

NORTHWEST FOREST PLAN AMENDMENT

Federal Advisory Committee Recommendations
to the U.S. Forest Service

July 2024

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INTRODUCTION TO RECOMMENDATIONS

We, members of the Federal Advisory Committee (FAC), are pleased to share with you the following report and recommendations to amend and modernize the Northwest Forest Plan (NWFP).

Federal forest policy in the Pacific Northwest is complex and challenging. Finding and articulating shared values, goals, and a vision for our national forests has eluded our region for more than three decades. Our collective task established in the Committee's charter was to develop *consensus* recommendations to help guide the Forest Service in developing a climate-smart forestry amendment to the NWFP. **We accomplished that task** (with additional steps to follow as described in this report).

This process was not easy, nor did it come without sacrifice. The FAC is a voluntary group of twenty-one citizens from around the NWFP region with disparate and specialized knowledge about the issues addressed by the amendment. Some of us hold advanced degrees in science, law, policy, and other disciplines. Others are seasoned practitioners or elected government officials. Several are Indigenous and/or work for Tribes. Committee members span the age spectrum. Although we each brought different lived experiences and expertise to the advisory table, we are still volunteer citizens with a particular role to play: providing consensus recommendations to the Secretary of Agriculture. The Forest Service, our partner in this work, has the task of utilizing our recommendations to actually develop a forest plan amendment and to "gap fill" issues the Committee was unable or not tasked to address.

We took our work and responsibilities seriously. Since being formally appointed in July 2023, the Committee officially met five times in-person for at least three days each (September 2023 – Portland; November 2023 – Seattle; January 2024 – Eugene; April 2024 – Weaverville; June 2024 – Olympia). We established six working subcommittees and convened regular, weekly meetings to learn, discuss, debate, share, and refine ideas. These recommendations are the product of hundreds of hours of work and deliberation. Over the last year, FAC members sacrificed significant time and effort at personal and professional cost by investing in the Federal Advisory Committee and NWFP amendment recommendations.

We pursued this important work because we share a deep sense of hope, urgency, commitment, and conviction that the Northwest Forest Plan can and must be modernized and improved to better serve our forests and communities. Despite the diverse views and lived experiences of the Committee, FAC members demonstrated humility, curiosity, and respect for all voices throughout the process. We hope the public and community members who engaged with the FAC and through established public processes see their input, concerns, and solutions in the following pages.

We acknowledge this report and our recommendations are not perfect. In particular, we note that our recommendations pertain to an *amendment* of the Northwest Forest Plan, not a *revision*. As such, our recommendations only touch on some key aspects of the Plan: other Plan direction will not change as part of the amendment and will remain in full force and effect (e.g., the Aquatic Conservation Strategy). Therefore, our recommendations should and must be read in context with what is *not* changing in the underlying NWFP to fully appreciate the scope and scale of our recommendations and the amendment.

We also note that the established timelines and defined scope of work for our recommendations set by the Forest Service precluded conversations, discussions, and recommendations regarding key provisions of the Northwest Forest Plan. More work is required. More voices must be included and heard. This amendment must be the *starting point* for adaptation, continued learning, and change, not the end.

What the FAC accomplished over the past nine months is historic. By unanimously approving dozens of meaningful recommendations to modernize the Northwest Forest Plan, this Committee has demonstrated the power of collaboration, consensus, and working together for a common cause: we all share a deep love and commitment to our national forests and people and communities that steward them. The following report represents the most significant progress in the last 30 years to achieve our shared values for responsible forest stewardship on national forests in the Pacific Northwest.

We believe our work and recommendations – if implemented – would meaningfully change the trajectory of our national forests and all of the ecological, social, cultural, and economic values they provide to society. We hope this report will encourage you to engage in the process, ask questions, continue learning, share your perspective, and join us in refining and implementing a more modern, just, inclusive, and effective Northwest Forest Plan.

Sincerely,

Northwest Forest Plan Federal Advisory Committee Members

Federal Advisory Committee Roster (Alphabetical)

Name	Title, Location, Category, Seat
Mike Anderson, JD	Title: Senior Policy Analyst, The Wilderness Society Location: Washington Committee Category: Organization Seat: Wildlife Organization
Susan Jane Brown, JD ^y	Title: Principal & Chief Legal Counsel, Silvix Resources Location: Oregon Committee Category: Organization Seat: Forest Collaborate Groups
Robert ‘Bobby’ Brunoe*	Title: Secretary Treasurer/CEO, Confederate Tribes of Warm Springs Location: Oregon Committee Category: Science Seat: Indigenous Traditional Ecological Knowledge
Jerry Franklin, PhD	Title: Professor Emeritus, School of Environmental and Forest Science, University of Washington Location: Oregon Committee Category: Science Seat: Forest Ecology
Nicholas Goulette	Title: Executive Director, Watershed Research and Training Center Location: California Committee Category: Organization Seat: Watershed Organizations
Karen Hans	Title: Good Neighbor Authority Program Coordinator, Oregon Department of Fish and Wildlife Location: Oregon Committee Category: Government Seat: State Governments

Elaine Harvey, PhD	<p>Title: Watershed Department Manager, Columbia River Inter-Tribal Commission Location: Washington Committee Category: Science Seat: Aquatic and Riparian Ecosystem and Species</p>
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Ann House, JD	<p>Title: Staff Attorney, Snoqualmie Indian Tribe Environmental and Natural Resources Department Location: Washington Committee Category: Government Seat: American Indian Tribes</p>
Heidi Huber-Stearns, PhD	<p>Title: Associate Research Professor and Director, Ecosystem Workforce Program, Institute for a Sustainable Environment, University of Oregon Location: Oregon Committee Category: Science Seat: Social Science</p>
James Johnston, PhD*	<p>Title: Assistant Research Professor, Institute for Resilient Organizations, Communities, and Environments, University of Oregon Location: Oregon Committee Category: Science Seat: Vegetation Management</p>
Travis Joseph*	<p>Title: President/CEO, American Forest Resource Council Location: Oregon Committee Category: Organization Seat: Forest Products Industry</p>
Meg Krawchuk, PhD	<p>Title: Associate Professor of Landscape Fire, Ecology, and Conservation Science, College of Forestry, Oregon State University Location: Oregon Committee Category: Science Seat: Forest Ecology</p>
Jose Linares	<p>Title: District Manager (Retired), Bureau of Land Management, Northwest Oregon District and Board Member, Straub Outdoors Location: Oregon Committee Category: Organization Seat: Underserved Communities Outreach Organizations</p>
Ryan Miller	<p>Title: Director of Treaty Rights and Government Affairs, Tulalip Tribes Location: Washington Committee Category: Government Seat: American Indian Tribes</p>
Laura Osiadacz	<p>Title: Kittitas County Commissioner Location: Washington Committee Category: Government Seat: County Governments</p>
Ryan Reed	<p>Title: Co-founder and Executive Director, Fire Generation Collaborative and Wildland Fighter</p>

	<p>Location: California Committee Category: Public Seat: Member of the Affected Public at Large</p>
Elizabeth Robblee	<p>Title: Conservation and Advocacy Director, The Mountaineers Location: Washington Committee Category: Organization Seat: Recreation Organizations</p>
Daniel Reid Sarna-Wojcicki, PhD	<p>Title: Policy and Communications Contractor, Karuk Tribe Wildlife Program Location: California Committee Category: Science Seat: Adaptive Management and Planning</p>
Angela Sondenaa, PhD	<p>Title: Certified Senior Ecologist, Nez Perce Tribe Location: Idaho Committee Category: Science Seat: Terrestrial Wildlife Ecology</p>
Lindsay Warness	<p>Title: Western Regional Manager, Forest Resource Association Location: Oregon Committee Category: Organization Seat: Forest Products Industry</p>

*Did not participate in voting on consensus recommendations

‡ Committee Co-Chair

Key Terms Used Throughout These Recommendations

The Northwest Forest Plan and forest planning processes rely on technical and non-technical terms that may be unfamiliar to readers and non-practitioners. The recommendations and narrative included in this report regularly reference and abbreviate commonly used Northwest Forest Plan and forest plan terms. Making sense of the Committee’s recommendations requires readers to be familiar with the following terms and definitions.

The Committee also recognized word choice, language, and definitions are essential to communicating the Committee’s intent. The first appearance of an underlined word or phrase in the report is defined or expanded upon in the [Glossary of Terms](#) at the end of this report.

Land Use Allocations (LUAs): A central component of the Northwest Forest Plan was the creation of a regional set of land allocations, each with associated management standards and guidelines (see below). The reserve network was primarily designed to meet the habitat requirements of the northern spotted owl, marbled murrelet, and salmon species.

Adaptive Management Areas (AMAs): Areas identified to develop and test innovative management to integrate and achieve ecological, economic, and other social and community objectives. Emphasis on restoration of late-successional forests and managed as an LSR. 1,521,800 acres and 6 percent of the original NWFP area.

Matrix: Federal lands outside of reserved allocations where most timber harvest and silvicultural activities were expected to occur. 3,975,300 acres and 16 percent of the original NWFP area.

Late-Successional Reserves (LSRs): Lands reserved for the protection and restoration of LSOG forest ecosystems and habitat for associated species; including marbled murrelet reserves (LSR3) and northern spotted owl activity core reserves (LSR4). 7,430,800 acres and 30 percent of the original NWFP area.

Riparian Reserves: Protective buffers along streams, lakes, and wetlands designed to enhance habitat for riparian-dependent organisms, provide good water-quality dispersal corridors for terrestrial species, and provide connectivity within watersheds. 2,627,250 acres and 11 percent of the original NWFP area.

Congressional Reserved Areas: Lands reserved by the U.S. Congress such as wilderness areas, wild and scenic rivers, and national parks and monuments. 7,320,600 acres and 30 percent of the original NWFP area. Congressional Reserved Areas were not under the purview of the Committee.

Desired Conditions (DC): A desired condition is a description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement to be determined, but do not include completion dates.

Objectives (OBJ): An objective is a concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets.

Standards (STD): A standard is a mandatory constraint on project and activity decision-making, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

Guidelines (GDL): A guideline is a constraint on project and activity decision making that allows for departure from its terms, so long as the purpose of the guideline is met. Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

Standards and Guidelines (S&G): See above definitions. Standards and Guidelines, together, are a section within the 1994 Northwest Fores Plan.

Goals (GOAL): Goals are broad statements of intent, other than desired conditions, usually related to process or interaction with the public. Goals are expressed in broad, general terms, but do not include completion dates.

Management Approaches (MA): Management approaches describe the principal strategies and program priorities the Responsible Official intends to employ to carry out projects and activities developed under the plan. The management approaches can convey a sense of priority and focus among objectives and the likely management emphasis. Management approaches should relate to desired conditions and may indicate the future course or direction of change, recognizing budget trends, program demands and accomplishments. Management approaches may discuss potential processes such as analysis, assessment, inventory, project planning, or monitoring.

Suitability of Lands (SUIT): Specific lands within a plan area will be identified as suitable for various multiple uses or activities based on the desired conditions applicable to those lands. The plan will also identify lands within the plan area as not suitable for uses that are not compatible with desired conditions for those lands. The suitability of lands need not be identified for every use or activity. Suitability identifications may be made after consideration of historic uses and of issues that have arisen in the planning process. Every plan must identify those lands that are not suitable for timber production.

Monitoring (MONT): Provides direction for monitoring programs.

COMMITTEE RECOMMENDATIONS

1. Tribal Inclusion and Honoring Tribal, Treaty, Reserved, Retained, and Other Similar Rights and Trust Responsibilities

Since time immemorial, Indigenous communities across the Pacific Northwest (PNW) have stewarded the land and developed strategic and innovative management practices to sustain communities, ecosystems, and the reciprocity between them. An abundance of historical and scientific research shows that cultural practices and stewardship (e.g., burning, tending, tracking, cultivating, and paying attention to aquatic species and wildlife habits and interactions, often through sacred ceremonies) have contributed to the establishment and maintenance of mature and old growth forest habitats, supported fire-adapted ecosystems, and mitigated impacts connected to changing climates and a history of environmental degradation across the PNW.

The Northwest Forest Plan (NWFP) area includes over 80 Tribal nations, and many more tribal communities and Indigenous-led organizations throughout the 24.5-million acres of National Forest and other designated lands. Although there is overlap and similarities, each Tribe has different Treaty, reserved, retained, and other similar rights (“Treaty and other Tribal Rights”), as well as trust responsibilities owed by the federal government. In addition, each Tribe has their own historical and culturally significant needs, perspectives, and unique approaches to ecosystem stewardship as well as adapting to extreme changes in climate and on the land.

The original development and implementation of the NWFP in 1994 lacked meaningful consultation, engagement, or partnership with Tribes and Tribal communities. It also neglected Indigenous Knowledge (IK), tribal values, and interest in forests and associated cultural practices that resulted in forest management planning that failed to adequately acknowledge and support Tribal sovereignty, co-stewardship, and management. Tribal communities have been greatly harmed by the lack of meaningful inclusion in the development and implementation of the NWFP. This is evident by biodiversity loss, environmental degradation, impacts to cultural resources and an increase in fire intensity and frequency and recent catastrophic wildfires that have caused substantial damage not only to USFS lands, but also to Tribal communities and ecocultural resources, including those protected by trust responsibilities, Treaty, and other Tribal rights. In addition, not including Tribal communities has negatively impacted the stewardship, environmental health and climate resilience of the National Forest lands covered by the NWFP. These impacts to Tribes and National Forest lands result in costs to the greater public in a variety of ways.

Over a century of fire suppression, coupled with regulatory restrictions, removal of Indigenous practitioners and practices (including cultural fire), as well as assimilationist policies from the boarding school era, have led to today’s increased risks from catastrophic wildfire and has also created structural barriers and mechanisms preventing Indigenous peoples from enacting sustainable stewardship. The NWFP amendment must signal a shift in Tribal relations across NWFP forests and include an apology for the exclusion of Tribal communities from the original formulation of the NWFP and call for healing and reparations for over a century of settler colonialism, land dispossession, criminalization and marginalization of Indigenous cultural stewardship practices, and mismanagement of Tribal lands.

Cultural resources that are part of many Tribal nations’ rights and further recognized as protected under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) cannot be sustained without active Tribal stewardship and self-determination to enact cultural practices, including cultural fire. Similarly, the trust obligation to protect wildlife species and cooperate with federally recognized Tribes in their management is of paramount importance. Co-management of wildlife species is recognized under the law as part of reserved

treaty rights between the United States government and signatory Tribes of the Pacific Northwest. Additionally, there are other tribes in the NWFP area, which hold reserved, retained, and other similar rights, and for which an array of Executive Orders and other forest-related policies apply and pertain to tribal interest and inclusion in forest administration and management, beyond Consultation requirements.

Wildfire resilience, forest management, climate adaptation, biodiversity, and community well-being will require establishing and nurturing meaningful relationships with Tribal governments and the communities they represent. Forest restoration and management cannot and should not be accomplished without centering Indigenous people, knowledge, and stewardship, or without Tribes and Tribal people playing a key role in NWFP updates and implementation. Working collaboratively with Tribal governments, representatives, and communities to update and implement the NWFP ensures that IK and cultural practices are adequately included and protected from misuse, inappropriate disclosure, and appropriation. This will help facilitate meaningful progress toward healing the land, tribal sovereignty, and reconciliation.

* * *

The Committee recognizes that the following plan components are extensive and complex, as is warranted given that the 1994 NWFP contains no meaningful provisions incorporating Tribal perspectives in the management of forests within the NWFP region. We understand that the Forest Service may streamline, combine, and revise some of the recommended plan components to conform them with existing law and policy. However, it is our very clear intent that an especially robust set of Tribal inclusion plan components be included in the NWFP amendment.

The Committee also recognizes that some of the management direction contained in the following plan components can be implemented without a forest plan amendment, although that direction is also properly documented in plan components. In those instances, the Committee expects the Forest Service to implement the policy direction contained in those components without delay to the extent feasible.

Finally, we note that the forthcoming NWFP amendment will amend all 19 National Forest land and resource management plans within the range of the northern spotted owl. As such, some plan components are directed at “the Forest,” which should be interpreted as compelling or constraining action on the National Forest unit (e.g., the Gifford Pinchot National Forest) that will be implementing the plan component. Other plan components are directed at “the Forest Service,” which should be interpreted as applicable to the agency operating at the broader NWFP (regional) area in Regions 5 and 6. Still other plan components are directed at both scales: the unit and regional levels. It is the Committee’s intent that the Tribal inclusion plan components should be implemented at the most comprehensive scale feasible.

What’s currently in the Northwest Forest Plan: The Northwest Forest Plan currently does not contain provisions relevant to Tribal inclusion, Indigenous Knowledge, and honoring Trust responsibilities or Treaty and other Tribal rights.

These recommendations support:

- ✓ Incorporation of Indigenous Knowledge into planning, project design, implementation, and meeting the agency’s trust responsibilities, while protecting confidentiality and preventing appropriation
- ✓ Improved fire resistance and resilience
- ✓ Capacity of ecosystems to adapt to climate change

- ✓ Conservation and recruitment of old growth forest conditions and habitat for species that depend on old growth ecosystems and regional biodiversity
- ✓ Communities that rely on National Forest System lands

With this background and context in mind, the Committee supports including the following recommendations in the Northwest Forest Plan amendment:

RECOMMENDATIONS	
1-1	DC: Proposed practices and management activities uphold and protect treaty, reserved, and other similar rights of all Tribes and fulfill, in part, the federal trust responsibilities owed to all federally recognized Tribes and to <u>Indigenous Peoples regardless of treaty status</u> .
1-2	DC: The Forest recognizes the role Tribal communities have had and continue to have an interest in shaping and stewarding the ecology of the Forest. Proposed practices and management activities support, sustain, and incorporate Indigenous knowledge into future forest administration, planning, and operationalizing co-stewardship and collaborative projects in ways that are reciprocal in nature, with the recognition that such knowledge is offered at the sole discretion of a Tribe as a sovereign government.
1-3	DC: Proposed practices and management activities are coordinated with other government agencies and Tribes to ensure requirements of all laws and regulations are met and terms of Indian Treaties are upheld.
1-4	DC: The Forest coordinates, consults, and collaborates with Tribes, and work with Tribes to establish a co-leadership role in the context of a co-stewardship agreement to restore, promote, and enhance <u>traditional cultural use species</u> (including but not limited to <u>culturally significant species</u> used for food, fuel, fiber, construction (e.g. for canoes or traditional lodges) of cultural items, medicine, regalia, artisanal, spiritual, and ceremonial purposes) and ensure they are accessible to tribal members.
1-5	DC: The Forest works with Tribes to determine the Tribal organizational capacity needed to engage in collaboration, coordination, and consultation with the Forest Service, and works with Tribes to identify sources of funding for Tribal organizational capacity development.
1-6	DC: The Forest collaborates with Tribes to support youth engagement programs to cultivate the next generation of professionals and address staffing and capacity issues related to better including Indigenous perspectives in land stewardship.
1-7	DC: The Forest supports Tribal interests in <u>food sovereignty</u> for all Tribes and Tribal people.
1-8	DC: The Forest coordinates with Tribes to ensure Forest access by tribal members for the exercise of Treaty and other Tribal Rights regarding cultural and traditional uses.
1-9	DC: Vegetation types and conditions, as well as enabling ecological and cultural processes including fire use and stewardship practices, provide a sustainable, harvestable, and accessible diversity of habitats necessary to provide plant, fungi, and animal species that are of Tribal importance for traditional, ceremonial, and medicinal purposes. Plants, fungi, and animals known to be used and stewarded by Tribes for traditional use are thriving in the Forest.
1-10	DC: Through monitoring, ensure that culturally significant plants used by Tribes who traditionally use the Forest are thriving and properly protected from overharvest from both commercial and non-commercial uses.
1-11	DC: The Forest recognizes the treaty, reserved, and other similar rights of and trust responsibilities to Tribes within the Forest and the difficult history of claiming and enforcing

	these rights that have led to intergenerational trauma, painful memories and events for Tribes and Tribal members that are still felt within these communities. The Forest takes seriously its role and responsibility in any healing processes that emerge from collaboration with willing Tribes.
1-12	DC: The Forest recognizes Tribal needs and viewpoints and fosters a robust and committed relationship to working alongside federally and non-federally recognized Tribes, Indigenous-led organizations, and related groups with which it consults, collaborates, and coordinates. Forest Service personnel, including but not limited to line officers, departmental staff, archaeologists, historians, and Tribal liaisons, make it a practice and norm to consult and communicate early, frequently, and openly with Tribal leadership, Tribal historic preservation officers, traditional religious practitioners, traditional gatherers, Tribal members, and other Tribal organizations.
1-13	DC: Forest Service personnel regularly receive training in the cultural norms of area Tribes as well as treaty rights, federal Trust responsibilities and other similar Tribal rights relevant to the forest unit. Forest staff are operationally familiar with and have received training on the Forest Service Manual Chapter 1563 (or any successor Chapter) that sets out the USFS Final Directives on American Indian and Alaska Native Relations.
1-14	DC: The Forest supports mentorship and leadership programs designed in collaboration with interested Tribes to recruit and engage workforce professionals trained as natural resource stewards grounded in culture and tradition to protect the Forest through innovative programs, inclusive leadership, and advancing technology supported by relevant Tribes.
1-15	DC: The Forest provides a setting for the education of Tribal youth in culture, history, and land stewardship through culturally appropriate and place-based processes and for the exchange of information between Tribal elders and youth and between Tribal youth and Western scientists, if so desired by the Tribal community.
1-16	DC: <u>Cultural burning</u> is recognized as an inherent Tribal right and responsibility that has existed for millennia and is rooted in Tribal laws and Indigenous knowledge, practices, and belief systems. The Forest accommodates cultural burning and coordinates, consults, and collaborates with Tribes in order to create conditions conducive for this Tribal sovereign practice.
1-17	DC: The Forest supports and works with Tribes and Indigenous people to acknowledge and respectfully share Indigenous knowledge, expertise, and practices in meaningful co-stewardship including, but not limited to, planning, design, and implementation of prescribed fire and proactive wildfire management and mitigation actions and related practices.
1-18	DC: The Forest supports and works with Tribes to center Indigenous knowledge, expertise, and cultural stewardship practices in co-stewardship and adaptive management of lands in all land use allocations, including Late-Successional Reserves and late-successional and old growth stands. This includes supporting, enabling, and accommodating Indigenous fire use for cultural and ecological purposes.
1-19	DC: The Forest recognizes and manages, mitigates, or regulates the impacts of growing public use, non-tribal commercial practices, and recreation on lands administered by the Forest Service, including impacts on ecology, cultural resources, and Tribal member access for the exercise of Treaty and other Tribal Rights and traditional, cultural, and religious practices to sustain Tribal cultures.

