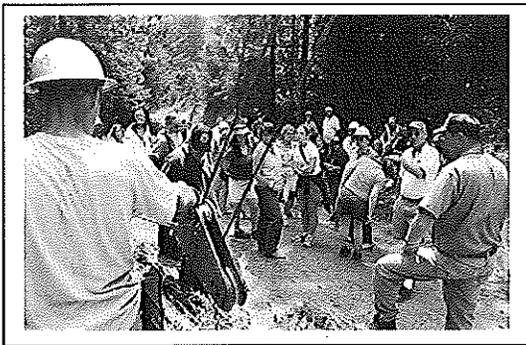


Hayfork Adaptive Management Area Guide



**Shasta-Trinity National Forest
Six Rivers National Forest
and the
Redding Resource Area
of the Bureau of Land Management**

October 12, 2004

**Shasta-Trinity National Forest
Six Rivers National Forest
Redding Resource Area, Bureau of Land Management
Pacific Southwest Forest and Range Research Station**

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CHAPTER 1

INTRODUCTION

The Hayfork Adaptive Management Area (AMA) is a land allocation that encompasses about 390,000 acres of Forest Service (FS) and Bureau of Land Management (BLM) land in Northern California. It was established in 1994 by the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, also known as the Northwest Forest Plan (NWFP). The NWFP designated 10 AMA's of which two occur within California. Corresponding maps are Figures 1 & 2.

NORTHWEST FOREST PLAN RECORD OF DECISION OBJECTIVES

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. The primary social objective of Adaptive Management Areas is the provision of flexible experimentation with policies and management. Broadly, AMAs are intended to be prototypes of how forest communities might be sustained.

The specific emphasis for the Hayfork AMA is *'to develop and test the application of a range of forest management practices, including partial cutting, prescribed burning, and low impact approaches to forest harvest, while maintaining late-successional and high quality riparian habitat'*.

The NWFP defines adaptive management, for purposes of this land allocation as a continuing process of action-based planning, monitoring, researching, and evaluating, so that appropriate adaptations can be made for achievement of ecological and economic health and other social objectives. The adaptive management concept applies to all lands administered by the Forest Service and BLM within the AMAs in a manner consistent with applicable laws, agency regulation and agency policy.

HAYFORK AMA OBJECTIVES DEVELOPED THROUGH COMMUNITY PLANNING

- Innovation and experimentation are accepted and local ideas and approaches are encouraged.
- Ecological, economic and social values are integrated in resource decisions.
- A broad range of resource values co-exist, including sustainable timber supplies and other non-traditional commodity production capabilities, ecosystems restored to historic fire regimes and conditions, as well as high quality late-successional and riparian habitats.
- Adjacent forest dependent communities can sustain themselves.
- Successes and failures are widely shared so that stakeholders can learn and adapt.
- Federal and state agencies, researchers, local groups, landowners, communities and individuals work together to achieve Hayfork AMA objectives.

These goals are tiered to objectives identified in Appendix D of the NWFP and the land management plans of the Shasta-Trinity and Six Rivers National Forests and Redding Area BLM management plans.

The purpose of the Hayfork AMA Guide is to articulate joint agency and community strategies and identify types of opportunities, which will meet the objectives and consolidate existing information relevant to the AMA. This information will be available to guide and assist project implementation, project prioritization, research, monitoring, education and communication relevant to the AMA. It is intended to be broad in scope. It does not describe or document decisions but instead identifies opportunities. The contents are based on direction contained in the NWFP, the land management plans and AMA objectives.

The development of the Hayfork AMA Implementation Guide focused on collecting local information and ideas. This was done through a series of workshops called Chapter Meetings, formal and informal presentations at public and agency meetings, mass mailings, posting notices, an information booth at the Trinity County Fair, one-on-one conversations with interested individuals, and through information collected during the 2003 Regional Office AMA Review. For more information on the process used to develop the guide, refer to Appendix A.

CHAPTER 2

SETTING OF THE HAYFORK AMA

Chapter two briefly describes the current and historical setting of the AMA including management direction to set the stage for the opportunities and input. For more complete information on the current and historical setting, refer to the Hayfork AMA Assessment contained in a separate document.

The Hayfork AMA was selected because of the intimate social and economic relationships communities in Trinity, Humboldt, and to a lesser extent, Shasta and Tehama Counties, had with the National Forest and Bureau of Land Management Administered Lands.

GEOGRAPHICAL AND SOCIAL SETTING OF THE HAYFORK AMA

The Hayfork AMA comprises about 390,000 acres of federally managed lands and approximately 90,000 acres of private lands. The AMA is sprawling in nature; it crosses four major river basins and includes part or all of 35 watersheds. The boundaries of the AMA were selected so that the AMA would be adjacent to communities, which depended largely on National Forest and BLM lands for their economic base.

The AMA spans four counties (listed in descending acreage): Trinity, Humboldt, Shasta, and Tehama. There are 17 communities that are associated with the AMA. They are:

Hayfork	Lewiston	Big Bar	Hawkins Bar
Hyampom	Salyer	Douglas City	Hoopa
Weaverville	Willow Creek	Big Flat	Burnt Ranch
Platina	Del Loma	Wildwood	Junction City
Mad River			

All of the towns except for Hoopa, Willow Creek and Platina are in Trinity County. The communities of Willow Creek and Hoopa are in Humboldt County, whereas, Platina is located within Shasta County. The populations of these communities range from 75 for Wildwood to 3,700 for Weaverville.

The topography is characterized by moderately steep to very steep mountains, with elevations ranging from approximately 500 feet to 6000 feet separated by winding river valleys bisected with numerous intermittent drainages. The major vegetation types within the AMA can be divided into four broad categories: conifer forests, oak-woodlands, hardwood forests and grasslands.

Erodibility of the soils varies from low to high. Soils developed over granitic rocks or areas with a history of faulting are generally very susceptible to erosion. Those soils developed over volcanics and sedimentary rocks generally have low erosion potential.

The AMA spans four major river basins: the mainstem Trinity River, South Fork Trinity River, Mad River and a small portion of the Sacramento River. All of these basins support

anadromous and resident fisheries. The mainstem Trinity River is dammed above Lewiston and has a much-altered riverine ecosystem as a result of the altered water flows. This has affected the overall capability of the system to produce wild salmon and steelhead. The Mad River is also dammed upstream of the AMA. Both of these systems have numerous tributary channels that also support salmon and steelhead. The South Fork Trinity River is the longest undammed river in California and has historically been a major producer of salmon and steelhead. The fisheries in the South Fork are in a state of recovery from the devastating 1964 Flood.

The flora and fauna of the AMA are very diverse. The vegetation ranges from densely stocked stands of coniferous forest to grassy oak woodlands to barren rock outcrops. There are scattered communities of rare and sensitive plants associated with ultramafic rock types. The wildlife of the area has several species identified as threatened or endangered, including the Bald Eagle and northern spotted owl. The area also has several sensitive species including yellow-legged foothill frog and western pond turtle.

BRIEF HISTORICAL BACKGROUND OF THE AMA LANDSCAPE -1850 TO PRESENT

Prior to 1850, lands within the Hayfork AMA were used by local tribes of the Hoopa and Wintu Indians for hunting, fishing and gathering. Salmon and steelhead were abundant in all passable streams and rivers and were important as a food source and for their spiritual value.

During the latter half of the 19th century, settlers of European ancestry entered the area primarily to search for gold. In the 1940's, after World War II, timber production was emphasized in the area. By the 1960's the area was one of the principal timber producing areas in the region. Timber production remained the leading management objective for most of the AMA lands up to the listing of the northern spotted owl in 1991. At the height of timber activity there were about a dozen mills in operation throughout the area. Today there is one mill left in Weaverville.

The role and frequency of fire is a major component of the Hayfork AMA ecosystem. Prior to 1850, the local tribes regularly introduced fire to promote browse species for deer and elk. With European settlement and the formation of the Forest Service, fire introduction was greatly reduced and wildfire suppression began. This initiated a build-up of fuels and changes in the vegetation types. The fuel loading has been exacerbated by a series of wet years, which resulted in surges in vegetation growth, followed by dry years. Recent pest infestations have resulted in increased tree mortality, which have further increased the fuel levels. As these increase, the likelihood of stand-replacing fires is also increasing.

During the 1960's one of the major rivers in the AMA, the Trinity River, was dammed to produce Trinity and Lewiston Lakes, resulting in drastic changes in the flow regimes, sediment loading and riparian vegetation on the Main stem Trinity River. In 1964 flooding caused millions of cubic yards of sediment to be deposited in the South Fork Trinity River,

Mad River and the many tributaries to those stream systems. The combination of the dams, the 1964 floods, changes in hydrologic response, and sedimentation due to past and present land use activities has greatly reduced the habitat for anadromous salmonids in the Hayfork AMA.

With the completion of the dams in the early 1960's lake recreation blossomed. Many activities such as hiking, hunting, bird watching, fishing, gold panning, white water sports, horseback riding, Off Highway Vehicle (OHV) use, winter sports and site seeing have materialized as new interests in the area. The population is growing rapidly on the coast and inland valley areas of California. Many of these people look to the National Forest as a place to recreate. This pressure is expected to rise in the future.

Other activities, such as fuelwood gathering and special forest product collection, are also on the upswing as local citizens look to develop the economic potential of the non-traditional uses of our natural resources. Small diameter utilization and value-added manufacturing is also being recognized as an important link to a sustainable economy.

CURRENT ORGANIZATIONAL STRUCTURE

Six Rivers National Forest

The Six Rivers National Forest has two districts with acreage in the Hayfork AMA: the Mad River RD with a District Ranger stationed at Ruth and the Lower Trinity RD with a District Ranger stationed at Willow Creek.

Shasta-Trinity National Forest

The Shasta-Trinity National Forest has undergone a significant shift in how the Forest is organized. There were originally four Ranger Districts within the AMA land allocation: Big Bar, Hayfork, Yolla Bolla and Weaverville. The Forest has implemented a new concept that divides the Forest into management units. AMA lands in the Hayfork and Yolla Bolla Districts are managed under the South Fork Management Unit with a District Ranger stationed in Hayfork. AMA lands in the Big Bar and Weaverville Districts outside the National Recreation Area (NRA) boundary are managed by the Trinity River Management Unit, with a District Ranger stationed in Weaverville. A small portion of the AMA near Lewiston Lake is managed by the National Recreation Area Unit, which is managed by a Ranger stationed in Shasta Lake.

Bureau of Land Management

The Bureau of Land Management (BLM) has about 5,000 acres within the AMA. Their holdings are concentrated around Hayfork Valley and Platina. The lands are administered out of Redding, California where there is an Area Manager and complementary staff of resource professionals and technicians.

MANAGEMENT DIRECTION IN THE AMA

All AMAs must comply with environmental laws pertaining to forest management. The Regional Ecosystem Office has issued direction about standards and guidelines to be followed in AMAs in their April 21, 2000 Memorandum (Appendix B). The Hayfork AMA must maintain identified Late-Successional Reserves, conduct full watershed analyses in critical watersheds and meet Aquatic Conservation Strategy objectives.

There are several plans that overlay the AMA landscape that require consideration before activities proceed in the AMA. There are Forest Plans for both the Six Rivers and Shasta-Trinity National Forests. Likewise BLM has an Area Plan for the Redding Area. The Wild and Scenic South Fork Trinity River has a current management plan. The area around Lewiston Lake, which is in the Shasta-Trinity Whiskeytown NRA, has specific objectives directed towards recreation.

All project planning in the AMA must conform to the Forest Land Management Plans (LMP's) and BLM Area Plan. As site-specific plans are developed for projects in the AMA, they will be documented using current planning processes.

Shasta-Trinity Land and Resource Management Plan Direction

The Shasta-Trinity portion of the AMA is divided into four prescriptions: Roaded Recreation, Wildlife Habitat Management, Commercial Wood Products Emphasis and Riparian Reserve. The breakdown by acres of the Shasta-Trinity portion of the AMA by prescription is described in Table 2-1:

TABLE 2-1

Unroaded Recreation	31,266	10%
Roaded Recreation	70,903	24%
Wildlife Habitat Management	68,854	23%
Commercial Wood Products Emphasis	100,014	34%
Late Successional Reserve	5,952	2%
Special Area Management	20,754	7%

Total 297,743

Riparian Management acres are included in the acreage total above.

Unroaded Recreation Provides for semi primitive non-motorized recreation opportunities in unroaded areas outside existing Wilderness while maintaining predominantly natural-appearing areas with only subtle modifications. Special recreational and visual values, fisheries, and riparian resources are emphasized. Also emphasized in this prescription is retention of old-growth vegetation and management of wildlife species requiring late seral stage conditions.

Roaded Recreation Provides for an area where there is moderate evidence of the tourist attractions and sounds of humans. This prescription emphasizes recreational opportunities associated with developed road systems and dispersed and developed camp sites. Vegetation management and timber harvest is allowed to meet recreation, visual, and wildlife objectives while maintaining healthy and vigorous ecosystems.

Wildlife Habitat Management Maintains and enhances habitat for all existing native and desired non-native wildlife species in order to maintain viable populations of such species. This refers to threatened, endangered and sensitive species as well as big game, small game, upland game bird and non-game habitat, thereby providing adequate hunting and viewing opportunities. Vegetation management and timber harvest are designed to provide desirable habitat conditions through time.

Commercial Woods Products Emphasis Obtains an optimum timber yield of wood fiber products from productive forest lands within the context of ecosystem management. Vegetation manipulation will provide habitat for those wildlife species primarily dependent on early and mid-seral stages.

Late Successional Reserves (LSRs) Protects and enhances conditions of late-successional and old growth forest ecosystems, and old growth related species including the northern spotted owl. Outside of the larger LSRs, the 100 Acre LSRs were established for all known pairs of owls as of January 1, 1994 and overlay all land allocations including AMA and matrix designations

Special Area Management Provides for protection and management of special interest areas. Protection and management of associated amenity values, including unique plant, animal, and aquatic systems, will be consistent with special area objectives. These standards apply to all special areas.

Riparian Management Maintains or enhances riparian area, wildlife and fisheries habitat, and water quality by emphasizing streamside and wetland management. Timber harvest is prohibited, including fuelwood cutting, except for certain catastrophic events such as fire, which result in a degraded riparian condition. Certain conditions, such as harvesting, to acquire desired vegetation characteristics are needed to attain the objectives for the riparian reserves.

Six Rivers Forest Land Management Plan Direction

The AMA is divided into ten management prescriptions on the Six Rivers National Forest. Table 2-2 shows the prescriptions and acreages.

TABLE 2-2

General Forest	21,349	26%
Partial Retention	6,456	8%
Managed Habitat Area	1,993	2%
Retention	2,906	4%
Scenic River	639	1%
Special Regeneration	7,768	9%
Special Interest Area	73	1%
Riparian	33,303	41%
Special Habitat Area	5,391	7%
Research Natural Area	1,257	2%
Total	81,910	

General Forest Provides multiple use development opportunities and a sustained yield of timber in a manner, which preserves ecosystem function, biodiversity and landscape integrity.

Partial Retention Protects scenic landscapes while providing multiple-use development opportunities that are not visually evident to the casual Forest visitor. Timber harvest may occur in partial retention areas, appearing as natural openings common to the landscape or resulting in a near natural landscape.

Managed Habitat Area Maintains habitat to provide connectivity and protection buffers for species that may not receive adequate protection through reserved areas. Timber harvest will be consistent with the objectives established for each area to achieve moderate to high capability habitat or maintain the desired structure of ecological and travel corridors.

