northwest Oregon state forests in the Coast Range, for nesting. During surveys, 75 to 95 percent of murrelet detections are bird calls rather than sightings of birds. Because it is so difficult to actually see the murrelets or find the nests, surveys cannot accurately count the number of murrelets nesting on northwest Oregon state forests. When surveys detect occupied behavior from murrelets, then a MMMA (marbled murrelet management area) is established in that area. Currently, <u>6,352,613</u> acres are in designated MMMA in northwest Oregon state forests, within 50 miles of the ocean.</p> <p><b>Spotted owl</b> — Early surveys found extremely low densities of northern spotted owls in the northern Coast Range, an area with extensive forests of young Douglas-fir stands (less than 65 years old) and few remnant stands of old growth or mature forests (Forsman et al. 1977, Forsman 1986, Cunningham 1989). More systematic surveys began on state land after the USFWS listed the owl as a threatened species in June 1990. Since 1992, the Oregon Cooperative Wildlife Research Unit of the Oregon State University and ODF has conducted owl surveys on state forest lands. Nearly all potential nesting habitat, with special emphasis on habitat in or adjacent to planned or previously sold timber sales, has been surveyed during this time period.</p> <p>The table on the next page summarizes the most recent data on spotted owls on northwest Oregon state forest lands. <u>The number of spotted owl sites known to be present on or adjacent to ODF lands was 97 at the time the original Forest management Plan was published in 2001. In 2008 there were 119 resident owl sites on or adjacent to northwest State Forests. Trends in number of resident owl sites are difficult to interpret. Increases in spotted owl numbers may be partially related to increased survey effort as spotted owl populations have generally declined state-wide since the</u></p>

early 1990's when the spotted owl was added to the federal endangered species list.

2-34

**Table 2-2. Spotted Owl Sites on Northwest Oregon State Forests, in 19992008**

	Pair Sites		Resident Single Sites		Total
	On ODF Land	Adjacent to ODF Land	On ODF Land	Adjacent to ODF Land	
Astoria	73	40	20	0	403
Tillamook	42	03	1	43	39
Forest Grove	41	0	21	01	33
West Oregon	02	7	01	04	714
Western Lane	85	4151	01	310	5267
Clackamas-Marion	37	4210	32	44	2223
Total	20	64155	84	814	97119

2-34

**Summary of All Species of Concern Fish and Wildlife Status**

The table on the next page lists all fish and wildlife with listing status at either the state or federal level ~~species of concern~~, in all categories, for the northwest Oregon state forests. These species are known or suspected to be found on, adjacent to, or in some cases, downstream of, state forest lands, on both land and water. Fish are discussed in the next subsection of this chapter.

2-35

**Table 2-3** has been updated

2-37

**Non-salmonid species** — There is much less information about the status of non-salmonid species. ~~Two species, the Western Brook and Pacific lamprey are of concern, and Oregon chub is federally listed, are of concern, due to either a limited~~ distribution, reduced abundance, and/or special habitat needs raise concern for these species. ~~Both~~ These species are discussed under the ~~next heading on~~ “Listed Fish Species.” Threatened and Endangered Fish Species” heading.

2-38

**Listed Threatened and Endangered Fish Species**

The federal government has listed some populations of coho salmon, chinook salmon, chum salmon, steelhead trout, and Oregon chub as threatened or endangered species (table 2-3). ~~In addition, the federal government has proposed to list, or identified as candidate species, other populations of these species. See the table [b1] on the next two pages.~~

~~Not all populations of these species are listed.~~ The federal government has identified “evolutionarily significant units,” or ESUs, within these species. Only some ESUs, or certain groups of populations, are listed or proposed for listing.

**Coho Salmon** — Coho are listed as federally threatened in the Oregon Coast, Lower

Columbia, and Southern Oregon/Northern California ESUs. These ESUs overlap with Coast Range and Southwest State Forest Districts. Over the last fifteen years, coho spawner abundance in the ESU has fluctuated over two cycles in ocean productivity. Abundance increased from 1997 till 2002, declined from 2003 until 2007, and appears to have resumed an increasing pattern beginning in 2007. Conservation measures may have contributed to a recent 10-year period of higher spawner abundance that is higher than for any other 10-year period on record. These improvements have eased near-term risks, but it is not clear whether all underlying factors for the recent decline have been addressed or if this is just a temporary response to improved ocean conditions.