1-20	DC: Indigenous Knowledge and science are recognized and used in ways that honor Tribal data and <u>knowledge sovereignty</u> and which include free, prior, and informed consent by Tribes and Tribal people, to guide Forest planning and implementation as a co-equal source of the best available science alongside any other reputable source.
1-21	DC: Research and monitoring of forest health, wildlife populations, fungi, flora, and fauna are inclusive and respectful of Tribal Indigenous knowledge research and data, and Indigenous data is shared in a way that respects Tribal sovereignty. The data shared according to Tribally approved protocols will assist in fostering co-stewardship, collaborative arrangements, and cooperative agreements to fulfill related mutual goals.
1-22	DC: Increased partnerships, collaborations, and agreements with Tribes enhance the capacity for forest stewardship to manage forest structure and composition according to desired conditions that support culturally significant species and habitats and are developed in coordination with and with support from willing Tribal participants on a sovereign-to-sovereign basis.
1-23	DC: Co-stewardship and Tribal management opportunities support ecological and cultural benefits for Tribal communities and offer the institutional and technical support needed to allow Tribes to participate in consultation and cooperative agreements that are best suited to support cultural uses and provide economic benefits (e.g. jobs, contracts, grant revenue, infrastructure) to Tribal communities for long-term sustainability. The Forest Service works with Tribes to identify sources of financial support for these efforts.
1-24	DC: The Forest Service operates under the terms of a mutually agreed upon privacy protocol and seeks free, prior, and informed consent of relevant Tribes. Treaty and other Tribal rights are protected through full, effective, early, and sustained participation in all aspects of planning, monitoring, and decision-making.
1-25	DC: The Forest Service supports and coordinates federal management actions consistent with Tribal forest management, biodiversity, and climate adaptation strategies, actions, and management plans, including Integrated Resource Management Plans, consistent with treaty rights, reserved rights, and other Tribal rights. The Forest Services recognizes the rights of Tribes to engage in planning on multi-jurisdictional landscapes. Formal consultation is conducted regarding actions taken within areas included in Tribal management plans.
1-26	DC: The Forest actively engages in collaboration with Tribes as a co-steward with shared interests in the management of Forest resources, including treaty-reserved resources and other culturally significant resources.
1-27	DC: The Forest works with Tribes as co-equal sovereigns to develop and implement agreements for the co-stewardship of federal lands and waters. Such agreements are created and implemented consistent with government-to-government obligations, Tribal sovereignty, and <u>data sovereignty</u> policies and practices.
1-28	DC: Improved beaver habitat conditions promote beaver presence in watersheds where beaver activities benefit ground water, surface water, and aquatic habitat complexity, and where beaver activities support conservation and recovery of imperiled aquatic species, and in populations sufficient to fulfill their ecological function.
1-29	DC: Indigenous Youth in the NWFP area develop robust understandings of key concepts for participation in community resilience and land stewardship, including receiving curricular and experiential learning about Indigenous and colonial histories and conditions of the land, Tribal sovereignty, fire ecology, and climate resilience. Annual letters will be sent to Tribes within

	the NWFP notifying them about opportunities such as the Indian Youth Service Corps program and other opportunities.
1-30	DC: To implement the Tribal Relations Program on each Forest and to ensure that individual Tribal needs are respected and understood, each Forest employs staff with the sole responsibility of stewarding relationships between each Tribe and the Forest. The roles and responsibilities of the Tribal Relations Program Manager include Tribal outreach, staff-to-staff coordination, and collaboration, and are separate from Forest Service staff responsibilities associated with heritage and/or archaeology program tasks.
1-31	DC: Indigenous knowledge is meaningfully incorporated into Biological Assessments and other regulatory and compliance processes related to the Endangered Species Act to the greatest degree possible (including related to Limited Operating Periods) through processes led by Tribes or in collaboration with Tribes, and only in ways that honor Tribal data and knowledge sovereignty, and which include free, prior, and informed consent by Tribes and Tribal people.
1-32	DC: Recognize the central role of Indigenous Knowledge in Historic Preservation issues, including determinations of eligibility, nominations, archaeological and TEK survey processes and standards, in Section 106 consultation, and in Traditional Cultural Property or Cultural Management Area designations.
1-33	OBJ: To produce huckleberry in a manner that promotes huckleberry abundance over the long-term, the Forest works with interested and relevant Tribes to determine annual huckleberry restoration actions at a scale meaningful to the Tribes, and completes those restoration actions through consultation with and/or through co-stewardship agreements if possible.
1-34	OBJ: Collaborate with Tribes to jointly develop and implement programs and projects that support the restoration of priority culturally relevant species. Within 5 years, each Forest Unit should develop at least 3 such projects in partnerships with Tribes.
1-35	OBJ: Through engagement and consultation with interested Tribes, develop techniques and approaches to implement forest restoration, enhancements, fuels reduction, or maintenance actions in at least three areas of Tribal importance, as jointly determined by Tribal nations and the Forest Service, on a yearly basis following plan approval.
1-36	OBJ: Annually increase or improve dry, serpentine, and wet meadow-associated culturally significant species, such as camas meadows or other species identified through consultation with interested Tribes by 2,000 acres or other metric meaningful to the Tribe.
1-37	OBJ: Annually restore a mileage meaningful to [relevant Tribes] of riparian habitat suitable for beaver reintroduction or expansion, consistent with the Aquatic Conservation Strategy.
1-38	OBJ: Semiannually, and with Tribal input and leadership as appropriate, conduct employee training and education regarding Tribal cultural awareness; terminology; general trust responsibilities and Tribal rights; relevant treaty rights and history, settler colonialism, decolonization and Indigenous <u>ecocultural restoration</u> ; principles of free, prior, and informed consent; data sovereignty; Indigenous values that underpin Indigenous Knowledge such as reciprocity, cultural humility, and the Seventh Generation Principle; and the Principles and Best Practices for Working with Indigenous Knowledge. Indigenous trainers and/or cultural monitors from willing Tribes should be engaged to co-lead this instruction. Consider hosting an annual knowledge sharing event where practitioners from the Forest Service and from area Tribes can teach, train, share, and learn.
1-39	OBJ: Provide regular and onboarding training to unit Forest Service employees about local/regional Federal Tribal trust responsibilities and treaty rights, the unique history of each

	local/regional Tribe, as well as ways in which all Forest staff are bound to honor and implement these responsibilities. Consider retaining and compensating Indigenous trainers and/or cultural monitors from willing Tribes to co-lead this instruction.
1-40	OBJ: Within two years and at Tribal request, work with relevant Tribes to co-develop and implement with interested Tribes programmatic agreements as directed by Tribes (e.g., memoranda of agreement, memoranda of understanding, master stewardship agreements, stewardship agreements, TFPA agreements, bilateral agreements, interagency agreements, NHPA section 106/110 responsibilities) between the Forest and Tribes to establish consultation protocols and cooperative/collaborative management processes.
1-41	OBJ: Within two years, work with Tribes to co-develop with relevant and interested Tribes co-stewardship agreements and opportunities that address Tribally-identified workforce, cultural, ecological, economic, STEM education, and business opportunities of highest importance to Tribes.
1-42	OBJ: Within two years, enter into one or more Government-to-government agreement(s) with Tribes per Forest to co-design, plan, and implement habitat enhancement projects and programs for culturally significant species and practices through processes that respectfully engage Indigenous knowledge and values while both promoting Tribal workforce capacity and protecting Tribal data sovereignty and culturally sensitive information about culturally significant species, places, and practices. Develop an implementation strategy for NHPA section 304 on confidentiality (54 USC § 307103) that responds to Tribal needs to protect the confidentiality of religious practices.
1-43	OBJ: Within two years, establish a Tribal wildlife and biodiversity regional interagency working group (Regional Tribal Operations Working Group) with Tribal and Forest Service representatives from Regions 5 and 6 to explore co-stewardship of wildlife and biodiversity that is inclusive of Indigenous knowledge and cultural practices, and <u>western science</u> , and that honors Tribal data and knowledge sovereignty and includes free, prior, and informed consent by Tribes and Tribal people.
1-44	OBJ: Within 5 years, work with Tribes to co-develop a long-term strategy to improve Tribal access to important cultural places on the Forest, consistent with applicable federal law, regulations, executive orders, and agency policies, Tribal laws, constitutions, and treaty, reserved, retained and other Tribal rights, including any privacy and consultation protocols.
1-45	OBJ: With relevant and interested Tribes, co-develop actions in priority watersheds that will improve soil and watershed conditions on 3,000 to 4,000 acres every 3 years, including through system and non-system road decommissioning and increased use of tribally-led cultural burning.
1-46	OBJ: By the end of year 8 following amendment approval, Forests in the NWFP Area have designed and implemented a Tribal Relations Program on each Forest to build partnerships, uphold trust and legal responsibilities, and help coordinate with federally recognized and unrecognized tribes that have ancestral lands on the Forest.
1-47	STD: The Forest shall coordinate with Tribes to ensure privacy and confidentiality is maintained for sensitive topics such as cultural practices, locations, and traditional cultural use species.
1-48	STD: Commercial collection of <u>special forest products</u> shall not be permitted if the relevant Tribal governing body identifies it would result in limiting Tribal member access to treaty, reserved, or retained resources. This determination shall be reviewed annually in coordination with relevant and interested Tribes to ensure treaty resources are adequately conserved and stewarded.

<p>1-49</p>	<p>STD: Management activities that have potential to impact historic districts, buildings, sites, structures, and objects with traditional cultural significance shall be conducted in close consultation and partnership with the relevant Tribe or Tribes to fulfill Treaty and other Tribal Rights and obligations or otherwise protect the important relationship between a relevant Tribe and the Forest and legally mandated federal Indian trust responsibilities. Project and activity authorizations shall protect and honor Tribal reserved rights and sacred land and be developed in tandem with relevant Tribes as sovereign partners with co-equal interest. The uses of these areas must be compatible with Desired Conditions, and compatibility shall be determined through government-to-government consultation and implemented in accordance with a consultation protocol developed with the relevant Tribes to ensure consultation is meaningful.</p>
<p>1-50</p>	<p>STD: Management activities shall consider Indigenous and western scientific research and ethnographic research related to relevant Tribal cultural land-use activities and interests when analyzing project effects. Ensure that no adverse effects are caused to any Treaty and other Tribal Rights, sacred places, practices, or elements of the landscape identified as culturally important to relevant Tribes.</p>
<p>1-51</p>	<p>STD: Forest staff shall coordinate and collaborate with Tribes in developing appropriate staffing solutions for identifying and managing areas of traditional cultural significance, resources, and sacred places where historic preservation laws alone may not adequately protect the resources or important cultural values. Confidentiality of Tribal information and knowledge shall be maintained as allowed by law and shall not preclude implementation of further protective measures.</p>
<p>1-52</p>	<p>STD: Land management activities shall be developed in collaboration and consultation with relevant Tribes to avoid, minimize, or mitigate potential conflict with forest resources used for traditional and cultural practices sacred or important to the relevant Tribes, or used in the exercise of treaty, reserved, and other Tribal rights. <u>Tribal cultural-use species</u> shall be prioritized for preservation and ongoing forest health management in alignment with Tribal values.</p>
<p>1-53</p>	<p>STD: Tribal members and people shall have reasonable access as determined by the relevant and interested Tribe to areas that provide them an opportunity to practice traditional, cultural, and religious lifeways, such as plant gathering, fishing, hunting, stewardship and ceremonial activities that are essential in maintaining their cultural identity and the continuity of their culture. Relevant Tribes may seek temporary closures of Forest Service lands in accordance with the Tribal Cultural and Heritage Cooperation Authority. Formal consultation and notification to Tribes shall be conducted for any activities in sacred site areas.</p>
<p>1-54</p>	<p>STD: Develop protocols through meaningful consultation with relevant Tribes to protect sacred places and <u>Traditional Cultural Properties</u> and identify how management activities will avoid adversely affecting the integrity of these places. Formal consultation and notification to Tribes shall be conducted for any activities in sacred site areas or within Traditional Cultural Properties.</p>
<p>1-55</p>	<p>STD: Develop protocols through meaningful consultation with relevant Tribes to ensure that all land management activities of the Forest avoid impacts that would otherwise deprive or hinder Tribal members of their ability to access and exercise their treaty-reserved rights, reserved rights, and other Tribal rights and associated resources or would otherwise impair their traditional and cultural practices, as identified by the Tribe.</p>
<p>1-56</p>	<p>STD: Upon Tribal request, the Forest shall enter into at least one memorandum of agreement or other instrument between the Forest and each Tribe with reserved and/or unreserved</p>

	<p>treaty rights on each forest unit to: guide the meaningful consultation processes identified with relevant Tribes; include Tribes as partners in management and decision making processes; identify and make known each Tribe’s particular perspectives, priorities, and interests; allow for restoration of cultural resources and Traditional Ecological Knowledge (TEK) assets to protect sacred sites and Traditional Cultural Properties (Places); and provide for the protection of cultural practices and other important resources. Data privacy and sovereignty protocols shall be observed.</p>
1-57	<p>STD: Upon Tribal request, the Forest shall enter into at least one memorandum of agreement or other formal instrument with each Tribe with reserved and/or unreserved treaty rights on each forest unit pertaining to fire stewardship, heritage monitoring, wildfire management, wildfire risk reduction and management, and post-fire recovery.</p>
1-58	<p>STD: The Forest shall consult and coordinate with willing and interested federally recognized Tribes to co-develop and partner in co-stewardship proposals and accomplish projects of mutual benefit across shared boundaries and use available federally authorized or advocated programs, including but not limited to the Tribal Forest Protection Act of 2004, Good Neighbor Authority, Tribal Forest Protection Act (TFPA), Tribal Forest Management Demonstration Projects, Indian Self-Determination and Education Assistance Act (ISDEAA), Tribal Forest Management Demonstration Projects, the Multiple-Use Sustained-Yield Act (MUSYA), Healthy Forests Restoration Act/Stewardship Contracting Authority, Challenge Cost-Share Agreements, Cooperative Funds Act, the Cooperative Funds and Deposits Act, the Indian Youth Service Corps Program, and the Collaborative Forest Landscape Restoration Program. The Forest Service shall help Tribes identify and address barriers to use of these authorities.</p>
1-59	<p>STD: Confidentiality of Tribal information and resources collected during consultation or as part of co-stewardship, collaboration, and co-management agreements shall follow all data sovereignty protocols, as guided by best practices, and be maintained as allowed by law, unless express permission to share information is given by the relevant Tribe. This shall include the non-disclosure of highly confidential tribal information regarding ceremonial activities and features, except where authorization is specifically given by a tribally-designated representative. This may involve a higher standard of confidentiality than what is typically disclosed to a suitably-qualified USFS Archaeologist.</p>
1-60	<p>STD: At Tribal request, ongoing government-to-government and staff consultation for each federally recognized Tribe and any Tribe with historical or treaty interests in the Forest’s NFS lands occurs by way of a Tribally established consultation protocol, memorialized by a joint agreement of the Forest and the relevant Tribes. The USFS shall not rely on internal procedures alone to determine the sufficiency of consultation efforts.</p>
1-61	<p>STD: Support Tribal cultural practitioners in gathering and using traditional management techniques such as burning, pruning, coppicing, for culturally significant plants for personal, communal, or other non-commercial traditional use on lands administered by the Forest, consistent with applicable laws, regulations, policy, and Treaty and other Tribal rights. Gatherers shall have access to lands managed by the Forest Service for traditional practices and may request a temporary closure for such practices in accordance with the Tribal Cultural and Heritage Cooperation Authority.</p>
1-62	<p>STD: The Forest shall prioritize local traditional native gathering and will address issues regarding gathering, access, sustainability and other concerns associated with traditional native gathering in consultation and partnership with relevant Tribal traditional practitioners,</p>

	Tribes, and Tribal communities. Identification of traditional native cultural gatherers shall be left to the discretion of Tribal traditional practitioners and Tribal communities.
1-63	STD: The Forest shall work in collaboration and partnership with relevant Tribes, Tribal communities, Tribal organizations, and their designated traditional cultural practitioners to steward, identify, restore, and enhance culturally important plant resources and wildlife.
1-64	STD: The Forest shall work collaboratively with relevant Tribes, Tribal communities, and Tribal organizations to monitor effects of recreational access to traditionally important access points for Tribes and Tribal communities, identify funding and support capacity for Tribal areas of concern, and create and implement solutions.
1-65	STD: The Forest shall coordinate and collaborate with Tribal land use planning and natural resource management programs and to the maximum extent shall support and accommodate the ecocultural restoration activities of approved Tribal land resource and integrated resource management plans and programs, including through the Forest’s program of work, planning, and implementation processes.
1-66	STD: The Forest Service shall, to the full extent allowed under the law, prevent the public disclosure and maintain the confidentiality of place-based Indigenous knowledge and culturally significant information provided by Tribes with the express expectation of confidentiality in accordance with any data sovereignty protocols and best practices.
1-67	STD: The Forest shall work with Tribes to consider and integrate where possible any available Tribal climate adaptation plans during Forest Service planning processes.
1-68	STD: Ensure that Forest actions are not detrimental to the protection and preservation of Tribal spiritual, religious and cultural sites, practices, and treaty, reserved, or other Tribal rights.
1-69	STD: Ensure management activities are coordinated with other governmental agencies and Tribes to ensure requirements of all laws and regulations are met and terms of Indian Treaties are upheld.
1-70	STD: The Forest shall meaningfully engage Tribes and work with Tribes as co-stewards in the early identification and development of proposed projects and management activities on the Forest, including those that could involve programmatic agreements, and throughout the planning, implementation, and monitoring processes, as desired by the Tribes with historical connections to the Forest.
1-71	STD: To honor Tribal privacy, requests for temporary closure orders for cultural and traditional purposes are accommodated and will be exempt from the Freedom of Information Act if requested under the Tribal Cultural and Heritage Cooperation Authority. A closure shall affect the smallest practicable area for the minimum period necessary for activities of the applicable Tribe.
1-72	STD: Proposed practices and management activities shall uphold Treaty and other Tribal rights of all Tribes and the federal trust responsibilities owed to all Tribes and Indigenous Peoples regardless of treaty status.
1-73	STD: The Forest shall establish an intertribal forest council with representatives of all relevant and interested Tribes for the purpose of coordination, consultation, training, workforce development, and land management guidance purposes.
1-74	STD: Support Tribes’ opportunities to practice traditional cultural and religious activities such as plant gathering and ceremonial activities to help sustain their way of life, cultural integrity, social cohesion, and culturally appropriate stewardship economies.
1-75	GDL: To ensure Tribal access to <u>First Foods</u> and culturally significant botanical species, collection of special forest products should not be authorized if Tribal access to culturally

	important resources is diminished, as identified by relevant Tribes. If access or gathering is authorized, such activities should minimize conflicts with Tribal uses, Trust responsibilities and Treaty and other Tribal rights and resources.
1-76	GDL: Management strategies should be designed and implemented through meaningful consultation with Tribes and the establishment of sovereign-to-sovereign cooperative agreements to minimize adverse negative effects associated with recreation sites that have historically impacted, or have the potential to impact in the future, reserved Tribal treaty rights, reserved rights and other similar Tribal rights.
1-77	GDL: Upon Tribal request, the Forest should appoint one or more Cultural Burn Liaison(s), designated jointly with relevant Tribal nations, to ensure treaty and reserved rights and trust responsibilities are upheld.
1-78	GDL: Upon Tribal request, entities gathering data and providing dispatch information regarding fire ignitions should have the authority to enter into agreements with such Tribes to protect the privacy and confidentiality of cultural ceremonial and other fire use.
1-79	GDL: Through the Government-to-Government consultation process, the Forest Service should provide for the free use, without permit, of culturally significant plants by Tribal people should be honored for traditional native cultural gathering. Local agreements are encouraged to support such gathering.
1-80	GDL: Upon Tribal request, the Forest should work with Tribes to develop ecocultural stewardship implementation plans to prioritize the restoration of Forest as well as related non-Forest ecosystems and communities to support the propagation of treaty resources, First Foods, and other cultural use of culturally significant species (e.g. basketry, fiber, medicinal, regalia, ceremonial species) and associated habitats.
1-81	GDL: To facilitate Tribal community workforce capacity, the Forest should work in meaningful engagement and consultation with relevant Tribes to identify areas of common workforce needs, prioritize training, workforce development, and the offering of a steady to increasing packaging of contracts and agreements, as determined through the Government-to-government and Tribal roundtable processes, for associated forest stewardship, construction, fire management, and wildlife and vegetation monitoring to Tribally owned or operated businesses and organizations.
1-82	GDL: To honor Treaty and other Tribal Rights, prioritize early and sustained staff-to-staff consultation and coordination with relevant Tribes, in planning, monitoring, and management activities related to Federal and State Threatened and Endangered Species and Species of Conservation Concern.
1-83	GDL: The Forest Service should solicit recommendations and/or requests from Tribes that specific land use allocations or other areas of tribal importance should be dedicated to co-stewardship and complete a framework for assessing and implementing those recommendations and/or requests from Tribes.
1-84	GDL: To honor Tribal sovereignty, when planning project-level activities and upon Tribal request, the Forest Service should consider an action alternative that utilizes applicable Tribal land management plan desired conditions, standards, guidelines, and other management direction in setting and achieving the purpose and need of Forest Service projects.
1-85	GDL: To ensure that Biological Assessments, Limited Operating Periods, and other Endangered Species Act compliance obligations are aligned with Indigenous knowledge, values and cultural practices, USFS should consult, collaborate, and coordinate with interested local Tribes and other Federal agencies in the development of these documents

	and operating periods and throughout the consultation process with the U.S. Fish and Wildlife Service.
1-86	GDL: Indigenous youth in the NWFP area develop robust understandings of key concepts for participation in community resilience and land stewardship, including receiving curricular and experiential learning about Indigenous and colonial histories and conditions of the land, Tribal sovereignty, fire ecology, and climate resilience.
1-87	GDL: Solicit and act on recommendations and/or requests from relevant and interested Tribes for specific areas within the Plan area where co-stewardship should occur. Complete a framework for assessing and implementing those recommendations from Tribes.
1-88	GDL: Interpret the National Historic Preservation Act and National Environmental Policy Act provisions in such a way that protection and avoidance are not the only measures available. In many situations, restoration rather than avoidance is a desired approach.
1-89	GOAL: Relevant Tribes and the Forest will meet early and regularly, as defined in meaningful consultation with each relevant Tribe, to better understand the associated needs and viewpoints of all parties. Promote the use of Forest-hosted Tribal forums and events, as well as attendance at Tribally-hosted meetings and events, conducted in a decolonized manner (e.g. co-led by the Tribe and the Forest Service, with traditional foods and ceremony, if desired by the Tribe) as a method to ensure consistent, respectful, and effective contact, consultation, collaboration, and partnership.
1-90	GOAL: Consider employee exchange opportunities between the Forest Service and relevant Tribes under Service First agreements or other mechanisms at federal expense. Provide Forest staff with opportunities to work with Tribes and provide Tribal staff opportunities to work with the agency, to increase reciprocal understanding and promote use of Tribal programs and legislation that is mutually beneficial.
1-91	GOAL: In consultation with relevant Tribes, and through the use of sovereign-to-sovereign cooperative agreements and funding approaches, increase Tribal community workforce opportunities and capacity building in the fields of natural and cultural resources, forest stewardship, fire, and cultural/natural resources and wildlife monitoring on the Forest, focusing on Tribal youth and young adults, ideally in collaboration with local Tribes and by identifying source of funding available to local Tribal natural resource departments and organizations.
1-92	GOAL: Upon Tribal request, enter into long-term contracts, master stewardship agreements, and other sovereign-to-sovereign cooperative instruments with Tribes and Tribal entities. Establish a working group of tribal and Forest Service leadership to revise existing agreement templates such that they respect Tribal sovereignty.
1-93	GOAL: Upon Tribal request, develop co-stewardship agreements to support the planning, implementation, and monitoring of collaborative projects to enhance resilience of cultural focal species and habitats to wildfire, climate stressors, and future climate scenarios and to co-develop vulnerability assessments and adaptive management plans to build social and ecological resilience to climate change-related stressors at multiple scales in Tribal territories, that may have extended historically across the Forest.
1-94	GOAL: Upon Tribal request, develop co-stewardship agreements to support Tribally-led restoration of ecosystem function in terrestrial and aquatic habitats (including dam removal, post-dam removal, floodplain reconnection, and beneficial or intentional burning) to buffer ecosystems against wildfire threats and climate stressors and enhance their ability to respond to disturbances at multiple scales.

1-95	GOAL: The Forest actively and frequently works with Tribes to uphold Tribal Treaty and other Tribal Rights to interpret and showcase Tribal heritage and deep cultural connections to ancestral homelands across the Forest. These demonstrations should respect confidentiality of sites and heritage assets.
1-96	GOAL: Identify existing federal programs suitable as funding sources to build Tribal workforce, implementation, monitoring, and enforcement capacity. Provide such information to Tribes and assist Tribes in accessing such funds.
1-97	GOAL: Steward the land in balance for all life and for future generations, guided by an ethic of respect and reciprocity in which people give back to the forest in return for all the benefits that it provides.
1-98	GOAL: The Forest Service works with Tribes to expand the use of administrative land transfers to secure land for workforce housing and office space for Tribal natural resources, wildlife, fire, climate resilience and cultural resources programs to bolster co-stewardship capacity
1-99	GOAL: The Forest Service consults and coordinates with Tribes to identify culturally relevant characteristics of mature and old growth habitats associated with cultural use species and develop management strategies through co-stewardship agreements to promote, enhance and recruit culturally important plant, animal and fungi communities in appropriate growth forms and locations.
1-100	MA: Establish respectful and effective relationships and partnerships with relevant Tribes, tribal communities, and native traditional cultural practitioners who have rights and interests in the Forest and for whom lands within the administrative boundaries of the unit have traditional, historical, cultural, and/or spiritual importance.
1-101	MA: In the development of Forest annual work plans, encourage the inclusion of Tribes at the beginning of project development and prioritization of annual (and longer term) plans and programs of work.
1-102	MA: Provide the fiscal, personnel, and other resources to allow relevant Tribes to be able to respond to Forest Service requests of relevant Tribes regarding the designation of specific lands suitable for co-stewardship and co-develop a framework for assessing and implementing those Tribal recommendations.
1-103	MA: Develop and implement cost-share, grant, and other financial support mechanisms to enable relevant Tribal government and Tribal staff participation in co-stewardship efforts, consultation, collaboration, coordination, monitoring, planning, administrative support, environmental analysis, and other Forest Service activities.
1-104	MA: Engage and consult with affected Tribes in the implementation of any barred owl control strategies.
1-105	MA: Forest Service Regional leadership in the NWFP Area partners with Tribes, environmental education organizations, and State Education Boards to develop or adjust academic standards, curriculum, and instructional materials to ensure public education provides students with robust understandings of climate resilience, fire ecology, and Indigenous sovereignty.
1-106	MA: Source Tribally-collected seeds and vegetation stocks from local Tribes for on-Forest restoration and management activities.
1-107	MA: Collaborate with Tribes to incorporate Indigenous knowledge into project and program planning, prioritization, implementation, and monitoring, but only in ways that honor Tribal data and knowledge sovereignty policies and protocols; that involve free, prior, and informed consent; and wherein culturally sensitive information is protected. This includes collaboration

	with Tribes on the development and implementation of Biological Assessments, Environmental Impact Statements, Environmental Assessments, and other management and planning documents.
1-108	SUIT: All administratively-designated lands are suitable for co-stewardship by Tribes, upon Tribal request to undertake co-stewardship activities.
1-109	MONT: Conduct ongoing monitoring of visitor use and develop responses in coordination with relevant Tribes when needed to safeguard treaty, reserved, and other similar Tribal rights and the resources and places upon which those rights depend, and generally, to ensure the ecological compatibility of recreation with Tribal treaty rights and resources.
1-110	MONT: At Tribal request and in consultation and cooperation with relevant Tribes, conduct regular monitoring of specified culturally significant resources and First Foods. Support Tribes in selecting the relevant species, designing the monitoring plans, conducting the monitoring, and storing and sharing the data according to Tribal knowledge and data sovereignty protocols. Where the Forest proposes to monitor culturally significant resources, ensure any resulting research or data is protected in consultation with relevant Tribes.
1-111	MONT: In cooperation with relevant and interested Tribes and according to Tribal knowledge and data sovereignty protocols, conduct monitoring of implementation of the special forest products program in the Forest to ensure that Tribally-important culturally significant resources are harvested in a manner and rate consistent with sustainability.
1-112	MONT: At Tribal request, work with Tribes to co-develop monitoring thresholds or triggers and adaptive management pathways that incorporate Indigenous knowledge into management or mitigation responses while protecting Tribal data sovereignty and culturally sensitive information.
1-113	MONT: In situations where heritage monitoring is required for implementation activities, these activities should include a tribally-designated representative, not just a Forest-designated archaeological monitor.

See also, [Glossary of Terms](#).

2. Support Economic Opportunities and Sustainable Communities

The development and implementation of the NWFP has had significant socio-economic, cultural, workforce, and financial impacts on communities that rely on National Forest lands. The NWFP has largely not achieved its promise of supporting economies and community wellbeing, most of which was meant to be accomplished through the provision of predictable timber and non-timber resources from NFS lands (see *infra* Forest Stewardship Recommendations, [Bioregional Assessment](#), [NWFP Science Synthesis](#), and [NWFP Social and Economic Monitoring reports](#)). This has undermined trust, credibility, collaboration, predictability, and community support in the management of our public lands.

Meanwhile, many of the social, economic, and ecological challenges and opportunities facing communities were not anticipated by the NWFP 30 years ago. This includes expanding community and public expectations around the benefits that public lands should provide (e.g., diverse and equitable recreation opportunities, a deeper and more integral role for Tribes and Tribal people, workforce and economic benefits derived from non-timber resource management, etc.), and emerging risks to the resilience and sustainability of conditions on and beyond National Forest System lands, including neighboring lands of other jurisdictions (e.g., private landowners). This also includes consideration of the values that public forests provide as the settings for outdoor recreation

opportunities, and how forest management activities, as well as high-severity wildfire and other stressors to forest ecosystems, affect these settings. In addition, the connections between non-timber special forest products on National Forest System lands and people be reconsidered to: 1) ensure Treaty resources are adequately conserved and stewarded; and 2) reconsider metrics to measure community wellbeing as it relates to the use of and access to non-timber special forest products.