Retention Protects scenic landscapes while providing multiple-use development opportunities that are not visually evident to the casual Forest visitor. Timber harvest may occur to create visual diversity and enhance the visual resource.

Scenic River Provides river-oriented recreation in an area of high quality scenery and largely undeveloped shoreline along the river corridor designated as "scenic". Timber harvest may occur subject to meeting the visual quality objective of retention, and other goals of the management area.

Special Regeneration Manages the timber resource on lands suitable and capable of growing trees but where extreme care and high cost will be involved.

Special Interest Area Provides for natural occurrences of plant groups and communities with exceptional botanical and ecological value. Timber harvest and collection of plant material (beargrass, florist greenery) for commercial purposes is prohibited.

Riparian Gives special management considerations to, and protects the integrity of, ecosystems bordering bodies of water and wetlands for riparian and aquatic dependent resources. Timber harvest is prohibited, including fuelwood cutting, except for certain catastrophic events such as fire, which result in a degraded riparian condition, or harvesting to acquire desired vegetation characteristics needed to attain the objectives for riparian reserves.

Special Habitat Area Provides mature and old-growth habitat for plants and animals associated with mature and old-growth forests. Timber harvest will not be scheduled, but may occur if it is required to maintain habitat quality, ecosystem health, or if it is crucial to improve the quality of habitat within an area.

Research Natural Area Provides opportunities for research, observation and study of undisturbed, natural ecosystems. Cutting and removing vegetation is prohibited except as part of an approved scientific investigation.

Other Plans

South Fork Trinity River Wild and Scenic River Plan

The South Fork Trinity River Wild and Scenic River Plan overlays several thousand acres of AMA along the South Fork Trinity River, stretching from Hyampom to the confluence with the mainstem Trinity River. The plan covers the three types of Wild and Scenic classifications for designated rivers: wild, scenic and recreational. Wild sections are equivalent to wilderness in virtually every respect. The Wild Section of the River where there was overlap with AMA was removed from that designation by the Six Rivers LMP. The Scenic sections have strict standards for visual retention which must be maintained. The recreation segments have this as an overriding objective for those sections. Activities within any of the basins that are tributaries to the South Fork below Forest Glen, including Hayfork Creek from Nine Mile Bridge to the South Fork confluence, must meet high water quality objectives to ensure protection of the anadromous fisheries (the outstanding and remarkable value) that warranted the inclusion of the South Fork as Federally designated Wild and Scenic River.

National Recreation Area Plan

The AMA around Lewiston Lake is within the Shasta-Trinity-Whiskeytown NRA, a congressionally established area. The Shasta-Trinity LMP provides direction for this area to support the NRA designation. As such, activities in this portion of the AMA must be compatible with the overall recreation focus for this area.

South Fork Trinity River Action Plan

This watershed restoration focus plan was completed at the request of the Trinity River Restoration Program by a contract. It is not a binding Nation Environmental Policy Act (NEPA) document; therefore it has no standing as direction for setting priorities for federally administered lands. It is an excellent comprehensive reference for the various agencies and public to refer to in the development of restoration goals in the South Fork Trinity River basin.

Trinity County Land Use Element of the General Use Plan

Trinity County Planning Department is updating the Land Use Element of the General Plan for many areas within Trinity County. District Ranger(s) are on an advisory board, along with others from around Trinity County to help blend the resource objectives between federal and privately owned land. This plan will have no standing for publicly owned lands.

Trinity Resource Conservation and Development (RC&D) Area Plan

The Natural Resource Conservation Service (NRCS) has developed a plan for the Trinity County RC&D. Revisions are done every five years. This plan is not binding on federal lands but, if landowners chose to, it could be used to clearly state goals and objectives for approximately 90,000 acres of private lands that were identified to be part of the AMA. There are fewer layers of process on private lands. Hence, innovative ideas could be tested sooner on those lands than on federal lands.

Trinity County Fire Safe Plan

This Fire Safe Plan was developed under the guidance of the Trinity Fire Safe Council. The purpose is 'to reduce the risk of catastrophic fire on a landscape scale in order to improve forest health, water quality and quantity and community well being.' The planning process was open to all interested parties and meetings were held in every community to encourage a broad spectrum of public input. It contains recommendations for fuels projects and fire access needs for all of Trinity County. The plan divided the county into divisions and then priorities were set for each division. Subsequent detailed Community Plans will be tiered to this document. It is an excellent source for initial collaborative efforts for stewardship project planning.

Trinity River and South Fork Trinity River Basin Plans

Under the Clean Water Act, both the mainstem Trinity River and the South Fork Trinity River have been identified as impaired water bodies with degraded water quality. Both rivers have sediment problems that have affected the most important beneficial use, the anadromous fisheries. Guidance and goals for total maximum daily loads (TMDL) of sediment have been established in basin plans which can be found on the North Coast Water Quality Control Board web site. Projects within these areas must refrain from adding to the sediment load problem.

RELATIONSHIP OF NATIVE AMERICAN TRIBES AND THE AMA

Management activities within the AMA will be conducted in a manner consistent with laws, regulations and executive orders that provide for:

- Consultation with recognized tribes on matters affecting their interests on a government-to-government basis;
- Protection of American Indian access for traditions, customs and practices;
- Management of heritage resources; and
- Protection and repatriation of American Indian graves.

The Hoopa is a federally recognized tribe with interests in Hayfork AMA activities.

There are two other groups petitioning for federal recognition status, the Tsnungwe and Nor-Rel-Muk tribes. These groups also have interests in Hayfork AMA activities. Currently, the Forests are required to consult with these groups under Section 106 of the Antiquities Act.

OTHER LOCAL GROUPS AND COMMITTEES RELEVANT TO THE HAYFORK AMA

Trinity County Resource Conservation & Development Area (TCRC&D) Overseen by a council of private citizens from around Trinity County, this Natural Resource Conservation Service (NRCS) sponsored council develops ideas for economic enhancement with projects tied to the Congressional Farm Bill.

Watershed Research & Training Center (WRTC) This non-profit center is located in Hayfork and is governed by a executive board. It houses the Trinity Community GIS (Geographic Information Systems) project, and a Displaced Forest Worker Retraining Program. It is also engaged in several other projects such as providing a linkage for contractors in the county to federal contract and monitoring of socio-economic conditions within the AMA communities.

South Fork Coordinated Resource Management Plan (SFCRMP) This coalition of federal, state, local, and private interests has a goal that seeks to provide for healthy economies and natural resources in the South Fork Trinity River Basin. Participation in this group is voluntary.

Trinity County Resource Conservation District (TCRCD) Local agency that works on restoration projects on National Forest and private lands. RCD crews work on re-vegetation, fuels, watershed restoration and noxious weed projects. They are based out of Weaverville.

Trinity Fire Safe Council Local committee whose purpose is to promote fire safety in Trinity County. It is primarily made up of members of volunteer fire departments, California Department of Forestry & Fire Protection (CDF), TCRCD, USFS, WRTC and other interested publics. It sponsored the development of the Trinity County Fire Safe Plan.

Trinity River Restoration Program (TRRP) This program is sponsored by the Bureau of Reclamation, and is comprised of 14 federal, state, and local agencies including the Hoopa tribe. The program has been charged with the task of restoring fish and wildlife populations in the greater Trinity River Basin affected by the construction of the Trinity division of the Central Valley Water Project. This program has funded many other programs at some level including the WRTC, Trinity Community GIS, Adopt-A-Watershed and SFCRMP.

Resource Advisory Committee (RAC) FACA chartered committees under the Secure Rural Schools and Self Determination Act that recommend project expenditures under Title II to the Forest Supervisors for implementation. Four RACs are involved with projects in the Hayfork AMA: Trinity, Shasta, Tehama and Humboldt. Trinity RAC areas of emphasis are primarily Watershed Restoration and Fuels Reduction.

CHAPTER 3

ECOSYSTEM MANAGEMENT AND MANAGEMENT OPPORTUNITIES

The Forest Service and BLM are directed through the NWFP to implement Ecosystem Management (EM) as the normal course of project planning and implementation. Both the Six Rivers and Shasta-Trinity National Forests have completed several comprehensive landscape level plans and Watershed Analyses (WA) within the Hayfork AMA, which encompass a wide range of projects and outputs (see Appendix F). The BLM, in cooperation with the Forest Service, Fish & Wildlife Service, and Trinity County RCD, has completed a Watershed Analysis (WA) to support continued restoration of the mainstem Trinity River. These assessments and plans are guides to be used in the development of projects to meet a wide range of resource objectives, separately or in concert, such as timber stand health, restoration of a natural fire regime and fuel condition, development of non-traditional forest product markets, improved watershed conditions, enhancement of wildlife habitat, and development of compatible recreation opportunities.

Recurring topics that surfaced in community meetings include:

- Consideration of people in ecosystem management
- Maintenance of late successional habitat
- Forest Health projects which include fuels management
- Timber management
- Special forest product management
- Watershed and fisheries restoration
- Monitoring

We will meet AMA objectives by focusing on community supported restoration projects which will supply wood fiber and value added products in support of National Fire Plan goals and Watershed improvement goals. Social and economic benefits will be identified and monitored for success or failure. A five year strategy plan is supplied in Appendix D.

INTEGRATED VEGETATION MANAGEMENT

The emphasis in the AMA should be on “forest health” projects which contain timber value to offset needed restoration work. The focus of forest health projects is to maintain, restore or enhance healthy biologically diverse forest ecosystems.

Strategy

Develop restoration forestry prescriptions to meet fuels and commodity objectives. Learn how to do regeneration harvest integrated with ecosystem management objectives as an alternative to traditional green tree retention or ‘clearcut’ prescriptions. Learn to do stewardship projects that minimize dependence on appropriated dollars.

Tactic

The FS and BLM will continue to have timber sale projects that meet AMA objectives and capture value for roadside or other hazard trees, salvage of dead or dying timber, rehabilitation of diseased or insect infested stands, thinning for fuel reduction and/or timber stand improvement, and thinning for forest health. Resource outputs will be compatible with a forest health emphasis. Focus 60% of landscape treatments near communities at risk. Develop management guidance for restoration of the red fir ecosystems where dwarf mistletoe and cytospora are at epidemic conditions. These projects may be accomplished with standard timber sales as well as non-standard approaches such as stewardship contracting.

FUELS

The risk of uncharacteristic stand replacing fires in the AMA is very high due to recent climatic conditions, past management practices and historic fire suppression policies. Fuel conditions in the AMA have been identified as condition class 2 and 3 as defined in the National Fire Plan. This fact coupled with the number of adjacent communities at risk warrants aggressive fuels management in the AMA. With the public, the focus of fuels hazard reduction is in the vicinity of neighborhood areas, followed by the desire to protect old growth habitat.

Strategy

Reducing the risk of catastrophic wildfire is critical to the sustainability of the ecosystems and viability of the communities within the Hayfork AMA. It will be the primary objective driving many of the projects. In partnership with state and local governments, Non-government organizations, private landowners, and/or local businesses, FS and BLM fuel reduction strategies will continue to be developed collaboratively.

Tactic

Develop mechanisms for effective and efficient fuels reduction. Develop local fire planning in mixed ownerships using existing community driven collaborative efforts when possible. Active partners will include agencies and groups such as CDF, county governments, Trinity County Fire Safe Council, Resource Conservation Districts, such as the WRTC, Humboldt County Fire Safe Council, and RAC. Experiment with new technologies for construction of fuel breaks and fuel management zones along ridges and major roads and develop small diameter utilization. Implementation will require using a mixture of standard approaches and new techniques to find the most cost effective mix. Opportunities for hazardous fuel reduction, fuel-break construction, and maintenance of previously cleared areas should be sought out within the context of other projects that may have the potential to generate income or products that could help to "pay" for the costs of reducing the risk of catastrophic wildfires.

SPECIAL FOREST PRODUCTS

Many special forest products can be found naturally within the Hayfork AMA such as edible mushrooms, herbs, coniferous cones, basket-making materials, and other native botanicals. They can be harvested for spiritual, personal and/or commercial purposes.

Strategy

Special forest products should be managed in a manner consistent with laws, agency regulations and agency policy. Conduct research to determine market potential with local crafters and gatherers. Experiment with sustainable harvest methods and limits; develop methods for managing commercial and personal use. Monitor and disseminate information.

Tactic

Support gathering in the course of regular program of work for public permits and fuel reduction. This will ensure long-term sustainability and enhance the local economy. Develop a process for ensuring traditional Native American use and management of commercial use. Consider inclusion of special forest products in stewardship contracts. Review Six Rivers National Forest guidelines for management of special forest products and consider adopting on all AMA lands.

WATERSHED AND FISHERIES RESTORATION

The Hayfork AMA includes watersheds tributary to the Trinity River, the South Fork Trinity River (SFTR), the Mad River and the Sacramento River, which contain important anadromous fisheries habitat. These watersheds have all been affected to different degrees by past impacts from mining, grazing, forest fires, flooding, mass erosion, dam building, logging, agriculture and roads. The Hyampom fifth field Watershed has been dramatically degraded by past management practices and 1964 flood events, and only a joint public private effort at watershed analysis will be meaningful.

High quality salmon and steelhead streams in the AMA include: New River, Big French Creek (Trinity River); Pilot Creek (Mad River); Madden Creek, Eltapom Creek, Lower Hayfork Creek, Olson Creek and Big Creek (SFTR), Beegum Creek (Sacramento River); and to a lesser extent Little Creek, Rusch Creek, Tule Creek, Philpot Creek, Upper Salt Creek, Barker Creek and Little Barker Creek, East Fork Hayfork Creek, and Dubakella Creek (SFTR). Current road maintenance funding will not adequately support existing road systems within the AMA. Reducing miles of seldom used roads is the most effective means to reduce sediment and enhance the fisheries.

Strategy

Prioritize treatments such that the best remaining habitat for anadromous fish is rehabilitated first. Restoration and protection projects may include: water conservation programs, channel stabilization, wildfire recovery efforts and riparian plantings but should focus primarily on sediment savings associated with road maintenance, culvert upgrades and road obliteration. Include restoration planning in integrated vegetation management assessments whenever possible. Water flows will reap the benefits of returning stand densities to their

pre-fire suppression carrying capacity.

Tactic

Road obliteration priorities should consider first South Fork Mountain, Pilot Creek and Grouse Creek. Collaboratively develop prescriptions and field techniques to enhance and protect riparian habitats in a frequent fire regime ecology. Develop restoration projects with partners to maximize funding opportunities and produce the most cost effective sediment savings. Monitor results.

WILDLIFE

Wildlife habitat will be managed in a sustainable and consistent manner under the application of existing Standards & Guidelines from each Forest's LRMP and the NWFP, existing laws, agency regulations and policies. The Hayfork AMA includes other land designations under the NWFP, which specifically include LSR, LSR 100's, Riparian Reserves, Research Natural Areas (RNA), and Critical Habitat Unit designations for the marbled murrelet and the northern spotted owl. In addition, 15 percent of late succession forest is the retention threshold at the fifth field watershed level. Late successional habitat conditions should be maintained or enhanced by restoration projects. Management activities within late successional habitat should be focused to accelerate habitat conditions and reduce current fuel loading to minimize the potential impacts of catastrophic wildfire. Although, the majority of the Standards and Guidelines within the NWFP are primarily for late successional dependent species, opportunities exist within the early seral and mid-seral habitat associations to increase current herbaceous forage levels for black-tailed deer, wild turkey and Roosevelt elk.

Strategy

Management within the AMA should focus on maintaining habitats within the historic range of variability and utilization of this approach is expected to contribute to the maintenance of habitat and species diversity. Some projects may be driven by wildlife needs as the primary objective such as hazardous fuel reduction in a late successional reserve (LSR). However, wildlife studies and habitat improvements should be fully integrated into larger vegetation management objectives and goals.