**Chinook Salmon** — Chinook Salmon are federally listed as threatened in the Upper Willamette and Lower Columbia rivers. These ESUs overlap with the Coast Range and Cascade State Forests districts. At least one population is extinct (outside the planning area) and several others have extremely low returns or a high degree of hatchery influence. Numerous hatcheries in both Oregon and Washington release fall Chinook which spawn in tributary streams.

**Chum Salmon** — Chum are federally listed as threatened in the Columbia river ESU and are found in Coastal rivers of State Forests. Overall, populations outside of the Lower Columbia are much reduced from historic levels. The relatively healthy populations in the Necanicum, Nehalem, and Tillamook Rivers support important fisheries and are very important to the overall viability of Coastal Chum. Populations within the Lower Columbia ESU are considered functionally extinct. Reintroduction efforts are under consideration as habitat improvements undertaken for other species may support some chum production.

**Steelhead Trout** — Steelhead are federally listed as threatened in the lower Columbia and the Upper Willamette ESUs. These ESUs overlap with Coastal and Cascade State Forest ownership. Monitoring information for these populations is primarily limited to dam counts. Fish counts at the Willamette Falls hydroelectric facility document low abundance of winter steelhead over the last five years. Improved information is needed regarding the status of these populations.

**Chub** — Oregon Chub is federally listed and is found in the Willamette basin. Umpqua Chub is not listed and occurs in Umpqua Basins. State forest ownership are within the Cascades (Willamette) and Southwest districts (Umpqua). The Oregon Chub status has improved in recent years resulting from the discovery of several new populations and successful reintroductions within the historic range. However, these improvements have not eliminated the risk posed by non-native fishes, nor the substantial loss of historic habitats.

**Lamprey** — Oregon Western brook and Pacific lamprey occur in the Coastal and Lower Columbia/Willamette ESUs. While they are not listed, and they are widely distributed throughout Oregon, both distribution and abundance have likely decreased in recent years. Habitat loss and pollution have contributed to the decline. Little is known about life history characteristics of Western brook lamprey in Oregon, and

	<u>many critical uncertainties regarding status, biology, and requirements remain.</u>
2-41 to 42	<b>Table 2.4</b> deleted
2-61	<p><b>Land Management Classification</b></p> <p>A 1998 administrative rule (OAR 629-035-055) requires the State Forester to classify all forest lands according to the types of management that will be applied, the appropriate range of management activities, and the forest resources addressed. Land management classification describes the management emphasis for parcels of state forest lands, as determined by forest management plans <del>and any applicable habitat conservation plan.</del></p>
2-61	<p><b>Focused Stewardship</b> — These lands are also managed using integrated management practices, but for a specific resource or resources; a forest management plan, <del>habitat conservation plan,</del> or legal requirement identifies the need for supplemental planning, modified management practices, or compliance with specific requirements.</p>
2-63	<p>The goals and strategies in forest management plans <del>and habitat conservation plans</del> determine the management of key resources. The identification and mapping of land management classifications will be based on criteria in the plans. Information will be updated through watershed assessments and site-specific monitoring and field visits.</p>
Chapter Four	
4-3	<p>Forest planning begins with overall policy (legal framework), guiding principles, vision, resource management goals, landscape management strategies, and then proceeds through several steps to site-specific projects. On the next page, Figure 4-1 shows the hierarchy of <del>four</del> <u>three</u> planning levels, from strategic to operational.</p> <p>The <i>Northwest Oregon State Forests Management Plan</i> (FMP) builds an encompassing strategic framework. The strategies in this chapter are the heart of the FMP. <del>Next, the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i> (HCP) develops more specific conservation strategies for fish and wildlife species of concern. The HCP is a separate document subject to approval by the U.S. Fish and Wildlife Service and National Marine Fisheries Service. Issuance of an Incidental Take Permit, through an approved HCP, is considered to be a key tool for fully implementing the strategies described in this forest management plan over the long term.</del> Using the strategic framework in the FMP <del>and HCP</del>, district implementation plans are developed to achieve the FMP’s management goals <del>and the HCP’s conservation objectives</del> for a ten-year period, and move toward the forest vision. Finally, annual operations plans describe site-specific projects and how those projects are designed to contribute to the goals of the FMP for a one-year period.</p> <p>The <del>four</del> <u>three</u> planning levels, shown on the following page and described in Chapter 1, provide a framework for adaptive management. Agency staff, through identified review and approval processes, can make changes as needed at the various levels, ranging from strategic, landscape-wide changes to the FMP <del>and HCP</del>, to specific, tactical changes at the district and project level.</p>
4-4	<b>HCP</b>