Communities are facing increasing risks from natural hazards (e.g., wildfire, flooding, debris flows) related to ongoing and anticipated climate impacts exacerbated by the current conditions on National Forest System lands. Rural stagnation and flight, fueled by a myriad of factors, is jeopardizing the fundamental ability of the agency and community partners to plan and implement the land management envisioned by the NWFP. An additional challenge impacting communities is the ability to manage landscapes, given trends in decreasing workforce availability and capacities. In addition, research has noted that the agency does not have a clear understanding of how they are considering the needs of underserved populations and national forestlands access (Charnley et al., 2018), and public lands visitation and outdoor recreation management require more informed approaches based on understanding barriers to Hispanic and Latinx outdoor recreationists and the equity implications of public lands access and associated health benefits (Thomas et al., 2022; Cerveny et al., 2022) .

Due to the accelerated timeline, narrow focus of the amendment, and limitations of forest planning, the Committee was not able to fully address all challenges and opportunities facing communities in the NWFP area. For example, topics like sustainable recreation management, equitable access to National Forest Service lands, and Forest Service-community relationships were deemed by the Forest Service to be outside the scope of the amendment. The Committee intends to provide additional Leadership Commitment recommendations for these topics.

What’s currently in the Northwest Forest Plan: As described in the Record of Decision for the 1994 Amendment, social and economic factors were considered in developing and analyzing the alternatives. However, the Standards and Guidelines largely lack specific plan direction related to economics and communities aside from some considerations of social objectives and timber supply as it relates to local communities for Adaptive Management Areas (NWFP S&Gs D-4, D-8 to D-9). The section on Monitoring also mentions social and economic effects (NWFP S&Gs E-5). Underserved communities were not adequately considered or included in the 1994 Plan, nor are they currently fully understood due to the lack of monitoring or assessment (see Charnley et al., 2018).

These recommendations support:

- ✓ Incorporation of Indigenous Knowledge into planning, project design, implementation, and meeting the agency’s trust responsibilities, while protecting confidentiality and preventing appropriation
- ✓ Improved fire resistance and resilience
- ✓ Communities that rely on National Forest System lands
- ✓ Outreach and engagement of underserved populations

With this background and context in mind, the Committee supports including the following recommendations in the Northwest Forest Plan amendment:

RECOMMENDATIONS	
2-1	DC: NWFP area forests provide significant social, cultural, and economic opportunities for human communities. NWFP area forests sustain place-based meaning tied to cultural identity

	and heritage; local economies and ways of life; traditional and subsistence uses; aesthetic, spiritual, and recreational experiences; and Indigenous histories, cultures, and practices.
2-2	DC: Recreation activities across the Forests contribute to the sustainability of the cultural, social, and economic values of local communities and Tribes through jobs and income in the local economy, community stability or growth, access to public lands for historically underserved communities, and the quality of lifestyles in the area.
2-3	DC: The Forest Service offers service and stewardship contracting and/or cooperative agreements to local businesses and Tribes representing a steady to expanding percentage of non-agency staff spending on public lands stewardship.
2-4	DC: The Forest collaborates with affected communities, including underserved and minority communities in the Plan area to support youth engagement programs to cultivate the next generation of natural resource professionals.
2-5	DC: The Forest supports mentorship and leadership programs designed in collaboration with interested community members to recruit and engage natural resource workforce professionals. This includes underserved communities, Tribes and other historically marginalized populations on public lands.
2-6	DC: Youth in the NWFP area are aware of and have access to opportunities to be involved in building wildfire resilience and forest resilience on nearby National Forest lands, including through federal employment, youth corps, and community-based opportunities, provided for a range of ages, languages, and cultures.
2-7	DC: National Forests in the NWFP area have partnerships with community colleges and universities, including Tribal colleges, to train, engage, and employ students in forest and wildfire resilience. College fire programs partner with National Forests to implement prescribed burns and other management for wildfire resilience.
2-8	OBJ: The Forest will continue to monitor socioeconomic conditions in local communities and infrastructure every 5 years to better understand trends and opportunities to foster economic development supported by the National Forest System. This monitoring will be revised in alignment with the NWFP amendment, to better capture the more contemporary social and economic aspects of community-agency engagement, and the workforce(s) connected to NWFP management. This includes tracking timber sales, contracting and grants and agreements to understand where and how businesses, Tribes, and organizations are working on NFS lands and changes over time; and removing the role of non-timber forest product usage (i.e., permits) as a metric of community wellbeing. This also includes specifically monitoring for low income populations and underserved communities in the Plan area.
2-9	GDL: To facilitate community workforce capacity, the Forest should work in meaningful engagement and consultation with relevant communities, including underserved and minority, to identify areas of common workforce needs, prioritize training, workforce development, and the offering of an increasing percentage of contracts and agreements, for associated forest stewardship, construction, fire management, and wildlife and vegetation monitoring to locally owned or operated businesses, minority-owned businesses, Tribes, and organizations.
2-10	GDL: At-least biennially, local units should assess and document local cooperator and contractor interests and capabilities to help inform and align: 1.) management strategies and actions and 2.) the packaging of work opportunities (including but not limited to cooperative agreements, contracts) to be accessible to those local cooperators and operators.
2-11	GOAL: Maintain and expand contracting and partnering opportunities with Tribes, local governments, businesses, and organizations. Develop partnerships that leverage different

	sources of funding to support opportunities to contribute to the economic and social sustainability of local communities, including underserved and minority communities.
2-12	GOAL: Establish staff positions to focus on fostering partnerships with colleges, K-12 education, Tribes, and local organizations to create and expand comprehensive natural resources and fire-related student training and learning opportunities.
2-13	MA: Annually evaluate utilization of the full range of Cooperative Agreement tools to leverage partnerships and capacity and provide direct economic contributions to local communities, with a focus on historically underserved communities.
2-14	MA: At least annually, Forests and/or local management units should host a meeting open to all interested parties, including active recruitment of local cooperators and contractors/operators, to discuss interests, alignments and capabilities related to the current and future program of work.
2-15	GOAL/MA: To meet the pace and scale of needed wildfire resilience treatments, including thinning, prescribed fire, and cultural fire, and address the intergenerational burdens of intensifying risk, Forests should collaborate with K-12 and higher educational institutions to develop shared strategies and programs for student awareness and involvement in pathways into wildfire resilience work. The Forests should work with high school and college programs and engage with experiential and curricular learning in elementary and middle schools.
2-16	GDL/MA: National Forests in the NWFP area should generate partnership agreements that allow college and university fire programs to engage in prescribed fire work and training on National Forest lands, providing mutually beneficial outcomes of increasing the pace and scale of wildfire resilience treatment, and engaging youth in land stewardship career pathways.

The Committee also recommends that the expected Environmental Impact Statement (EIS) for the amendment strongly emphasize intent of NWFP to deliver on *updated* socioeconomic goals including producing predictable levels of timber and nontimber resources, maintaining the stability of local and regional economies, enhancing recreation values and economies, assisting with long-term economic development and diversification, and promoting collaboration in forest management. The Forest Service should be faithful to the intent of the NWFP and Land Use Allocations to achieve socioeconomic and ecological goals.

Additionally, the EIS should strongly focus on delivering on the Forest Service’s Equity Action Plan *“in a purposefully equitable manner requires changing traditional perspectives, processes, actions, and performance measures to ensure the full suite of benefits, outcomes, and opportunities to participate are made available to all, especially in rural and urban places that have been marginalized or overlooked.”* (FS Equity Action Plan). This is intended to both specify how the NWFP has affected low-income and minority populations and identify opportunities for improved outreach and engagement with these populations.

This includes identifying opportunities within the Plan components and related outreach to implement Equity Action #2: **“Enhance Engagement and Partnerships with Tribes and Underserved Communities through Culturally Relevant Strategies—Center the voices, diverse needs, and unique perspectives of Tribes and underserved community stakeholders and create shared leadership in achieving enduring change for equitable mission delivery.”**

3. Fire Resilience

Wildland fire is a critical socio-cultural and ecological process that generates benefits and losses to the NWFP region. Fuels treatments such as thinning and prescribed burning have not occurred at the necessary pace and

scale needed to reduce the risk of uncharacteristic wildfires. Recent wildfire behavior, fire effects, and loss of valued resources across the gradient of forest types (dry to moist) throughout the NWFP area is undermining NWFP goals, resulting in undesirable impacts to ecosystems and community livelihoods. Outdoor recreation activities are increasingly affected by severe wildfires including damage to recreation infrastructure, extended area and facility closures, smoke, damage to scenic values and impacts to local recreation economies. Indigenous cultural burning, prescribed fire, and wildland fire all need to be considered holistically to build fire resilience into our forests and communities, now and into the future.

Fire resilience must be considered holistically and contextually. This section outlines recommendations necessary to successfully modernize the NWFP through pre-fire and post-fire actions related to wildland fire. The Committee recognizes the intersection of fire resiliency with other NWFP amendment goals, desired conditions, and priorities. Thus, the below recommendations *complement and are consistent with* the fire-related recommendations in Section 1 (Tribal Inclusion), Section 4 (Climate), Section 6 (Forest Stewardship), and Section 7 (Community Protection Areas).

What's currently in the Northwest Forest Plan: The NWFP Standards and Guidelines (S&Gs) address fire and fuels management in several places, including:

- Late-Successional Reserves – Guidelines to Reduce Risks of Large-Scale Disturbances. This section provides plan direction that allows for management in LSRs to reduce risks from disturbances, including fire. The section states that risk reduction activities should focus within younger stands but treatments are allowed in older stands with some conditions. The risk reduction guidelines are primarily intended for drier provinces (East of the Cascades and the Oregon and California Klamath Provinces); however, they do allow for risk reduction in other provinces “if levels of fire risk are particularly high” (NWFP S&Gs C-12 to C-13).
- Late-Successional Reserves – Fire Suppression and Prevention. This section provides planning direction for fire management planning and fire suppression in LSRs. The section states: “In Riparian and Late-Successional Reserves, the goal of wildfire suppression is to limit the size of all fires. When watershed analysis, province-level planning, or a Late-Successional Reserve assessment are completed, some natural fires may be allowed to burn under prescribed conditions. Rapidly extinguishing smoldering coarse woody debris and duff should be considered to preserve these ecosystem elements.” (NWFP S&Gs C-18).
- Managed Late-Successional Areas (C-22 to C-28). This LUA is specifically focused on “certain owl activity centers on the eastside where regular and frequent fire is a natural part of the ecosystem.”
- Riparian Reserves – Fire/Fuels Management (C-35 to C-36).
- Matrix – Fire and Fuels Management (C-48)

These recommendations support:

- ✓ Improved fire resistance and resilience
- ✓ Capacity of ecosystems to adapt to climate change
- ✓ Conservation and recruitment of old growth forest conditions and habitat for species that depend on old growth ecosystems and regional biodiversity
- ✓ Incorporation of Indigenous Knowledge into planning, project design, and implementation and meeting the agency’s trust responsibilities
- ✓ Communities that rely on National Forest System lands

With this background and context in mind, the Committee supports including the following recommendations in the Northwest Forest Plan amendment:

RECOMMENDATIONS	
3-1	<p>Stewardship of NWFP landscapes must recognize variability in fire regimes and effects of fire. Historically, this variability supported multiple pathways for the development of fire-adapted mature and old-growth forests across moist and dry forest types, including varying proportions of open and closed forests appropriate to the conditions, and diverse non-forested habitats maintained by fire. Fire is inevitable and managers need to work with fire and not against fire to accomplish goals of the NWFP.</p> <p>The Committee recognizes the importance of fire ecology and recommends the variety in fire regimes is made clear in the Record of Decision, and language reflects recommendations outlined by the FAC related to Forest Stewardship, Tribal Inclusion, Climate Change, and Community Protection Areas, in the context of fire resilience.</p>
3-2	<p>DC: Forest health and fuel treatment projects reduce uncharacteristic fuel loading to create more fire resilient stands.</p>
3-3	<p>DC: Forest health, stewardship, and fuels treatment projects should consider past and present diversity in fire regimes and fire effects as well as future variability in fire expected with climate change.</p>
3-4	<p>DC: Woodlands, meadows and other non-forested areas (e.g., affected by conifer encroachment and fire exclusion) that make an important contribution to stand and landscape scale fire resilience, wildlife habitat, and Tribal cultural values are restored. In doing so, protect and retain any older, legacy fire-resistance conifers and hardwood important to ecological and cultural values of the site.</p>
3-5	<p>DC: Forest health and fuels treatment projects attempt to minimize negative impacts and seek benefits to recreation infrastructure and settings and rehabilitate trails and other recreation infrastructure when impacts are unavoidable.</p>
3-6	<p>DC: Forest health and fuels treatment projects contribute to the sustainability of the social and economic values of local communities, including recreation opportunities. Successful projects result in fewer and shorter duration recreational closures due to high intensity wildfires.</p>
3-7	<p>STD: Trails and recreation infrastructure impacted by fire or damaged by fire suppression operations shall be repaired to meet agency standards, including restoration of unique recreational values and use of sustainable design principles, consistent with federal law and in consultation with Tribes.</p>
3-8	<p>GOAL/MA: Expand the strategic use of <u>beneficial fire</u> in areas likely to experience fire to reduce impacts of wildfire, revitalize Indigenous cultures, regenerate native plants species, rejuvenate wildlife habitats and biomass, support wildlife, etc. Consider the use of fire within past fire footprints to manage fuels and reduce the impacts of reburns.</p>
3-9	<p>GOAL: Education and enforcement help limit unintentional human ignitions while highlighting the social and ecological benefits of cultural fire and prescribed fire.</p>
3-10	<p>GOAL: Resources, planning, infrastructure, training, and workforce development strengthen the capacity of communities to prepare for, respond to, manage, and recover from wildland fire. This includes proactive management for ecological restoration, fuels reduction, cultural burning where desired by Tribal partners, prescribed fire, and wildland fire. This includes recognition and inclusion of diverse perspectives including but not limited to, Tribal communities, timber-based economy communities, underrepresented communities, recreation communities, and biodiversity.</p>

3-11	GOAL: Work with federal and state agencies on regulatory processes and smoke and air quality to streamline regulatory and process burden to increase acres of burning. Balance the air quality impacts of uncontrolled wildfire with the air quality impacts of prescribed fire and cultural fire, while ensuring protection of public health, consistent with the Clean Air Act.
3-12	GOAL: Coordinate with regulatory agencies and Tribes to remove barriers to fuel treatments, prescribed fire and certain cultural fire use related to the Endangered Species Act (including related to Limited Operating Periods and critical habitat designations), where risk of short-term impacts to species and habitats is acceptable given long-term potential benefits. (See also 1-31 and 1-85)
3-13	GOAL: Encourage the appropriate use of prescribed fire in designated wilderness areas where prescribed fire is determined to be the minimum tool required to maintain wilderness character. Reduce barriers to the use of prescribed burning, such as through improved public and agency understanding of the historical role of fire, including Indigenous cultural burning, in preserving wilderness values.
3-14	GOAL: Target fire resilience strategies, including hazardous fuels treatments and post-fire restoration, in areas that are also valuable to recreationists and appropriate for outdoor recreation.
3-15	<p>The intent of the following set of connected Management Approaches (MA) is to establish broad goals and processes for prioritizing fuel treatments (e.g. strategic tree removal, shrub removal, thinning, prescribed fire, managed wildfire and coordination with Tribes on cultural burning) to promote fire-adapted landscapes and communities:</p> <ul style="list-style-type: none"> • MA: Coordinate with Tribes, State agencies, private landowners, communities (e.g. Community Wildfire Protection Plans [CWPPs]), Potential Operational Delineations [PODS]/Potential Control Lines [PCLs] to prioritize, plan and implement fuels treatments in areas with multiple overlapping social and ecological benefits to ensure community fire protection goals e.g., highly valued resources and assets including recreation infrastructure, and support ecological functions at a landscape scale. • MA: Prioritize fuel treatments in and around areas where uncharacteristic high severity wildfire poses the greatest threat to sensitive plant communities, critical wildlife habitats and ecological functions of old growth. • MA: Prioritize fuel treatments in post-fire landscapes that will restore old forest and critical habitat functions, promote fire-adapted stands and increase future fire-resilience at a landscape scale. • MA: Design and implement fuels treatment prescriptions that account for diversity of forest conditions (e.g., moist, dry, young, old, open, and closed) and land use allocations (e.g., LSR, matrix, etc.) (See Forest Stewardship) • MA: The Forest Service incorporates silvicultural treatments (which could include fire) as ecologically and culturally appropriate, in moist forests (e.g., to support active huckleberry/bear grass patch management).
3-16	MA: The Forest Service incorporates the best available scientific information and Traditional Ecological Knowledge in planning and implementing forest health, forest stewardship, and fuels treatment projects to accomplish fire resilience objectives
3-17	MA: When implementing fuel treatments (forest thinning, prescribed fire), vegetation treatment prescriptions shall be implemented to maintain or restore fish and wildlife habitats appropriate to the biophysical setting. The Forest Service will consult with state agencies and Tribes to plan treatments areas to avoid adverse effects to fish and wildlife habitats. If adverse impacts to fish and wildlife habitats are unavoidable, the Forest Service shall mitigate those

	impacts consistent with state and/or Tribal recommendations or policies (including Tribal Forest Protection Act).
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Post-Fire/Post-Disturbance Non-Salvage Management Activities

This sub-section provides recommendations for post-fire management that complements salvage-related post-fire management guidance provided in Section 6 Forest Stewardship. Some of these recommendations also relate to broader disturbance types, including wind, insect, pathogen agents of mortality, as noted. Overall, post-fire management should support diverse ecological and cultural values over time and reinforce landscape-scale fire resilience.

RECOMMENDATIONS	
POST-DISTURBANCE MANAGEMENT (NON-SALVAGE)	
3-18	DC: Post-disturbance (e.g., fire, wind, pathogens, debris flow) landscapes are stewarded strategically over time to restore forest composition and structure, wildlife habitat and ecosystem function.
3-19	DC: Post-disturbance, excess surface and ladder fuels (including shrubs and trees) that are uncharacteristic of the ecosystem due to fire exclusion and suppression are removed through strategic fuel management, silvicultural treatments and prescribed burning to reorient stands to fire-resilient species compositions and structures.
3-20	GOAL: Collaborate with Tribes to develop co-stewardship agreements covering revitalization of cultural species and associated habitats following fire-related and other disturbances.
3-21	MA: Design and implement post-disturbance silvicultural activities such as planting, plantation management, thinning, invasive control and prescribed burning to steward landscape and stands (including upland, riparian, and aquatic systems) to desired conditions, composition and structure.
3-22	MA: Consider prescribed fire in burned areas to manage fuels and restore resilient forest conditions.
3-23	MA: For large wildfire events, develop a plan to monitor and manage invasive species within three years after the fire. Implement the monitoring and management plan for invasive plant species in large wildfire footprints for at least seven years; develop and implement mitigation and control strategies.
3-24	MA: Implement reforestation strategies that support a diversity of native species and fire-adapted and climate resilient habitat mosaics. Waive or adjust stocking requirements and planting guidelines in appropriate locations to provide high quality early seral and non-forest habitat.
3-25	MA: Prioritize rehabilitation of recreation infrastructure during post-disturbance management. Within disturbed areas, prioritize forest health, hazard tree and vegetation removal near trails, slope stabilization around trails, and restoration of outdoor recreation facilities lost in wildfires.
3-26	MA: Minimize area and facility closures related to wildfires and other disturbances to the smallest temporal and spatial extent possible. Target outdoor recreation site and area closures to the minimum area and time periods deemed appropriate to mitigate threats and minimize impact to the recreating public and commercial providers.

4. Anticipate Climate Impacts and Maintain Ecosystem Integrity

The NWFP did not adequately anticipate the scope, scale, or impacts of climate change. Climate change is significantly altering the ecological processes and disturbance regimes which shape NWFP area forests and posing significant threats to ecosystem resiliency and function, biodiversity, and community health and well-being across the NWFP planning region. Indigenous and frontline communities are already experiencing a range of climate impacts and are developing innovative strategies to mitigate and adapt to changing conditions.

Climate impacts like high temperatures, extreme flooding, severe wildfires, loss of snowpack, and drought impact forest ecosystems and detrimentally affect the experience of forest users, and in many cases prevent users from experiencing forests entirely. Climate change is exacerbating the current wildland fire crisis in myriad ways, including contribution to more frequent and more intense/severe, larger fires and longer fire seasons. Climate change-driven shifts in the distribution of forest types, and in fire and precipitation regimes are projected to accelerate across the NWFP Area.

Therefore, management to ensure the ecological integrity of NWFP area forests in the face of climate change must account for climate-driven shifts in forest ecosystems and impacts to communities. Many species, including threatened, endangered and culturally significant species require resilient and connected habitats to move, find refugia, and adapt to climate change. Forests can and should play a critical role in providing services in the face of climate change, including providing carbon sequestration, connected habitats for climate driven migration, and refugia for plant, animal, and fish species. Climate change also drives the geographical expansion and severity of pests and infectious diseases and is likely to accelerate infection rates, morbidity and mortality in plants, animals and humans going forward.

The following recommendations complement and support recommendations developed in the other sections (See Sections 1, 3 and 6) through management actions that target climate change resistance, resilience and adaptation. The aim of these amendment recommendations is to provide the USFS and communities within the planning area with necessary direction, flexibility, and capacity to respond to both the projected impacts and the high degree of uncertainty that climate change brings to maintain social and ecological resilience, functional ecosystems, watersheds and component habitats, some of which may have a very different look and feel to our contemporary forest ecosystems.

The Forest Service must work in partnership with other land managers (Tribes, States, other Federal Agencies, NGOs, private landowners and small woodland owners, and communities). The NWFP should incorporate the climate vulnerability and adaptation plans and strategies that have been developed by Tribes, Forests and Regions, Research Stations and academic, NGOs, private and neighboring landowners, and other partners but not yet incorporated into Forest Service management plans. Climate change adaptation strategies must also incorporate Indigenous knowledge and stewardship practices and be responsive to the needs and values of Indigenous communities throughout the NWFP planning area. The Committee believes we must wisely steward the land and its resources in balance for all life and for future generations, guided by a vision of reciprocity in which we give back to the forest in return for all the benefits that it provides.

What's currently in the Northwest Forest Plan: Climate change considerations are not currently included in the Northwest Forest Plan Standards and Guidelines.

These recommendations support:

- ✓ Improved fire resistance and resilience
- ✓ Capacity of ecosystems to adapt to climate change

- ✓ Conservation and recruitment of old growth forest conditions and habitat for species that depend on old growth ecosystems and regional biodiversity
- ✓ Incorporation of Indigenous Knowledge into planning, project design, and implementation and meeting the agency’s trust responsibilities
- ✓ Communities that rely on National Forest System lands

With this background and context in mind, the Committee supports including the following recommendations in the Northwest Forest Plan amendment:

RECOMMENDATIONS	
4-1	DC: Forest and non-forest habitats are actively and adaptively managed to provide ecosystem diversity and resilience to climate change and other stressors, including but not limited to altered frequency and magnitude of fire regimes, drought and flood events.
4-2	DC: The composition, structure, and function of National Forests reflect a diversity of ecosystems that are resilient to climate change stressors such as fire, drought, insects, pathogens, and high wind events.
4-3	DC: Native plant and animal communities are supported by healthy ecosystem functions and diverse, healthy and resilient natural habitats.
4-4	DC: Diverse non-forest habitat types including meadows, prairies, woodlands and wetlands are present across the landscape to promote biological diversity, cultural use species and ecological resilience to climate change and other stressors.
4-5	DC: Critical Infrastructure is managed to improve resilience to large storms and other hydrologic events.
4-6	DC: Beavers are present in appropriate riparian areas and support climate adaptation and ecosystem integrity as an ecological engineer.
4-7	DC: Terrestrial and aquatic ecosystems provide habitat connectivity, permeability, and refugia from climate change and disturbance stressors, for the movement and long-term persistence of native species at the landscape scale, supporting ecological integrity in a changing climate.
4-8	DC: Outdoor recreation opportunities, including outdoor recreation infrastructure and settings, are resilient to high-severity wildfire and climate-related events like flooding and atmospheric rivers.
4-9	DC: The transportation network is resilient to the effects of climate change, including the ability to accommodate increased runoff and peak flows that may exceed historic streamflow events. High risk roads and trails are relocated or decommissioned and appropriately sized culverts and stream crossings are constructed.
4-10	STD: Non-forested habitats shall be managed to restore, enhance, and maintain biodiversity of species reliant on these habitats.
4-11	GDL: To the extent that data is available, desired future conditions for landscape scale vegetation composition, vegetation structure, and ecosystem function of forested and non-forested habitats incorporate estimates of “future range of variability” in addition to “historical range of variability” reference conditions. This is intended to facilitate active consideration of projected future climate conditions and identify conditions that are resilient in the face of climate change.
4-12	GDL: Silviculture treatments and other stand-scale management activities should actively consider climate change effects and include adaptation measures.
4-13	GDL: Where applicable, site-specific projects should manage and mitigate risk of spread of invasive species.

4-14	GDL: To help ensure that climate adaptation strategies and management activities are based on the best available scientific information, forests should consider climate change vulnerability assessments and adaptation options developed by Forest Service research stations and others.
4-15	GOAL: Forests work with Tribes and partners such as academia, NGOs, forest collaboratives, private forest landowners, and community groups on climate modeling, research, monitoring, and adaptation approaches.
4-16	GOAL: Coordinate with state wildlife agencies and Tribes on beaver management and restoration issues on national forest lands. Identify and enhance habitats to encourage beaver to populate uninhabited areas.
4-17	MA/GOAL: Develop threshold assessments for monitoring climate change stressors including but not limited to frequency, scale, and intensity of wildfire, fish and wildlife population decreases, frequency of extreme heat days, range shifts in vegetation and wildlife, prolonged elevation of average stream temperatures, and significant changes in precipitation patterns (e.g. drought and flooding). Assessments will include potential management responses if monitoring indicates a climate change stressor threshold is exceeded. (See also 8-4)
4-18	MA: Ensure that site specific projects evaluate stream crossings and ensure that affected infrastructure is hardened against or can mitigate the effects of large hydrologic events.
4-19	MA: Ensure that site specific projects evaluate road conditions and take action to reduce risks of large hydrologic events and associated potential for erosion, mass wasting, and other aquatic impacts. Evaluation of flood risk should consider the best available science regarding potential effects of climate change. Appropriate corrective action may include replacement of undersized or underperforming culverts, removal of unneeded roads, or other forms of road remediation.
4-20	MA: Ensure that site specific projects evaluate opportunities for stream and watershed restoration that reduce climate change vulnerability including but not limited to treatment of invasive species, planting and cultivation of desired native species cover, stabilization and remediation of erosion, restoration of floodplains, and placement or recruitment of large wood over time.
4-21	MA: Consider using warnings and other risk mitigation methods other than closures for areas and sites impacted by climate-related disturbances like wildfire and floods. When mitigation by other means does not reduce risk to acceptable levels, try to limit targeted closures to the smallest temporal and spatial extent possible.