Tactic

Prioritization of treatments within late successional habitat should focus primarily on stands classified as Fuel Condition Class 2 and 3. Opportunities exist for the acceleration of late successional stand conditions within the mid-successional habitat type. Vegetation management projects should also focus on restoration of oak woodland habitat as well as the development of silvicultural prescriptions that address conifer encroachment within the grassland habitat type. Wildlife studies and research opportunities exist within almost every project proposal; however, these opportunities should focus on addressing planning and implementation barriers to assist in streamlining current processes. An example of such opportunity could include validation testing of existing Standards and Guidelines for snag/down woody debris as well as validation testing of current limiting operating periods for noise and smoke for the northern spotted owl and northern goshawk.

RECREATION

Some opportunities for recreation currently exist in the Hayfork AMA, though agency funding for protection and maintenance is inadequate. To further develop this resource will require partnerships with local community and business groups to develop and market the AMA "niche."

Strategy

Develop partnerships to construct or reconstruct and maintain essential facilities compatible with restoration goals. Develop a master plan for trail systems that support community interests and are attractive to underserved markets while continuing to be compatible with other ecosystem management objectives. Develop conservation education forums with schools and non-profits to raise awareness of the value of our natural resources.

Tactic

Develop recreation marketing program with local communities. Work with RACs and NGOs to enhance recreation opportunities.

COMMUNITY

The configuration of this AMA was determined in part by the need to support those rural forest dependent communities affected by the dramatic reduction of timber outputs in the 1990s. Sustainable communities involved in the management of the surrounding National Forest lands will mean a healthier forest.

Strategy

Develop a climate that supports collaborative efforts among multiple agencies, non-profit NGOs, and stakeholders. Facilitate local infrastructure for sustainable community involvement in AMA research, planning, implementation, and monitoring efforts. Support the local community with employment opportunities in small project offerings and National Fire Plan offerings. Integrate firewood opportunities in vegetation management assessments.

Tactic

Develop a local ecosystem management work force to participate in stewardship and other restoration projects. Provide education to potential contractors on the Federal contracting processes and special programs such as Hub Zones in order to build community capacity. Provide opportunities to process by products of ecosystem management locally. Provide the materials for local value-added forest product sector development. Enhance firewood opportunities along roads and insure that slash created from vegetation treatment projects is laid out effectively for firewood use.

MONITORING

Monitoring for learning is a tremendous opportunity for workers and is a necessary activity to validate the work in the AMA.

Strategy

Identify questions a robust monitoring plan should address. Establish the process for independent multi-party monitoring with partners and stakeholders.

Tactic

Incorporate project element monitoring needs into NEPA assessment process; include testing into the purpose and need of AMA projects. Build monitoring into implementation process with appropriate costs included. Encourage partners to assist with funding by applying for grants and development of monitoring plans. Use field trips as learning exercises and follow-up with articles on the web or power point presentations to articulate the results.

CHAPTER 4

LEARNING, AWARENESS, AND INFORMATION TRANSFER

Learning is the keystone to Adaptive Management. Research, administrative studies and monitoring are methods commonly used to pursue learning. The purpose of this chapter is to identify opportunities to pursue research, administrative studies and monitoring that can occur the AMA. Research, administrative studies and practical application tests are listed in Appendix E.

RESEARCH

The foundation of the NWFP is ecosystem management based on the best available scientific information, collective judgment and assessment of social and ecological values. The role of the Pacific Southwest Research Station (PSW) and the Pacific Northwest Research Station (PNW) is to develop and communicate the knowledge needed for environmentally sound land management. Under the NWFP, these roles have been further expanded so that the scientists are participating with members of the public and land managing agencies in all phases of adaptive management.

A special role for the research community is to develop studies to test and validate the assumptions that were used to develop the standards and guidelines in the NWFP. The goal is to provide scientifically sound information for modification of the standards and guidelines where appropriate.

ADMINISTRATIVE STUDIES

One of the guiding principles for AMAs is to allow freedom in forest management practices to encourage innovation in achieving the goals of the standards and guidelines in the NWFP. Technical innovation and experimentation within this framework can lead to research studies designed to meet forest managers' needs. The communities involved in the Hayfork AMA support the practice of testing new methodologies for implementation and the monitoring of effects. Subjects of interest include: effects of riparian treatments on wildlife; response of spotted owls and fishers to silviculture treatments; effectiveness of restoration treatments on fuel condition; how to develop uses for the products of restoration forestry; and how to improve community stability.

Strategy

Work with interagency and external partners to seek out grant funding and to integrate studies into the out-year program of work.

MONITORING

In addition to being a key component of the adaptive management process, monitoring is required on National Forest Lands by both NEPA and NFMA and by various other laws, executive orders or agreements with other agencies. Monitoring of the Resource Management Plan is also required on BLM lands. Guidance for monitoring is provided in Section E of the NWFP, Chapter 5 of the Shasta-Trinity and Six Rivers Forest Plans and within the Introduction of the BLM - Redding Resource Plan. There are three different types of monitoring employed on federal lands.

Compliance or implementation monitoring answers the question, "Did we do what we said we were going to do?" It is used to determine if plans, prescriptions, projects and activities are actually implemented as designed and are consistent with the stated objectives and standards and guidelines.

Effectiveness monitoring answers the question, "Did our actions accomplish what we intended them to accomplish?" The objective of effectiveness monitoring is to determine if plans, prescriptions, projects and activities are effective in meeting the intent of forest plan goals, objectives, standards and guidelines.

Validation monitoring answers the question, "Are forest plan goals, objectives standards and guidelines appropriate?" The objective of validation monitoring is to determine if initial data, modeling assumptions, and coefficients are correct.

Inventory, although not a form of monitoring, is also often considered because it often establishes the baseline information for comparison when monitoring.

AWARENESS AND EDUCATION

Controversy, distrust and conflict are often a result of misunderstanding. Effective awareness and education programs can help improve understanding and support for the activities occurring in the AMA and help decrease conflict. Education programs can also be used to inform people of current theories and principles of natural resource management, of the various jobs available in natural resource management and provide them with the skills to be competitive in the job market. The purpose of this chapter is to identify the key topics in the AMA where awareness and education programs are needed.

Awareness of the AMA

The AMA is a special place. People that live within the AMA, need to understand where the AMA is, and what is special about it in order to foster stewardship. People outside of the AMA also should understand what is special about the AMA because we need resources and support to implement projects identified in the AMA Guide. Methods to increase awareness of the Hayfork AMA include:

- Use the AMA Guide to increase awareness in the Provincial Advisory Committees of what the AMA is, so they can recommend work in line with what the public wants.
- Post signs along roads to formally delineate the AMA boundaries..
- Develop an AMA symbol or logo to put on letters, envelopes, anything that is related to the AMA.
- Offer a yearly tour in the AMA to emphasize activities, distribute pre and post project pictures of AMA projects and conduct monitoring activities.
- Condense the guide to a smaller book or a brochure. Have post-cards of AMA to distribute to highlight the area.

To practice community forestry, the community needs to have an affinity with their particular forest. Some ways this could occur are:

- Establish signs at various locations, such as the intersection of Highway 36 and what is known as US Forest Service Highway 1 to inform people that they are entering the AMA with cautions regarding litter, fire, etc., to remind folks that people live here and care about the forest, so keep it clean and safe.
- Promote areas within the AMA for various community activities to make it feel like the community's forest. The trail system master plan could assist with this community connection. These could be places used by local groups such as the Senior organizations, Lion's Club, 4-H, school groups, and would develop their connection with their community forest.

Education in the AMA

The following comments reflect ideas to improve the knowledge about the resources that make up the AMA and how to improve management of the AMA.

- Opportunity to train local community members in monitoring methods. The Forest Service research stations may be able to put on these trainings.
- Write up brochure for educational purposes to demonstrate nationally that the AMA includes a mosaic of vegetation types.
- Train our local people to be able to do existing jobs, e.g.. WRTC retraining forest workers, in our schools, etc.
- Provide conservation education opportunities to schools, camps, and local community groups.
- Include restoration forestry stories about projects on the web.

INFORMATION TRANSFER

Sharing information on what has been tried, what's worked and what has been learned is critical to the adaptive management process. As new successes and failures are encountered it is important that information be made available to the AMA communities, other AMAs, agency managers and any other interested groups. Sharing information with the public is a

key issue in the Hayfork AMA. For there to be success in the eyes of the public, open and timely information flow is necessary.

How to Share Information

Progress Report Put together annual progress charts to show what work has been done and what AMA goals are being met. Incorporate as an appendix to this guide. Provide to the Province Board of Directors (BOD), the Regional Office and other interested parties. Accomplishment Summaries will be maintained in Appendix F.

Meetings Use other community meetings to inform people of AMA activities. Develop an annual forum with other partners to display accomplishments.

News Provide stories for local newspapers and consider augmenting with a semi-annual newsletter for the AMA. Provide information for the entire AMA, as well as stories about activities on specific Districts. It should include information on where projects are occurring, like timber harvest, and where NEPA is completed.

Internet An AMA web page will be developed to share information between communities and report on learnings. Accomplishment summaries will be able to be accessed from the web page.

Briefing Papers Research papers and study documentation will be published to assist other groups developing new methodologies and testing their effects on the ecosystem.

Word of Mouth Networks Information transfer by word of mouth is very effective for some things like meetings. There is a need to set up networks within communities to get the word out on happenings within the AMA. Local groups can be made more aware of the AMA and then they can be used as a method to transfer information. Local people can be identified who are ambassadors or local information liaisons for the AMA.

Bulletin Boards: post information on the AMA in high traffic locations.

What Information To Transfer

Take the successes and failures of AMA projects, including information transfer, and monitoring 'on the road' to display what the Forest Service and local people can do in the AMA.

Subjects should include: testing related to NWFP standards and guides, application of new implementation technologies, comparisons of methodologies for implementation and monitoring, collaboration that leads to community supported restoration, and changes in the socio-economic fabric of the community. The information should include the reason for the project, the work, the results, what problems were encountered, etc. There should be a summary document plus backup information.

CHANGE MECHANISMS

There is a need to develop and document change mechanisms within the AMA to make the adaptive management process work. For example when monitoring reveals a need for change in the standards and guides in order to meet the true intent, how does the system process that change? When socio-economic objectives cannot be met with current authorities, how do we initiate change? When attainment of fuels objectives becomes unattainable due to limited operating periods (LOPs) or project activity level (PAL) restrictions, how do we resolve the conflicts?

Strategy

Document the issues and forward to oversight groups and advisory groups such as REO, Klamath PAC, California Interagency Team (CIT), PSW Research and the Province BOD. Work with research to develop research studies and protocols to validate the need for change and develop the science necessary to support revisions.

Tactic

Relay results of projects and issues to Regional Office.

We will continue to explore new ways of working with our communities to bring about restoration projects to make our forests healthy and our communities stronger.

Figure 1 – Northwest Forest Plan
Adaptive Management Area Locations

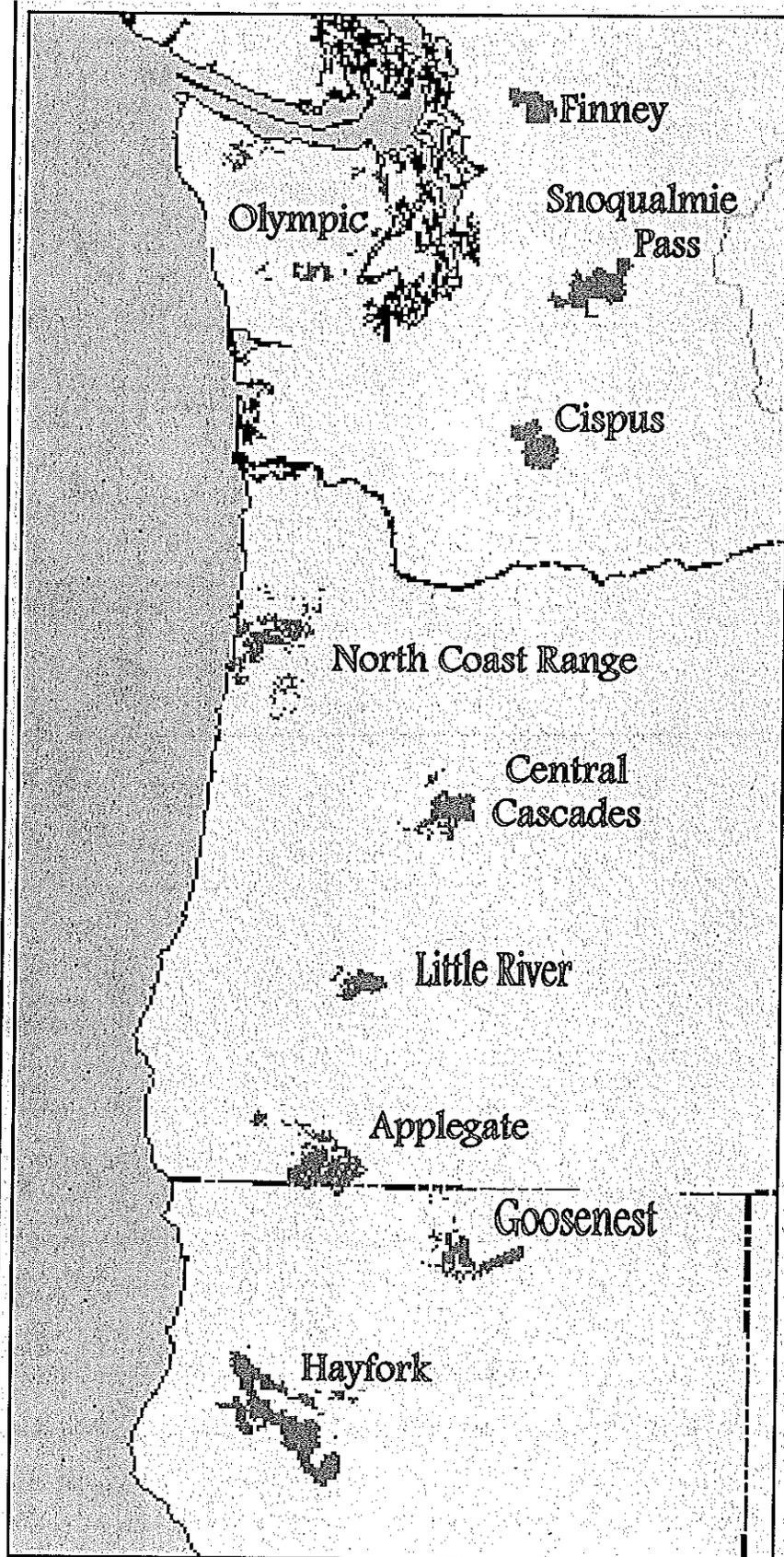
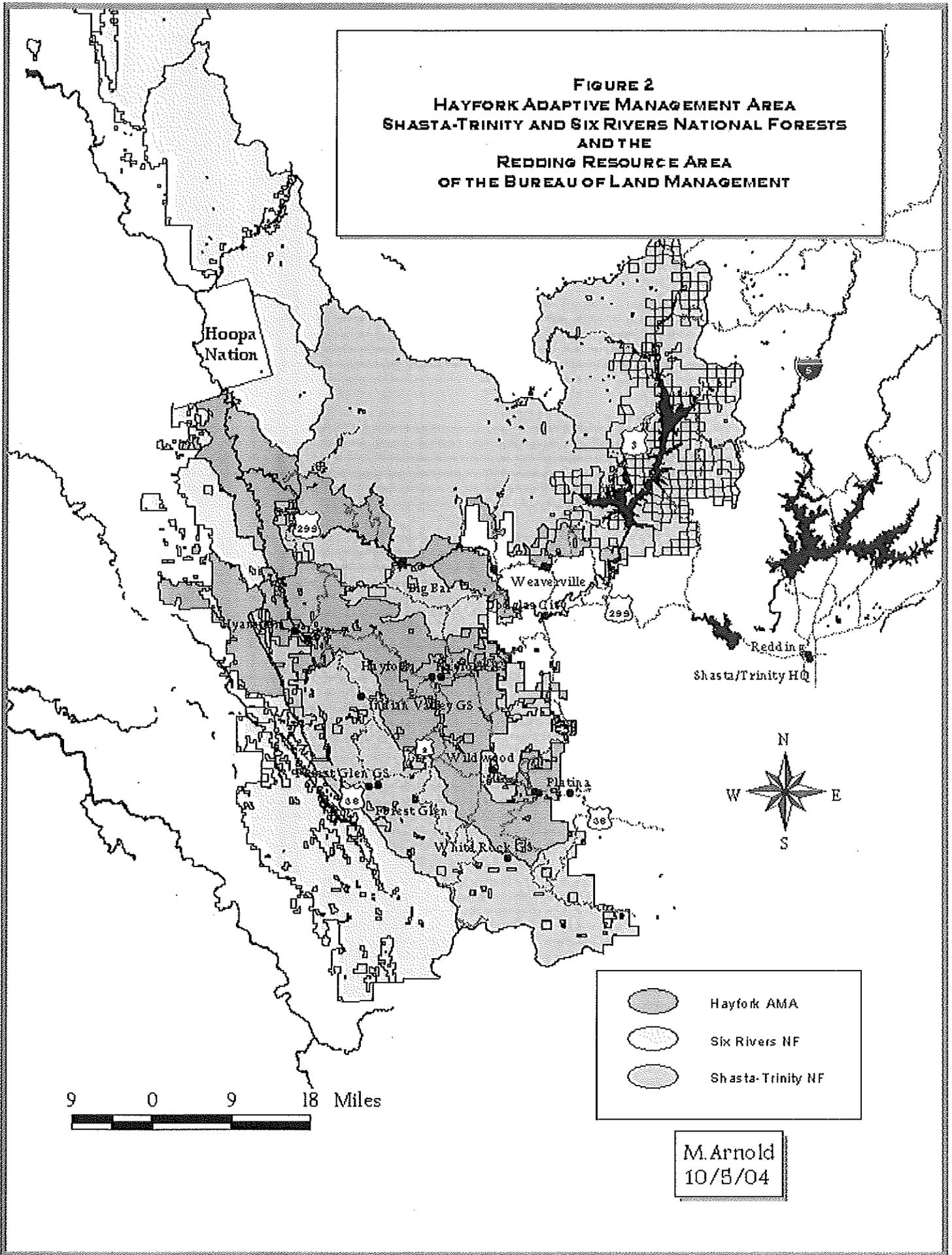