	<p style="text-align: center;"><b>(Planning Area)</b></p> <p style="text-align: center;">Fish and Wildlife Strategies (species of concern)</p> <p style="text-align: center;">Conservation Objectives (species-specific)</p> <p style="text-align: center;">Conservation Strategies (species-specific)</p> <p style="text-align: center;">Mitigation Measures</p> <p style="text-align: center;">Monitoring/Research</p> <p style="text-align: center;">Adaptive Management Process</p> <p style="text-align: center;">Environmental Impact Statement (EIS)</p> <p style="text-align: center;">Implementing Agreement (IA)</p>
4-51 to 52	<p>This plan presents a set of integrated strategies that are the basis for managing the forest landscape as a whole. They are designed to be applied through a system of active management that realizes a high level of the forest product producing potential from these lands, and thus a high level of revenue to beneficiaries. These begin with four landscape management strategies, which are the core of structure-based management. The landscape management strategies are supplemented by riparian and aquatic strategies, which include upslope components such as roads and slope stability, and forest health strategies. Together, this set of integrated strategies will apply across the landscape, and will not focus on specific sites or species. <del>Certain s</del><u>Species-specific of concern strategies will be described in the proposed Western Oregon HCP and site-specific strategies are addressed discussed in district implementation plans and annual operations plans.</u> These integrated strategies will contribute to a range of habitats <del>that is likely to accommodate most wildlife species, and contribute to maintenance and restoration</del><u>encourage broad forest-of biodiversity.</u> Over the long term, they will provide for most species most of the time. Thus, this set of integrated strategies represents the “coarse filter” approach discussed earlier.</p> <p>It will take many decades to produce the desired forest, riparian, and instream conditions. Over the short term, the integrated strategies may not provide <del>for the the</del> <u>necessary contribution of state forest lands to the maintenance or recovery of threatened, endangered, or sensitive species</u><del>habitat needs of all species.</del> <u>When necessary to provide short-term</u> <del>To assure the short term protection of key habitats</del><u>habitat considerations for wildlife and fish species of concern, additional conservation tools may be used, including anchor habitats or site protection</u><del>development of the Western Oregon State Forests Habitat Conservation Plan (HCP) under the federal Endangered Species Act is also underway.</del> <u>These conservation tools are addressed in the “Species of Concern Strategies” section.</u> <u>Management around specific sites or for specific species are further detailed in district implementation plans, annual operations plans and operational policy.</u> <del>This proposed HCP would cover all northwest and southwest Oregon state forests except for the Elliott State Forest (which has a separate HCP).</del></p> <p><del>For individual species of concern, including salmonids, northern spotted owls, marbled</del></p>