The Committee recommends that the expected Environmental Impact Statement (EIS) for the amendment consider climate change effects and the need for adaptation measures. Climate change adaptation includes initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects, including: building resistance to climate-related stressors, mitigating and buffering the severity of climate change impacts, increasing social and ecological resilience to climate change-related disturbances, and facilitating ecological transitions in response to changing environmental conditions.

5. Support Carbon Sequestration and Storage

NWFP area forests are globally significant in their ability to sequester and store carbon; consequently, they help mitigate the root cause of climate change. However, across the spectrum of forest ecosystems from moist to dry forests both the ability of forests to sequester and store carbon and the threats to this ability differ greatly. Management actions focused on maintaining the carbon benefits of national forests within the NWFP area will require careful consideration of historical and contemporary ecosystem conditions in the planning and management of forests across the NWFP planning area.

Similarly, consideration of carbon storage should include in-woods carbon stocks and as well as the carbon contained in durable harvested wood products. As stated in the [Draft Environmental Impact Statement for Amendments to Land Management Plans to Address Old-Growth Forests Across the National Forest System](#) (commonly referred to as the National Old Growth Amendment, or “NOGA”):

Carbon may also be transferred to harvested wood products (HWP) or used for energy production, while increasing longer-term forest productivity and health (Sathre and O’Connor 2010, D’Amato et al. 2011, Oliver et al. 2014). Moving carbon stored in forests to forest products storage may result in lower net greenhouse gas (GHG) emissions relative to unmanaged forests, if carbon stored in harvested wood products (HWP), substitution effects, and forest regrowth are considered (Lippke et al. 2011; McKinley et al. 2011; Skog et al. 2014; Dugan et al. 2018). The Intergovernmental Panel on Climate Change (IPCC) recognizes wood as a renewable resource that when sustainably managed can mitigate climate change (IPCC, 2022b). Assessing impacts of harvest on GHGs thus should include carbon storage estimates from wood products.

Finally, the ability of NWFP area forests to sequester and store carbon must also be balanced with the myriad of benefits these forests provide and requirements to maintain functional ecosystems.

What’s currently in the Northwest Forest Plan: The Basis for Standards and Guidelines notes late-successional ecosystems perform several ecological functions, including storing carbon. However, the 1994 NWFP does not include additional plan direction related to carbon sequestration and storage or the disturbances that might affect these functions.

These recommendations support:

- ✓ Improved fire resistance and resilience
- ✓ Capacity of ecosystems to adapt to climate change
- ✓ Conservation and recruitment of old growth forest conditions and habitat for species that depend on old growth ecosystems and regional biodiversity

With this background and context in mind, the Committee supports including the following recommendation in the Northwest Forest Plan amendment:

RECOMMENDATION	
5-1	The existence, maintenance, and management of NW forests should position carbon accumulation and storage as an important ecosystem service. Specific forest management recommendations for carbon sequestration and storage are connected to the Committee’s overall forest stewardship recommendations for moist and dry forests across land use allocations. Similarly, the forest stewardship recommendations to focus on ecological restoration in dry forests across land use allocations are intended to “stabilize” forest carbon stocks from catastrophic losses due to uncharacteristic fire. In dry forests, this includes a long-term shift from carbon storage in denser forest stands composed of many smaller, drought and fire sensitive trees to stands with fewer, larger, drought and fire-resistant trees. (See also Forest Stewardship Recommendations)

6. Forest Stewardship

The Forest Stewardship section tackles some of the most complex and contentious components of the Northwest Forest Plan and federal forest policy more generally: management and conservation direction for young, mature, and old growth forests; timber harvest; and post-fire salvage logging. Compromise, clarity, and establishing a shared vision for resolving these issues has eluded the region since the adoption of the Northwest Forest Plan in 1994. While this section was the most difficult to land, the Committee was adamant about finding common ground and providing substantive, meaningful recommendations on these issues to modernize the NWFP.

Unlike the previous sections in this report that include specific plan component recommendations, the Forest Stewardship section below takes a different approach. The below recommendations are captured in narrative form to help the Forest Service, public, and interested stakeholders understand the context, interconnection, and balance of the Committee's Forest Stewardship recommendations. We expect the Forest Service to utilize these recommendations to build plan components, including Standards, that codify our intent expressed below.

What's currently in the Northwest Forest Plan: Current NWFP direction relevant to "late-successional"¹ and old-growth forest and timber management is found in Standards and Guidelines for LSRs (C-9 to C-21) and Matrix (C-39 to C-61). Especially relevant plan direction includes:

- LSR S&Gs for Silviculture, which generally do not allow for harvest in stands over 80 years old in moist forest provinces (with some exceptions for risk reduction) and which indicate that risk reduction in dry forest provinces should focus on younger stands (though they allow for treatments in older stands with certain conditions).
- Matrix S&Gs, which currently do not include any age limits and do not make distinctions between dry and moist forests. Matrix S&Gs do include plan direction related to coarse woody debris, green-tree and snag retention, and other topics.
- Salvage within LSRs is discussed on pages C-13 – C-16 of the NFP S&Gs; salvage is not addressed for other land use allocations beyond requirements for green tree and retention.

These recommendations support:

- ✓ Incorporation of Indigenous Knowledge into planning, project design, implementation, and meeting the agency's trust responsibilities, while protecting confidentiality and preventing appropriation
- ✓ Improved fire resistance and resilience
- ✓ Capacity of ecosystems to adapt to climate change
- ✓ Conservation and recruitment of old growth forest conditions and habitat for species that depend on old growth ecosystems and regional biodiversity
- ✓ Provide a predictable supply of timber and non-timber products and other economic opportunities to support the long-term sustainability of communities near National Forest System lands and economically connected to forest resources.

¹ The NWFP uses the concept of "late-successional" forest to describe that successional stage immediately preceding the "old growth" stage. In our recommendations, we refer to "mature" forests/trees and "old growth" forests/trees as defined herein.

I. Summary of Forest Stewardship Recommendations

The Committee's recommendations can be summarized as follows:

1. Conserve remaining unprotected old moist forests across Matrix lands and Adaptive Management Areas (AMAs) and modifying management of older mature stands with an origin date 1905 or before.
2. Retain the passive management paradigm of Late-Successional Reserves (LSRs) intended to conserve and recruit large, contiguous blocks of mature and old growth forests.
3. Raise the age to which younger age classes of moist forests in LSRs can be managed to enhance late successional characteristics to 120 years.
4. Emphasize timber production that incorporates ecological forestry principles in plantations and other younger age classes of moist forests across Matrix lands and available Adaptive Management Areas.²
5. Accelerate ecological restoration of dry forests in all land use allocations as necessary to conserve older trees, restore characteristic old forest conditions, conserve wildlife habitat, and promote forest resilience in the face of climate change and fire.
6. At the request of Tribes, accommodate and support Tribal cultural uses and co-stewardship across all LUAs and forest types
7. Permit salvage logging in Matrix and available AMAs regardless of age class and forest type (moist/dry) that retains important biological legacy features.
8. Prohibit salvage logging in Late-Successional Reserves regardless of age class and forest type (moist/dry).

II. Accounting for variability in NWFP area forests

Forest stands across the NWFP area differ with respect to biophysical setting, structure, composition, function, climate, successional dynamics, vegetation response to disturbance, effects of fire exclusion, timber harvest history, management objectives, and more. The committee's overarching recommendations for the NWFP amendment are grounded in:

1. Recognizing the distinction between dry forests and moist forests;
2. Existing direction for different land use allocations; and,
3. The age of trees and stands.

The Committee recommends the below guidance on age and date of stand establishment related to moist forests and dry trees be incorporated as Standards in plan component amendment direction.

Dry forests: Seasonally dry, fire prone forests that were historically relatively low biomass stands maintained by low severity, frequent fire are common east of the Cascades and in southern Oregon and northern California. These dry forests are also sometimes found embedded with the broader moist forest landscape of the western Cascades and Coast Ranges. As described in Section V below, many of these stands require restoration to meet desired conditions. Unfortunately, there are no existing mapping products that describe the exact location of dry forests at the scale of individual stands where restoration treatments are typically planned and implemented. Furthermore, not all dry forests will benefit from restoration treatments given variability in biophysical setting and past management and disturbance patterns. The committee believes the Forest Service should implement dry forest restoration treatments to stands that meet the following criteria:

² The committee recommends that Adaptive Management Area plan components be replaced with recommended Matrix LUA plan components, except where AMA plans direct management otherwise. Some exceptions include the Snoqualmie Pass and Oregon North Coast AMAs, which are being managed as LSR. Throughout this document, we refer to matrix and AMA lands, but these statements do not apply to any AMAs (like the Snoqualmie Pass AMA) which may have conflicting existing plan direction.

1. The stand is significantly departed from historical conditions, particularly with respect to forest density, species composition, fire frequency, and fire severity;
2. Stand structure, composition, and ecological function are at risk of uncharacteristic disturbance; and
3. Silvicultural and stewardship interventions are likely to be effective at restoring and/or maintaining resilience to fire and future change.

Moist forests: Moist forests are most often found in landscape settings that receive significant precipitation, experience somewhat cooler summer temperatures than dry forests. Both historically and currently they are very productive and typically have high levels of organic matter, which they can maintain over long periods of time; these ecosystems are typically not fuel limited. There is little ecological rationale for tree removal in old growth and advanced mature moist forests because these stands are well adapted to large accumulations of live and dead tree biomass. As discussed below (see Sections III and IV), the committee recommends extensive silvicultural treatments in young moist forest within Matrix lands and AMAs that are designed to balance a mix of social, economic, and ecological objectives. Across the vast majority of the landscape where old growth and advanced mature forests are found, we recommend passive management as the primary tool to achieve desired future conditions.

Identifying dry vs. moist: The Committee also recognizes that science is always evolving, and new methods of distinguishing moist vs. dry may be developed in the future. We recommend that the Forest Service use an interdisciplinary approach to distinguish between moist and dry stands by using one or more of the following approaches:

1. Applying the criteria above in the course of site-specific implementation of projects to distinguish between dry forests that need treatment and all other stands;
2. Initially screening stands to plant associations that are reliably indicative of differences in inherent productivity and response to disturbance; See for example Appendix B, “Major Plant Associations/Series by Dry, Most, or Mixed Conditions,” which provides an initial reference for plant associations. The Committee anticipates plant associations will be developed on a forest-by-forest level.
3. Mapping environmental variables (e.g., climate water deficit, soils, slope aspect and topography) that are reliably indicative of differences in inherent productivity and response to disturbance;
4. Mapping overstory tree composition (e.g., dominated by ponderosa pine) that are reliably indicative of differences in inherent productivity and response to disturbance; or
5. Consulting and coordinating with Tribes to characterize plant communities as dry/moist and identify stands in need of active restoration across all land use allocations and forest types.

The Committee also recognizes that dry vs. moist forests will need to be distinguished at different spatial scales, including:

- Ecoregional/NWFP Area scale (e.g., NWFP Amendment EIS analysis; such as 1,000,000 to 10,000,000 acres)
- Local landscape/watershed scale (e.g., forest stewardship project design; such as 10,000 to 100,000 acres)
- Stand scale (e.g., silvicultural treatment design; such as 10 to 1,000 acres)

Across these different scales, the specific classification units and datasets used to distinguish dry vs. moist will differ. It is important to note that the Committee’s Forest Stewardship recommendations are explicitly based up on dry vs. moist forest distinctions at the stand scale. We recommend that USFS use the suite of nested vegetation classification products already developed by the USFS Regional Ecology Program (following the US National Vegetation Classification system) to distinguish dry vs. moist forests. These products range from plant

associations (which are classified into dry vs. moist) at the stand scale to potential natural vegetation/potential vegetation types/vegetation subzones at the ecoregional scale (which are linked back to plant associations).

Age of forest stands in moist forests: The committee recommends that there be no timber harvest or relatively little harvest of trees of any age within moist forest stands established on or before specific stand origin date of AD 1905 (see Section III below). Stand origin date means the date at which the oldest cohort of trees in a stand established. The use of a stand origin date to limit harvest instead of the age of stands at any time is designed to allow today’s young forest found across Matrix and Adaptive Management Areas to remain available for timber harvest.

In contrast, management of younger moist forests found in Late Successional Reserves is based on the age of the stand at any given time, which is intended to allow moist stands in LSRs that have reached a certain age to be unavailable for active management. The committee recommends increasing the age limit for thinning younger moist stands in LSRs from 80 to 120 years. (see Section VII)

The Committee designed the below **Moist Forest Stewardship Management Paradigm** to help visualize how the Committee’s management recommendations differ as a function of forest type, age, and land management allocation.

Moist Forest Stewardship Management Paradigm					
	Matrix/AMA established >1905	Matrix/AMA established 1905-1825	Matrix/AMA established <=1825	LSR <120 years of age	LSR >=120 years of age
Moist forest	Ecological forestry timber emphasis	No harvest except if there is specific and compelling ecological rationale	No harvest	Variable density thinning and prescribed fire to enhance late successional characteristics	No timber harvest

Age of trees in dry forests: The committee recommends that there be no timber harvest of individual trees 150 years or older in dry forests in any land use allocation at the time a project-level NEPA decision is signed. The use of tree age in dry forest is intended to conserve old trees that are most likely to be adapted to future conditions and to allow for the removal of trees that have contributed to degradation of resilient dry forest conditions (see Section 4).

The committee recommends that managers identify the age of stands and trees by:

1. Using the best available scientific information (i.e., existing estimates of the age of trees or stands that make use of rigorous scientific data);
2. Making use of stand or tree characteristics that have been shown to be reliable indicators of age; or,
3. Aging a subset of representative trees.

Site-specific implementation: The committee acknowledges that distinguishing between moist and dry forests, forests in different land use allocations, and forests and trees of different ages is a crude framework for management. The committee expects that site specific implementation of our recommendations will take into account the exceptional diversity in NWFP area vegetation communities as well as management objectives. Site

specific considerations that should be addressed during implementation of the amendment include, but are not limited to:

1. Landscape context—the extent, size, shape, and configuration of patches of different forest types and biophysical settings in and around areas to be managed.
2. Co-stewardship agreements with Tribes and Tribal cultural uses.
3. Indigenous knowledge shared about the area.
4. Collaboration with other agencies and stakeholder groups.
5. Differences in how forests are expected to respond to treatments.
6. The presence of current or historical non-forested areas or unique plant communities (e.g., yew wood).
7. The presence or suitability of stands for hardwoods, such as aspen, oak woodlands, etc.
8. Rare or sensitive habitats, flora, and/or fauna including designated critical habitat for federally listed species.
9. Historical disturbance regimes and future disturbance regimes.
10. Past history of land management, including stewardship by Indigenous communities.
11. Regulatory and policy requirements not explicitly acknowledged by the committee’s recommendations.
12. Stand density in dry forests.

III. Protection for old and advanced mature moist forests in Matrix and Adaptive Management Areas

There is a compelling need to conserve more of the currently unprotected mature and old forests in moist forest settings found across Matrix lands and Adaptive Management Areas. These forest stands are characterized by unique structural and compositional complexity and significant carbon storage. These characteristics result in the provisioning of unique ecological services that cannot be replaced in a human lifetime.

Old growth moist forests: Our review of the ecological literature and the professional judgment of committee members indicates that moist forests within the NWFP area that established before the year 1825 (“old growth forests”) characteristically have significant structural and compositional complexity and store huge amounts of carbon. Accordingly, we recommend that there be no timber harvest in moist forest stands across Matrix and AMAs that were established on or before the year 1825, with exceptions for public safety, critical infrastructure protection, and Tribal cultural uses.

Advanced mature moist forests: Stands established between 1825 and 1905 – what the Committee termed “advanced mature forests” in its deliberations – have less structural and compositional complexity than old forests at this time but already have developed significant complexity and accumulated large masses of carbon. Accordingly, we recommend that there be no timber harvest in moist forest stands across matrix and AMAs that were established between 1825 and 1905, unless the Forest Service articulates, using the best available scientific information including Indigenous Knowledge, how proactive forest stewardship will serve important ecological objectives, including but not limited to:

- Managing risk of fire to critical resources including old forest stands, communities, infrastructure, or critical habitat for ESA-listed species;
- Aiding in the development or enhancement of structurally complex late-seral habitat;
- Stabilizing carbon stocks in the face of changing climate and disturbance regimes; or
- At the request of Tribes to steward Tribal cultural uses.

The committee anticipates that timber harvest in advanced mature forests (established between 1905 and 1825) across Matrix and AMAs will be relatively rare and infrequent and will be responsive to unique sites-specific

circumstances. Decisions about timber harvest in those mature forests will be responsive to significant changes in landscape forest conditions over the life of the plan amendment and when significant new scientific information demonstrates the ecological benefits of forest stewardship in moist advanced mature forest stands. We anticipate that the age thresholds that we recommend for protection will be reviewed and revised as necessary in the course of future forest plan revisions.

IV. Emphasis on timber production in young moist stands (stands originating after 1905) across Matrix and Adaptive Management Areas

Society's consumption of wood products continues to grow, and communities in Washington, Oregon, California, and around the country depend on the highly productive timber lands of the Pacific Northwest for wood products, employment, and a host of other benefits provided by working forests. The vast majority of moist forest acreage across the NWFP area is already protected as Congressional or administratively withdrawn lands, Late-Successional Reserves, and Riparian Reserves. The Committee's challenge was identifying moist forest stands on Matrix and Adaptive Management Area lands that we believe warrant protection while keeping younger forest stands available for timber harvest to support the local forest sector, workforce, and community livelihoods and economies.

Goals of silviculture in young moist Matrix and AMA stands: Silvicultural activities in younger moist forest stands across Matrix and AMAs lands should be designed to produce a sustainable supply of wood products while also accomplishing a variety of social and ecological goals including but not limited to those listed below. This approach to producing a sustainable supply of wood products while achieving social and ecological goals is often referred to as "[ecological forestry](#)." Plantations should be prioritized for active management. Social, economic, and ecological goals of timber harvest in younger moist forest stands across matrix and AMAs include:

1. Develop complex structures and diverse composition that are at reduced risk of loss from fire, drought, insects, and disease;
2. Mitigate risk of fire that threatens communities, infrastructure, or older forest stands;
3. Increase connectivity between existing older forest;
4. Improve the ability of stands to adapt to and recover from future climate and disturbance regimes;
5. Increase heterogeneity of forest structure and composition and provide for diverse wildlife habitat;
6. Tribal co-stewardship and ecocultural restoration; and
7. Timber production, job retention and creation in local communities, and economic opportunities.

Objective for young, moist Matrix: The objective for young, moist, Matrix stands should be long-term, sustained-yield timber production consistent with ecological forestry principles. To meet this objective, the Forest Service should treat at least one tenth of the NWFP area's young, moist, Matrix acres over the next 10 years while conserving and protecting older trees.

Protection of relic old trees within younger moist Matrix/AMA forest stands: The committee supports significant timber harvest in moist forest stands across Matrix and AMAs with stand origin dates between 1905 and the present day. As noted in Section II, stand origin dates should be based on the oldest cohort of trees present. However, in some cases, there may be a few trees that survived a high severity stand-replacing event or that were left after timber harvest that pre-date the oldest cohort of trees present. The committee expects that the Forest Service will retain any individual trees estimated to have established prior to the year 1905 that may be found in stands that originated between 1905 and the present day. For example, these retained trees would be used to meet green tree retention goals in variable retention harvests.

V. Accelerated dry forest restoration

Resilient dry older forest conditions are at significant risk from uncharacteristic fire, drought, and insect disturbance exacerbated by a changing climate. The Committee recommends and expects that the Forest Service will implement accelerated ecological restoration (such as see generally Franklin and Johnson 2012) of dry forest stands in Matrix, Adaptive Management Areas, and Late-Successional Reserves, with priority given to dry forest stands with older trees at high risk of mortality from fire, insects, or drought. Existing guidelines for silviculture in dry forest LSRs on C-12 and C-13 of the 1994 NWFP should be replaced with new management direction based on these recommendations.

Goals of dry forest restoration: Accelerated dry forest restoration will be designed to:

1. Reduce risk of loss from fire, drought, insects, and disease of critical forest ecological structures, functions, and services including but not limited to water quality and wildlife habitat;
2. Mitigate risk of fire that threatens communities, infrastructure, or old-growth forest stands;
3. Conserve existing older trees;
4. Relink pattern-process feedbacks that restore characteristic dry forest structure, composition, and function; and
5. Contribute to timber production, job retention and creation in local communities, and economic opportunities.

Guidance on dry forest restoration: Dry forest restoration will consist of a variety of silvicultural and stewardship techniques including but not limited to variable density thinning and reintroduction of fire (both cultural burning and prescribed fire) appropriate for restoring characteristic older dry forest conditions. Dry forest restoration will:

1. Protect from harvest all trees older than 150 years with accommodations for Tribal cultural uses and stewardship, restoration of unique ecosystems, and fire resilience treatments (see also *infra*, Site-Specific Implementation);
2. Ensure recruitment of older trees over time as appropriate for site conditions;
3. Reduce overall stand density, reduce ladder fuels, shift species composition from less fire and drought tolerant to more fire and drought tolerant species, and manage surface fuels;
4. Restore characteristic composition, structure, size, spatial patterns, age distributions, and configuration of trees and forest habitat patches at stand and landscape scales as determined through Tribal consultation/collaboration and best available science, including Indigenous Knowledge;
5. Facilitate reintroduction of fire and restore characteristic fire ecology to maintain resilient forest conditions; and
6. Provide habitat for late-successional forest-associated species to the extent feasible consistent with restoring resilient dry forest conditions and consistent with listed species recovery plans.

Objective for dry forest restoration: The Committee recommends the Forest Service will restore ecological resilience to at least one third of extant NWFP area dry forest over the next 15 years while conserving and protecting older trees and promoting the development of future functional old-growth forest ecosystems appropriate for dry forests.

VII. Modified direction for young LSR forest thinning

Current management direction restricts thinning to stands less than 80 years of age in Late-Successional Reserves west of the Cascades. The Committee recommends raising the age at which treatments can occur in moist younger forest LSR stands to those stands that are 120 years of age or younger in order to extend opportunities to restore late-successional forest conditions in LSRs. Younger moist forest management in LSRs

should generally consist of variable density thinning and reintroduction of fire as appropriate, including for Tribal cultural uses. No active management in younger moist LSR forests should be allowed unless it is designed to enhance and promote the development of older forest conditions and other relevant Late-Successional Reserve objectives, standards, and guidelines.

VIII. Post-fire Forest Stewardship

The extent of fire, including large patches of stand-replacing fire, is increasing across the NWFP area. Post-fire salvage logging of burned forest when promptly implemented can help capture the economic value of dead trees and support local economies. Post-fire landscapes provide opportunities for restoration of forest composition and structure, wildlife habitat, and ecosystem function. At the appropriate scale and place, post-fire salvage may be a useful tool for reducing future fuel loading and facilitating the development of future resilient conditions, including in dry forests where uncharacteristically large amounts of fuel are often left following fire.

However, post-fire salvage logging, particularly in older moist and dry forest stands that are well-suited for development of significant live and dead biomass, can degrade valuable habitat and biological diversity and impair ecological functioning in these early seral habitats. The Committee recognizes and appreciates the diverse and competing views and interests regarding post-fire forest stewardship.

The Committee’s recommendations for post-fire management attempt to provide clarity to the Forest Service, consistency with the Committee’s foregoing Forest Stewardship recommendations, and balance to ecological, social, and economic dynamics. The Committee believes these recommendations should be reevaluated during a Northwest Forest Plan *revision* and whenever LUA “rationalization” (moving lines on the map) is considered.

Salvage in Matrix/AMAs and LSRs

The Committee recommends permitting salvage with retention of biological legacy features (e.g., large snags and down wood) within Matrix and AMA LUAs regardless of stand age. All live trees should be retained, as well as snags and the largest, oldest trees to meet retention requirements. Salvage should be designed to serve multiple objectives including timber production while retaining critical biological legacies (“salvage with retention”). The Committee recommends that the USFS collaborate with Tribes to develop co-stewardship agreements covering revitalization of cultural species and associated habitats following wildfire disturbances.

The Committee recommends prohibiting salvage in moist forests in Late-Successional Reserves regardless of stand or tree age, with exceptions for Tribal cultural uses, public and firefighter safety and access, protection of critical infrastructure, and along existing system roads. Limited fuel management salvage could occur in dry forest LSRs when beneficial to ecological goals, fire resilience, wildlife needs, and local communities. Dry forest salvage should include high large snag retention. The Committee recommends the Forest Service undertake analysis and develop plan direction if necessary for other types of disturbances other than wildfire based on the foregoing recommendations.

The Committee designed the following **Post-Disturbance Forest Stewardship Paradigm** to help visualize how the Committee’s management recommendations differ as a function of forest type, age, and land management allocation:

Post-Disturbance Forest Stewardship Paradigm					
Moist Forest	Matrix/AMA established >1905	Matrix/AMA established 1905-1825	Matrix/AMA established <1825	LSR <120 years of age	LSR >=120 years of age

	Salvage with retention	Salvage with retention	Salvage with retention	No Salvage	No Salvage
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Dry forest	Matrix/AMA			LSR	
	Salvage with retention	Salvage with retention	Salvage with retention	Limited fuel management salvage	Limited fuel management salvage

IX. Additional considerations

Amending the Northwest Forest Plan is not the only step the Forest Service needs to take to ensure that needed forest restoration occurs and that social, economic, cultural, and ecological objectives are met. We urge Forest Service leadership to work closely with regulatory agencies like the United States Fish and Wildlife Service and National Marine Fisheries Service to ensure that Section 7 consultation and other Endangered Species Act obligations are met in a timely and efficient manner that ensures conservation of threatened and endangered species and increased resilience for forests and human communities.

We strongly urge the Forest Service to take appropriate actions to remove or lower existing barriers to active management in younger stands and dry forests, especially requirements to conduct pre-disturbance surveys for Survey and Manage species. Conservation of the remaining unprotected older forests would effectively address the habitat needs of old-growth dependent species for which the Survey and Manage program was originally designed, thus casting doubt on the continued necessity of the program.