FIGURE 2
HAYFORK ADAPTIVE MANAGEMENT AREA
SHASTA-TRINITY AND SIX RIVERS NATIONAL FORESTS
AND THE
REDDING RESOURCE AREA
OF THE BUREAU OF LAND MANAGEMENT



Appendix A

Meetings

Informational Meetings: Work on the Guide was initiated by a set of six informational meetings. The purpose of these meetings was to 1) increase awareness of the Hayfork AMA, 2) inform people of what's already occurring in the AMA, and 3) to introduce and get feedback on the strategy to generate the Guide. The dates, times, locations, type of meeting and number of attendees for each meeting were:

July 13, 1995	Weaverville 10:00- 12:00	Interagency	12 attendees
July 17, 1995	Hayfork 6:30 -9:00	Open	10 attendees
July 19, 1995	Eureka 6:30- 9:00	Open	4 attendees
July 24, 1995	Willow Creek 6:00 -9:00	Open	18 attendees
July 26, 1995	Redding 6:30-9:00	Open	5 attendees
July 27, 1995	Weaverville 6:30 -9:00	Open	10 attendees

Presentations: Over 50 formal and informal presentations were held for interested groups throughout the development of the Guide. These included a presentation to the Trinity County Board of Supervisors, community groups such as local Rotaries, Forest and District leadership teams, and numerous public and agency resource management groups such as the Trinity County Bioregion Group, Trinity Resource Conservation and Development Council and the Southern Trinity Community Economic Revitalization Team, to name a few.

Chapter Meetings: The Guide is composed of a series of chapters. Meetings were held to focus on the opportunities and information needed for each chapter. These were called Chapter Meetings. The initial strategy was to hold at least one meeting for each chapter. Some chapters could be combined into one meeting. The chapter meetings would be held in different locations throughout the AMA; for example, the meeting on the proposed commodity plan chapter would be held in Willow Creek, and the meeting on the implementation and monitoring held in Hayfork. However, during the informational meetings the attendees stated that they were not willing to attend so many meetings or to travel so far but they wanted to participate. As a result of their input, the strategy was changed. Sets of two chapter meetings were held in Willow Creek, Hayfork, and Mad River. These locations were selected so that all AMA associated communities were within a one hour drive of a workshop location. All meetings were held on Saturdays from 9:30 to 3:30. The dates, locations, chapters covered, and number of attendees for each meeting were:

First Chapter Meetings: AMA Objectives, Opportunities, Learning, Awareness and Education.

Aug 26, 1995	Willow Creek	7 attendees
Sept 16, 1995	Hayfork	8 attendees
Sept 30, 1995	Mad River	15 attendees

Second Chapter Meetings: Communities, Resources, Implementation, Information Transfer, Monitoring and Other Opportunities.

Oct 21, 1995	Willow Creek	3 attendees
Oct 28, 1995	Mad River	10 attendees
Nov 4, 1995	Hayfork	12 attendees

Copies of the meeting minutes for the Chapter Meetings are located in a supplement to the guide.

Mailings and Notices

Three letters were mailed during preparation of the Guide. The first letter informed people of the times and dates of the informational meetings. The second and third letters contained minutes from the previous meetings and an invitation to attend the next set of meetings. The first letter was mailed to over 500 people located throughout the Pacific Northwest who were thought to have an interest in the AMA. With each letter the mailing list was refined; some addresses were dropped and others added. The second and third letters were mailed to over 350 addresses.

Notices announcing the first chapter meetings were published in the Trinity Journal, Redding Record Searchlight and Eureka Times Standard. Notices announcing the second set of chapter meetings were published in the Trinity Journal, the Trade Mark and the Klamath Trinity Courier. There was also a brief article about the Guide meetings in the Trinity Journal. Prior to the two chapter meetings, notices were also posted in public places in the local communities where Forest Service activities are normally announced.

Trinity County Fair Booth

The Hayfork AMA was the theme for the Forest Service informational booth at the 1995 Trinity County Fair. The booth included displays and maps which described the objectives and geography of the Hayfork AMA. Handouts were also available, explaining the strategy to develop the AMA guide, as well as worksheets to provide a way for public input into the Guide. There was no tracking of the number of visitors to the booth, but it was well attended.

Other Input

Five letters were received and numerous opportunities were presented through one-on-one conversations with interested individuals or during conversations at the formal and informal presentations.

APPENDIX B

REGIONAL ECOSYSTEM OFFICE
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MEMORANDUM

Date: April 21, 2000

TO: Regional Interagency Executive Committee Members

Anne Badgley, U.S. Fish & Wildlife Service
Roger Blair, Environmental Protection Agency, ORD
John D. Buffington, USGS Biological Resources Division
Mike Collopy, USGS Biological Resources Division
Col. Randall J. Butler, U.S. Army Corps of Engineers
Ken Feigner, Environmental Protection Agency
Bob Graham, Natural Resources Conservation Service
Harv Forsgren, Forest Service
Nancy Graybeal, Forest Service
Thomas Mills, Pacific Northwest Station, Forest Service
Stan M. Speaks, Bureau of Indian Affairs
William Stelle, Jr., National Marine Fisheries Service
John Volkman, National Marine Fisheries Service
William C. Walters, National Park Service
Jim Shevock, National Park Service
Elaine Y. Zielinski, Bureau of Land Management
California Federal Executives
Alfred Wright, State Director, Bureau of Land Management
Paul Roush, Bureau of Land Management
Michael J. Spear, Operations Office Manager, U.S. Fish and Wildlife Service
John Engbring, Operations Office, U.S. Fish and Wildlife Service
Brad Powell, Acting Regional Forester, Forest Service
Jim Boynton, Acting Deputy Regional Forester, Forest Service

From: Curtis A. Loop, Acting Executive Director

Subject: Proposed Policy Paper on Standards and Guidelines for the Adaptive Management Area System

On February 6, 1997, the Regional Interagency Executive Committee and the Intergovernmental Advisory Committee chartered a Regional Ecosystem Office (REO) Work Group to: (1) review Adaptive Management Area (AMA) plans; (2) recommend definitions and interpretations for the

Record of Decision (ROD) requirements for AMA processes, policies, and ecological intent; and (3) encourage and support innovation throughout the AMAs.

The attached document specifically addresses the second chartered assignment: Arecommend definitions and interpretations for the *ROD* for AMA processes, policies, and ecological intent. This paper was developed through an AMA Work Group beginning in the summer of 1997. Draft copies were distributed to the AMA Coordinators of both the Forest Service and Bureau of Land Management field offices in the Fall of 1997. On December 17, 1997, a 1-day meeting was held at the REO with AMA managers, PNW Scientists, and REO staff members to work out specific issues and concerns.

Major revisions occurred as a result of this meeting and a new draft was circulated on July 20, 1998 to AMA Coordinators, AMA Work Group, and REO agency representatives. Comments were collected and the document was further edited. A new draft copy was released back to the AMA Coordinators and the REO representatives on September 3, 1998. From April to July 1999, a review of the document was completed by the Regional Solicitors for the Department of Interior (BLM & FWS), Office of General Counsel for Region 6 of the Forest Service, Council of Environmental Quality in Washington D.C., and the Department of Justice in Washington D.C.. On August 3, 1999, the document was sent to the RIEC for agency review. Comments were received from the U.S. Fish and Wildlife Service=s (FWS) Office of Technical Support for the Northwest Forest Plan. The FWS comments focused primarily on recent interpretations regarding the Aquatic Conservation Strategy that stemmed from Judge Rothstein=s decision. These comments were reviewed by the AMA Work Group and changes were incorporated into the final version of this document. This interagency interpretation does not amend the *ROD* or establish any rule.

The purpose of this document is to seek a single, consistent interpretation of how Standards and Guidelines apply to the AMAs. The goal of this paper is to assist current and future AMA managers in understanding the role of adaptive management in AMAs and to clarify the application of Standard and Guidelines to the AMAs. Because of the complexity of the NFP, it is important that everyone have a common understanding from which to test management approaches within AMAs. This paper is the product of consensus by all AMA coordinators and extensive review by interagency staff managers working in the AMA system.

We recommend that this collaborative interagency paper be adopted by the Regional Interagency Executive Committee and the Intergovernmental Advisory Committee and endorsed and distributed to agency AMA managers.

Enclosure

cc:
AMA Coordinators
REO
1382/ly

**Regional Ecosystem Office
Portland, Oregon**

Adaptive Management Area
Work Group
Paper Number 1

**Standards and Guidelines
and the
Adaptive Management Area System**

December 1999
Revised May 2000

Standards and Guidelines and the Adaptive Management Area System

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Introduction

A central recommendation of the Forest Ecosystem Management Assessment Team report (FEMAT, July 1993) called for creation of a system of 10 Adaptive Management Areas (AMAs) across California, Oregon, and Washington. As described in the Northwest Forest Plan's (NFP) 1994 Record of Decision (ROD), these areas would encourage the development and testing of technical and social approaches to achieving desired ecological, economic, and other social objectives. In the AMAs, citizens, managers, and scientists have the opportunity to implement ecosystem management and, in doing so, are encouraged to learn how to learn. Locally specific and individualized approaches as opposed to uniform, institutionalized standards and guides provide opportunities for flexibility, discretion, and adaptation in light of local knowledge, conditions, and situations.

This goal of the AMAs sets them apart from other land allocations created through the FEMAT process. While the management of matrix and reserve lands under terms of the NFP largely is grounded in a set of prescriptive, region-wide Standards and Guidelines (S&Gs), the AMAs explicitly are recognized as areas where innovation, testing, and experimentation are both expected and appropriate. And by implication, it also brings into question the extent to which the S&Gs are applicable within AMAs.

Purpose

The purpose of this document is to provide background and clarification of the role of the S&Gs relative to AMA management. It begins by providing a discussion of the purpose, rationale, and vision of the AMAs, as presented in the NFP ROD with additional historical context from FEMAT. It also links the generic concept of *adaptive management* to the AMAs and to the future management of forest lands in other land allocations. Finally, based upon a careful analysis of the ROD, it identifies those S&Gs with which AMA managers and scientists need to be particularly concerned.

Standards and Guidelines – A Means to an End

We need to recognize S&Gs as a means to an end, not an end in themselves; they were best efforts to identify the kinds of actions, given the knowledge in 1994, needed to achieve desired ecological and economic conditions. Thus, the ultimate purpose of management is to achieve the desired conditions that have been described in the S&Gs and objectives. In some land allocations, explicit adherence to the S&Gs, as well as ultimate attainment of the objectives for which the S&Gs were written is expected (e.g., riparian reserves/Aquatic Conservation Strategy objectives). Within the AMAs, certain S&Gs are meant to be relaxed; however, other S&Gs still apply, as written. Furthermore, the need to ultimately attain all of the ROD's objectives, even in AMAs, is not removed or relaxed. In the longer term, AMAs are a key feature of the NFP, given their role as the official settings in which the assumptions and prescriptions imbedded in the S&Gs could be critically examined, tested, evaluated, and potentially modified or replaced by alternative prescriptions for application across the wider landscape.

The role of the AMAs as places where testing and validation occur is especially important, given that many of the S&Gs are based on limited, partial, and/or incomplete information. Nonetheless, they represent our best estimates as to the appropriate conditions and practices required to achieve particular ends, given the current state-of-knowledge. They derive from scientific research as well as from the best judgments of scientists and technical specialists. In other words, they constitute our best judgment of the most judicious and appropriate action, *until such time as new information indicates otherwise*. The AMAs represent places where such new knowledge could be derived.

To better understand the role of the S&Gs related to AMAs, it is necessary to understand both the vision and philosophy underlying the AMAs as well as the context within which the S&Gs were framed.

Adaptive Management – The Core Concept

The essence of adaptive management is simple: Apolicies are experiments; learn from them@ (Lee 1993). Both FEMAT and the *ROD* identified the AMAs as areas in which the principles of adaptive management would be pursued. The heightened interest in adaptive management is based upon a growing realization of the limits of our scientific and management knowledge regarding forest ecosystems and the capacity to apply that knowledge to land management decisions in ways that lead to predictable outcomes. In short, management actions occur in the face of uncertainty and surprises are inevitable. In such a setting, management actions (e.g., policies, prescriptions) become hypotheses; the results constitute outcomes, and by examining actual results in relation to those anticipated in our hypotheses, we enhance our capacity to learn and adapt.

Adaptive management can also be seen as an inevitable result of a situation in which pressure for action outpace our knowledge base. In the case of forest management in the Pacific Northwest, pressures for solutions to highly complex problems, characterized by even more complex interactions among biophysical, economic, and social systems, mean we are required to undertake actions and policies for which we have only limited abilities to predict consequences and implications. Waiting until Aall the facts are in@ is a recipe for inaction.