	<p>murrelets and other sensitive species, additional strategies focus on short term protection of anchor habitats. These strategies are summarized later in this chapter, and the specific habitat management approaches are described in greater detail in the HCP. However, if the HCP is not adopted, this forest management plan will be expanded to include further detail on strategies for managing the habitats of threatened, endangered, or sensitive species. These strategies would address the needs of specific species or populations and would fulfill state and federal Endangered Species Act obligations for northwest Oregon state forests.</p>
4-55	<p><b>Table 4-2</b> changed</p> <p>The percentages in the preceding table are based on the hypothesis that such an array of stand types, properly arranged on the landscape, will contribute to the habitat needs of all native species. Because of the inherent uncertainty in this hypothesis, and the ongoing accumulation of knowledge through research, it is the Department of Forestry’s intent to conduct <u>an ongoing review through adaptive management</u> <del>comprehensive review</del> of this strategy and the specific array described <del>when 30% in aggregate of layered and older forest structure stands is achieved on lands in the planning area.</del> This review will evaluate the extent to which the array of stand conditions at that point in time meets the habitat needs of native species, and whether additional layered and older forest structure stands are needed to meet that goal.</p>
4-64	<p>Implementation plans will be developed for each district that contain more detailed information describing how each district is moving towards achievement of the desired future condition, implementing the landscape design guidelines, and providing for the structural habitat components at the landscape level. The implementation plans will include information that <u>describes</u>:</p> <ul style="list-style-type: none"> <li>• <del>Describes the e</del>Current stand type amounts and distribution on the district, and the location of any specific habitats for species <del>covered in this plan or the proposed Western Oregon State Forests HCP (e.g., northern spotted owl cluster areas, etc)</del> that may occur, or that may be identified for species of concern.</li> <li>• <del>Describes the desired</del> future stand condition array for each management basin in the district, in a regional context, and how this array is arranged across the district landscape to meet the landscape design strategy.</li> <li>• <del>Describes the p</del>Proposed management activities for the time period that will be necessary to move towards the identified stand type array and landscape design, and to move towards the goals for structural habitat components.</li> <li>• <del>Describes the H</del>Land management classifications that have been applied to lands in the district to reflect the management approaches and strategies adopted in the FMP <del>and proposed HCP</del>, and described in the implementation plan. This will include areas designated as riparian management areas, monitoring controls, or specific habitat areas identified for <del>covered species of concern</del> <u>of concern</u> <del>(anchor habitat concept)</del>.</li> <li>• <del>Describes the s</del>Specific management activities, outputs, and achievements anticipated for the next ten-year period. This will include:</li> </ul>
4-68	<p>This section presents the integrated strategies for aquatic and riparian areas. <u>Additional conservation tools may be considered for fish species of concern as described later</u></p>

	<p>under the “Species of Concern” section. <del>Detailed site-specific strategies focused on the habitats occupied by species of concern may be found in the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i>.</del></p>
4-72	<p><b>Apply management standards for aquatic and riparian areas. Establish and maintain riparian management areas adjacent to all streams, in accordance with <del>the standards described in the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i>, and Appendix J of this plan</del> <u>and species of concern strategies where they apply.</u></b></p>
4-80	<p><b>Establish and maintain riparian management areas adjacent to other aquatic habitat areas in accordance with the standards described <del>in the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i>, and Appendix J of this plan</del> <u>and species of concern strategies where they apply.</u></b></p>
4-81	<p><b>Management Strategies and Standards</b></p> <p>The Department of Forestry will use a three-level approach to manage slope stability concerns in forest planning and operations on state forest lands in the planning area (Michael 1997, Prellwitz 1985). <del>This approach is described in more detail in the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i>.</del></p>
4-91 to 96	<p>The integrated management strategies described in this chapter are intended over time to result in habitat conditions on the landscape, and in aquatic and riparian areas that will provide functional habitat conditions for all native species. As described, these more diverse and potentially functional habitats will take many decades to create. <u>While moving the landscape toward a more diverse habitat condition, there are expected to be individual species, referred to as “species of concern,” or habitats that require special consideration.</u> <del>Today, several of these species of concern exist only in very specific areas on these state forest lands, and the habitats that they occupy exist in limited amounts.</del></p> <p><u>Species of concern are fish and wildlife species that have been identified as being at risk due to declining populations or other factors (e.g., having a limited range). Species of concern identified as part of this management plan are currently present or have the potential to be present on state forest lands.</u> In some <del>cases</del> areas, there is little suitable habitat for these species available elsewhere on adjacent lands (i.e., private lands in the North Coast area), and in other cases there is substantial habitat on neighboring lands (i.e., federal lands in the Cascades).</p> <p><del>Thus, for specific species of concern, this plan and the associated proposed <i>Western Oregon State Forests HCP</i> contain a set of species-specific strategies intended to protect existing key habitat areas and/or sites considered critical to the short-term survival of individuals or populations. The concept of “anchor habitats” is fundamental to these strategies.</del></p> <p><u>As stated, this plan relies on integrated management strategies intended to maintain and enhance habitat for species of concern, as detailed in this chapter. These integrated strategies include:</u></p> <p><b><u>Landscape Management Strategies</u></b></p>

- **Structure-based Management:** Application of silvicultural tools to attain an array of forest stand structures across the landscape, in a functional arrangement, and produce structural components (e.g., canopy layering, understory development).
- **Snags, Green Trees, and Downed Wood:** Actively manage state forests retaining and developing structural components such as snags, green trees, and down wood as part of the landscape forest structure. This plan includes specific targets.
- **Landscape Design Principles:** Provide a functional arrangement of stand types considering characteristics such as patch size and distribution, fragmentation, corridors, and interior habitat.