The Forest Service faces daunting analytical burdens imposed by court and agency interpretations of federal environmental laws. We urge the Forest Service to work diligently to efficiently implement the National Environmental Policy Act and other analysis procedures to ensure that agency action can be implemented in a timely and efficient way while ensuring transparency and accountability to the public. Many of our recommendations could be read as imposing significant new analytical burdens on the agency. On the contrary, our recommendations are designed to provide direction that will make planning more effective and efficient. Some of our recommendations—for instance, the shift from structure based to stand and tree age-based management—may be an adjustment for Forest Service staff, but we are confident that existing agency tools, methods, and experience are adequate to implement these recommendations.

7. Designate and Steward Community Protection Areas

The safety and wellbeing of many communities within the NWFP area are at elevated and increasing risk of negative effects from wildfire. Cooperative community protection planning using wildfire analytics such as QWRA, PCLs, and PODS is being actively deployed across the Plan area. However, the use of these tools is constrained by administrative barriers encountered through current land use allocations – such that strategies that use best available science and collaborative processes are hindered by what is allowable in the NWFP region (e.g. LSR designation adjacent to a community and limited available flexibility). These administrative constraints create exceptional burdens that local units cannot overcome with their current land use planning restrictions. This NWFP Plan amendment provides an opportunity to advance the use of community-informed planning, design and engagement, to bridge landownerships for more cohesive fire management strategies built over larger landscapes.

The intent of this set of recommendations is to develop and utilize a Community Protection Area (CPA) concept that reduces administrative barriers to community protection, requires process and procedures to involve key partners and cooperators in the community, and recognizes the need for flexible and iterative refinement of CPAs over time to realize effective and equitable cooperative community wildfire protection planning. Designation of Community Protection Areas through the NWFP Amendment will provide added attention and direction to wildfire risk issues for all communities across the NWFP area.

For these recommendations, the Committee referenced the [Land Management Plan for the Sierra National Forest \(2023\)](#), where a four-level Strategic Fire Management Zone approach utilized Community Wildfire Protection Zones and General Wildfire Protection Zones as priority areas to reduce potential adverse impacts to communities from wildfires:

- Community Wildfire Protection Zones in that plan are described as: *The community wildfire protection zone encompasses locations where communities, community assets, and private land could be at very high risk of damage from wildfire where high fuel loadings exist. Wildfires that start in this zone contribute more to potential loss of community assets than any other strategic fire management zone. Within this zone, community buffer areas are measured from the structures in the community.*
- General Wildfire Protection Zones in the plan are described as: *The general wildfire protection zone identifies where conditions currently put some natural resource and/or community values at high risk of damage from wildfire. Wildfires that start in the general wildfire protection zone can contribute to high fire risk in the community protection zone. Within this zone, high fire transmission risk from wildlands into communities is identified.*

The Committee’s recommendations expand upon the above description of Community Wildfire Protection Zones and General Wildfire Protection Zones and recommend the Forest Service further develop and utilize CPAs delineations based on cooperative community protection planning and the use of wildfire analytic tools and frameworks.

What’s currently in the Northwest Forest Plan: This concept is not included in the 1994 NWFP.

These recommendations support:

- ✓ Improved fire resistance and resilience
- ✓ Communities that rely on National Forest System lands

With this background and context in mind, the Committee supports including the following recommendation in the Northwest Forest Plan amendment:

RECOMMENDATIONS	
7-1	The Committee recommends the Forest Service develop Community Protection Areas (CPAs) in the vicinity of communities and related infrastructure (as noted in 7-4) that are vulnerable to catastrophic disturbance from wildfire. The intent of this is to augment the safety of people, property, and the built environment and to mitigate the risk of catastrophic losses mitigated through modification of fuels and facilitation of safe and effective fire management strategies.
7-2	The Forest Service should further refine the Community Protection Area concept in subsequent plan revision processes.

7-3	The Committee recommends the Forest Service develop CPAs based on fire analytic products and frameworks including but not exclusively PODs, PCLs, and CWPPs. The process and procedures for development of CPAs will involve key stakeholders and cooperators, including, but not limited to Tribes, private landowners, local governments, community based-organizations, and state and local fire services, a cross-boundary approach.
7-4	Delineation of resources included in Community Protection Areas can be revised in the course of site-specific project planning and could include but not be limited to: <ul style="list-style-type: none"> • Structures • Transportation infrastructure • Facilities including but not limited to communications equipment, dams, power generation, and power transmission infrastructure • Developed recreation sites such as parks or campgrounds near communities • Sacred sites, traditional ecological properties, or other areas of Tribal cultural importance
7-5	Forest stands within Community Protection Areas are actively managed for protection goals if they contribute to a high risk of catastrophic fire that threatens the built environment, and where silvicultural techniques including thinning and prescribed fire as well as old tree retention can effectively manage risk. (see also Forest Stewardship, Section V)
7-6	Community Protection Areas will be identified as “Lands of Specific Character,” with the built environment as the strategic feature. Accordingly, this overlay would be prioritized over other management direction when there is a conflict.
7-7	The Forest Service actively engages in community planning for community disaster preparedness and evacuation in areas near each respective forest.

8. Remove Barriers for Adaptive Management

Adaptive management is defined as “a structured, cyclical process for resource management decision making in the face of uncertainty and changing conditions” ([USFS Adaptive Management, Monitoring, and Analysis](#)) and is intended to provide options for land management challenges. In practice, the adaptive management concept can be realized in different ways, ranging from the highly structured management cycle through to simpler adjustment of routines within the existing rules driven by learning and observation. A full spectrum of adaptive management implementation is critical to provide for climate change adaptation. A culture of learning is critical for supporting adaptive management, and it is important to remember that it is the interaction of scientific and technical components along with social preferences that together result in successful adaptation.

Adaptive management concepts embodied in the Adaptive Management Area (AMA) LUA were groundbreaking within the original NWFP Amendment; but the extensive procedural requirements associated with the AMAs largely precluded successful implementation of active adaptive management in AMAs (Science Synthesis 2018). Barriers to successful implementation included, but were not limited to: prohibitive regulatory processes, lack of funding, lack of incentives or directives for USFS managers, and insufficient agency capacity. Furthermore, while the geographic locations of the AMAs were selected to provide associated rural communities with certainty and a pathway to economic self-sufficiency, they do not provide an effective and representative land base upon which to implement adaptive management in the manner needed to address current stressors and meet current today’s challenges in land management and adaptation.

According to the 2012 Planning Rule, “the adaptive management framework of assessing, revising, amending, and monitoring provides a scientifically supported foundation for addressing uncertainty, understanding changes in conditions that are either the result of management actions or other factors, and keeping plans current and

relevant.” Consistent with the 2012 Planning Rule, the Committee strongly supports the use and implementation of adaptive management as a programmatic approach across all land use allocations and including Tribal co-stewardship and community engagement as a core to the framework. This approach should include the formal adaptive management cycle where desired and feasible (including e.g. triggers and thresholds), investment in demonstration opportunities across the region, as well as a broader framework where adaptation is inspired by shared learning and observation. In a rapidly changing climate, the Forest Service must continue to learn, monitor, adapt, and experiment to achieve management objectives across the entire NWFP landscape.

What’s currently in the Northwest Forest Plan: The primary direction on adaptive management is included in the NWFP S&Gs for Adaptive Management Areas (C-21 to C-22 and Section D). The S&Gs for AMAs state technical and social objectives for AMAs. The Implementation guidelines include requirements related to agencies facilitating collaborative efforts and public participation by local communities, AMA plans, and interdisciplinary technical reviews. There is also some direction on adaptive management in the Implementation section (E-13 to E-15) of the NWFP.

These recommendations support:

- ✓ Incorporation of Indigenous Knowledge into planning, project design, and implementation and meeting the agency’s trust responsibilities
- ✓ Improved fire resistance and resilience
- ✓ Capacity of ecosystems to adapt to climate change
- ✓ Conservation and recruitment of old growth forest conditions and habitat for species that depend on old growth ecosystems and regional biodiversity
- ✓ Communities that rely on National Forest System lands

With this background and context in mind, the Committee supports including the following recommendation in the Northwest Forest Plan amendment:

RECOMMENDATIONS	
8-1	The Committee recommends the Forest Service embrace adaptive management as a broad framework across all land use allocations of the NWFP region. Key priorities for adaptive management include but are not limited to climate change resistance, resilience, mitigation and adaptation; fire adapted landscapes and communities; restoration of non-forested habitats; ecological stewardship of mature and old forests; Tribal co-stewardship for ecocultural restoration; and ecological forestry approaches.
8-2	The USFS meaningfully includes Tribal co-stewardship and community engagement in adaptive management.
8-3	A commitment to adaptive management is clear in the Record of Decision for the NWFP amendment that reflects the concerns outlined in this section and its recommendations.
8-4	The USFS scales up learning from adaptive management projects to ongoing decision-making for the region and recognizes the need for monitoring to support a broad investment in adaptive management. The USFS affirms a culture of adaptation that recognizes the adaptive management concept can be realized in different ways, ranging from the highly structured management cycle (including triggers and thresholds) to simpler adjustment of routines within existing rules driven by learning and observation. Where feasible, the USFS invests in a process for identifying thresholds and triggers and evidence from trends of key components in the region, and implements the adaptive management cycle using those thresholds, triggers, and trends.* (See also 4-17)

8-5	Adaptive Management LUA plan components should be replaced with recommended Matrix LUA plan components, except where AMA plans direct management otherwise. A broad framework of adaptive management is necessary across all LUAs in the NWFP region, and our recommendation to release the AMAs reflects recognition that extensive procedural requirements associated with AMAs largely precluded successful implementation of active adaptive management in AMAs. Furthermore, the AMAs do not provide an effective and representative land base upon which to implement adaptive management in the manner needed to address current stressors and meet current challenges in land management and adaptation.
8-6	Any designated LSR, riparian reserve, or existing old growth within an AMA, shall remain LSRs, riparian reserve, or managed as old growth.
8-7	For AMAs where Matrix plan components are applied, include added language in the Desired Conditions to emphasize the goal of accelerated restoration, Tribal co-stewardship where desired by Tribes, and management consistent with adaptive management priorities as outlined in 8-1 as appropriate.
8-8	Develop a new “Adaptive Management Program” with engagement from Tribes, communities, agencies, research scientists, and interested parties to collaboratively identify core adaptive management projects and demonstration opportunities in each Forest unit across the NWFP region.
See also, Appendix B . In this Appendix, the Committee provides example redlines for a potential revision of the AMA provisions in the 1994 NWFP.	

*Following the delivery of these recommendations, the Committee also intends to further discuss a recommended process for thresholds and triggers. It is a priority for the Committee that implementing such program should not become an additional barrier for doing adaptive management.

GLOSSARY OF TERMS

Beneficial fire: Also known as “good fire,” beneficial fire refers to prescribed fire, cultural burning, and wildland fire managed for resource benefit.

Co-management: Describes arrangements to manage natural resources with shared authority and responsibility. While treaty rights, legislation and other legal mechanisms have fostered such arrangements, co-management is more generally the result of extensive deliberation and negotiation to jointly make decisions and solve problems ([Braiding Indigenous and Western Knowledge for Climate-Adapted Forests](#)).

Co-stewardship: A broad range of working relationships between the federal government and Indigenous Peoples exercising the delegated authority of federally recognized Tribes. Co-stewardship can include co-management, collaborative and cooperative management, and Tribally led stewardship, and can be implemented through cooperative agreements, memoranda of understanding, self-governance agreements, and other mechanisms ([Braiding Indigenous and Western Knowledge for Climate-Adapted Forests](#)).

Community engagement: Community engagement for the Forest Service includes the process of interacting with a diversity of people about the stewardship of their public lands using a variety of methods, approaches, and tools to create meaningful experiences that support their relationship with the land, the agency, and each other. This includes outreach and engagement with underserved, underrepresented and minority populations.

Consultation: The timely, meaningful, and substantive dialogue between USDA officials who have delegated authority to consult and the official leadership of federally recognized tribes, or their designated representative,

pertaining to USDA policies that may have Tribal implications (USDA 2013: 8). Consultation is a government-to-government exchange rooted in the federal trust responsibility to Tribal nations. Meaningful consultation involves mutually agreed upon processes for exchange, defined by each Tribe, that take place early and often in land management and environmental planning ([NWFP Tribal Monitoring Report](#)).

Cultural Management Areas: Tribal Cultural Management Areas are specific areas of special importance to Tribes because of their historic and contemporary cultural values, including customary or traditional use, heritage, spiritual, and ceremonial values. These areas may be mapped as specific geographic areas and recognized as Special Interest Areas in Forest Land and Resource Management Plans with special management directions (desired conditions, objectives, standards, guidelines, and prescriptions) that are consistent with Native American customs and culture and developed in consultation with Tribes and with protection of confidential and culturally sensitive Tribal information. They may also be labeled using terms such as Native American Contemporary Use Areas and Traditional Cultural Districts, and they may encompass traditional cultural properties, cultural landscapes, sacred places, or sacred sites.

Cultural burning: Also referred to as, “Indigenous fire use,” fire use on lands in a natural or modified state for Tribal cultural purposes and governed solely by Tribal law, policy, or Tribal knowledge, practice, and belief systems. Cultural burning is distinct from prescribed fire and is defined differently by different Tribes.

Data sovereignty: The right of a nation to govern the collection, ownership, and application of its own data, deriving from tribes' inherent right to govern their peoples, lands, and resources ([University of Arizona Native Nations Institute](#)).

Ecocultural restoration: Also referred to as “Ecocultural management” and “Ecocultural stewardship”: the process of restoring climate- and wildfire-adapted ecosystem structure, composition, and processes, and the Indigenous cultural practices that helped shape them over deep time. Braiding together WS with IK restores the practice of place-based stewardship and reconnecting people to place. IK will need to be applied in a way that recognizes current distorted, novel conditions created by a century of western management, fire suppression, and cessation of management ([Braiding Indigenous and Western Knowledge for Climate-Adapted Forests](#)). Ecocultural restoration centers around the mutual flourishing of Indigenous communities and their interconnected ecosystems ([Long, Goode, and Lake 2020](#)).

Ecological forestry: Ecological forestry utilizes ecological models from natural forest systems as a basis for managing forests. It incorporates principles of natural forest development, including the role of natural disturbances, in the initiation, development, and maintenance of forests and forest landscape mosaics. Most importantly, ecological forestry recognizes that forests are ecosystems with diverse biota, complex structure, and multipole functions, and not simply collections of trees valuable primarily for the production of wood. In doing so it seeks to maintain the fundamental capacities (integrity) of the forest ecosystems to which it is applied ([Franklin, Johnson, Johnson 2018](#)).

First Foods: Foods relied upon by Indigenous peoples for cultural and physical health, and cultivated through Indigenous management and stewardship ([ITEP 2011](#)).

Food sovereignty: The ability of communities to determine the quantity and quality of the food that they consume by controlling how their food is produced and distributed. (DOI BIA) Tribal food sovereignty refers to the ability of Tribal nations to develop and implement self-determined definitions of food sovereignty, and “design and maintain food systems and enact policies that advance tribal priorities for ensuring that tribal

citizens have the sustenance they need to thrive physically, mentally, socially, and culturally not just today, but for the generations to come” ([National Congress of American Indians](#)).

Indigenous Knowledge: Also referred to as, “Native Knowledge,” “Traditional Knowledge,” “Indigenous Science” and “Traditional Ecological Knowledge.” A body of observations, oral and written knowledge, innovations, practices, and beliefs developed by Tribes and Indigenous Peoples through interaction and experience with the environment. It is applied to phenomena across biological, physical, social, cultural, and spiritual systems. Indigenous Knowledge can be developed over millennia, continues to develop, and includes understanding based on evidence acquired through direct contact with the environment and long-term experiences, as well as extensive observations, lessons, and skills passed from generation to generation. Indigenous Knowledge is developed by Indigenous Peoples including, but not limited to, Tribal Nations, Native Americans, Alaska Natives, and Native Hawaiians. Each Tribe or Indigenous community has its own place-based body of knowledge that may overlap with that of other Tribes. Indigenous Knowledge is based in ethical foundations often grounded in social, spiritual, cultural, and natural systems that are frequently intertwined and inseparable, offering a holistic perspective. Indigenous Knowledge is inherently heterogeneous due to the cultural, geographic, and socioeconomic differences from which it is derived, and is shaped by the Indigenous Peoples’ understanding of their history and the surrounding environment. Indigenous Knowledge is unique to each group of Indigenous Peoples and each may elect to utilize different terminology or express it in different ways. Indigenous Knowledge is deeply connected to the Indigenous Peoples holding that knowledge (2012 Planning Rule).

Indigenous Peoples regardless of treaty status: Pacific Northwest Tribes and peoples with treaty, reserved, and other similar rights.

Knowledge sovereignty: The right to maintain, control, protect, and develop Indigenous cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of Indigenous sciences, technologies, and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports, and traditional games and visual and performing arts. It includes the right to maintain, control, protect and develop Indigenous intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions. (UNDRIP) Knowledge sovereignty acknowledges that the practice and transmission of Indigenous knowledge requires the ability to practice traditional land management and cultural practices ([Karuk Knowledge Sovereignty Report 2014](#)).

Prescribed burning: The controlled application of fire by a team of fire experts under specified weather conditions to restore health to ecosystems that depend on fire. It is distinct from “cultural burning” ([USFS](#)).

Special forest products: Products collected from National Forest System lands and include, but are not limited to: bark, berries, boughs, bryophytes, bulbs, burls, Christmas trees, cones, ferns, firewood, forbs, fungi (including mushrooms), grasses, mosses, nuts, pine straw, roots, sedges, seeds, transplants, tree sap, wildflowers, fence material, mine props, posts and poles, shingle and shake bolts, and rails. Special forest products do not include sawtimber, pulpwood, non-sawlog material removed in log form, cull logs, small roundwood, house logs, telephone poles, derrick poles, minerals, animals, animal parts, insects, worms, rocks, water, and soil ([FSM 1560](#)).

Traditional Cultural Properties: Properties eligible for inclusion in the National Register of Historic Places because of their association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community ([USFS](#)).

Traditional cultural use species / culturally significant species / Tribal cultural-use species: Plants and animals that Tribal communities steward and harvest for cultural purposes including for food, medicine, spiritual practices, and maintaining traditional knowledge ([Karuk Climate Adaptation Plan 2019](#)).

Traditional and Cultural Purpose: As per the Culture and Heritage Cooperation Authority (25 U.S.C. 3052(9)), a definable use, area or practice identified by an Indian tribe as traditional or cultural because of the long-established significance or ceremonial nature of the use, area or practice to the Indian tribe ([FSM 1560](#)).

Treaty Rights: Those rights or interests reserved in treaties for the use and benefit of Tribes. The nature and extent of treaty rights are defined in each treaty. Only Congress may abolish or modify treaties or treaty rights. ([FSM 1560](#)).

Tribal Rights: Those rights legally accruing to a Tribe or Tribes as set forth in the U.S. Constitution, treaties, statutes, executive directives and court decisions ([FSM 1560](#)).

Treaty and other Tribal Rights: Treaty rights, tribal rights, and other reserved, retained, and other similar rights.

Tribal sovereignty: The inherent right of Tribes to self-govern.

Trust responsibility: Trust responsibility arises from the United States' unique legal and political relationship with Indian tribes. It derives from the Federal Government's consistent promise, in the treaties that it signed, to protect the safety and well-being of the Indian tribes and tribal members. The federal trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal treaty rights, lands, assets, and resources, as well as a duty to carry out the mandates of federal law with respect to all federally recognized American Indian and Alaska Native tribes and villages. (See also FSM 1563.9b) ([FSM 1560](#)).

Western science: A system of knowledge that relies on certain laws that have been established through the scientific method to understand phenomena in the world around us. The process of the scientific method begins with an observation followed by a prediction or hypothesis which is then tested. Depending on the test results, the hypothesis can become a scientific theory or "truth" about the world. Scientific theories or "truths" relate to certain values and ideas and are not necessarily objective. ([We Are Fire](#))

APPENDIX A: EXAMPLE MAJOR PLANT ASSOCIATIONS/SERIES BY DRY, MOIST, OR MIXED CONDITIONS

From the Federal Advisory Committee’s recommendations on Forest Stewardship: *Initially screening stands to plant associations that are reliably indicative of differences in inherent productivity and response to disturbance; See for example Appendix A, “Major Plant Associations/Series by Dry, Most, or Mixed Conditions,” which provides an initial reference for plant associations. The Committee anticipates plant associations will be developed on a forest by forest level.*

This list is not comprehensive and needs to be further developed by the Forest Service. There can and should be changes to this list, including in consultation with Tribes.

Categorization of Major Plant Associations/Series by Dry, Moist, or Mixed conditions

<u>Moist Plant Series</u>	<u>Dry Plant Series</u>	<u>Mixture of Moist and Dry</u>
Sitka Spruce	Western Juniper	Grand Fir
Western Hemlock	Ponderosa Pine	White Fir
Pacific Silver Fir	Jeffrey Pine	
Mountain Hemlock	Douglas-Fir	
Subalpine Fir-Engelmann Spruce	Oregon White Oak	
Lodgepole Pine	Tanoak (in California)	
Coast Redwood		
Tanoak (in Oregon)		
California Red Fir		

Note: Dry forests are considered to be forests subjected to a frequent fire regime prior to European settlement; many of these forests were periodically fuel limited. Moist forests were characterized by an infrequent fire regime and were generally not fuel limited.

APPENDIX B: EXAMPLE ADAPTIVE MANAGEMENT AREAS SECTION REDLINE

See following pages.

D. ~~Adaptive Management~~ Accelerated Restoration Areas

Acres

Key and non-Key Watersheds are specified for all areas, and therefore overlay all other land allocations. For the portion of ~~Adaptive Management~~ Accelerated Restoration Areas located within Key Watersheds, standards and guidelines for Key Watersheds, as well as standards and guidelines for ~~Adaptive Management~~ Accelerated Restoration Areas, apply, with some flexibility as described below (~~see additional detail under Hierarchy of Standards and Guidelines Within Adaptive Management Areas later in this section~~).

Adaptive Management <u>Accelerated Restoration</u> Areas within Tier 1 Key Watersheds	228,100
Adaptive Management <u>Accelerated Restoration</u> Areas within Tier 2 Key Watersheds	60,600
Adaptive Management <u>Accelerated Restoration</u> Areas within non-Key (other) Watersheds	<u>1,233,100</u>
Total Adaptive Management <u>Accelerated Restoration</u> Areas	1,521,800

Acreage of Riparian Reserves is not calculated within ~~Adaptive Management~~ Accelerated Restoration Areas for these standards and guidelines. However, Riparian Reserve standards and guidelines affect approximately 40 percent of ~~Adaptive Management~~ Accelerated Restoration Areas. The above acres are net federal, not including Congressionally Reserved Areas or Late-Successional Reserves. Acreage for each ~~Adaptive Management~~ Accelerated Restoration Area listed later in this section includes all ownerships and all land allocations within the ~~Adaptive Management~~ Accelerated Restoration Area boundary.

Introduction

~~Adaptive Management~~ Accelerated Restoration Areas are landscape units designated to [NEW DESCRIPTION NEEDED] ~~encourage the development and testing of technical and social approaches to achieving desired ecological, economic, and other social objectives~~. Ten areas ranging from about 92,000 to nearly 500,000 acres of federal lands have been identified. The areas are well distributed in the physiographic provinces. Most are associated with subregions impacted socially and economically by reduced timber harvest from the federal lands. The areas provide a diversity of biological challenges, intermixed land ownerships, natural resource objectives, and social contexts. ~~In the Applegate Adaptive Management Area in Oregon, grassroots community based activities have already begun.~~

~~The overall objective for Adaptive Management Areas is to learn how to manage on an ecosystem basis in terms of both technical and social challenges, and in a manner consistent with applicable laws. It is hoped that localized, idiosyncratic approaches that may achieve the conservation objectives of these standards and guidelines can be pursued. These approaches rely on the experience and ingenuity of resource managers and communities rather than traditionally derived and tightly prescriptive approaches that are generally applied in management of forests.~~

The Adaptive Management Accelerated Restoration Areas are intended to contribute substantially to the achievement of objectives for these standards and guidelines. This includes provision of well-distributed late-successional habitat outside of reserves, retention of key structural elements of late-successional forests on lands subjected to regeneration harvest, and restoration and protection of riparian zones as well as provision of a stable timber supply.

~~The Adaptive Management Area concept incorporates the three adaptive management models/objectives discussed in the FEMAT Report – technical, administrative, and cultural/social.~~

~~Key features of the Adaptive Management Areas:~~

- ~~● The areas are well distributed geographically, represent a mix of technical and social challenges and are of sufficient size to provide for landscape level management approaches.~~
- ~~● The areas provide for development and demonstration of monitoring protocols and new approaches to land management that integrate economic and ecological objectives based on credible development programs and watershed and landscape analysis.~~
- ~~● Opportunities exist for education, including technical training, to qualify local community residents for employment in monitoring and other management programs.~~
- ~~● Innovation in community involvement is encouraged, including approaches to implementation of initial management strategies and perhaps, over the longer term, development of new forest policies.~~
- ~~● Innovation is expected in developing adequate and stable funding sources for monitoring, research, retraining, restoration and other activities.~~
- ~~● Innovation in integration of multi-ownership watersheds is encouraged among federal agencies and is likewise encouraged among state and federal agencies, and private landowners.~~
- ~~● Innovation in agency organization and personnel policies might include individual certification requirements, and modification of recruitment and promotion procedures to encourage local longevity among the federal workforce.~~

Selection of the Adaptive Management Accelerated Restoration Areas

Adaptive Management Accelerated Restoration Areas were selected to provide opportunities for innovation, to provide examples in major physiographic provinces, and to provide a range of technical challenges, from an emphasis on restoration of late-successional forest conditions and riparian zones to integration of commercial timber harvest with ecological objectives.

~~The Adaptive Management Areas have been geographically located to minimize risk to~~

achieving the conservation objectives of these standards and guidelines. The designation of Adaptive Management Areas was intended to provide a mixture of public and private lands. In locating the Adaptive Management Areas, the proximity of communities that were subject to adverse economic impacts resulting from reduced federal timber harvest was considered. The social and economic analysis of the Forest Ecosystem Management Assessment Team was a major source of information that helped guide these decisions.