Adaptive management provides a framework that rejects the Aeither-or@ and equally untenable options of acting in the absence of sufficient knowledge or waiting until we know everything. Instead, it argues that thoughtful actions, accompanied by a systematic, rigorous process in which assumptions, methods, and anticipated outcomes are identified explicitly, provide a means of encouraging informed, learning-based policy implementation.

The vision of adaptive management and its implementation in the AMAs, as outlined in FEMAT, provide a fundamental base from which an evaluation of the intent of the AMA system can be made and, more specifically, the role of the AMAs in relation to S&Gs. The following key points can be made:

- C Establishing AMAs was a way to ensure that science was focused on management needs in both the short and long run, to overcome gaps in knowledge, and to ensure timely use of new scientific findings.
- C The AMAs are envisioned as places that provide opportunities for ecological, social, and organizational innovation and learning.
- C The AMAs represent settings in which assumptions underlying the NFP and the prescriptive, uniform standards and guidelines can be tested, validated, and/or modified, potentially leading to changes in their application in areas outside the AMAs.
- C The AMAs are designed to foster learning through new approaches to research, management, and public collaboration. They offer opportunities for people to develop and scientifically examine new ways of doing forest management and research. They include the reserves (e.g., late-successional reserves and riparian reserves); However, they are areas where it is not only acceptable, but necessary, to take certain risks.
- C Each AMA has a particular emphasis defined in FEMAT and reaffirmed in the *ROD*, but these foci were not intended to limit or constrain the kinds of projects or activities taken within any one area.
- C AMAs are both discrete areas as well as components of a system. They are distributed throughout the region to provide diverse ecological, social, and organizational conditions. Learning is intended to occur both within, as well as among, the AMAs.

- C The AMAs offer research an opportunity to ensure that scientific knowledge is used properly in developing responsive, state-of-the-art management strategies and techniques, to minimize gaps between research knowledge and management practices, and to test innovation in science structures and processes.
- C The AMAs represent places to demonstrate adaptive management in action through experimentation driven by formal research questions and hypotheses, protocols, and analytical procedures. Monitoring, evaluation, and sharing learning are critical components of success.
- C. The integration of citizen-manager-scientist in decisionmaking and in on-the-ground project work is a fundamental means of achieving the objectives of the AMAs.

At the core of this discussion is a recognition that AMAs represent an opportunity to test, and experiment with, a planning and management framework that will be increasingly necessary to meet the uncertainties that characterize management decisions. Because our knowledge and ability to work in the face of uncertainty is still developing, the AMAs provide an important opportunity to begin to foster the kinds of skills, approaches, and thinking necessary to meet the challenges of tomorrow.

Standards and Guidelines, Research, and the Adaptive Management Areas

As noted above, the NFP is grounded in a set of assumptions and prescriptive S&Gs that regulate management actions throughout the region. The AMAs offer a setting in which they can be tested and validated and, if appropriate, recommendations for their modification can be made.

A major promise of the AMAs is that they provide an opportunity for innovation, for new thinking, and for experimentation; they legitimize new ways of doing business. The vision of AMAs in FEMAT empowers us to experiment, to test and challenge, and to be creative. This clearly invites citizens, managers, and scientists to try new things; such Amini. or quasi-experiments@ might often be the first step to major changes.

However, the S&Gs impose major requirements on managers, and their alteration or modification cannot be taken lightly. It is unlikely that the courts, regulatory agencies, or the public will accept anecdotal evidence, pilot studies, or projects lacking adequate research design, no matter how encouraging the results, as the basis for formal modifications of the S&Gs. Such modifications will require that rigorous, defensible, and scientifically-valid research and monitoring designs be in place, and accepted processes of scientific inquiryCformal hypotheses, peer-reviewed study plans, adequate sample designs, appropriate analytical methods, etc. C be used.

But it is also important to distinguish between *testing* S&Gs and *formally changing* the S&Gs. Projects, experiments, or administrative studies undertaken to test S&Gs in AMAs might or might not conform to normally-accepted protocols of scientific investigation. While there will often be opportunities for scientists to contribute ideas, theories, and methods to management projects undertaken in AMAs, there remains abundant latitude within the requirements of AMAs for the exploration of new ideas and approaches that do not strictly constitute scientific studies. Moreover, it is very likely that such projects ultimately will provide important insights as to opportunities and possibilities for further, more formal scientific study which, in turn, might lead to changes in S&Gs.

Summary of Standards and Guidelines

The following list of S&Gs are those specifically applicable within AMAs. These S&Gs are described fully in the next section. As discussed in the previous pages, S&Gs can be changed through appropriate planning, testing, evaluation, and plan amendment. AMAs are in a unique and important position to systematically test most S&Gs, and alternatives to them, without need for formal amendment. Deviating from S&Gs for the

purpose of finding new approaches to meeting the NFP objectives is not only appropriate in AMAs, but is a specific responsibility of the AMA program.

Standards and Guidelines are listed below under four general categories indicating their degree of application within the AMAs for routine projects. S&Gs listed under "Intent Must Be Met" can be applied in a variety of ways within AMAs as long as the underlying objectives are met. Those listed under "Changes Are Allowed" can be modified as indicated. S&Gs listed under "Meet the Specific S&G" must be applied similarly within AMAs as in other land allocations, unless the activity under consideration involves a research, monitoring or administrative study specifically designed to test a Standard, Guideline, or an alternative approach to meeting the underlying objectives. Such activities should be coordinated with the scientist assigned to the AMA. S&Gs for mapped and unmapped LSRs and congressionally reserved areas must be applied unless amended on a site specific basis following procedures mandated by Federal Land Policy and Management Act (FLPMA) and National Forest Management Act (NFMA), and in compliance with other statutory requirements.

Intent Must Be Met

- § The intent of matrix coarse woody debris, snag, and green tree retention is to be met, but specific standards and guidelines are not prescribed (D-10).
- § Having less than 15% of federal forest land in a 5th field watershed in late-successional forest should be considered as a threshold for analysis of effects of proposed activities rather than a strict S&G.
- § Riparian protection in AMAs should be comparable to that prescribed for other federal land areas (D-9).

Changes Are Allowed as Specifically Indicated

- § Interim Riparian Reserve boundaries in AMA and non-AMA watersheds can change based on Watershed Analysis, Site Analysis, and appropriate NEPA decision-making process. See also: Riparian Reserve Evaluation Techniques and Synthesis Module (*REO memo*, March 17, 1997).
- § S&Gs in existing plans, where they were not amended by the NFP, can be modified in AMA plans based on site-specific analysis.
- § Within the Finney and Northern Coast Range AMAs, the Late-Successional reserve designations may be changed by AMA plans.

Meet the specific S&G. Temporary deviations may be allowed if part of approved research, monitoring, or administrative study specifically designed to test a standard and guideline.

- § Meet AMinimize Soil and Litter Disturbances@ S&Gs.
- § Meet ASurvey and Manage@ S&Gs .
- § Meet AManage Recreation Areas to Minimize Disturbance to Species@ S&Gs.
- § Meet AProtect Sites from Grazing@ S&Gs.
- § Meet AProtection of Roost Sites for Bats@ S&Gs.

Meet the Specific S&G. Any deviation requires Site-Specific Plan Amendments.

\$ A Congressionally Reserved Area@ S&Gs apply where they occur in AMAs.

\$ Aquatic Conservation Strategy objectives must be met (See B-19).

\$ A Key Watershed@ S&Gs overlay all land allocations.

\$ A Late-Successional Reserve@ S&Gs for mapped and unmapped LSRs apply where they occur in AMAs. Management of the AMA around these areas will be designed to reduce risk of natural disturbances.

In addition, all Adaptive Management Areas must:

\$ Develop an AMA plan (D-7).

\$ Establish a Technical Advisory Panel (TAP) (D-7).

\$ Conduct implementation evaluations of the S&Gs, including the requirement that an AMA plan be developed that establishes future desired conditions (E-6).

\$ Monitor key items in AMAs, including the completion of AMA plans and measurement of conditions that have been agreed to in the AMA plan (E-6).

Conclusion

The purpose of this memo is to provide background and clarification of the role of the S&Gs relative to AMA management. Because of the complexity of the NFP, it is important that everyone have a common understanding from which to test management approaches within AMAs.

While this analysis of the AMA=s applicable S&Gs focuses on resource management and planning aspects, a significant component of the AMA program is to integrate management of these geographic units with community involvement and participation. The science-manager-citizen@ integration in decision making and on-the-ground project work is one of the important purposes for developing the AMA program. As stated earlier, interagency innovation and experimentation within the constraints of applicable S&Gs are still key goals of the AMA program. Designing and testing alternative approaches to meeting NFP objectives will require carefully planned proposals and implementation monitoring and evaluation strategies. It has been suggested that the level of strictness of application of the S&Gs should be proportionate to the risk involved. Those projects with higher risk may require greater care and rigor when approaching investigation and testing. In such instances, a more formal and well thought out study plan for monitoring should probably be prepared. AMAs are the stage upon which testing and innovation are to flourish. It is important now for the Federal agencies and the public to come together to demonstrate support for the creativity necessary to achieve the promise of the AMA program.

Northwest Forest Plan Excerpts and Discussions of Intent for Standards and Guidelines Applicable to AMAs

Following are excerpts from the NFP pertinent to S&Gs applicable to AMAs. They are organized under general topics (e.g., Selection of AMAs, Specific sites, Late-Successional Reserves) and in many cases, include discussions of the intent of the preceding S&Gs. All intent, analysis, and note discussions are italicized to distinguish them from the ROD text.

Topic: Introduction and Background to Adaptive Management Areas

AMAs are landscape units designated to encourage the development and testing of technical and social approaches to achieving desired ecological, economic, and other social objectives (C-21). 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 (C-21 and D-1).

The overall objective for AMAs 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... 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...(D-1).

The Adaptive Management 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 (D-2).

Topic: Selection of the Adaptive Management Areas

...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 (C-21 and D-1).

The AMAs have been geographically located to minimize risk to achieving the conservation objectives of these S&Gs... (D-2).

Intent: AMAs were initially placed in areas where the expected innovation would not significantly impede the ability of the NFP to function. It was acknowledged that the AMA management would supplement other parts of the Northwest Forest Plan.

The designation of AMAs was intended to provide a mixture of public and private lands. In locating the AMAs, 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 FEMAT was a major source of information that helped guide these decisions (D-2 & D-3).

AMAs were selected to provide opportunities for innovation, provide examples in major physiographic provinces, and 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 (C-21 and D-2).

Intent: Locating the AMAs in a distribution across the range of the northern spotted owl allows the agencies to use these areas to investigate the diversity of land management issues throughout the ecological diversity of the NFP area. Most forest types are represented in an AMA, so questions which are specific to each forest type have a logical location for research.

The AMAs 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 AMA) there are significant opportunities for the states to participate in major cooperative adaptive management efforts. The majority of the areas also have interspersed privately owned forest lands that could be incorporated into an overall plan if landowners so desired (D-3).

Intent: Successful conduct of ecosystem management means, in part, that federal agencies which share responsibility in a particular geographic area must come together and agree upon goals and strategies for the federal lands involved. Separate approaches for different agencies is not acceptable in AMAs. Also see the topic: Agency Approaches. Non-federal lands could be incorporated into achievement of this philosophy where landowners are willing.

Topic: Technical Objectives

The AMAs have scientific and technical innovations and experimentation as objectives. The guiding principle is to allow freedom in forest management approaches to encourage innovation in achieving the goals of these S&Gs. This challenge includes active involvement by the land management and regulatory agencies early in the planning process (D-3).

The primary technical objectives of the AMAs 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, are likely. Demonstrations and pilot projects alone, while perhaps significant, useful, and encouraged in some circumstances, may not be sufficient to achieve the objectives (D-3).

Monitoring is essential to the success of any plan and to an adaptive management program. Hence, development and demonstration of monitoring and training of the workforce are technical challenges and should be emphasized (D-3).

Technical Objectives (see D-3& D-4 for a complete list) include the following: create and maintain a variety of forest structural conditions including late-successional forest and riparian habitat, integration of timber production with maintenance of restoration of fisheries habitat and water quality, restoration of structural complexity and biological diversity in forests and streams that have been degraded, integration of habitat needs of wildlife with timber management, development of logging and transportation systems with low impact soil stability and water quality, test and design effects of forest management activities at a landscape level and restore and maintain forest health using controlled fire and silviculture approaches (D-3& D-4).

Intent: Although the "freedom in forest management approaches" as initially envisioned by the original AMA authors was constrained by subsequent S&Gs applied in the final Record of Decision, interagency innovation and experimentation within those constraints are still key goals of the AMA program.

Each AMA will have an interdisciplinary technical advisory panel (D-4).

Intent: The ROD emphasizes the importance of establishing TAPs for individual AMAs to strengthen the scientific approaches in AMA work. To contribute to this need, PNW has assigned a scientist to each AMA in Region 6, with duties to serve as a liaison between the AMA managers and the scientific community and to advise the managers in their AMA work. These scientists play a vital role in assuring that actions in the AMA are technically credible and contributing to our need to learn more about meeting the objectives of NFP S&Gs.

Topic: Social Objectives

The primary social objective of AMAs is the provision of flexible experimentation with policies and management. These areas should provide opportunities for land managing and regulatory agencies, other government entities, non governmental organizations, local groups, landowners, communities, and citizens to work together to develop innovative management approaches. Broadly, AMAs are intended to be prototypes of how forest communities might be sustained... 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 is, by definition, information dependent (D-4).

Topic: Agency Approaches

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 (D-1).

The AMAs incorporate a mix of ownerships and administrative responsibilities. Six areas include lands administered by the Forest Service & BLM... The majority of the areas also have interspersed privately owned forest lands that could be incorporated into an overall plan if landowners so desired (D-3).

Federal agencies are expected to use the AMAs to explore new ways of working internally and externally (D-8).

The agencies will facilitate collaborative efforts, partnerships, mutual learning and innovation... 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... 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 (D-5).

Agencies are expected to develop plans (jointly, where multiple agencies are involved) for the AMAs. Development of a broad plan that identifies general objectives and roles and provides flexibility should be the goal (D-5).

Establishment of AMAs is not intended to discourage the development of innovation and social and technical approaches to forest resources issues in other locales. They are intended to provide a geographic focus for innovation and experimentation with the intent that such experience will be widely shared (D-3).

Topic: Legal Issues

The overall objective for AMAs 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... (D-1).

Although the agencies have a facilitation role, the land management agencies retain the authority and responsibility to make decision and the regulatory agencies retain the authority and responsibility to regulate. Nothing in these guidelines is intended to change those authorities or responsibilities (D-5).

Legal C All activities must comply with existing laws such as Endangered Species Act, NEPA, NFMA, FLPMA, Federal Advisory Committee Act, National Historic Preservation Act, Clean Water, 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 (D-8).

Other Issues C 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 workers for special jobs like planning, training, and monitoring.
- § Special land management or stewardship contracts.
- § Restricted local use of wood and other products derived from AMAs (D-8).

Intent: The NFP does not replace existing legal authorities or responsibilities. It does, however, identify areas where some level of innovation can be attempted with minimal overall risk to protected resources. As long as project level actions are consistent with NEPA, ESA, CWA, NFMA and other legal requirements, none of the participating agencies should cling to past rigid interpretations of rules and constraints at the site-specific scale if the AMA objective is to succeed. See also the topic: Agency Approaches.

...This decision does not establish direction or regulation for state, tribal or private lands (ROD, pg 16).