### **Aquatic and Riparian Strategies**

The plan relies on a functional approach to managing near aquatic and riparian resources. Goals for aquatic and riparian functions are dependant on stream classifications for fish streams and non-fish streams. Strategies include management of forest roads, steep slopes, and specific riparian management standards.

- **Stream Restoration:** Contributes to the timely recovery of desired aquatic conditions. Dependent on available resources, projects will be designed to create conditions and introduce materials sufficient to enhance or re-establish natural physical and biological processes.

Additional conservation tools will be considered where determined necessary for species of concern, including the use of anchor habitats and site protection described below. Species of Concern and management strategies to address those species will be identified for each district in operational policy documents. This information will support district implementation planning.

### **Concept of Anchor Habitats**

The designation of “anchor habitat” is a core concept of anchor habitat is a key one for managing habitat for some terrestrial and aquatic specific wildlife species of concern in some districts. The role, quantity, and distribution of anchor habitat for any given district will be dependent in part on ownership patterns, species distributions, and habitat conditions.

This ~~The~~ concept strategy describes a strategy designed is to develop or maintain provide a higher short term level of protection to existing key-habitat areas for across the landscape for species of concern that can be readily colonized as species abundance increases or distribution expands. specific species. These are species that are currently known to have limited distribution or population numbers on the northwest Oregon state forest lands. Most of these species are covered species under the proposed HCP for western Oregon state forests.

The aAnchor habitat areas are intended to provide locales where populations will receive a higher level of protection in the short-term until additional suitable habitat is created across the landscape. allow species with low mobility, limited dispersal ability, or high site fidelity to recolonize new habitat that is being created over the landscape over time. Examples of species that fit these criteria include northern spotted owls;

marbled murrelets, several species of salmonids, and several headwater amphibian species. The concept of stationary central blocks of habitat, or “anchors,” is a way to ensure that as new suitable habitat develops for a given species, it may be more readily colonized. While anchor habitat areas are not intended to be permanent reserves; however, they will be maintained until it can be demonstrated through adaptive management that the species concerned is colonizing new areas of habitat and persisting in those areas.

Anchor habitats are designated based on existing information, such as availability of ~~on~~ the most suitable habitat for specific species, and species abundance and distribution. Anchor habitats will be well-distributed, and consider landscape design principles identified under the landscape management strategy. Anchor habitat areas also will be considered when designating additional areas for the development of habitat through the landscape design process. ~~When areas are designated for development of additional habitat for these species, these areas are generally located adjacent to or in close proximity to anchor habitat areas.~~ However, this may vary, depending on the species’ mobility of a species, and fidelity for to specific sites.

- **Terrestrial Anchors**

Terrestrial anchors are intended to benefit terrestrial wildlife species of concern, especially those associated with older forest conditions or interior habitat conditions, sensitive to forest fragmentation, or do not readily disperse across younger forest conditions. Terrestrial Anchors will be located based on information such as known use by species of concern and habitat conditions. Terrestrial anchors should be well-distributed, and will be located in the same areas as aquatic anchors when appropriate for achieving the conservation objective.

Management within Terrestrial Anchors will promote the development of complex structure, and once at complex structure management will be designed to emulate natural, small-scale disturbance patterns. Management conducted within Terrestrial Anchors will be conducted in a manner that will maintain the integrity of interior habitat conditions and to retain and promote vegetative and structural diversity.

- **Aquatic Anchors**

Aquatic Anchors are intended to benefit fish and amphibian species of concern. The quantity, size, and distribution of Aquatic Anchors will vary by district, in part dependent on state forests ownership patterns and species distributions. Information from research and monitoring will be used to identify sub-watersheds that provide high quality habitat for salmonid species of concern. Specific criteria include but are not limited to: population abundance and distribution, habitat condition, and professional opinion of ODFW fish biologists. The Aquatic Anchors will be subject to additional management standards (e.g., in addition to Appendix J) intended to maintain and enhance habitat for salmonids and headwater amphibians.