The Adaptive Management Areas incorporate a mix of ownerships and administrative responsibilities. Six areas include lands administered by the Forest Service and BLM. In two areas (Northern Coast Range and Olympic) there are significant opportunities for the states to participate in a major cooperative adaptive management effort. The majority of areas also have interspersed privately owned forest lands that could be incorporated into an overall plan if landowners so desired.

Establishment of the Adaptive Management Accelerated Restoration Areas is not intended to discourage the development of innovative social and technical approaches to forest resource issues in other locales. They are intended to provide a geographic focus for innovation and experimentation large landscape restoration with the intent that such experience will be widely shared. The array of areas provides a balance between having a system of areas that is: (1) so large and diffuse that it lacks focus and adequate resources; and has extensive management constraints because of its size and overall impact on regional conservation strategies; and (2) too small to allow for meaningful ecological and social experimentation.

Technical Ecological Objectives

The Adaptive Management Accelerated Restoration Areas have scientific and technical innovation and experimentation forest restoration to achieve ecological integrity across large landscapes and the provision of timber products as objectives. The guiding principle is to allow freedom in forest management approaches to encourage innovation in achieving the goals of these standards and guidelines. This challenge includes active involvement by the land management and regulatory agencies early in the planning process.

The primary technical objectives of the Adaptive Management Areas are development, demonstration, implementation, and evaluation of monitoring programs and innovative management practices that integrate ecological and economic values. Experiments, including some of large scale, Proactive restoration at large scale is likely, and indeed intended in Accelerated Restoration Areas. Demonstrations and pilot projects alone, while perhaps significant, useful, and encouraged in some circumstances, may not be sufficient to achieve the objectives.

Monitoring is essential to the success of any plan and to an adaptive management Accelerated Restoration program. Hence, development and demonstration of monitoring and training of the workforce are technical challenges and should be emphasized.

Technical topics requiring demonstration or investigation are a priority for Adaptive Management Areas and cover a wide spectrum, from the welfare of organisms to ecosystems to landscapes. Included are development, demonstration, and testing of techniques for Potential restoration activities include:

- Creation and maintenance of a variety of forest structural conditions including late-successional forest conditions and desired riparian habitat conditions.
- Integration of timber production with maintenance or restoration of fisheries habitat and water quality.
- Restoration of structural complexity and biological diversity in forests and streams that have been degraded by past management activities and natural events.
- Integration of the habitat needs of wildlife (particularly of sensitive and threatened species) with timber management.
- ~~Development~~Utilization of logging and transportation systems with low impact on soil stability and water quality.
- ~~Design and testing of effects~~Implementation of forest ~~management~~restoration activities at the landscape level.
- Restoration and maintenance of forest health using controlled fire and silvicultural approaches.

~~Each Adaptive Management Area will have an interdisciplinary technical advisory panel, including specialists from outside government agencies, that will provide advice and support to managers and local communities involved with this effort.~~

Socioeconomic Objectives

The primary ~~socioeconomic~~ objective of ~~Adaptive Management~~Accelerated Restoration Areas is the provision of flexible experimentation with policies and management. These areas should provide opportunities for land managing and regulatory agencies, other government entities, nongovernmental organizations, local groups, landowners, communities, and citizens to work together to develop innovative management approaches. Broadly, ~~Adaptive Management~~Accelerated Restoration Areas are intended to be prototypes of how forest communities might be sustained.

Innovative approaches include social learning and adaptation, which depend upon local communities having sufficient political capacity, economic resources, and technical expertise to be full participants in ecosystem management. Similarly, management will need to be coordinated and characterized by collaboration across political jurisdictions and diverse ownerships. This will require mediating across interests and disciplines, strengthening local political capability, and enhancing access to technical expertise. ~~Adaptive management~~Accelerated Restoration is, by definition, information dependent. Setting objectives, developing management guidelines, educating and training a workforce, organizing interactive planning and management institutions, and monitoring accomplishments all require reliable, current inventories. New information technologies can be used to provide such information. Local people might be ideally suited to this task if appropriately trained.

One reason for locating ~~Adaptive Management~~ Accelerated Restoration Areas adjacent to communities experiencing adverse economic impacts is to provide opportunity for social and Adaptive

economic benefits to these areas. These communities have economies and culture long associated with utilization of forest resources. As a result, the people have a "sense of place" and desire for involvement. Many of these local workers already possess timber/forest-related skills and knowledge, as well as that sense of place, which in combination make them natural participants in ecosystem-based management and monitoring. Here Accelerated Restoration can bring indigenous knowledge together with formal studies, the local communities and the land management agencies in a mix that may provide creative common-sense approaches to complicated problems. Technical and scientific training of a local workforce should be an educational priority. Formal schooling and field apprenticeship might provide the workforce needed to help implement ecosystem management, particularly in the area of monitoring. This program might be based on collaborations among local community colleges, state universities, and the agencies.

Accelerated Restoration Areas are expected to produce timber as part of their program of activities consistent with their specific direction under these standards and guidelines.

~~Agency Approaches and Management Review~~

~~Federal agencies are expected to use Adaptive Management Accelerated Restoration Areas to explore alternative ways of doing business internally, and with each other, other organizations, local and state government, and private landowners. In effect, the areas should be used to "learn to manage" as well as to "manage to learn."~~

~~Agencies are expected to develop plans (jointly, where multiple agencies are involved) for the Adaptive Management Areas. Development of a broad plan that identifies general objectives and roles, and provides flexibility should be the goal. Such a plan could be used in competing for financial resources, garnering political support, providing a shared vision, and identifying experiences to be tracked.~~

~~If the Adaptive Management Accelerated Restoration Areas are to make timely contributions to the objectives of these standards and guidelines, and to the communities, it is absolutely critical that initiation of activities not be delayed by requirements for comprehensive plans or consensus documents beyond those required to meet existing legal requirements for activities.~~

~~Development of such documents can proceed simultaneously with other activities; the only area in which detailed planning must precede most activities is the Snoqualmie Pass Adaptive Management Area. Current plans and draft plan preferred alternatives, as modified by the direction established in these standards and guidelines, can provide the starting point for activities. Initial involvement of user groups and communities would emphasize how the strategy and plans should be implemented. In the Snoqualmie Pass Adaptive Management Area, minor activities such as those Categorically Excluded under NEPA (except timber sales) and watershed restoration projects may precede detailed planning.~~

~~Initial direction and continuing review should be provided by the Regional Interagency Executive Committee. It is important that the interagency coordination involve both the regulatory and management agencies, and that the regulatory agencies participate in planning and regular review processes.~~

~~Adaptive Management Accelerated Restoration~~ Area Implementation Guidelines

Role of Agencies - The agencies will facilitate collaborative efforts, partnerships, mutual learning and innovation. They will provide staff work to the process of managing the ~~Adaptive Management Accelerated Restoration~~ Areas. This could include providing meeting places, meeting facilitation, and expert analysis. Agency scientists are expected to provide scientific design of monitoring and experiments, though the decision is reserved for the federal land manager.

Although the agencies have a facilitation role, the land management agencies retain the authority and responsibility to make decisions and the regulatory agencies retain the authority and responsibility to regulate. Nothing in these guidelines is intended to change those authorities or responsibilities.

Local Communities - Specific community roles with public agencies and subject matter experts (such as the technical advisory panels) will include helping find innovative ways to set objectives, develop plans, implement projects, and monitor accomplishments. ~~For example, Subtitle G of the 1990 Farm Bill gives criteria to identify "natural resource-dependent communities" which may be used if appropriate when identifying local~~

communities.

Participation in Adaptive Management Areas – Although the emphasis is on the participation of people who are actively involved with that geographic location, nothing in these guidelines should be construed to suggest that the interests of people living outside "local communities" should not be considered in making agency decisions. Participation will be self-identifying, to the extent possible. Experiments to address how this might happen are encouraged.

Project Development and Implementation - Specific project planning must:

- * Involve the public early
- * Coordinate with overall activities within the province
- * Begin some projects as soon as practicable to respond to and facilitate public interest and involvement
- ~~* Begin some projects prior to completing an entire watershed analysis~~
- ~~* Begin watershed analysis as soon as possible~~
- * Develop early plans and projects with the best available information
- * Identify needs for improved inventory
- * [Look for opportunities to incorporate indigenous knowledge.](#)
- ~~* Proceed simultaneously with activities and Adaptive Management Area planning~~
- ~~* Assign priority status to watershed restoration projects that can be completed quickly~~
- ~~* Begin projects in nonsensitive sections of the Adaptive Management Area~~

Area Assessment – The Adaptive Management Area plans need to be based on information about historical, current and desired future conditions of the biophysical, social, and economic aspects of the area. The plans will rely largely on existing information. The area assessment will be a concise working document. The following is provided as a suggested framework:

Biophysical: Consider disturbance history, terrestrial and aquatic conditions, sensitive plant and animal species and/or habitat, capability of the system to produce a variety of forest products. A description of the desired future condition or a range of acceptable conditions for the biophysical system is needed. For example, what functions are important to maintain at the landscape level? What structure, species, age classes, and/or arrangement will maintain those functions? Consider both coarse and fine detail over time. What does the community want the Adaptive Management Area to be like in the future? What actions are needed to create that desired future condition?

Social: Consider historical and extant communities, their use patterns, uses of the land, issues, resources, and opportunities. In some areas, other demographic data will be helpful as well. What networks for communications are at work? How can the agencies better interact with these? What collaborative process will work best for the communities of interest to effectively participate in managing the Adaptive Management Area? What does the community want to look like in the future? Desired future social condition can be considered in terms of composition, structure, and/or functions over time.

Economic: A description of current economic conditions might include an inventory of

~~local employment, resource workers, skills, and access to technology. Desired future conditions could describe the future employment opportunities (e.g., what forest work will be needed in the future?) and skills needed to seize those opportunities. As the desired future condition of the ecosystem is better understood, the future forest work will also be more clear. Identification of needed knowledge, skills, abilities, and technology for the future may be useful in developing training programs as well as business or marketing assistance.~~

Plans – All Adaptive Management Areas will have a plan. An individual public, interagency approach to planning will be developed for each Adaptive Management Area. The plan should address or provide:

- ~~* A shared vision of the Adaptive Management Area, (e.g., the kind of knowledge the participants hope to gain). Identification of the desired future conditions may be developed in collaboration with communities, depending on the area.~~
- ~~* Learning that includes social and political knowledge, not just biological and physical information.~~
- ~~* A strategy to guide implementation, restoration, monitoring and experimental activities.~~
- ~~* A short term (3 to 5 year) timber sale plan and long term yield projections.~~
- ~~* Education of participants.~~
- ~~* A list of communities influenced by the Adaptive Management Area projects and outputs.~~
- ~~* An inventory of community strategies, and resources and partners being used.~~
- ~~* Coordination with overall activities within the province.~~
- ~~* A funding strategy.~~
- ~~* Integration of the community strategies and technical objectives.~~

Monitoring and Research - The Monitoring and Evaluation Plan (included in Section E of this plan) and watershed analysis present the framework and some required actions for each Adaptive Management Accelerated Restoration Area. ~~Additional efforts and specificity may be developed for each Adaptive Management Area.~~

The learning opportunity provided by Adaptive Management Accelerated Restoration Areas will be enhanced if clear, measurable goals and objectives are set, monitored, and conveyed into the planning of projects ~~or into the appropriate component of the Adaptive Management Area plan or Forest or District Plan~~. Shared synthesis of monitoring results will help provide a multiple- perspective assessment on whether social and ecosystem goals are being met, help identify problems to avoid in subsequent projects, and help gain consensus on what data gaps exist and what changes to the monitoring and research programs are needed.

Review – ~~Monitoring and research, with careful experimental design, will be conducted in Adaptive Management Areas. Research in forest ecology and management as well as social, biological, and earth sciences may be conducted. Each Adaptive Management Area will have an interdisciplinary technical advisory panel that will provide advice to managers and the local communities involved with this effort. The technical advisory panels will provide advice and information on the appropriateness of the project.~~

~~Direction and review are provided by the Regional Interagency Executive Committee, through the Regional Ecosystem Office. This review will help assure that plans and projects developed for the various Adaptive Management Areas will be both scientifically and ecologically credible. It will assure that new, innovative approaches are used, that the laws and the goals of the plan are met, and that validation monitoring is incorporated.~~

~~The Regional Ecosystem Office will facilitate and coordinate the implementation of the Adaptive Management Area program. Federal agencies are expected to use the Adaptive Management Areas to explore new ways of working internally and externally.~~

Legal - All activities must comply with existing laws such as Endangered Species Act, National Environmental Policy Act, National Forest Management Act, Forest Land Policy and Management Act, Federal Advisory Committee Act, National Historic Preservation Act, Clean Water Act, Clean Air Act, and treaty rights. Management and regulatory agencies should work together to determine ways to expedite management while ensuring compliance, to improve cooperation through planning and on-the-ground consultation, and to avoid confrontation.

~~**Other Issues** - Some issues are beyond the authority of the agencies or the Regional Interagency Executive Committee. These include:~~

- ~~* Use of receipts from timber sales and other products derived from Adaptive Management Areas to develop programs and projects within the areas~~
- ~~* Employment targets for local people for special jobs like planning, training, and monitoring~~
- ~~* Special land management or stewardship contracts~~
- ~~* Restricted local use of wood and other products derived from Adaptive Management Areas.~~

Fire and Fuels Management

~~In Adaptive Management Areas, fire managers are encouraged to actively explore and support opportunities to research the role and effects of fire management on ecosystem functions. Cooperation across agency and ownership boundaries should be emphasized. The standards and guidelines in current plans and draft plan preferred alternatives for hazard reduction should be followed until approved Adaptive Management Area plans are established. Fire management experts will participate on the local Interdisciplinary Technical Advisory Panel on all Adaptive Management Areas. Management of Adaptive Management Areas is intended to be innovative and experimental. Wildfire suppression actions, however, should use accepted strategies and tactics, and conform with specific agency policy.~~

Timber Supply

~~One reason for locating Adaptive Management Areas adjacent to communities experiencing adverse economic impacts is to provide opportunity for social and economic benefits to these areas. Adaptive Management Areas are expected to produce timber as part of their program~~

~~of activities consistent with their specific direction under these standards and guidelines. The rates and methods of harvest will be determined on an area-by-area basis. Each area management team is expected to develop a strategy for ecosystem management as part of the Adaptive Management Area plan to guide implementation, restoration, monitoring, and experimental activities involving timber sales. The strategy should contain a short-term (3 to 5 year) timber sale component and an assessment of long-term outputs of timber.~~

Education

~~Each Adaptive Management Area was located adjacent to one or more communities with economies and culture long associated with utilization of forest resources. As a result, the people have a "sense of place" and desire for involvement. Many of these local workers already possess timber/forest-related skills and knowledge, as well as that sense of place, which in combination make them natural participants in ecosystem-based management and monitoring. Here adaptive management can bring indigenous knowledge together with formal studies, the local communities and the land management agencies in a mix that may provide creative common-sense approaches to complicated problems.~~

~~Technical and scientific training of a local workforce should be an educational priority of the Adaptive Management Area Program. Formal schooling and field apprenticeship might provide the workforce needed to help implement ecosystem management, particularly in the area of monitoring. This program might be based on collaborations among local community colleges, state universities, and the agencies.~~

Standards and Guidelines

Also see Standards and Guidelines Common to all Land Allocations starting on page C-2 of these standards and guidelines, and other standards and guidelines elsewhere in this section.

Late-Successional Reserves within Adaptive Management Accelerated Restoration Areas will be managed according to the standards and guidelines for such reserves except as provided elsewhere in this section. Management of these areas will comply with the standards and guidelines for Late-Successional Reserves, and management around these areas will be designed to reduce risk of natural disturbances. Unmapped Late-Successional Reserves are specified for spotted owl activity centers, certain LS/OG 1s and 2s, occupied marbled murrelet sites, and for certain Protection Buffers (see Section C of these standards and guidelines).

Riparian protection in Adaptive Management Accelerated Restoration Areas should be comparable to that prescribed for other federal land areas. For example, Key Watersheds with aquatic conservation emphasis within Adaptive Management Accelerated Restoration Areas must have a full watershed analysis and initial Riparian Reserves comparable to those for Tier 1 Key Watersheds. Riparian objectives (in terms of ecological functions) in other portions of Adaptive Management Accelerated Restoration Areas should have expectations comparable to Tier 2 Key Watersheds where applicable. However, flexibility is provided to achieve these conditions, if desired, in a manner different from that prescribed for other areas and to conduct bonafide research projects within riparian zones.

At the same time, any analysis of Riparian Reserve widths must also consider the contribution of these reserves to other, including terrestrial, species. Watershed analysis should take into account all species that were intended to be benefited by the prescribed Riparian Reserve widths. Those species include fish, mollusks, amphibians, lichens, fungi, bryophytes, vascular plants, American marten, red tree voles, bats, marbled murrelets, and northern spotted owls. The specific issue for spotted owls is retention of adequate habitat conditions for dispersal.

Standards and guidelines for matrix management in Section C of these standards and guidelines (there is no matrix in ~~Adaptive Management Accelerated Restoration~~ Areas) provide specific measures for coarse woody debris, and for green tree and snag retention, for the matrix. The intent of the measures must also be met in ~~Adaptive Management Accelerated Restoration~~ Areas, but specific standards and guidelines are not prescribed for these areas.

~~Provide additional protection for caves, mines, and abandoned wooden bridges and buildings that are used as roost sites for bats.~~

~~Most bat species occurring in the Pacific Northwest roost and hibernate in crevices in protected sites. Suitable roost sites and hibernacula, however, fall within a narrow range of temperature and moisture conditions. Sites commonly used by bats include caves, mines, snags and decadent trees, wooden bridges, and old buildings. Additional provisions for the retention of large snags and decadent trees are included in the standard and guideline for green tree patches in the matrix. Caves, mines, and abandoned wooden bridges and buildings, however, are extremely important roost and hibernation sites, and require additional protection to ensure that their value as habitat is maintained.~~

~~This provision is intended to apply in matrix forests and Adaptive Management Areas, and elements such as protection of known occupied caves should be considered for other land allocations. Conduct surveys of crevices in caves, mines, and abandoned wooden bridges and buildings for the presence of roosting bats, including fringed myotis, silver-haired bats, long-eared myotis, long-legged myotis, and pallid bats. For the purposes of this standard and guideline, caves are defined as in the Federal Cave Resources Protection Act of 1988 as "any naturally occurring void, cavity, recess, or system of interconnected passages which occur beneath the surface of the earth or within a cliff or ledge (. . . but not including any . . . man-made excavation) and which is large enough to permit an individual to enter, whether or not the entrance is naturally formed or man-made." Searches should be conducted during the day in the summer (to locate day roosts and maternity colonies), at night during the late summer and fall (to locate night roosts, which are important for reproduction), and during the day in the winter (to locate hibernacula). If bats are found, identify the species using the site and determine for what purpose it is being used by bats. As an interim measure, timber harvest is prohibited within 250 feet of sites containing bats. Management standards and guidelines that may be included as mitigation measures in project or activity plans will be developed for the site. These standards will be developed following an inventory and mapping of resources. The purpose of the standards and guidelines will be protection of the site from destruction, vandalism, disturbance from road construction or blasting, or any other activity that could change cave or mine temperatures or drainage patterns. The size of the~~

buffer, and types of activities allowed within the buffer, may be modified through the standards developed for the specific site. Retention of abandoned bridges or buildings must be made contingent on safety concerns.

Townsend's big-eared bats are of concern to state wildlife agencies in both Washington and Oregon. These bats are strongly associated with caves, and are extremely sensitive to disturbance, especially from recreational cavers. When Townsend's big-eared bats are found occupying caves or mines on federal land, the appropriate agency should be notified, and management prescriptions for that site should include special consideration for potential impacts on this species.

Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbance.

Many species of soil and litter dwelling organisms, such as fungi and arthropods, are sensitive to soil and litter disturbance. Site treatments should be prescribed which will minimize intensive burning, unless appropriate for certain specific habitats, communities or stand conditions. Prescribed fires should be planned to minimize the consumption of litter and coarse woody debris. Other aspects to this standard and guideline include minimizing soil and litter disturbance that may occur as a result of yarding and operation of heavy equipment, and reducing the intensity and frequency of site treatments. Soil compaction, and removal or disturbance of humus layers and coarse woody debris, may impact populations of fungi and arthropods. These provisions are intended to apply throughout the matrix forests and within the Adaptive Management Areas.

Provide for old-growth fragments in watersheds where little remains.

Matrix standards and guidelines on page C-44 of these standards and guidelines specify retention of old-growth fragments in fifth field watersheds containing less than 15 percent of such stands. In Adaptive Management Areas, less than 15 percent of fifth field watershed in late-successional forest should be considered as a threshold for analysis rather than a strict standard and guideline, and the role of remaining stands of late-successional forests must be fully considered in watershed analysis before they can be modified.

Hierarchy of Standards and Guidelines Within Adaptive Management Areas

In summary, management activities in all the Adaptive Management Areas will be conducted to achieve the objectives described in these standards and guidelines. Standards and guidelines for Congressionally Reserved Areas or Late Successional Reserves must be followed when they occur within Adaptive Management Areas, except that the Adaptive Management Area plans for the Finney and Northern Coast Adaptive Management Areas may change the Late Successional Reserve designations in those areas. Flexibility is provided to meet objectives for Riparian Reserves and Key Watersheds. Full watershed analysis will be conducted prior to new management activities in identified Key Watersheds within Adaptive Management Areas. Standards and guidelines of current plans and draft plan preferred alternatives (see exceptions on page C-3 of these standards and guidelines) need to be considered during planning and implementation of activities within Adaptive Management

~~Areas, and they may be modified in Adaptive Management Area plans based on site-specific analysis. Otherwise, standards and guidelines are to be developed to meet the objectives of the Adaptive Management Area and the overall strategy. Coordination with the Regional Ecosystem Office through the Regional Interagency Executive Committee is required.~~

Descriptions of the ~~Adaptive Management~~Accelerated Restoration Areas

~~Adaptive Management~~Accelerated Restoration Areas are shown on the maps described on page A-6 of these standards and guidelines. ~~Adaptive Management~~Accelerated Restoration Areas would contribute to accomplishing the objectives of these standards and guidelines, such as protection or enhancement of riparian habitat and provision for well-distributed late-successional forest habitat. Detailed prescriptions for achieving such objectives are not provided, however, in order to permit managers to develop and test alternative approaches applicable to their areas and in a manner consistent with existing environmental and other laws.

Unlike tables elsewhere in these standards and guidelines that show only Federal Acres outside of Late-Successional Reserves and Congressional Reserves, the sizes listed below include all acres within the ~~Adaptive Management~~Accelerated Restoration Area boundaries, including all land allocations and ownerships.

Name: Applegate ~~Adaptive Management~~Accelerated Restoration Area, Oregon

Size: 277,500 acres

Ownership: Medford District Bureau of Land Management; Rogue River and Siskiyou National Forests; potentially state and private lands.

Associated Communities: Grants Pass and Medford, Oregon; Jackson and Josephine Counties, Oregon; and Siskiyou County, California.

Emphasis: Development and testing of forest management practices, including partial cutting, prescribed burning, and low impact approaches to forest harvest (e.g., aerial systems) that provide for a broad range of forest values, including late-successional forest and high quality riparian habitat. Late-Successional Reserves are included in the ~~Adaptive Management~~Accelerated Restoration Area boundaries.

Name: Central Cascades ~~Adaptive Management~~Accelerated Restoration Area, Oregon

Size: 155,700 acres

Ownership: Willamette National Forest; ~~Eugene District Bureau of Land Management~~; potentially state and private lands.

Associated Communities: Eugene, Springfield, and Sweet Home, Oregon.

Emphasis: Intensive research on ecosystem and landscape processes and its application to forest management in experiments and demonstrations at the stand and watershed level; approaches for integrating forest and stream management objectives and on implications of natural disturbance regimes; and management of

young and mature stands to accelerate development of late-successional conditions, a specific management objective for the forests within the Moose Lake block as well as in other portions of the ~~Adaptive Management~~Accelerated Restoration Area to be selected. Current status of the H.J. Andrews Experimental Forest as an Experimental Forest (i.e., maintenance of control areas and full flexibility to conduct experiments, is retained). One Late-Successional Reserve is included in the area.

Name: Cispus ~~Adaptive Management~~Accelerated Restoration Area, Washington

Size: 143,900 acres

Ownership: Gifford Pinchot National Forest; potentially state and private lands.

Associated Communities: Randle, Morton, and Packwood, Washington; Lewis and Skamania Counties, Washington.

Emphasis: Development and testing of innovative approaches at stand, landscape, and watershed level to integration of timber production with maintenance of late-successional forests, healthy riparian zones, and high quality recreational values.

Name: Finney ~~Adaptive Management~~Accelerated Restoration Area, Washington

Size: 98,400 acres

Ownership: Mt. Baker-Snoqualmie National Forest; potentially state and private lands.

Associated Communities: Darrington, Washington; Skagit and Snohomish Counties, Washington.

Emphasis: Restoration of late-successional and riparian habitat components. Because most late-successional forests have already been harvested, requirements for marbled murrelet include: (1) surveying for and protecting all occupied murrelet sites; (2) retaining LS/OG1s, LS/OG2s, and owl additions (from the Scientific Panel on Late-Successional Forest Ecosystems, 1991) as Late-Successional Reserves within the ~~Adaptive Management~~Accelerated Restoration Areas. These reserves should be managed as stipulated for such reserves under these standards and guidelines. However, because much of the ~~Adaptive Management~~Accelerated Restoration Area is Late-Successional Reserve, primarily designated for a single species about which information is still being developed, the designation and/or standards and guidelines for Late-Successional Reserves may be reconsidered in the ~~Adaptive Management~~Accelerated Restoration Area plan. Relaxation of the Late-Successional Reserve status is not necessarily assumed; proposals will require careful analysis to assure consistency with the Endangered Species Act and National Forest Management Act requirements,

new marbled murrelet information, and overall objectives of these standards and guidelines. Sites occupied by spotted owls (pairs or territorial singles) will be protected by establishing Late-Successional Reserves using procedures to delineate Reserved Pair Areas described on page D-16 of these standards and guidelines.

Name: **Goosenest ~~Adaptive Management~~Accelerated Restoration Area, California**

Size: 172,900 acres

Ownership: Klamath National Forest; potentially private lands.

Associated Communities: Yreka, Montague, Dorris, and Hornbrook California; Siskiyou County, California.

Emphasis: Development of ecosystem management approaches, including use of prescribed burning and other silvicultural techniques, for management of pine forests, including objectives related to forest health, production and maintenance of late-successional forest and riparian habitat, and commercial timber production.