...This decision does not direct any changes in the management of non-federal lands (ROD, page 62).

... The majority of areas also have interspersed privately owned forest lands that could be incorporated into an overall plan if landowners so desired (D-2).

...These areas should provide opportunities for land managing and regulatory agencies, other government entities, non-governmental organizations, local groups, landowners, communities, and citizens to work together to develop innovative management approaches... (D-4).

Innovation in integration of multi-ownership watersheds is encouraged among federal agencies and is likewise encouraged among state and federal agencies, and private landowners (D-2).

Intent: Owners of non-federal lands occurring within an Adaptive Management Area would participate in AMA work only on a voluntary basis, and it is desirable to have their participation.

Topic: General Relationships of NFP Land Allocations

Land Allocation Hierarchy:

In some areas, land allocations overlap. Standards and guidelines for Congressionally Reserved Areas must be met first. Second, Riparian Reserve standards and guidelines apply and are added to the standards and guidelines of other designated areas. For example, where Riparian Reserves occur within Late-Successional Reserves, the standards and guidelines of both designations apply. Key Watershed designations may overlay any of the allocations (Congressionally Reserved Areas, Late-Successional Reserves, Managed Late-Successional Areas, Adaptive Management Areas, Administratively Withdrawn Areas or the matrix). In this case, the standards and guidelines for all allocations apply, and the Key Watershed designation adds additional requirements (C-1).

Note: This land allocation hierarchy is from page C-1 and provides emphasis for S&Gs applicable to riparian reserves, key watersheds and other aspects of ACS objectives. See also A-5, as described for calculation of acreage only and does not affect the application of S&Gs.

Topic: Hierarchy of Standards and Guidelines Within Adaptive Management Areas

Intent: This section describes the specific areas where S&G application differs from the Hierarchy of Standards and Guidelines on ROD page C-1 (above). In cases where no additional flexibility is indicated, the C-1 Hierarchy of Standards and Guidelines, ACS Objectives, and Standards and Guidelines Common to all land Allocations still apply.

A 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 Congressional 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 designation 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 exception, page C-3 of these S&Gs) need to be considered during planning and implementation of activities within AMAs, 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 AMA and the overall strategy. Coordination with the Regional Ecosystem Office through the Regional Interagency Executive Committee is required@ (D-11-D-12).

As described for AMAs elsewhere in these S&Gs, S&Gs within current plans and draft plan preferred alternatives need to be considered during planning and implementation of activities within AMAs, and they may be modified in AMA plans based on site-specific analysis... Coordination with the REO through the RIEC is required (C-3, D-11-D-12).

Topic: Specific Standards and Guidelines - Those Applicable to All Land Allocations

Unmapped LSR [and MLSAs]: S&Gs for unmapped LSRs and [unmapped] Managed LS Areas prohibit or limit activities that otherwise appear to be within the matrix, AMAs, or some other land allocations (C-3).

Watershed Analysis: Watershed analysis is required in all Key Watersheds and all roadless areas prior to resource management. Watershed analysis is required to change Riparian Reserve widths in all watersheds... (C-3).

Manage Recreation Areas to Minimize Disturbance to Species: (C-6).

Intent: This S&G is designed to protect a number of fungi and lichen species.

Protect Sites from Grazing: (C-6).

Intent: This S&G is designed to benefit local populations of mollusks and vascular plants. This S&G requires management attention and protection of sites for a variety of mollusks and one plant. It functions similarly to the S&M S&Gs.

Survey and Manage: AManage known sites@ S&Gs, ASurvey prior to ground disturbing activities@ S&Gs, AExtensive surveys@, and Ageneral regional surveys@ S&Gs (C-4, C-5, & C-6).

Intent: Protection of these species, using the survey requirements and management recommendations prepared by the Survey & Manage Work Group, is required in AMAs.

Research: (C-4).

Intent: The first of the two paragraphs in the section titled AResearch@ still applies. The intent here is to take advantage of on-going research work (that is long-term) and proposed research work that is suggested from time to time that is consistent with the S&Gs of the NFP and conforms with the Aquatic Conservation Strategy. The emphasis should be to encourage research projects that test critical assumptions of the standards and guidelines.

Topic: Specific Standards and Guidelines – Late-Successional Reserves

In summary, management of activities in all the AMAs will be conducted to achieve the objectives described in these S&Gs. S&Gs for Congressionally Reserved Areas or Late-Successional Reserves [LSRs] must be followed when they occur within AMAs, except that the AMA plans for the Finney and Northern Coast AMA may change the LSRs in those areas. [See Appendix 1] (D-11).

Intent: All of the AMAs have some form of LSR s acreage within their boundaries. This acreage is to be managed as LSR. See Appendix 1 for a discussion of Finney and North Coast AMA.

S&Gs for unmapped LSRs and [unmapped] Managed LS Areas prohibit or limit activities that otherwise appear to be within the matrix, AMAs, or some other land allocations (C-3).

Intent: LSRs and MLSAs occur within AMAs, whether "mapped" or "unmapped" The "mapped" variety are illustrated on the official map which accompanied the ROD. The "unmapped" variety are to be identified and mapped by the local units.

Unmapped LSRs: LSRs within AMAs will be managed according to the S&Gs for such reserves except as provided elsewhere in this section. Management of these areas will comply with the S&Gs for LSRs, and management around these areas will be designed to reduce risk of natural disturbances. Unmapped LSRs are specified for spotted owl activity centers, certain LS/OG 1s & 2s, occupied marbled murrelet sites, and for certain Protection Buffers (see sec. C, D-9).

A management assessment should be prepared for each large LSR (or group of smaller LSRs) before habitat manipulation activities are designed and implemented... (C-11).

Intent: The LSR acreage within AMAs will require an LSR assessment prior to habitat manipulation. For AMAs, it is appropriate, but not required, to develop this assessment as a portion of the AMA plan. The unmapped LSRs result from the location of owl activity centers (prior to 1/1994), marbled murrelet sites, and the species listed on pages C-20 and C-21. The unmapped MLSAs result from the location of the species listed on pages C-27 and C-28. All of the LSR S&Gs from page C-11 through C-19 apply to this acreage within AMAs. AMA work will require the delineation of occupied sites to be managed as "unmapped LSRs" for this S&G. The reference to "certain LS/OG 1 and 2s" is incorrect. These areas were incorporated into the mapped LSRs and are illustrated in the official map which accompanied the ROD. Therefore, those LSOG areas are in fact "mapped."

Topic: Specific Standards and Guidelines – Key Watersheds

Key and non-Key Watersheds are specified for all areas, and therefore overlay all other land allocations. For the portion of AMAs located within Key Watersheds, S&Gs for Key Watersheds as well as S&Gs for AMAs, apply, with some flexibility as described below... (D-1).

Riparian protection in AMAs should be comparable to that prescribed for other federal land areas. For example, Key Watersheds with aquatic conservation emphasis within Adaptive Management 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 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 (D-9).

... 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 (D-11).

Key Watersheds are not a designated area or matrix, but overlay all of these allocations (see also the Aquatic Conservation Strategy starting on page B-9 of these standards and guidelines). All 24.455 million acres of Forest Service, BLM and other federally-administered lands within the range of the northern spotted owl are allocated to one of three watershed categories: Tier 1 Key Watersheds, Tier 2 Key Watersheds, or non-Key Watersheds (all others). Key Watersheds overlay portions of all six categories of designated areas and matrix as shown below, and place additional management requirements or emphasis on activities in those areas (C-7).

Key watershed designations may overlay any of the allocations. In this case, the S&Gs for the allocations apply, and the Key Watershed designation adds additional requirements (C-1, similar language on A-5, C-7, D-9).

Analysis: The ROD unambiguously states that Key Watersheds are designated in AMAs, and the five Key Watershed S&Gs on C-7 apply.

Topic: Specific Standards and Guidelines C Riparian Reserves

Interim widths for Riparian Reserves necessary to meet Aquatic Conservation Strategy objectives for different water bodies are established based on ecologic and geomorphic factors. These widths are designed to provide a high level of fish habitat and riparian protection until watershed and site analysis can be completed. Watershed analysis will identify critical hillslope, riparian, and channel processes that must be evaluated in order to delineate Riparian Reserves that assure protection of riparian and aquatic functions (B-13).

Intent: This paragraph is not specific to AMAs, but applies to riparian reserves under all land allocations in the NFP.

Acreage of Riparian Reserves is not calculated within AMAs for these S&Gs. However, Riparian Reserve S&Gs affect approximately 40 percent of AMAs (C-21).

Intent: The acreage of Riparian Reserves inside AMAs was not calculated due to the hierarchy of the GIS calculation of acreage. See the topic of General Relationships of NFP Land Allocations. Because AMAs were subtracted from the federal acreage prior to Riparian Reserves, the acreage could not be estimated more precisely. The reference to approximate Riparian Reserve acreage reinforces the interpretation that this land allocation does exist within AMAs.

... Flexibility is provided to meet objectives for Riparian Reserves and Key Watersheds... (D-11)

Riparian protection in AMAs should be comparable to that prescribed for other federal land areas. For example, Key Watersheds with aquatic conservation emphasis within AMAs must have... initial Riparian Reserves comparable to those of Tier 1 Key Watersheds. Riparian objectives (in terms of ecological functions) in other portions of AMAs should have expectations comparable to Tier 2 Key Watersheds where applicable... (D-9).

Intent: If there is Tier 2 Key Watershed in the AMA acreage, the intent of protecting the water quality should be met.

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 (D-9).

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 benefitted 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 (D-10 & B-13). *(Note: This paragraph is not specific to AMAs, but applies to riparian reserves under all land allocations in the NFP).*

Intermittent Streams... There can never be instances where Riparian Reserves would be narrower than the widths necessary to meet Aquatic Conservation Strategy objectives (B-14).

Analysis: In the AMAs, the flexibility in meeting Riparian Reserve intent lies in the application of Riparian Reserve S&Gs (pages C-30 through C-38), which should be seen as guidance which could be changed or experimented with as AMAs pursue alternative methods of meeting ACS objectives. Similar to non-AMA allocations, initial Riparian Reserve boundaries can be changed based on the results of watershed analysis. However, in AMAs there is flexibility in applying Riparian Reserve S&Gs (C-30 through C-38) when meeting Riparian Reserve objectives. When conducting bonafide research, NEPA or LSR analysis can determine that the research proposed in an AMA is consistent with the LSR Objectives and must demonstrate that significant risk to ACS Objectives does not exist. AEvery effort should be made to locate non-conforming activities in land allocations where they will have the least adverse effect upon the objectives of these standards and guidelines@ (ROD, C-4).

The distinction in Riparian Reserve management direction between Tier 1 and Tier 2 Key Watersheds on page D-9 is confusing since changes made to Alternative 9 between Draft and Final SEIS (adoption of AFull SAT Riparian Reserves@ on all lands) resulted in all interim Riparian Reserves being the same width: there is no distinction between Riparian Reserve widths in Tier 1 and Tier 2 Key Watersheds, nor non-Key Watersheds. These interim reserve widths are to be used prior to analysis being completed.

Topic: Specific Standards and Guidelines C Those Derived from Matrix Standards and Guidelines

Note: In order to address some important species and ecosystem management issues, some of the S&Gs to be applied to Matrix acreage were restated for application in AMAs.

Roost for Bats: This provision is intended to apply in matrix forests and AMAs... (D-10).

Modify site treatment practices, particularly the use of fire and pesticides, and modify harvest methods to minimize soil and litter disturbances: 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. 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 and within the Adaptive Management Areas (C-44).

Retention of old-growth fragments in watersheds where little remains: In AMAs, less than 15percent of federal forest land in 5th field watersheds in late-successional forest should be considered as a threshold for analysis rather than a strict S&G. A proposal to modify such stands should only be implemented following an analysis that considers the ecological function of the remaining late-successional forest and its location in the landscape (C-44 & 45).

Intent: In AMAs this S&G becomes a threshold for analysis, rather than a strict floor below which there could be no harvest of late-successional habitat. The Regional Executives came to a general agreement on aspects of this S&G and the Forest Service and BLM have issued guidance to implement the agreement (USDA Forest Service R-6 & USDI BLM; Sept. 14, 1998. Ref. 1736-PFB (BLM-OR931/ 1950 [FS]).

Most scheduled timber harvest (that contributing to the probable sale quantity [PSQ] not taking place in AMAs) takes place in the matrix (C-39).

Analysis: There is no matrix within AMAs. However, timber harvested from Asuitable@ lands in AMAs does contribute to the PSQ.

Topic: The role of Adaptive Management Areas in the Ecological Goals of the Northwest Forest Plan

The Adaptive Management 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 (D-2).

S&Gs for matrix management in Section C of these S&Gs (there is no Matrix in AMAs) 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 AMAs, but specific S&Gs are not prescribed for these areas (D-10).

...AMAs would contribute to accomplishing the objectives of these S&Gs, such as protection or enhancement of riparian habitat and provisions for well distributed late-successional forest habitat. Detailed prescriptions for achieving such objectives are not provided... (D-12).

Intent: The federal acreage in AMAs is not seen as Aexpendable@ where late-successional species needs would be ignored. The AMAs are expected to provide habitat components which are necessary for these species and to address the species needs in the project design. Management should meet the intent of the matrix S&Gs, but specific standards and guidelines for course woody debris, snags and green tree retention are not prescribed for those areas. (See also C-40 and C-41) The objective is to ensure that AMAs contribute to the maintenance of well distributed populations of late-successional species throughout the NFP area.

Monitoring: Adaptive management is based on monitoring that is sufficiently sensitive to detect relevant ecological changes (E-3).

The area assessments will be a concise working document. The following is provided as a suggested framework: Biophysical;..., Social;..., and Economic;...etc. (D-6).

Plans C All AMAs will have a plan (D-7).

Monitoring and research, with a careful experimental design, will be conducted in AMAs (D-7).

Monitoring is essential to the success of any plan and to an adaptive management program (D-3).

Note: There are ten criteria listed in the ROD that each AMA plan should address (See REO Criteria Memo of February 27, 1997, and refer to ROD, page D-7).

Participation: 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 Alocal communities@ should not be considered in making agency decisions (D-6).

Education C Each AMA was located adjacent to... communities with economies and culture long associated with utilization of forest resources. ...here adaptive management can bring indigenous knowledge together with formal studies... Technical and scientific training of a local workforce should be an educational priority for the AMA program... This program might be based on collaboration among local community colleges, state universities, and the agencies (D-9).