### **Site Protection**

In addition to anchor habitats, some species of concern will be protected through site-specific management approaches. Species receiving site-specific protection will be those with habitat needs that otherwise might not be met with the provisions of this management plan, or with the anchor habitat approach. Examples of species receiving site-level protection are species known to use a unique resource (e.g., caves and mines, mineral springs), those with a legal mandate for site-level protection under the federal Endangered Species Act (spotted owl and marbled murrelet) and the Forest Practices Act (e.g., bald eagle, osprey), and species especially rare in the region (e.g., northern goshawk). Site-specific management approaches will address both habitat protection and protection from disturbance, if applicable.

~~For different species, the anchor habitat concept applies at different temporal and spatial scales. In this plan and in the proposed *Western Oregon State Forests HCP*, the Department of Forestry has considered anchor habitats in a broader context, in order to protect the existing best quality habitat for certain species of concern, and to arrange new habitat within dispersal distances that are appropriate for the different species.~~

~~For example, the existing highest quality owl habitat is designated as owl clusters, and will be protected and managed for the purpose of improving the habitat quality over time and providing “seed stock” for colonization of future owl habitat. Since owls have been observed to disperse relatively long distances, the location of new habitat is more flexible, assuming that dispersal habitat is provided between current owl clusters and future habitat.~~

~~However, less is known about how murrelets colonize new nesting habitat. To mitigate the risk that murrelets may not readily seek out new habitat, new murrelet habitat is designed to be in close proximity to existing murrelet nesting sites.~~

~~Similar concepts have been applied to salmonid species of concern. The IMST report on forestry (Independent Multidisciplinary Science Team 1999) recommends enhanced levels of certainty of protection for salmon core areas, areas regarded as critical to achieving salmon recovery. Historically, salmon evolved in a landscape that was a continuously shifting mosaic of disturbed and undisturbed habitats. Wild salmonid stocks survived due to genetic diversity, high fish abundance distributed in multiple locations, and occupation of refugia (higher quality habitat), which allowed for recolonization of poor habitat as its condition improved over time.~~

~~As recommended by the IMST, the goal of state forest management is to emulate (not duplicate) natural processes, in order to allow recovery of wild salmonid stocks. The Department of Forestry used information from research and monitoring, primarily aquatic habitat and fish presence survey data, to identify the current habitat strongholds for key salmonid species on the northwest Oregon state forests. These anchor habitat areas are designated sub-watersheds distributed throughout the North Coast area. The anchor habitat areas will be subject to alternative management standards for the initial implementation period, while more comprehensive watershed assessments are completed. These assessments and the subsequent analyses will obtain more complete information on these key salmonids, and will more accurately identify key habitat areas and appropriate management standards for those areas.~~

The issue is more problematic for low mobility species such as headwater amphibians. The northwest Oregon state forests are predominantly young, developing forests, and there is a lack of good information on the abundance and distribution of these amphibian species.

The anchor habitat strategy for salmonids is expected to also provide protection to many potential headwater amphibian habitat areas. In addition, riparian management area strategies for small streams, the overall stand conditions on the landscape, and the designation of significant acreage in special stewardship areas, will provide high levels of protection to most headwater streams for several decades or more. Thus, at the present time, no additional anchor habitat areas will be designated beyond those identified for owls, murrelets, and salmonids, pending completion of watershed assessments and more extensive surveys for these key headwater amphibians.

The proposed *Western Oregon State Forests Habitat Conservation Plan* has several key anchor habitat strategies, including:

- **Northern Spotted Owl Strategy** — Owl habitat clusters. These are areas that encompass the majority of existing viable owl sites within the North Coast portion of the planning area (Astoria, Tillamook and Forest Grove Districts). Approximate acreage of these areas in total is 38,000 acres. Within these areas, management standards are focused on the retention of existing suitable habitat and the enhancement of habitat quality in currently unsuitable stands.
- **Marbled Murrelet Strategy** — Murrelet nest site and buffer areas. These are areas that encompass all of the known murrelet nesting sites on state lands in the planning area. Approximate acreage of these areas in total is 5,000 acres. Additional unsurveyed, but potentially occupied habitat will be evaluated during implementation of the proposed HCP, and some additional areas may be added to this “anchor habitat” category. Within these areas, management is deferred within the actual nest sites, and limited to habitat enhancement in the surrounding buffers.
- **Salmonid Emphasis Area Strategy** — As proposed, this strategy will involve a set of identified sub-watersheds within the planning area, based on an analysis of existing habitat and fish abundance information. Management standards will be focused on accelerated restoration and enhancement actions to address identified limiting factors, and management guidelines designed to lower the risk of adverse effects from forest management activities.