Name: **Hayfork ~~Adaptive Management~~Accelerated Restoration Area, California**

Size: 488,500 acres

Ownership: Shasta-Trinity and Six Rivers National Forests and Yreka District Bureau of Land Management; potentially private and state lands.

Associated Communities: Hayfork, California; Trinity and Humboldt Counties, California.

Emphasis: Development, testing, and application of forest management practices, including partial cutting, prescribed burning, and low-impact approaches to forest harvest, which provide for a broad range of forest values, including commercial timber production and provision of late-successional and high quality riparian habitat. Maintain identified Late-Successional Reserves; conduct full watershed analysis in critical watersheds.

Name: **Little River ~~Adaptive Management~~Accelerated Restoration Area, Oregon**

Size: 91,800 acres

Ownership: Umpqua National Forest and Roseburg District Bureau of Land Management; potentially private and state lands.

Associated Communities: Roseburg and Myrtle Creek, Oregon; Douglas County, Oregon.

Emphasis: Development and testing of approaches to integration of intensive timber production with restoration and maintenance of high quality riparian habitat.

Name: Northern Coast Range ~~Adaptive Management~~Accelerated Restoration Area, Oregon

Size: 250,000 acres

Ownership: Siuslaw National Forest ~~and Salem District Bureau of Land Management;~~ with potential participation by the Oregon Department of Forestry and private landowners.

Associated Communities: Tillamook, Willamina, and Grand Ronde, Oregon; Polk, Yamhill, Tillamook, and Washington Counties, Oregon.

Emphasis: Management for restoration and maintenance of late-successional forest habitat, consistent with marbled murrelet guidelines noted below. Conduct watershed analysis of the Nestucca River drainage. Subsequently, the Oregon Department of Forestry will be invited to collaborate in development of a comprehensive strategy for conservation of the fisheries and other elements of biological diversity in the northern Oregon Coast Ranges. Because most late-successional forests have already been harvested, requirements for marbled murrelet include: (1) surveying for and protecting all occupied murrelet sites; (2) retaining LS/OG1s, LS/OG2s, and owl additions (from the Scientific Panel on Late-Successional Forest Ecosystems, 1991) as Late-Successional Reserves within the ~~Adaptive Management~~Accelerated Restoration Areas. These reserves should be managed as stipulated for such reserves under these standards and guidelines. However, because much of the ~~Adaptive Management~~Accelerated Restoration Area is Late-Successional Reserve, primarily designated for a single species about which information is still being developed, the designation and/or standards and guidelines for Late-Successional Reserves may be reconsidered in the ~~Adaptive Management~~Accelerated Restoration Area plan. Relaxation of the Late-Successional Reserve status is not necessarily assumed; proposals will require careful analysis to assure consistency with the Endangered Species Act and National Forest Management Act requirements, new marbled murrelet information, and overall objectives of these standards and guidelines. In the interim, the maximum age for thinning within Late-Successional Reserves in this ~~Adaptive Management~~Accelerated Restoration Area is 110 years. Northern spotted owl sites will be protected by establishing Reserved Pair Areas described on page D-16 of these standards and guidelines.

Name: Olympic ~~Adaptive Management~~Accelerated Restoration Area, Washington

Size: 150,400 acres

Ownership: Olympic National Forest and potentially Washington Department of Natural Resources, Indian Reservations, and private lands.

Associated Communities: Jefferson, Clallam, Grays Harbor, and Mason Counties,

Washington.
Emphasis: Create a partnership with the Olympic State Experimental Forest established by Washington Department of Natural Resources. Develop and test innovative approaches at the stand and landscape level for integration of ecological and economic objectives, including restoration of structural complexity to simplified forests and streams and development of more diverse managed forests through appropriate silvicultural approaches such as long rotations and partial retention. All occupied marbled murrelet sites will be surveyed for and protected. LS/OG 1 and LS/OG 2 are to be managed as Late-Successional Reserve except in the Quinault Special Management Area. The Quinault Special Management Area included within this ~~Adaptive Management~~ Accelerated Restoration Area will continue to be managed in accordance with Public Law 100-638 which designated the area.

Name: Snoqualmie Pass ~~Adaptive Management~~ Accelerated Restoration Area, Washington

Size: 212,700 acres

Ownership: Wenatchee and Mt. Baker-Snoqualmie National Forests; Plum Creek Timber Company and other private landowners; state.

Associated Communities: Cle Elum and Roslyn, Washington; Kittitas and King Counties, Washington.

Emphasis: Development and implementation, with the participation of the U.S. Fish and Wildlife Service, of a scientifically credible, comprehensive plan for providing late-successional forest on the "checkerboard" lands. This plan should recognize the area as a critical connective link in north-south movement of organisms in the Cascade Range.

Delineation and Management of Reserved Pair Areas

~~The following standards and guidelines apply to Reserved Pair Areas specified for the Finney and Northern Coast Range Adaptive Management Areas.~~

- ~~1. For each Reserved Pair Area, delineate an area surrounding the owl activity center with an acreage at least equal to the median home range size for pairs in that province. Use data from the spotted owl study area that is most similar to the site being considered (see Table C-1 on page C-24 of these standards and guidelines). This area will be delineated to encompass as much suitable northern spotted owl habitat as possible, and the habitat will be as close to the owl activity center as possible. Reserve all suitable habitat in that area from timber harvest. If the habitat acreage does not at least equal the median amount found for owl pairs in the province (see Table C-2 on page C-25 of these standards and guidelines), additional habitat must be provided from the next best habitat available in the home range area, or by expanding the area to incorporate additional suitable northern spotted owl habitat. Use logical physical boundaries to facilitate management of the area.~~

~~Late Successional Reserve management standards and guidelines for salvage and other multiple use activities would generally apply in the suitable habitat portion of the Reserved Pair Area.~~

- ~~2. In the Reserved Pair Areas, allow for management of currently unsuitable areas consistent with Late Successional Reserve management standards and guidelines for silviculture and salvage. Management of other multiple use activities in the unsuitable habitat should follow standards and guidelines from current plans and draft plan-preferred alternatives (see Section C of these standards and guidelines), which may allow some activities that would not be consistent with Late Successional Reserve management standards and guidelines.~~

E. Implementation

Introduction

These standards and guidelines will be implemented on lands administered by the Forest Service ~~and BLM~~ within the range of the northern spotted owl. Under these standards and guidelines, management activities will meet National Environmental Policy Act (NEPA) requirements. Resource management activities will be subject to site-specific environmental analysis and appropriate public participation before they are conducted. This will involve analysis of cumulative and other environmental effects.

These standards and guidelines provide a strategy for the entire range of the northern spotted owl that includes land allocations, and standards and guidelines that cross physiographic provinces, and Forest Service ~~and BLM~~ administrative boundaries. Management activities will be in accordance with the land allocations, and standards and guidelines prescribed in these standards and guidelines.

Monitoring

Monitoring is an essential component of natural resource management because it provides information on the relative success of management strategies. The implementation of these standards and guidelines will be monitored to ensure that management actions are meeting the objectives of the prescribed standards and guidelines, and that they comply with laws and management policy. Monitoring will provide information to determine if the standards and guidelines are being followed (implementation monitoring), verify if they are achieving the desired results (effectiveness monitoring), and determine if underlying assumptions are sound (validation monitoring). Some effectiveness and most validation monitoring will be accomplished by formal research.

Monitoring results will provide managers with the information to determine whether a goal has been met, and whether to continue or to modify the management direction. Findings obtained through monitoring, together with research and other new information, will provide a basis for ~~adaptive management~~ Accelerated Restoration changes to the selected alternative. The processes of monitoring and ~~adaptive management~~ Accelerated Restoration share the goal of improving effectiveness and permitting dynamic response to increased knowledge and a changing landscape. The monitoring program itself will also not remain static. The monitoring plan will be periodically evaluated to ascertain whether the monitoring questions and standards are still relevant, and will be adjusted as appropriate. Some monitoring items may be discontinued and others added as knowledge and issues change with implementation.

Monitoring will be conducted at multiple levels and scales. These may include site-specific projects; designated areas such as Late-Successional Reserves, Riparian Reserves and the matrix; watersheds; administrative units; physiographic provinces or river basins; states; and the planning area or region. At the project level, monitoring will examine how well specific_

standards and guidelines have been applied on the ground and how effectively they produce expected results. Monitoring at broader levels will measure how successfully projects and other activities have achieved the objectives, goals, and/or desired future conditions of those management areas. Monitoring will be conducted in a manner to accommodate the multiple levels and scales so that localized information may be compiled and considered in a broader regional context, and thereby address both local and regional issues.

The monitoring process will collect information on a sample basis. Monitoring could be so costly as to be prohibitive if it is not carefully and reasonably designed. It will not be necessary or desirable to monitor each standard and guideline of every project. Unnecessary detail and unacceptable costs will be avoided by focusing on key monitoring questions and proper sampling methods. The level and intensity of monitoring will vary, depending on the sensitivity of the resource or area and the scope of the management activity.

Monitoring will be coordinated among appropriate agencies and organizations in order to enhance the efficiency and usefulness of the results across a variety of administrative units and provinces. The approach will build on past and present monitoring work. Current monitoring plans will continue to be used where appropriate. In addition, specific monitoring protocols, criteria, goals, and reporting formats will be developed for these standards and guidelines, subject to review and guidance of the Regional Ecosystem Office. This guidance will be used to revise current monitoring plans and facilitate the process of aggregating and analyzing information on province or regional levels. Each administrative unit will continue to be responsible for the collection, compilation, and analysis of much of the data gained through monitoring activities. Province teams and the Regional Ecosystem Office will compile and analyze information at larger scales.

The monitoring program will involve a long-term commitment to gathering and evaluating data on environmental conditions and management implementation. In the Forest Service Pacific Northwest Region's Forest Monitoring and Evaluation Guide (1993), the Regional Forester stated, "All programs and projects should contain appropriate levels of monitoring funds in their costs ---or they should not be undertaken." Similar commitments to monitoring were made in the BLM western Oregon Draft Resource Management Plans and Environmental Impact Statements. For example, the Roseburg District Draft RMP/EIS states, "Timber sale volumes and associated programs will be reduced if annual funding is not sufficient to support the relevant actions assumed in these standards and guidelines, including mitigation and monitoring. The extent of the reduction will be based on the principle of program balance as envisioned in the plan." The current monitoring plans and commitments will remain in effect, although they will be revised to reflect the direction in these standards and guidelines.

Current plans and draft plan preferred alternatives require monitoring of resources, activities, or effects, and will continue to do so under all alternatives. The monitoring items or elements of the current plans and draft plan preferred alternatives include soil, water, air, vegetation, Wild and Scenic Rivers, visual resources, cultural resources, lands, minerals, range, wildlife, fisheries, timber, and special areas (e.g., Areas of Critical Environmental Concern and Research Natural Areas). These broad categories include monitoring for species listed under the Endangered Species Act, and activities subject to the Clean Water Act, Clean Air Act and other laws, regulations and policies. Where relevant, these current monitoring plans include monitoring objectives or questions, sampling methods or techniques, criteria, standards,

frequency of monitoring, evaluation and reporting procedures, and associated costs for each item or element. The various aspects of these current plans and draft plan preferred alternatives will remain in effect, and may be revised as appropriate to reflect the direction in these standards and guidelines. The results of monitoring and associated evaluations will continue to be shared with the public.

Monitoring and Evaluation Plan

Monitoring is an important component in implementing the ecosystem management strategy prescribed in these standards and guidelines. Due to the broad scope of ecosystem management, the monitoring effort emphasizes coordination and cooperation between various federal, state, and local agencies; American Indian tribes; and other interests.

Conceptual Framework

Scope

One of the challenges in designing a monitoring network is accommodating a variety of geographic scales (e.g., region, province, watershed, and site) and land ownerships in a manner that allows localized information to be compiled and placed in a broader, regional context.

Monitoring at any scale should:

- * Detect changes in ecological systems from both individual and cumulative management actions and natural events
- * Provide a basis for natural resource policy decisions
- * Provide standardized data
- * Compile information systematically
- * Link overall information management strategies for consistent implementation
- * Ensure prompt analysis and application of data in the ~~adaptive management~~Accelerated Restoration process
- * Distribute results in a timely manner

Relationship to ~~Adaptive Management~~Accelerated Restoration Process, Research, and Watershed Analysis

~~Adaptive Management~~Accelerated Restoration

~~Adaptive management~~Accelerated Restoration is based on monitoring that is sufficiently sensitive to detect relevant ecological changes. In addition, the success of ~~adaptive management~~Accelerated Restoration depends on the accuracy and credibility of information obtained through inventories and monitoring.

Research

Close coordination and interaction between monitoring and research also are essential for the ~~adaptive management~~Accelerated Restoration process to succeed. Data obtained through systematic and statistically_

valid monitoring can be used by scientists to develop research hypotheses related to priority issues. Conversely, the results obtained through research can be used to further refine the protocols and strategies used to monitor and evaluate the effectiveness of these standards and guidelines.

Watershed Analysis

Watershed analysis is a technically rigorous procedure with the purpose of developing and documenting a scientifically-based understanding of the ecological structure, functions, processes, and interactions occurring within a watershed (see Section B of these standards and guidelines). Watershed analysis is one of the principal analyses that will be used to meet the ecosystem management objectives of these standards and guidelines. Information from watershed analysis will be used in developing monitoring strategies and objectives.

Specific to monitoring and evaluation, the results and findings from watershed analysis are used to reveal the most useful indicators for monitoring environmental change, detect magnitude and duration of changes in conditions, formulate and test hypotheses about the causes of the changes, understand these causes and predict impacts, and manage the ecosystem for desired outcomes. Watershed analysis may result in additional monitoring questions. Watershed analysis will provide information about patterns and processes within a watershed and provide information for monitoring at that scale.

Components of the Monitoring and Evaluation Plan

The following framework focuses on the purposes for monitoring and proposes units of measure for the monitoring process.

Types of Monitoring

Three basic types of monitoring (implementation, effectiveness, and validation) will be applied to meet the objectives of these standards and guidelines and evaluate the efficacy of management practices. These three types of monitoring encompass a spectrum of monitoring, although some agencies use different terminology (e.g., trend, program evaluation).

Evaluation Questions

Each basic monitoring question can be expressed in more definite terms that will lead to more specific and directed measurements, as explained in the following text.

1. Implementation Monitoring

Implementation monitoring determines if the standards and guidelines were followed.

Implementation monitoring asks: Does the project and/or activity follow the direction in its management plan? Generally, implementation monitoring answers this question by determining if the standards and guidelines were correctly applied and followed.

Implementation monitoring considers three strategies: aquatic, terrestrial, and social and

economic. The components of these strategies include:

- * Land allocations with specific boundaries
- * Standards and guidelines for managing the land allocations, including Key Watersheds
- * Watershed analysis
- * Social and economic effects
- * An ~~adaptive management~~Accelerated Restoration process, or learning framework

EVALUATION QUESTION: Are the aquatic, terrestrial, and social and economic resources being managed according to the standards and guidelines? To address this question, implementation monitoring is organized around land allocations, including types of activities allowed and projected conditions within each allocation. For the most part, this approach focuses on areas broader than specific project sites and restricts evaluation questions to the fundamental elements and components of these standards and guidelines. This broader scope is consistent with the ecosystem approach.

Key items that require specific monitoring include standards and guidelines of:

- * Late-Successional Reserves
- * Riparian Reserves
- * Matrix
- * ~~Adaptive Management~~Accelerated Restoration Areas
- * Key Watersheds
- * Watershed analysis

Late-Successional Reserves - Key items to monitor include:

- * Timber harvests consistent with standards and guidelines and with Regional Ecosystem Office review requirements.
- * Other management activities in the Late-Successional Reserve consistent with the standards and guidelines (e.g., prescribed fire and resulting emissions)
- * Late-Successional Reserve assessment completed
- * Management activities consistent with the Late-Successional Reserve assessment?

Riparian Reserves - Key items to monitor include:

- * Width and integrity of Riparian Reserves (i.e., did the conditions that existed before management activities were conducted, change in ways that are not in accordance with the standards and guidelines?)
- * Completion of watershed analysis prior to management activities where required
- * Management activities in Riparian Reserves consistent with standards and guidelines

Matrix - Key items to be monitored include:

- * Number and distribution of green trees left in harvested areas
- * Snags, coarse woody debris
- * Completion of watershed analysis prior to harvesting late-successional stands in watersheds with less than 15 percent late-successional forest remaining

- * Prescribed burning and resulting emissions

~~**Adaptive Management Accelerated Restoration Areas** - In ~~Adaptive Management Accelerated Restoration~~ Areas, implementation evaluations of the standards and guidelines are required, including the requirement that an Adaptive Management Area plan be developed that establishes future desired conditions.~~

Key items to monitor in ~~Adaptive Management Accelerated Restoration~~ Areas include:

- ~~* Completion of an Adaptive Management Area plan~~
- ~~* Measurement of conditions that have been agreed to in the Adaptive Management Area plan~~

Key Watersheds - Key items to monitor include:

- * Watershed analysis prior to management activities
- * Presence and timing of activities, including restoration projects
- * No new roads in roadless areas
- * No net increase in roads

In evaluating these questions, it is necessary to consider the roles Key Watersheds play in the Aquatic Conservation Strategy: refugia for at-risk stocks of anadromous salmonids and resident fish species, and sources of high quality water.

Watershed Analysis - Key item to monitor:

- * Presence and timing of watershed analysis

Participation - Key items to monitor include:

- * Involvement of multiple agencies, the public, and others in planning, implementing, and monitoring watershed analysis
- * Opportunities to share information (applicable to all parties such as agencies, publics, communities)
- * Identification of clear expectations and responsibilities
- * Active partnerships

2. Effectiveness Monitoring

Effectiveness monitoring takes a step further by evaluating if application of the management plan achieved the desired goals, and if the objectives of these standards and guidelines were met. Success may be measured against the standard of desired future condition (sometimes referred to as reference condition). For example: Does the management of this resource maintain or restore the habitat for late-successional associated species?

Effectiveness monitoring will be undertaken at a variety of reference sites in geographically and ecologically similar areas. These sites will be located on a number of different scales, and will require the assistance of research statisticians to design an appropriate sampling regime.

Aquatic Ecosystems - Evaluation Question: Is the ecological health of the aquatic ecosystems recovering or sufficiently maintained to support stable and well-distributed populations of fish species and stocks?

While many factors influence aquatic ecosystem integrity, the variables to be monitored will include important habitat requirements identified by research and watershed analysis, and represent a range of values indicative of a healthy system. Variables may be surrogates representing other physical, biological, and/or ecological processes. Variables must be quantifiable and measurable in a repeatable way. A range of values for the variables measured will often result from the spatial and temporal variability found in a particular geographic area. Variables must describe conditions for functional, healthy aquatic ecosystems.

A core set of inventory elements will be collected for streams. Core inventory elements are the minimum set of variables to be collected at all scales. In all cases, standardized measurement and reporting protocols will be determined and are essential for consistency.

The health of aquatic and riparian ecosystems is dependent on water quality. Effectiveness monitoring that assesses the physical, chemical, and biological integrity of aquatic ecosystems is necessary to ensure conditions that will maintain water quality and support aquatic organisms. The Clean Water Act directs that states adopt water quality standards and criteria as necessary to protect designated beneficial uses. The standards and criteria of the Clean Water Act, which apply to both federal and nonfederal lands, will be used in effectiveness monitoring to determine if water quality and the health of aquatic systems are being maintained.

An emphasis of the monitoring of aquatic ecosystems will be to determine if actions are meeting the Aquatic Conservation Strategy objectives. The Aquatic Conservation Strategy emphasizes watershed health and maintenance of the natural physical and biological integrity of aquatic and riparian habitats and watersheds. As such, monitoring will include aquatic, riparian, and watershed conditions and the processes in a watershed to determine if they achieve Aquatic Conservation Strategy objectives.

The wide range of natural variation and complex interaction of individual stream habitat components (e.g., numbers of pools, pieces of large wood, percent fine sediment, and water temperature) makes it difficult to establish relevant quantitative management directives for stream habitat components. Because of individual stream and watershed diversity and differences, it is also difficult to quantify direct linkages among processes and functions outside the stream channel to in-channel conditions and biological components. Watershed-specific objectives, based on watershed analysis, are necessary to accommodate the natural variation among individual streams and watersheds.

Key monitoring items include:

- * Pool frequency and quality (width, depth, and cover)
- * Percent fine sediment
- * Coarse woody debris (size and quantity)
- * Water temperature

- * Width-to-depth ratio
- * Bank stability and lower bank angle

Biological Diversity, Late-Successional and Old-Growth Forest Ecosystems - The purpose and need of these standards and guidelines includes, ". . . to take an ecosystem approach to forest management; maintain and restore biological diversity as it applies to late-successional and old-growth forest ecosystems." This purpose includes forest processes as well as forest species.

Evaluation questions:

- * Is the forest ecosystem functioning as a productive and sustainable ecological unit?
- * Is the use of prescribed fire or fire suppression maintaining the natural processes of the forest ecosystem?
- * Are desired habitat conditions for the northern spotted owl and the marbled murrelet maintained where adequate, and restored where inadequate?
- * Are habitat conditions for late-successional forest associated species maintained where adequate, and restored where inadequate?
- * Are desired habitat conditions for at-risk fish stocks maintained where adequate, and restored where inadequate?
- * Is a functional interacting, late-successional ecosystem maintained where adequate, and restored where inadequate?
- * Did silvicultural treatments benefit the creation and maintenance of late-successional conditions?
- * Will the overall conditions of the watersheds and provinces continue to be productive over the long term?

To address these questions, chemical, physical, and biological indicators may need to be evaluated. A variety of variables can be monitored within each of these categories, and those selected will address the objectives of specific monitoring plans. The Clean Air Act directs federal agencies to monitor air pollution emissions from prescribed burning on federal lands in order to manage prescribed fire operations, verify air quality models, and assess air quality impacts.

Indicators for assessing the condition and trends include:

- * Land use data
- * Seral development and shifts of forest plant communities
- * Locations and concentrations of plant diseases and insect infestations
- * Amount of fuels by category
- * Air quality
- * Riparian and stream habitat condition by stream class
- * Water quality

Key monitoring items include:

- * Size, location, spatial distribution, species composition, and development of late-successional and old-growth forests
- * Retention of snags and coarse woody debris

- * Abundance and diversity of species associated with late-successional forest communities
- * Species presence (to calculate species richness i.e., numbers and diversity)
- * Percent of land area effected by exotic species
- * Structure and composition
- * Ecological processes
- * Ecosystem functions
- * Air quality

Use Levels of Natural Resources - Evaluation Question: Are predictable levels of timber and nontimber resources available and being produced?

Key items to monitor include:

- * Timber harvest levels
- * Special forest products (e.g., mushrooms, boughs, and ferns)
- * Livestock grazing
- * Mineral extraction
- * Recreation
- * Scenic quality (including air quality)
- * Commercial fishing

Rural Economies and Communities - Evaluation Question: Are local communities and economies experiencing positive or negative changes that may be associated with federal forest management?

Key items to monitor include:

- * Demographics
- * Employment (timber, recreation, forest products, fishing, mining, and grazing)
- * Government revenues (Forest Service and BLM receipts)
- * Facilities and infrastructure
- * Social service burden (welfare, poverty, aid to dependent children, and food stamps)
- * Federal assistance programs (loans and grants to state, counties, and communities)
- * Business trends (cycles, interest rates, and business openings and closings)
- * Taxes (property, sales, and business)

Information for these items are collected by local, county, state, and federal agencies. This information will be used through the ~~adaptive management~~ Accelerated Restoration process in future planning efforts. Because of the complexity of the relationships and the number of factors involved in these items, it is not possible to set specific or definite thresholds or values that would cause a reevaluation of the goals and overall strategy of these standards and guidelines.

American Indians and Their Culture - Evaluation Questions:

- * For those trust resources identified in treaties with American Indians, what are their conditions and trends?
- * Are sites of religious and cultural heritage adequately protected?
- * Do American Indians have access to and use of forest species, resources, and places

important for cultural, subsistence, or economic reasons, particularly those identified in treaties?

Key monitoring items include:

- * Condition and trends of the American Indian trust resources
- * Effectiveness of the coordination or liaison to assure protection of religious or cultural heritage sites
- * Adequacy of access to resources and to the vicinity of religious or cultural sites

3. Validation Monitoring

Validation monitoring determines if a cause and effect relationship exists between management activities and the indicators or resource being managed. Validation monitoring asks: Are the underlying management assumptions correct? Do the maintained or restored habitat conditions support stable and well-distributed populations of late-successional associated species?

Among the key set of assumptions that need to be validated is the relationships between habitat and populations. This requires a strong mix of inventory, monitoring, and research. Where knowledge gaps exist, research and/or inventory may be needed. Hypotheses can be proposed and tested through a combination of research and monitoring.

There is one primary evaluation question with regard to the northern spotted owl, the marbled murrelet, and at-risk fish stocks: Is the population stable or increasing?

Key items to monitor include:

- * Northern spotted owls by physiographic province
- * Marbled murrelets within their known nesting range
- * Populations of fish species and stocks that are listed under the Endangered Species Act or are considered sensitive or at risk by land management agencies
- * Rare species
- * The relationship between levels of management intervention and the health and maintenance of late-successional and old-growth ecosystems

Special Monitoring Issues and Situations

Natural and Induced Environmental Stressors- A preliminary step in designing any monitoring scheme is development of a premonitoring assessment or baseline data to define the natural and management-induced environmental stressors which could act as outside influences on the outcome of monitoring. Examples of natural stressors are large-scale disease cycles, climatic cycles, and hot, expansive fires.

Management-induced stressors include habitat simplification; reduced habitat connectivity; high fire frequency resulting from fire suppression activities; forest diseases resulting from increased abundance of susceptible host species, loss of natural controls, and introduced

pests; acid precipitation; introduced competitor species; and changes in predator-prey dynamics.

Rare and Declining Species - Monitoring will address rare and declining species - Rare species are plants or animals classified as:

- * Federally threatened or endangered species
- * Federally proposed threatened or endangered species
- * Federal Candidate Species
- * State listed species
- * Forest Service sensitive species
- * BLM special status species
- * Other infrequently encountered species not considered by any agency or group as endangered or threatened and classified in the FEMAT Report as rare

Monitoring for the type, number, size, and condition of special habitats over time will provide a good indication of the potential health of special habitat-dependent species. Although all special habitat areas do not support rare species, there is overwhelming evidence that special habitat types are closely related to the continued existence of certain rare species.