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Appendix C

Landscape Assessments in the Hayfork AMA

Watershed Analyses

Name	Completed
Butter Creek	12/1994
Lower Hayfork Creek	3/1996
Beegum Creek	3/1997
Upper Hayfork Creek	8/1998
Middle Hayfork Creek/Salt Creek	4/2000
Middle Fork Cottonwood Creek	9/2003
Grove Creek	1996

Roads Analyses

Name	Completed
Knob Peak	8/2002
Upper Dubakella	8/2004
Middle Fork Cottonwood Creek	9/2004

Other Assessments

Name	Completed
Butter Creek Ecosystem Management Assessment	1994
Shasta-Trinity Forest-wide LSR assessment	8/1999
Red Fir Plan to Project Guide	
Hayfork Area Trails Strategy	
Natural Bridge Assessment	9/2004
Middle Hayfork/Salt Fire shed Assessment	10/2004
Six Rivers Forest-Wide LSR Assessment	1998

Edited 10-12-2004 ABA

EY05 AMA Program						Planning		Treatments					Goal Met	Remarks
Project Name	Unit	WUI	Entire Assessment Area AMA Acres	Partner	Stewardship Opportunity	Concept proposal	Decision Doc	Fuels acres	Green MBF	Salv MBF	Other acres	Miles		
Shasta Trinity														
Browns	TR	Y	1000				12/04	492	8,000				1b	
Beequm Corral	SF		SOLD				1/05		SOLD				1b	Rothstein, needs new NOAA consultation
Beequm Regan	SF		700				1/05		2,500				1b	Rothstein, needs new NOAA consultation
South Lower Hayfork	SF	Y	650				3/05		5,600				1b	Rothstein, needs new NOAA consultation
PM - Post Mtn. Stewardship	SF	Y	300	WRTC	05	11/04	6/05	100	500				1b,1a,3a	fuels, thinning, wsr
Sims Salvage	SF		250				6/05	250		4,000			1b	potential for snag study
Sims Roadside	SF		100				4/05	100		300			1b	
Basin Fuels Reduction	SF	Y	15				done	15					1b	
Knob Peak Fuels	SF	Y	980				done	25						
Lucky Fuel Break	SF	Y	45				done	45					1b,3a	
Plnes Fuel Break - RAC	SF	Y	200	WRTC			done	84					3a,3b	burn 20, construct 64
Hayfork Area Fuels II - RAC	SF	Y	330	WRTC			done	105	50				3a,3b	3rd phase of Post Mtn RAC project
Sunday Knob FMZ II	SF	Y	70				done	70						burn 70
Wildwood FMZ	SF		30				done	30						follow up to RAC project, burn
Hyampom FMZ #2	SF	Y	300				done	40					3a	construct
Reforestation Spacing Study	SF													ongoing for several years
Middle Hfk/Salt Freshed Assessment	SF	Y	115,902											35,751 acres of private
Sims Fire Restoration	SF		60								60			reforestation
Garden Gulch Mastication - RAC	TR	Y	162					162					3b	RAC project - part of Brown's Integrated project
Musser Hill Mastication - RAC	TR	Y	125					125					3b	RAC project - part of Brown's Integrated project
Sims WSR	SF											5.0	2a	decom
Browns WSR	TR	Y					12/04					2.0	2a	decom
Oregon WSR	TR	Y										4.0	2a	decom
Five-cent Gulch WSR	TR											1.5	2a	decom
Sydney Gulch Fish Passage - RAC	TR	Y											2a,3b	RAC project - removal of concrete stream bed
Packers Fish Passage	SF	Y					3/05						2a	culvert upgrade/bridge installation
Goods Fish Passage	SF						3/05						2a	culvert upgrade/bridge installation
Browns Creek Bridge	SF		1	SPI							1		3b	restoration of historic bridge
Boar Grass/Hazel - RAC	SF	Y	2	NRELM			done	2			2		3b	RAC project - bear grass and hazel enhancement
Natural Bridge Restoration - RAC	SF		10	NRELM									3b	RAC project - protection measures for spiritual site
Hayfork Basin Trails - RAC	SF	Y		WRTC								5.0	3b	RAC project
Shasta College Tour	SF			WRTC									5c	natural resource Intro class
Grant Writing Workshop	SF												3b	grant received from Women's Settlement Agreement
Hayfork Youth Restoration Crew - RAC	SF	Y		WRTC									3b	open to partners and community
Indian Valley Summer Camp	SF			WRTC									3b	RAC project - trails mce and fuels reduction
Matching Up - Local Contracting capacity & USFS procurement Practices	SF			WRTC									3b,4b	conservation education camp

Hayfork AMA Five Year Strategy Plan

FY05 AMA Program													
Project Name	Unit	WUI	Entire Assessment Area AMA Acres	Partner	Stewardship Opportunity	Planning		Treatments				Goal Met	Remarks
						Concept proposal	Decision Doc	Fuels acres	Green MBF	Salv MBF	Other acres		
Six Rivers													
PC - Pilot Creek	MR	N	128				Done	128	400			1b,3b	stewardship contract
Chance	LT	N	160				Done		2,405			1b	MMBF depends on market conditions, contract expires 04/08
Last	LT	N	161				Done		3,094			1b	MMBF depends on market conditions, contract expires 04/08
Sims Fire Salvage	LT	N	125				04/05		1,500			1b	NEPA - complete by 04/05
Sims Fire Hazard Tree Project	LT	N	75				04/05		100			1b	NEPA - complete by 04/05
Sims Fire Salvage & Hazard Tree	LT	N	200				04/05	Listed above				1b	1 Yr contract expected, project complete - October 05.
Pilot Creek East Helicopter	MR	N	400				Done		3,500			1b	
Trinity River CDM Protection Plan	LT	Y	500				6/05	500				1b,3a	fuels - thinning/prescribed underburn
Salyer/Hawkins Bar Fuels - RAC	LT	Y	955				Done	120				1b,3b	RAC project - prescribed underburning
Salyer/Hawkins Bar Fuels - RAC	LT	Y					Done	83				1b,3b	RAC project - mechanical treatment
Totals			121232					1645	16,650	4,300			

Hayfork AMA Five Year Strategy Plan

DRAFT													
FY06 AMA Program													
Project Name	Unit	WUI	Entire Assessment Area AMA Acres	Partner	Stewardship Opportunity	Planning		Treatments				Goal Met	Remarks
						Concept proposal	Decision Doc	Fuels acres	Green MBF	Salv MBF	Other acres		
Shasta Trinity													
Gemmill	SF		300				5/06	1000	5,000			1b	DN=7mmbf, split sale use 2mmbf for JB stewardship
HBW - North Lower Hayfork	SF		500		06	3/06	3/05		4,900			1a,1b,3b,3c	Rothstein, needs new NOAA consultation
HBW - Hayfork West FMZ	SF	Y	500		06	3/06	3/06	100	100			c	
HBW - Hyampom FMZ #1	SF	Y	300		06	3/06	done	100				c	
HBW - HF Forest Health FMZ	SF		900		06	3/06	done	50				1a,1b,3a,3b,3c	50 burn, 50 construct
Sunday Knob FMZ II	SF		25				done	25				c	
Pines Fuel Break	SF	Y	144				done	144				1b	
Knob Peak Fuels	SF	Y	980	CCWG			done	300				1b,3a	burn
PM Post Mtn.	SF	Y	1000	WRTC	05		done	100				1b	will request funding from Shasta RAC
												c	
Dubakella WSR	SF						done				5.0	2a	decom
Browns WSR	TR	Y					12/04				2.0	2a	decom
Flsh Passage	SF						3/05					2a	2 culvert upgrades/bridge installation
HB - Bear Grass/Hazel - RAC	SF	Y	10	NRELM	06		3/05	1				1a,3b	RAC project - hazel enhancement
Bear Grass/Hazel Enhancement Study	SF		3	NRELM								4a	ongoing
Knob Peak Lookout Restoration - RAC	SF	Y	1	CCWG								3b	RAC project - restoration and conserv ed
Natural Bridge Restoration - RAC	SF		10	NRELM								3b	RAC project - restoration of picnic area, rd decom
Hayfork Basin Trails	SF	Y		WRTC							5.0	3b	
Red Bud Enhancement	SF	Y	1	NRELM									
Shasta College Tour	SF			WRTC								5c	natural resource intro class
Indian Valley Summer Camp	SF			WRTC								5c	conservation education camp
Comparitive Mill Closure Study: Impacts on workers & communities, 10 years after	SF			WRTC								3b,4b	
Six Rivers													
Pilot West	LT	N	85					85				1b	prescribed underburning
Salyer/Hawkins Bar Fuels - RAC	LT	Y	486					486				1b,3b	RAC project - handpile/prescribed underburning
Salyer/Hawkins Bar Fuels - RAC	LT	Y	93					95				1b,3b	RAC project - fuels - mechanical treatment
O&C Settlement Project	ST/SR	Y		PSW/FWS								4b	
Sims Fire Restoration	LT	N	300				12/05				300	1b	reforestation
Totals			5338					14861	5,000				

Hayfork AMA Five Year Strategy Plan

DRAFT													
FY07 AMA Program						Planning		Treatments				Goal Met	Remarks
Project Name	UN	WUI	Entire Assessment Area AMA Acres	Partner	Stewardship Opportunity	Concept proposal	Decision Dec	Fuels acres	Green MBF	Salv MBF	Other acres	Miles	
Shasta Trinity													
JB - Jones Gemmill Southwest	SF	Y	1500		07		6/06	1500	2,000	500			1a,1b,3b,3c requested Pest Management funding 05
RF - Red Fir Restoration	SF		1200	Y	07		9/06		4,000				1a,1b,3b,3c bipartisan interest
Salt	SF	Y	1000					1000	6,000				1b
Clark	TR		1200						3,000				1b
Knob Peak Fuels	SF	Y	400				done	300					1b
Hyampom FMZ	SF	Y	300					150					1b
HBW - HF Forest Health II	SF		900					50					c
Sunday Knob FMZ II	SF	Y	150					150					1b,3a
HBW - Hayfork West FMZ	SF	Y	500					50					c follow up to RAC planning project
HBW - Hayfork South FMZ	SF	Y	50		08		1/05	50					c follow up to RAC planning project
Dubakelta WSR	SF						done					5.0	2a decom
Browns WSR	TR	Y					12/04					2.0	2a decom
Fish Passage	SF						3/05						2a 2 culvert upgrades/bridge installation
Bear Grass/Hazel/Red Bud Enhc.	SF		2	NRELM			done	2			2		3b
Bear Grass/Hazel Enhancement Study	SF		3	NRELM									3b,4a ongoing
Shasta College Tour	SF			WRTC									3b,5c natural resource Intro class
Indian Valley Summer Camp	SF			WRTC									3b,5c conservation education camp
Six Rivers													
Sims Fire Restoration	LT	N	300				12/05					300	3b reforestation
Totals			7505					3252	15,000	500			

Hayfork AMA Five Year Strategy Plan

DRAFT														
FY08 AMA Program						Planning		Treatments				Goal Met	Remarks	
Project Name	UN	WUI	Entire Assessment Area AMA Acres	Partner	Stewardship Opportunity	Concept proposal	Decision Dec	Fuels acres	Green MBF	Salv MBF	Other acres	Miles		
Shasta Trinity														
HBE - Big Barker	SF	Y	2500		.08				5,000				1a,1b,3b,3 c	
Knob Peak Fuels	SF		400				done	300					1b	
Hyampom FMZ	SF	Y	300					150					1b,3a	
HBW - HF Forest Health II	SF		900					50					1a,1b,3a,3b,3	
Sunday Knob FMZ II	SF	Y	150					150					1b	
HBW - Hayfork West FMZ	SF	Y	500					50					1a,1b,3a,3b,3	
HBW - Hayfork South FMZ	SF	Y	50		.08		1/05	50	50				1a,1b,3a,3b,3	follow up to RAC planning project
Kingsbury Burn	SF	Y	500					300					1b,3a	Wildlife objectives
Browns WSR	TR	Y					12/04						2a	decom
Plummer WSR	SF	Y											2a	decom
Fish Passage	SF										2.0		2a	2 culvert upgrades/bridge installation
Bear Grass/Hazel Enhancement Study	SF		3	NRELM									3b	ongoing
Bear Grass/Hazel/Red Bud Enhc.	SF		4	NRELM			done	2			2		3b,4a	
Shasta College Tour	SF			WRTC									5c	natural resource intro class
Indian Valley Summer Camp	SF			WRTC									5c	conservation education camp
Six Rivers														
In progress														
Totals			2807					1052	5,050					

Hayfork AMA Five Year Strategy Plan

DRAFT													
FY09 AMA Program													
Project Name	UN	WUI	Entire Assessment Area AMA Acres	Partner	Stewardship Opportunity	Planning		Treatments				Goal Met	Remarks
						Concept proposal	Decision Doc	Fuels acres	Green MBF	Solv MBF	Other acres		
Shasta Trinity													
Soldier	TR		500						2,000			1b	
Rattlesnake/Plummer	SF		P						3,000			1b	
Knob Peak Fuels	SF		300				done	300				1b	
Hyampom FMZ	SF	Y	150					150				1b,3a	
HBW - HF Forest Health II	SF		50					50				1a,1b,3a,3b,3	
Sunday Knob FMZ II	SF	Y	150					150				1b	
HBW - Hayfork West FMZ	SF	Y	50					50				1a,1b,3a,3b,3	
HBW - Hayfork South FMZ	SF	Y	50		08		1/05	50	50			1a,1b,3a,3b,3	follow up to RAC planning project
Kingsbury Bum	SF	Y	300					300				1b,3a	Wildlife objectives
Browns WSR	TR	Y										2a	decom
Plummer WSR	SF	Y					12/04					2a	decom
Fish Passage	SF										5.0	2a	2 culvert upgrades/bridge installation
Bear Grass/Hazel Enhancement Study	SF		3	NRELM								3b	ongoing
Bear Grass/Hazel/Red Bud Enhc.	SF		2	NRELM			done	2		2		2a,4a	
Shasta College Tour	SF			WRTC								5c	natural resource intro class
Indian Valley Summer Camp	SF			WRTC								5c	conservation education camp
Six Rivers													
In progress													
Totals			1555					1052	5,050				

Hayfork AMA Five Year Strategy Plan

Appendix E

Research and Administrative Studies in the Hayfork AMA

Research

Project	Partner	Completed
Community Socio-economic Monitoring	Danks & Jungwirth	1998
Research support for community participation; Landscape fire mgmt/emergency response	WRTC, HSU	1999
Herpetofauna of SFTR	PSW	1999
Effects of Mgmt on Riparian Habitat on Landbird Demographics	PSW, Point Reyes	1999
Spatial Patterns and Controls on Historical Fire Regimes and Forest Structure in the Klamath Mtns	PSW	2003
O&C Settlement Project – LOP study	PSW, USFWS	Planning stage
Spotted Owl Demographic Study	PSW, Franklin	In progress
Pilot Creek Fisher Study	PSW_RSL	1995

Administrative Studies

Project	Partner	Completed
OG Vegetation Structure/Fuel Buffer	WRTC	1995
Non-Timber Forest Products	WRTC	1996
Lower HF & Grassy Flats Mollusk Habitat Monitoring		2000-2004
Comparative Mill Closure Study	WRTC	Planning stage
Local contracting capacity and USFS procurement Practices	WRTC	Planning stage

Practical Application Testing

Project	Partner	Completed
Bitter Root Yarder Operation – cost analysis	WRTC	1995
Chopsticks – Small Diameter – small yarder thinning for fuels reduction	WRTC, JTPA, JSFP	1997-1998
Happy Farmer – Small Diameter Demo - small yarder thinning, fuels reduction	WRTC, FPL, PNW	1999
Jones Burn Plantation- small diameter pine processing tests	WRTC, FPL, PNW, OSU	2000
Jones Burn Plantation #15– green finger jointing Test	WRTC, FPL, PNW, OSU	2002
Jones Burn Plantation #32– ASV (low ground pressure) whole tree yard/ mastication	WRTC, FPL, PNW, OSU	2003