In addition to these anchor habitat strategies, the proposed HCP describes protection measures for additional northern spotted owl sites not included within the cluster strategy, but considered important sites to maintain population viability in the short term.

The proposed HCP also details specific strategies for other species of concern, such as bald eagle, peregrine falcon, northern goshawk, Townsend’s big-eared bat, Cascades frog, and western pond turtle. Specific strategies are needed for these species due to their current status. All of these species are either listed or proposed for listing, or are restricted in distribution or habitat, or their populations appear to be declining at a regional scale. In addition, all of these species were determined to either currently be

	present, or have the potential to be present, on these state forest lands, within the permit term of the HCP.
Chapter Five	
5-4	Implementation plans that undergo major revisions will be available for public review and comment for a 30-day period prior to consideration for approval by the State Forester. The following circumstances will be considered major revisions: <ul style="list-style-type: none"> <li>• Revisions that result in proposed major changes to the forest land management classifications as defined in OAR 629-035-0060. [b2]</li> <li>• Revisions that propose changes to the annual harvest level ranges of more than 25% (based on combined acreage of regeneration and partial harvests).</li> </ul>
5-13	Adaptive resource management is presented as the conceptual and operational framework to address these issues in the context of the <i>Northwest Oregon State Forests Management Plan</i> and the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i> .
5-26	<b>Who makes the decision to change district implementation plans?</b> The State Forester, in consultation with appropriate other federal or state agencies [b3], will weigh the scientific, operational, and public information, when considering the approval and subsequent changes to district implementation plans.
Appendix A	
A-2	<b>Anchor habitat</b> An existing key habitat area for a specific species; these blocks of habitat are left in place on the landscape as “anchors.” An example is <u>an aquatic anchor or terrestrial anchor spotted owl habitat clusters.</u>
A-7	<b>Habitat conservation plan (HCP)</b> A comprehensive planning document that is a mandatory component of an incidental take permit application pursuant to section 10(a)(2)(A) of the ESA
A-7	<b>HCP</b> See “habitat conservation plan.”
A-18	<b>Species of Concern</b> Fish and wildlife species that have been identified as being at risk due to declining populations or other factors (e.g., having a limited range)
Appendix C	
C-34	Consideration at this scale does, however, provide a rational basis to assess the contribution of state forests to these larger management issues and to determine the appropriate role of this plan within this larger context. Also see the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i> for an assessment of the state forests’ contribution to regional conservation goals for northern spotted owls and marbled murrelets.
Appendix F	
F-1	The planning team carried out extensive public involvement <u>as it developed the 2001 forest management plan</u> , as detailed in this appendix.  This appendix describes all public involvement for all documents <u>leading up to approval of the 2001 forest management plan.</u> The 2009 plan revision was based on the Board of Forestry’s deliberation on the balance of economic, social, and environmental

	<p><u>values provided through implementation of the Northwest Forest Management Plan (NW FMP) on the Tillamook and Clatsop State Forests. As this plan has been implemented on the three North Coast Districts (Tillamook, Forest Grove, and Astoria), the Department has refined its information and learned from its management activities. With this updated knowledge, it had become apparent the expected economic outputs falls short of the predicted outputs, necessitating the adaptive management discussion with the Board. The process included meetings with stakeholders (e.g., timber and conservation interests), the Forest Trust Land Advisory Committee, and numerous Board of Forestry meetings where public testimony was heard. Further details on the Board of Forestry work can be found in the meeting materials prepared for each meeting posted on the Department web site.</u></p>
F-3	<p>The public involvement process <u>during development of the 2001 forest management plan</u> included newsletters, public meetings and forest tours, a toll-free phone line, information on the world-wide web, a planning forum (focused on the forest management plan), a public interest committee (focused on the proposed HCP), peer review, an independent scientific review, and informal contacts with groups and individuals.</p>
Appendix I	
I-1	<p><b><u>Improved Harvest Scheduling Model</u></b></p> <p><u>The Harvest Scheduling Model used by the ODF to evaluate policy alternatives for State Forests has been significantly improved through two major projects since the adoption of the Northwest Oregon State Forest Management Plan in 2001: the Harvest and Habitat Model Project (2004 through 2006); and the Clatsop and Tillamook State Forests Strategies for the Achievement of the Board of Forestry Performance Measures (2008 and 2009). These model projects evaluated a range of alternatives similar to those examined when the FMP was initially developed. These updated models informed the Board of Forestry’s deliberations on the balance of economic, social, and environmental values provided through implementation of the Northwest Forest Management Plan on the Tillamook and Clatsop State Forests. The Board of Forestry’s discussions led to the adoption of a revised plan in <u>XX</u><sup>[b4]</sup>.</u></p> <p><u>The Harvest and Habitat Model Project (H&amp;H) was undertaken to address seven key elements of the Harvest Scheduling Model. These key elements were described in the <i>Work Plan to Address Harvest Schedule Modeling and Sustainable Harvest Levels in the District Implementation Plans</i><sup>1</sup> and included developing and incorporating into the model transportation systems, harvest units, landscape design maps, improved inventory, more comprehensive silvicultural prescriptions, and more accurate growth modeling. The last key element included the development of a field review process for the model outputs. The H&amp;H Project also made numerous other improvements to the Harvest Scheduling Model. The H&amp;H Project developed four scenarios for modeling different strategies, including: Forest Management Plan using the Draft Western</u></p>