Since many rare species are associated with riparian habitats, the Riparian Reserve system offers potential protection. However, some rare species often are closely associated with or restricted to specific habitats that are outside Riparian Reserves.

It is also important to recognize that many species' habitat requirements vary considerably with age or size of the individual, and with the season. In some cases, more than one special habitat must be available for the species to successfully complete its life cycle.

While a stable special habitat type through time is not proof that a special habitat-dependent species population is stable, a decrease in a special habitat type does indicate increased risk to that species population.

Widely-dispersed species not associated with special habitats usually are associated with as yet undefined habitats within the general upland environment. Species with this type of distribution are difficult to assess and monitor. Efforts will be made to identify key habitat components of existing species locations.

A monitoring program for rare and declining species will help to:

- * Identify perceived present and future threats
- * Increase future possibilities of discovering new locations
- * Track their status and trends over time
- * Ensure that, in times of limited agency resources, priority attention will be given to species most at risk

Inventoried locations and special habitats of rare species will be registered in the multiagency GIS data base. This information will be shared with the State Natural Heritage Programs.

Steps to Develop an Interagency Monitoring Network

An interagency monitoring network will be developed and implemented using a common design framework and common indicators (or environmental measurements). This effort will build on existing agency research and monitoring efforts, and will be accomplished through the Research and Monitoring Committee established by the Memorandum of Understanding for Forest Ecosystem Management (see page E-16).

Specific indicators will be identified within each monitoring component or activity, along with protocols and methodologies for their measurement and quality assurance. A required level of detectability, data quality objectives, and precision will be established.

Based on these details, a design framework will be established that permits resulting data to be integrated through statistical or modeling approaches to provide quantitative inputs to the adaptive management process. The design framework will accommodate multiple scales and provide a consistent process for establishing monitoring sites, frequency of sampling, scale of sampling, and specific techniques for analysis and reporting.

This approach will ensure that consistent collection, integration, and evaluation of data occur among projects, watersheds, provinces, agencies, and over long time periods.

The following four-step process will be used to establish such a monitoring network:

1. Identify information needs and develop them into quantitative monitoring objectives.
2. Survey and evaluate existing monitoring activities relevant to monitoring objectives, focusing on both the indicators and design components.
3. Develop a comprehensive monitoring strategy including statistical designs, indicators, quality assurance plan, and sampling protocols.
4. Establish linkages between and among agencies and groups.

Adaptive Management

Overview

Adaptive management is a continuing process of action-based planning, monitoring, researching, evaluating and adjusting with the objective of improving the implementation and achieving the goals of these standards and guidelines. These standards and guidelines are based on current scientific knowledge. To be successful, it must have the flexibility to adapt and respond to new information. Under the concept of adaptive management, new information will be evaluated and a decision will be made whether to make adjustments or changes. These standards and guidelines incorporate the concept of adaptive management. This approach will enable resource managers to determine how well management actions meet their objectives and what steps are needed to modify activities to increase success or improve results.

The adaptive management process will be implemented to maximize the benefits and

efficiency of these standards and guidelines. This may result in the refinement of standards and guidelines, land-use allocations, or amendments to Forest ~~Plans, and District Plans.~~ Adaptive management decisions may vary in scale from individual watersheds, specific forest types, physiographic provinces, or the entire planning area or region. Adaptive management modifications that require changes to ~~Regional Guides, or Forest or District Plans~~ will be adopted following applicable regulatory procedures. However, many adaptive management modifications may not require changes to ~~Regional Guides, or Forest or District Plans.~~

The adaptive management concept applies to all lands administered by the Forest Service-~~and BLM. The 10 Adaptive Management Areas described in Section D of these standards and guidelines, however, are specific areas dedicated primarily to the objective of development and testing of new approaches for integration and achievement of ecological and economic health, and other social objectives.~~

Adaptive Management Process

This discussion outlines the general concepts of the adaptive management process. An understanding of what adaptive management means, and does not mean, is important because the concept applies to all land allocations. The concept of adaptive management is straightforward and simple: new information is identified, evaluated, and a determination is made whether to adjust the strategy or goals. Adaptive management is a process of action-based planning, monitoring, researching, evaluating, and adjusting with the objective of improving the implementation and achieving the goals of these standards and guidelines.

While the concept of adaptive management is straightforward, applying it to complex management strategies requires a more in-depth explanation. What new information would compel an adjustment to the management strategy? Who decides when and how to make adjustments? What are the definitions and thresholds of acceptable results?

The concept of adaptive management acknowledges the need to manage resources under circumstances that contain varying degrees of uncertainty, and the need to adjust to new information. Different management strategies, resources, and geographic locations have degrees of confidence that vary from very high to very low. Although there are acknowledged gaps in information, there is enough reliable information, field experience, and research data to proceed with implementation of these standards and guidelines. Although formal experimentation and research is an important part of the adaptive management process, application of these standards and guidelines does not constitute widespread experiments on large areas of public lands and resources.

Adaptive management is a process that can be associated with any particular management strategy. The process can be applied successfully to management with differing or changing goals. Adaptive management is designed to improve implementation and increase the likelihood of achieving the goals and objectives of these standards and guidelines.

Essential requirements for adaptive management include:

- * Clear goals
- * Clear standards and guidelines

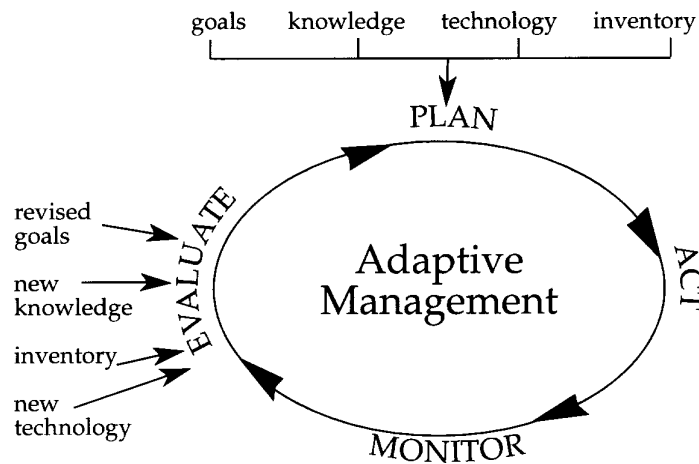
- * A process for changing standards and guidelines or goals
- * Monitoring and/or research aimed at adaptive management questions

The model displayed in Figure E-1 identifies the various steps, activities, and outline of a procedure for the adaptive management process. This diagram conveys the general concept, and is valuable as a starting point, for understanding adaptive management. A full and detailed explanation of the model, which is beyond the scope of this discussion, would require that each step be further broken down and defined.

The personnel, organizations, and members of the public who are involved at different steps of the adaptive management process will vary with the issue being considered. Issues may be very local; the organization and personnel involved may constitute a Ranger District ~~or BLM Resource Area~~, or a work group within them. Issues may also have Forest ~~or BLM District~~, province, or regional scope involving personnel and organizations from many levels, units, and/or agencies. Some issues, such as a technical engineering concern may involve very few professional disciplines, while others such as an ecosystem concern may involve a broad interdisciplinary approach. New information that could be the basis for changes through the adaptive management process may come from many different sources.

These concepts and model provide the means to answer questions about the what, who, and how of adaptive management.

Figure E-1. Basic adaptive management model



What new information would compel an adjustment of strategy? New information may come from monitoring, research, statutory or regulatory changes, organizational or process assessments, or any number of additional sources. During the evaluation process, personnel will analyze the information to determine the nature, scope, and importance of the new

information.

Who decides when to adjust the strategy or goals? The answer will depend on the character and scope of the issue. While public interest and participation will differ with the issue being considered, the authority to manage the public lands and resources remains by law with the land management agencies. On a local issue of limited scope, the decision maker may be the local manager. Broader issues and/or issues of regional scope may involve the Regional Forester, State Director, Regional Interagency Executive Committee, or Interagency Steering Committee.

How are adjustments made to strategies or goals? Any changes in federal land management decisions, whether arising from adaptive management or any other process, will be subject to existing regulatory and statutory requirements such as the National Environmental Policy Act (NEPA). Most adjustments will be within the realm of administrative change, while others may need to meet formal NEPA requirements. A few adjustments may be beyond the scope of agency authority and would require statutory changes.

The adaptive management process can be used for large-scale, highly-complex problems such as ecosystem management, localized technical problems, and organizational problems. Fundamentally, adaptive management is the application of the scientific principle of feedback and adjustment, of identifying and evaluating new information, and adjusting to improve implementation and to achieve the goals and the objectives of these standards and guidelines.

Interagency Coordination

These standards and guidelines call for a high level of coordination and cooperation among agencies during implementation. Issues will be discussed, objectives clarified, and problems solved in collaboration. The Memorandum of Understanding for Forest Ecosystem Management established a framework for coordinated implementation of these standards and guidelines. The parties to this memorandum of understanding are the Director of the White House Office on Environmental Policy, the Secretary of the Interior, the Secretary of Agriculture, the Administrator of the Environmental Protection Agency, and the Under Secretary of Commerce for Oceans and Atmosphere.

Interagency Groups

The following interagency groups have been established to develop, monitor, and oversee the implementation of these standards and guidelines. These interagency groups are identified in the Memorandum of Understanding for Forest Ecosystem Management. They do not substitute or alter the line of authority of individual agencies (see Figure E-2).

Interagency Steering Committee

The Interagency Steering Committee will establish overall policies governing the prompt, coordinated and effective implementation of this plan by all relevant federal agencies, and address and resolve issues referred to it by the Regional Interagency Executive Committee. The committee consists of representatives from the offices of the Secretary of the Interior, Secretary of Agriculture, Administrator of the Environmental Protection Agency, Under Secretary of Commerce for Oceans and Atmosphere, and is chaired by the Director of the

White House Office on Environmental Policy or the director's designee. A White House appointed representative of the Interagency Steering Committee serves as interagency coordinator to provide general oversight and guidance of regional activities.

Regional Interagency Executive Committee (RIEC)

This group consists of the Pacific Northwest federal agency heads of the Forest Service, Bureau of Land Management, Fish and Wildlife Service, National Marine Fisheries Service, Bureau of Indian Affairs, and Environmental Protection Agency. Other participants on this committee include: the National Park Service; Soil Conservation Service; the States of Washington, Oregon, and California; and three tribal organizations. The RIEC will serve as the senior regional entity to assure the prompt, coordinated, and successful implementation of these standards and guidelines. It serves as the principal conduit for communications between the Interagency Steering Committee and the agencies in the planning area. It will be responsible for implementing the directives of the Interagency Steering Committee, reporting regularly on implementation progress, and referring issues relating to the policies or procedures for implementing these standards and guidelines to the Interagency Steering Committee. The RIEC's policy and planning decisions and recommendations will be made collaboratively, and will be consistent with federal and state laws, federal trust responsibilities, and government-to-government relationships with American Indian tribes. The RIEC provides direction to the Regional Ecosystem Office, province teams, and the Research and Monitoring Committee (see below). The RIEC also works with the Regional Community Economic Revitalization Team (RCERT) to develop criteria and priorities for ecosystem investment opportunities.

Regional Ecosystem Office (REO)

This office provides staff work and support to facilitate RIEC decision making and prompt interagency issue resolution in support of implementation of these standards and guidelines. It will also be responsible for evaluation of major modifications arising from the adaptive management process and will coordinate the formulation and implementation of data standards. This office reports to the RIEC and will be responsible for developing, evaluating, and resolving consistency and implementation issues with respect to specific topics including, but not limited to, Geographic Information Systems (GIS), pilot watershed analyses, restoration guidelines, Endangered Species Act requirements, adaptive management guidelines, monitoring and research.

Although the standards and guidelines variously refer to the Regional Ecosystem Office for reviews and other actions, it is understood that the Regional Ecosystem Office recommends to the Regional Interagency Executive Committee who has responsibility for the decisions. The decision-making responsibility of the Regional Interagency Executive Committee described in these standards and guidelines is generally limited to interpretation of standards and guidelines. Individual land management and consultation agencies retain the decision-making authority that is vested in them by statute.

Research and Monitoring Committee

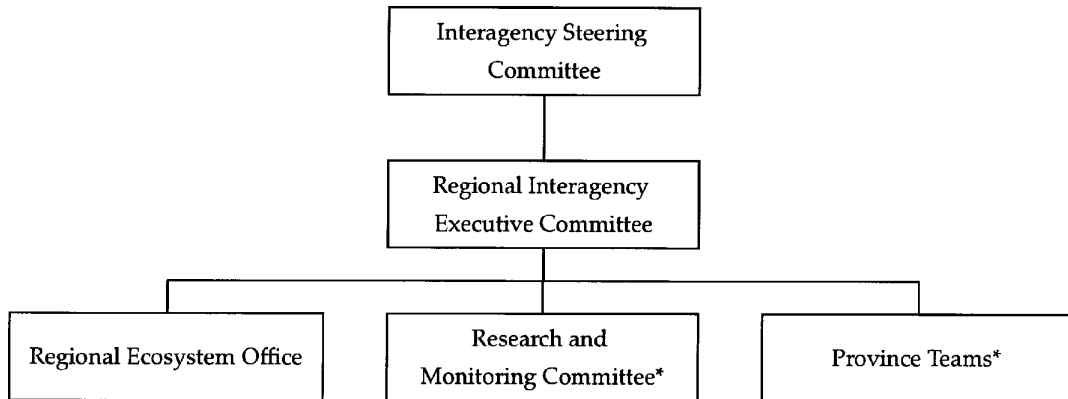
This committee, comprised of full time scientists in the Regional Ecosystem Office and a standing group of agency liasons provides recommendations to the RIEC on implementation of these standards and guidelines through monitoring and research plans. The Research and

Monitoring Committee will review and evaluate ongoing research; develop a research plan to address critical natural resource issues; address biological, social, economic, and adaptive management research topics; and develop and review scientifically credible, cost efficient monitoring plans; and facilitate scientific review of proposed changes to the standards and guidelines. The Research and Monitoring Committee is under the direction of, and is responsible to, the Regional Interagency Executive Committee, and reports to the RIEC through the Regional Ecosystem Office.

Province Teams

These teams consist of representatives of federal agencies, states, American Indian tribes, and others. These teams will provide or coordinate analyses at the province level that can provide the basis for amendments to Forest and District Plans and will provide monitoring reports for provinces. Province teams will also encourage and facilitate information exchange and complementary ecosystem management among federal and nonfederal land managers. The Interagency Steering Committee and the Regional Interagency Executive Committee will continue to develop and refine the appropriate role for these teams at the level of physiographic provinces, Adaptive Management Areas, or specific watersheds.

Figure E-2. Relationships of interagency groups



* Although they receive direction from the Regional Interagency Executive Committee, the Research and Monitoring Committee and Province Teams will report to the Regional Interagency Executive Committee through the Regional Ecosystem Office.

Planning

Assessments of ecosystem issues may require analysis beyond existing political or administrative boundaries. At the same time, current statutes, regulations and administrative responsibilities governing federal land management agencies must recognize, and are based upon, political and administrative boundaries. A major challenge in ecosystem management is providing a planning regime in which these fundamentally different perspectives can be integrated, a task that is especially difficult in the current statutory and regulatory planning

structure.

As experience is gained in ecosystem management, statutes and regulations may be changed to provide for different decision points. Until statutes and regulations are changed, province-level "plans" or considerations will consist of analysis and coordination to help interpret or amend existing Forest Plans ~~or District Resource Management Plans~~. The area delineation appropriate to this planning structure is shown in Figure E-3, Province planning and analysis areas.

The term "planning" is often used colloquially to include assessments, analysis, or other processes that are related to, but distinct from, the planning decision-making process defined by laws and regulations. Decisions on standards and guidelines and land allocations will be adopted using the planning structure of existing regulations, which provides for ~~three-two~~ levels of plans for the Forest Service (~~Regional Guides, Forest Plans and project plans~~) ~~and two levels of plans for the BLM (District Plans and activity plans)~~. Decisions to change land allocations, or standards and guidelines will be made only through the adoption, revision, or amendment of these documents following appropriate public participation, NEPA procedures, and coordination with the Regional Interagency Executive Committee.

The FEMAT Report and the SEIS for these standards and guidelines illustrate how different types of planning-related activities can be used to practice ecosystem management by assessing relevant issues from a variety of perspectives and facilitating a coordinated implementation of these standards and guidelines. Ecological "assessments" or "analyses" are aimed at viewing management issues from ecological perspectives, such as described in Ecological Principles for Management of Late-Successional Forests in Section B of these standards and guidelines. Assessments may include other perspectives relevant to land management decision making such as economic or social factors. These standards and guidelines also propose coordinating planning activities across administrative boundaries, such as province plans, Adaptive Management Area plans and Late-Successional Reserve assessments. Decisions will be made to adopt, revise or amend appropriate decision documents only when procedures for public participation and decision making have been followed.

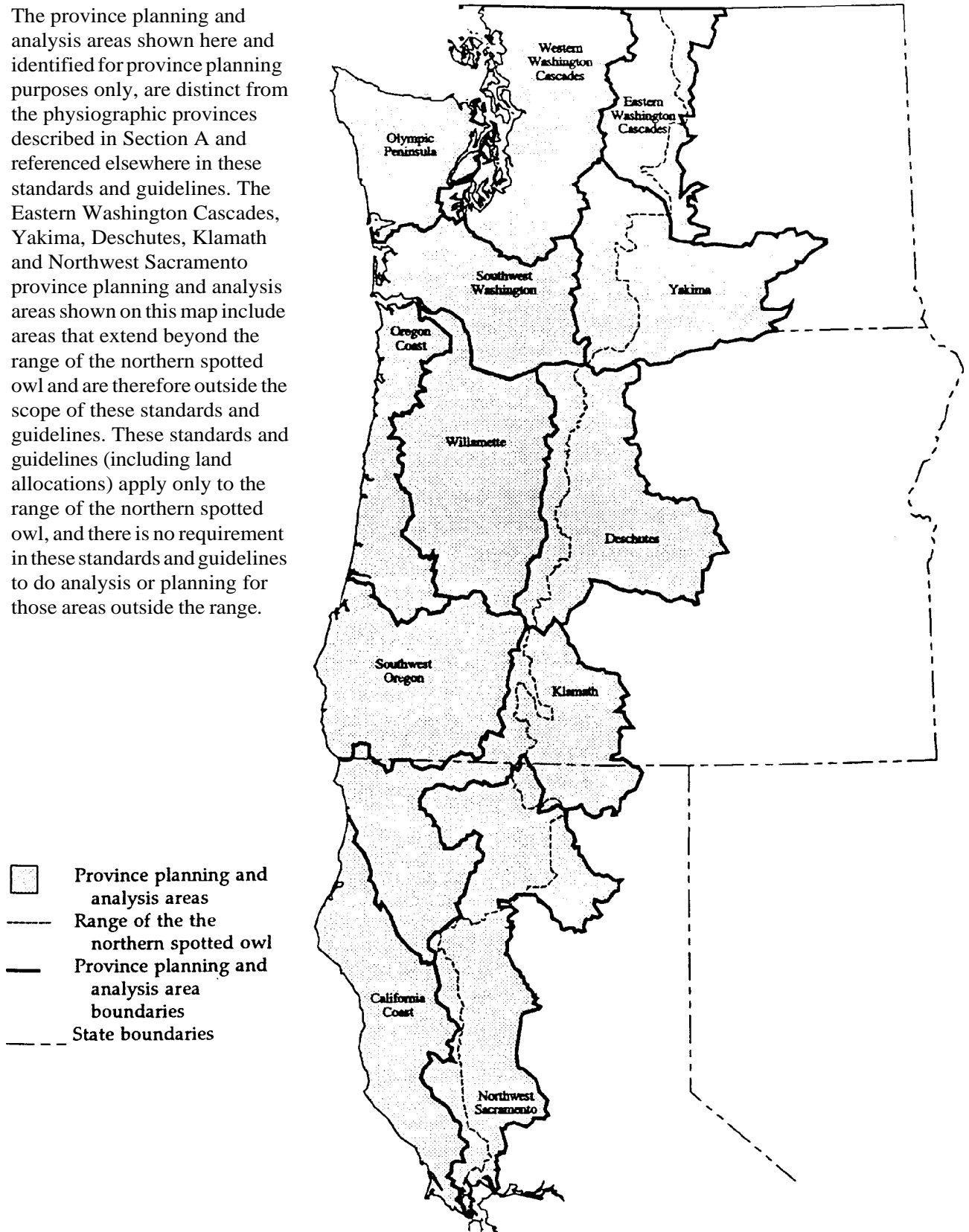
The Record of Decision (with these standards and guidelines) amends existing Forest Service ~~and BLM~~ management plans. The responsibility for implementing these standards and guidelines rests with the managers of the Forest Service ~~and BLM~~ units in the planning area. The interagency structure identified in the Memorandum of Understanding for Forest Ecosystem Management designates the Interagency Steering Committee and Regional Interagency Executive Committee to assure the coordinated and effective implementation of these standards and guidelines, and to support the development and implementation of future or revised Land and Resource Management Plans. Changes or adjustments to these standards and guidelines may be made through amendments to those plans required by regulations as described above. The authority to change or amend those plans remains as specified in the applicable regulations. The amendments will be reviewed by the Regional Interagency Executive Committee to assure consistency with the objectives of these standards and guidelines.

Key Watersheds as a Non-interchangeable Component of PSQ

As Forest and District Plans are completed or amended in the future to reflect the addition of

Figure E-3. Province planning and analysis areas.

The province planning and analysis areas shown here and identified for province planning purposes only, are distinct from the physiographic provinces described in Section A and referenced elsewhere in these standards and guidelines. The Eastern Washington Cascades, Yakima, Deschutes, Klamath and Northwest Sacramento province planning and analysis areas shown on this map include areas that extend beyond the range of the northern spotted owl and are therefore outside the scope of these standards and guidelines. These standards and guidelines (including land allocations) apply only to the range of the northern spotted owl, and there is no requirement in these standards and guidelines to do analysis or planning for those areas outside the range.



these standards and guidelines, units should disaggregate and display Probable Sale Quantity (PSQ) as a non-interchangeable component between Key and non-Key Watersheds.

Although no difference in PSQ between these two categories could be identified in the SEIS, it is recognized that the Aquatic Conservation Strategy objectives and the requirement to do watershed analysis before management activities can take place implies a higher level of uncertainty and a potential for future change with respect to future levels of sale offerings within key Watersheds. In this way, offerings affected by any changes or concerns in Key Watersheds, or dependent upon Key Watershed-related funding such as that needed for Watershed Analysis, can be identified and monitored.

Watershed Analysis

Watershed analysis is one of the principal analyses that will be used to meet the ecosystem management objectives of these standards and guidelines. Watershed analyses will be the mechanism to support ecosystem management described in these standards and guidelines at approximately the 20 to 200 square mile watershed level. Watershed analysis, as described here, focuses on its broad role in implementing the ecosystem management objectives prescribed by these standards and guidelines. The use of watershed analysis, as described in the Aquatic Conservation Strategy (starting on page B-9 of these standards and guidelines), is a more narrow focus and is just one aspect of its role.

Watershed analysis will focus on collecting and compiling information within the watershed that is essential for making sound management decisions. It will be an analytical process, not a decision-making process with a proposed action requiring NEPA documentation. It will serve as the basis for developing project-specific proposals, and determining monitoring and restoration needs for a watershed. Some analysis of issues or resources may be included in broader scale analyses because of their scope. The information from the watershed analyses will contribute to decision making at all levels. Project-specific NEPA planning will use information developed from watershed analysis. For example, if watershed analysis shows that restoring certain resources within a watershed could contribute to achieving landscape or ecosystem management objectives, then subsequent decisions will need to address that information.

The results of watershed analyses may include a description of the resource needs, issues, the range of natural variability, spatially explicit information that will facilitate environmental and cumulative effects analyses to comply with NEPA regulations, and the processes and functions operating within the watershed. Watershed analysis will identify potentially disjunct approaches and conflicting objectives within watersheds. The information from watershed analysis will be used to develop priorities for funding and implementing actions and projects, and will be used to develop monitoring strategies and objectives. The participation in watershed analysis of adjacent landowners, private citizens, interest groups, industry, government agencies, and others will be promoted.

Watershed analysis will be an ongoing, iterative process that will help define important resource and information needs. As watershed analysis is further developed and refined, it will describe the processes and interactions for all applicable resources. It will be an information-gathering and analysis process, but will not be a comprehensive inventory process. It will build on information collected from detailed, site-specific analyses. Information gathering and analysis will be related to management needs, and not be

performed for their own sake. While generally watershed analysis will organize, collate, and describe existing information, there may be critical information needs that must be met before completing the analysis. In those instances, the additional information will be collected before completing the watershed analysis. In other instances, information needs may be identified that are not required for completing the watershed analysis but should be met for subsequent analyses, planning, or decisions.

Watershed analysis is a technically rigorous procedure with the purpose of developing and documenting a scientifically-based understanding of the ecological structures, functions, processes and interactions occurring within a watershed (see the Aquatic Conservation Strategy in Section B of these standards and guidelines). The scope of the analysis for implementing the ecosystem management objectives of these standards and guidelines may include all aspects of the ecosystem. Some of these aspects include beneficial uses; vegetative patterns and distribution; flow phenomena such as vegetation corridors, streams, and riparian corridors; wind; fire (wild and prescribed fire, and fire suppression); wildlife migration routes; dispersal habitat; terrestrial vertebrate distribution; locally significant habitats; human use patterns throughout the ecosystem; cumulative effects; and hydrology. The number and detail of these aspects considered will depend on the issues pertaining to a given watershed.

Information Resource Management

An interagency Geographic Information System (GIS) data base will be developed to coordinate efforts in the collection of data and the development of information to support planning within watersheds, provinces, and the region.

Consultation and Coordination Process

Consultation under the Endangered Species Act will emphasize an integrated ecosystem approach. This will include involving the Fish and Wildlife Service and the National Marine Fisheries Service when the land management agencies begin to develop their plans for a particular area so their views can be made known. Concurrent coordination with the Environmental Protection Agency on water quality standards and beneficial use requirements of the Clean Water Act will minimize planning and project impacts.

The analysis and planning efforts used in implementing ecosystem management on lands administered by the ~~BLM and~~ Forest Service will comply with existing policies and laws relating to American Indian off-reservation trust resources. The analysis will identify Indian trust resources that would be effected, and identify potential conflicts between proposed federal actions and treaty rights or tribal plans and policies. Consultation on a government-to-government basis will be conducted early in the planning process with any effected tribes. Conflicts will be resolved consistent with the Federal Government's trust responsibilities.