YEAR	PROJECT TYPE	PROJECTS	UNIT	PARTNERS
1995	Fuel Reduction	N.Fork/Clover, Tullop, Mandell		WRTC
	Vegetation Management - reforestation	Summit, ADC		WRTC
	Vegetation Management - timber production	Butter Creek LL Mtce		WRTC
	Special Forest Products	Grass Seed		WRTC
	Watershed & Fisheries Restoration	Snorkel Survey, Lower HF WIN, Weaver Basin rd inv,		WRTC
	Wildlife Habitat Improvement			
	Recreation			
	Community	Ecosystem Management Technician Dislocated Worker Retraining Program		WRTC
	Monitoring	Stream Channel Morphology		WRTC
	1996	Fuel Reduction	Little Farmer	
Vegetation Management - reforestation				
Vegetation Management - timber production		China Bridge LL		WRTC
Special Forest Products				
Watershed & Fisheries Restoration		Cold Camp Fencing, Six Rivers Rd Inv.		WRTC
Wildlife Habitat Improvement		Bat Boxes		WRTC
Recreation		Bear Proof Containers		WRTC
Community				
Monitoring				
1997		Fuel Reduction	Chopsticks	
	Vegetation Management - reforestation	Kingsbury Yarder Site Prep		WRTC
	Vegetation Management - timber production	Chopsticks		WRTC
	Special Forest Products			
	Watershed & Fisheries Restoration	Fish Stream Inv., Middle HF WIN, Dixie Queen Mine Rehab		WRTC
	Wildlife Habitat Improvement	Habitat Structures, Bat Inv.		WRTC
	Recreation			
	Community			
	Monitoring	Carnivore		WRTC

HAYFORK AMA PROJECT ACCOMPLISHMENT SUMMARY

YEAR	PROJECT TYPE	PROJECTS	UNIT	PARTNERS
1998	Fuel Reduction	Little Farmer, Clear Gulch		WRTC
	Vegetation Management - reforestation			
	Vegetation Management - timber production			
	Special Forest Products			
	Watershed & Fisheries Restoration	Gate Construction		WRTC
	Wildlife Habitat Improvement			
	Recreation			
	Community			
	Monitoring			
1999	Fuel Reduction	Happy Farmer, Hoadley		WRTC
	Vegetation Management - reforestation	Lower Little Yarder Site Prep		WRTC
	Vegetation Management - timber production	Happy Farmer, Lower Little		WRTC
	Special Forest Products			
	Watershed & Fisheries Restoration			
	Wildlife Habitat Improvement	Mollusk Surveys		WRTC
	Recreation			
	Community			
	Monitoring			
2000	Fuel Reduction	Jones #15, Hoadley #2		WRTC, FPL
	Vegetation Management - reforestation			
	Vegetation Management - timber production	Jones #15		WRTC, FPL
	Special Forest Products			
	Watershed & Fisheries Restoration	Eltapom Rd Inv.		WRTC
	Wildlife Habitat Improvement	Mollusk Surveys		WRTC
	Recreation			
	Community			
	Monitoring	Mollusk Habitat		WRTC

HAYFORK AMA PROJECT ACCOMPLISHMENT SUMMARY

YEAR	PROJECT TYPE	PROJECTS	UNIT	PARTNERS
2001	Fuel Reduction	Jones-FPL, Chow Fuelwood Sale, Grass Valley FB		WRTC, FPL
	Vegetation Management - reforestation			
	Vegetation Management - timber production			
	Special Forest Products			
	Watershed & Fisheries Restoration			
	Wildlife Habitat Improvement	Mollusk Surveys, Bat Boxes		WRTC
	Recreation			
	Community			
2002	Monitoring	Canivore		WRTC
	Fuel Reduction			
	Vegetation Management - reforestation			
	Vegetation Management - timber production			
	Special Forest Products			
	Watershed & Fisheries Restoration			
	Wildlife Habitat Improvement	Mollusk Surveys		WRTC
	Recreation			
2003	Community	Indian Valley Conservation Ed		WRTC
	Monitoring	Grassy Flats Mollusk Habitat		
	Fuel Reduction	CP grant Bar 717		RCD
	Vegetation Management - reforestation			
	Vegetation Management - timber production			
	Special Forest Products			
	Watershed & Fisheries Restoration	Lower Little Decom		RCD
	Wildlife Habitat Improvement			
	Recreation	HF Basin Trail Mtce		WRTC, HATS
	Community	Indian Valley Conservation Ed, Unauthorized dump clean ups		WRTC, Rotary
	Monitoring	Grassy Flats Mollusk Habitat		

HAYFORK AMA PROJECT ACCOMPLISHMENT SUMMARY

YEAR	PROJECT TYPE	PROJECTS	UNIT	PARTNERS
	Traditional Large Sales Sold 1996 to 2002	34,609 ccf	ccf	
	Traditional Large Sales--ONRC/Rothstein 2000 to 2002	61,266 ccf	ccf	
	Traditional Small Sales Sold to 2002	1996 42,613 ccf	ccf	

HAYFORK AMA PROJECT ACCOMPLISHMENT SUMMARY

YEAR	PROJECT NAME	PARTNER	AGENCY	DESCRIPTION OF WORK	AMOUNT
1995	Fuel Reduction Buffer Development	WRTC	USFS-STNF	11 acres fuel buffer Loc. T30N,R12W Sec. 8 &17	\$5,382
1995	Summitt Plantation	WRTC	USFS-STNF	Loc. T37N, R10W Sec. 32 Fuel Buffer and Sale	\$30,119
1995	Seedling Protector (Vexar) Replacement	WRTC	USFS-STNF	Placement of seedling protection tubes	\$17,096
1995	Bear Lake Trail Clearing	WRTC	USFS-STNF	Clearing brush from trail Loc. 7W03 Bear Lake	\$3,000
1995	GPS Road Inventory	WRTC	USFS-SRNF	Inventorying roads, landings and stream crossings	\$30,000
1995	Vexar Removal/Maintenance	WRTC	USFS-STNF	Removing or maintaining vexar tubing on conifer seedlings	\$10,800
1995	Butter Creek Land Line Maintenance	WRTC	USFS-STNF	Treatment of fuels and stand manipulation	\$6,632
1995	Stream Channel Morphology	WRTC	USFS-STNF	Monitor change in stream channel morphology	\$1,786
1995	Adult Snorkling Survey	WRTC	USFS-STNF	Count Number of Adult salmon and steelhead in Canyon Creek	\$744
1995	Vexar Removal Maintenance Amend #1	WRTC	USFS-STNF	Remove and maintain vexar tubing on seedlings	\$14,829
1995	Butter Creek Land Line Maint. Amend #1	WRTC	USFS-STNF	Treatment of fuels and stand manipulation	\$4,961
1995	Tullopp III	WRTC	USFS-STNF	45 acres of fuel reduction buffer	\$55,582
1995	Butter Creek Grass Seed Collection	WRTC	USFS-STNF	collection of native seed from selected areas	\$2,844
1995	Survival Stocking Exam	WRTC	USFS-SRNF	To collect and record data survival/stocking survey on 5 year old plantation	\$4,396
1995	Timber Cruising #1	WRTC	USFS-SRNF	Cruise timber in pilot creek	\$7,118
1995	Foot Bridge Construction	WRTC	USFS-SRNF	Construct footbridge over a small drainage	\$3,663
1995	N.Fork/Clover Natural Fuel Reduction Buffer	WRTC	USFS-STNF	51 acre fuel reduction Loc. T30N,R12W Sec. 2 & 3	\$37,902
1995	Tullopp II	WRTC	USFS-STNF	26 acre fuel reduction Loc. T30N, R12W Sec. 4, 9, 10	\$26,000
1995	Lower Hayfork WIN	WRTC	USFS-STNF	Identify & assess repair areas in disturbed conditions	\$15,783
1995	Weaver Basin Road Inventory	WRTC	USFS-STNF	Enhance long term recovery of streams that support fisheries	\$16,507
1995	Old Growth Vegetation Structure/Fuel Buffer	WRTC	USFS-STNF	Collect data on existing vegetation, overstory, understory structures and fuel loads	\$92,280
1995	Mandell Fire Rehabilitation	WRTC	USFS-STNF	Fire rehabilitation to stabilize 40 acres of burned land in tree drainages	\$15,434
1995	Butter Creek Native Vegetation Collection	WRTC	USFS-STNF	Collection and planting of native vegetation in Butter Creek Watershed	\$6,334
1995	Butter Creek Land Line Maint. Amend #2	WRTC	USFS-STNF	Maintain 1 mile of property boundary line of fuels and stand manipulation	\$54
1995	Quincy	WRTC			

HAYFORK AMA PROJECT ACCOMPLISHMENT SUMMARY

YEAR	PROJECT NAME	PARTNER	AGENCY	DESCRIPTION OF WORK	AMOUNT
1996	Cold Camp Fencing	WRTC	USFS-STNF	Construct two fence enclosures to stabilize 8 acres	\$13,347
1996	Butter Creek Bank Stabilization	WRTC	USFS-STNF	Bank stabilization and repairian planting	\$24,120
1996	Butter Creek Meadows Wetland Restoration	WRTC	USFS-STNF	Road maintenance construct split rail fence thinning vegetation build foot bridge	\$19,267
1996	Road & Site Survey	WRTC	USFS-SRNF	Surveying roads, landings, streamcrossing using lazer gun technology	\$1,491
1997	Butter Creek Repairian	WRTC	USFS-STNF	Planting native vegetation to stabilize decommissioned streamcrossings and roadbeds	\$5,139
1997	GPS III	WRTC	USFS-SRNF	Inventory 340 miles of roads	\$45,000
1997	Tree Protector Removal	WRTC	USFS-SRNF	Remove animal control treatments on 48 acres of plantation	\$1,499
1997	Six Rivers Planting	WRTC	USFS-SRNF	7882 trees planted on landslides in Mad River Ranger District	\$11,350
1997	Butter Fuel Reduction Buffer	WRTC	USFS-STNF	Create a 45.4 acre fuel reduction buffer Loc. T2N,R8E Sec. 19,20, 30	\$35,394
1997	Bailey Cove Bridge	WRTC	USFS-SRNF	Repair footbridge near Bailey Canyon campground	\$1,194
1997	Kingsbury Yarder Site	WRTC	USFS-STNF	Create sufficient planting spots to adequately reforest 10 harvest units	\$43,346
1997	Fisheries Stream Inventory	WRTC	USFS-STNF	Physical measurements of stream habitat variables fish species indentification & observation	\$5,700
1997	Butter Creek Gate Installation	WRTC	USFS-STNF	install gates to seasonally close roads	\$2,871
1997	Middle Hayfork WIN Stream Inventory	WRTC	USFS-STNF	Identifiy & assess repairian areas in desturbed condition, prescribe specific treatment measures	\$28,753
1999	Watershed Inventory	WRTC	USFS-STNF	Stream and Road inventory to identify & assess repairian areas & roads in disturbed conditions	\$13,925
1999	Lower Little Site Prep	WRTC	USFS-STNF	Create sufficient planting areas to adequately reforest 9 harvest units	\$44,081
1999	Terrestrial Mollusk Survey & Management	WRTC	USFS-STNF	Field survey & data collection for Category 2 species	\$42,484

HAYFORK AMA PROJECT ACCOMPLISHMENT SUMMARY

YEAR	PROJECT NAME	PARTNER	AGENCY	DESCRIPTION OF WORK	AMOUNT
2000	Red Fir Mollusk	WRTC	USFS-STNF	Field survey & data collection for Category 2 species	\$12,811
2000	Lower Little Site Prep #2	WRTC	USFS-STNF	Site prep to create sufficient planting spots to adequately reforest unit	\$25,407
2000	Eltapom Road Inventory	WRTC	USFS-STNF	Road surveys to indentify all active sediment sources associated with roads and stream crossings	\$10,000
2001	Megram Fungi Survey	WRTC	USFS-STNF	Field survey to search for, locate & collect specimens & field data for new location of S/M Fungi species	\$12,628
2001	Knob Peak	WRTC	USFS-STNF	Conduct S & M mollusk species inventory & spotted owl survey's in Knob Peak area	\$32,612
2002	Bear Grass Enhancement	Nor-el-muk, CIBA	USFS-STNF	Burning Bear Grass for new growth to be used in native basket material. 5 acres	
2002	Grassy Patch Demonstration	WRTC	USFS-STNF	Demonstration of Hayfork yarder for Congressional Field Trip 1 acre	
2003	UC Davis Demonstations	WRTC	USFS-STNF	Demo of Application of Mechanical Equipment for removal of small trees	\$24,522
2003	Post Mountain Forest Road FMZ and Post Mountain Roadside Private Lands Demonstration	RAC, WRTC, TPVFD, PMPUD, CDF, TCFSC	USFS-STNF	Develop collaboration and HFI CE for FMZ, 356 federal acres; CP grant for FMZ on private lands-70 private acres; complete 27 ac of FMZ	\$31,440
2003	Hayfork Forest Health I	WRTC, RAC	USFS-STNF	Environmental analysis and landlines for FMZ	\$60,000
2003	Hayfork Basin Trails Project	WRTC, HATS, RAC	USFS-STNF	Marketing plan, GIS mapping, trail condition surveys, trail maintenance, volunteer trail program, brochure.	\$14,036
2003	Cottonwood Watershed Erosion Inventory	Cottonwood Watershed Group	USFS-STNF		
TOTAL					\$971,663

HAYFORK AMA PROJECT ACCOMPLISHMENT SUMMARY

YEAR	PROJECT NAME	PARTNER	AGENCY	DESCRIPTION OF WORK	AMOUNT
1996	Bat Boxes	WRTC	USDI-BLM	Install 214 artificial bat boxes on BLM land near timber harvest areas	\$11,436
1996	Bear Proof Containers	WRTC	USDI-BLM	Construct and install bear proof containers at 49 campgrounds along Trinity River	\$41,411
1996	Hwy 299 Fuels Reduction	WRTC	USDI-BLM	Reduce fuel amounts & density along a five mile section of north Hwy 299	\$103,564
1996	Six Rivers GPS #2	WRTC	USDI-BLM	Inventorizing roads, landings and stream crossings using GPS technology	\$35,000
1997	Dixie Queen Mine Rehabilitation	WRTC	USDI-BLM	Placement of culverts and gates at mine entrance	\$2,534
1997	Wildlife Monitoring	WRTC	USDI-BLM	Carnivores will be detected with track plate boxes and identified	\$14,500
1997	Wildlife Habitat	WRTC	USDI-BLM	Create Habitat Structures in trees and monitor inhabitation	\$123,520
1997	Bat Inventories	WRTC	USDI-BLM	Conduct Bat inventories in mines and caves in Trinity and Shasta Counties	\$25,800
1998	Metal Gates	WRTC	USDI-BLM	Construct & deliver four metal gates with special lock assemblies	\$9,500
1998	Clear Gulch Fuel Break	WRTC	USDI-BLM	Construct & improve fuel breaks on existing roads	\$15,087
1999	Hoadley Peak	WRTC	USDI-BLM	Create shaded fuel breaks from Buckhorn Summit to Hoadley Peak 6 miles	\$71,000
2000	Mollusk Survey	WRTC	USDI-BLM	NFP Survey and manage terrestrial mollusk protocol Trinity & Shasta Counties	\$6,615
2000	Hoadley Peak #2	WRTC	USDI-BLM	Create shaded fuel break near Hoadley Peak 3747 ft. long	\$11,468
2001	Grass Valley Fuel Break	WRTC	USDI-BLM	128 acre of shaded fuel break	\$100,000
2001	Carnivore Survey	WRTC	USDI-BLM	Place tracking plate devices & check plates to determine the effects of OHV use in pacific fisher habitat	\$6,000
2001	Tricounty Mollusk Survey	WRTC	USDI-BLM	Survey and manage species to implent stratigic surveys on 10 plots in Northern California	\$18,000

HAYFORK AMA PROJECT ACCOMPLISHMENT SUMMARY

2001	Terrestrial Mollusk Survey	WRTC	USDI-BLM	NFP Survey and manage terrestrial mollusk protocol Trinity & Shasta Counties	\$64,000
				TOTAL	\$659,435

HAYFORK AMA PROJECT ACCOMPLISHMENT SUMMARY