<sup>1</sup> See the Implementation Plans for Northwest and Southwest Oregon Forest Management Plans notebook (2003)

	<p><u>Oregon Habitat Conservation Plan Strategies; Forest Management Plan using the State Forests Take-Avoidance Strategies; Wood Emphasis; and Reserve Based. More information on this project and the model outputs can be found in the <i>Harvest &amp; Habitat Model Project Final Report</i> (March 8, 2006).</u></p> <p><u>The primary purpose of the <i>Clatsop and Tillamook State Forests Strategies for the Achievement of the Board of Forestry Performance Measures</i> (CTS) project was to develop several model scenarios to achieve the Performance Measure targets for the Clatsop and Tillamook State Forests set by the Board of Forestry.<sup>2</sup> The CTS project also made improvements to the yield tables used in the model by incorporating a larger number of inventoried stands and using a better method of estimating stand conditions where inventory information is not available. The CTS project developed two model scenarios and reported the outputs to the Board of Forestry at its November 6, 2008 meeting.<sup>3</sup> These two scenarios included: a ‘Base Case’ that represented the Forest Management with Habitat Conservation Plan, as applied through the district implementation plans; and a scenario that strived for the achievement of Performance Measure 1 (Revenue) or Performance Measure 6 (Wildlife Habitat).</u></p> <p><u>Additional model scenarios were developed between November 2008 and April 2009 under the CTS project. These scenarios included three different Wood Emphasis scenarios, two scenarios that focused on either Performance Measure 1 (Revenue) or Performance Measure 6 (Wildlife Habitat), two scenarios based on a modified Forest Management Plan with Species of Concern Strategies, and two scenarios based on the Forest Management Plan with the Draft Western Oregon Habitat Conservation Plan Strategies. The results of these model scenarios were reported to the Board at its April 24, 2009 meeting.<sup>4</sup></u></p>
I-2	<p><u>The Harvest Scheduling Model used to inform adoption of the plan in 2001 was developed by Professor John Sessions of Oregon State University. The model—to assist the Oregon Department of Forestry (ODF) in evaluating policy alternatives for the <i>Northwest Oregon State Forests Management Plan</i> and <i>Western Oregon State Forests Habitat Conservation Plan</i> by providing decadal information on harvest levels, revenue, and vegetation conditions for a planning horizon of 200 years.</u></p>
Appendix J	
J-1	<p>In Chapter 4, Aquatic and Riparian Strategy 2 states:</p> <p><b>Apply management standards for aquatic and riparian areas. Establish and maintain riparian management areas adjacent to all streams, in accordance with the standards described in the proposed <i>Western Oregon State Forests Habitat Conservation Plan</i>, and Appendix J of this plan and species of concern where they</b></p>

<sup>2</sup> Reference to the Board of Forestry minutes from the November 2007 meeting, including the performance measure report.

<sup>3</sup> Reference to the Board of Forestry minutes from the November 2008 meeting, including the performance measure report.

<sup>4</sup> Reference to the Board of Forestry minutes from the April 2009 meeting.

apply.