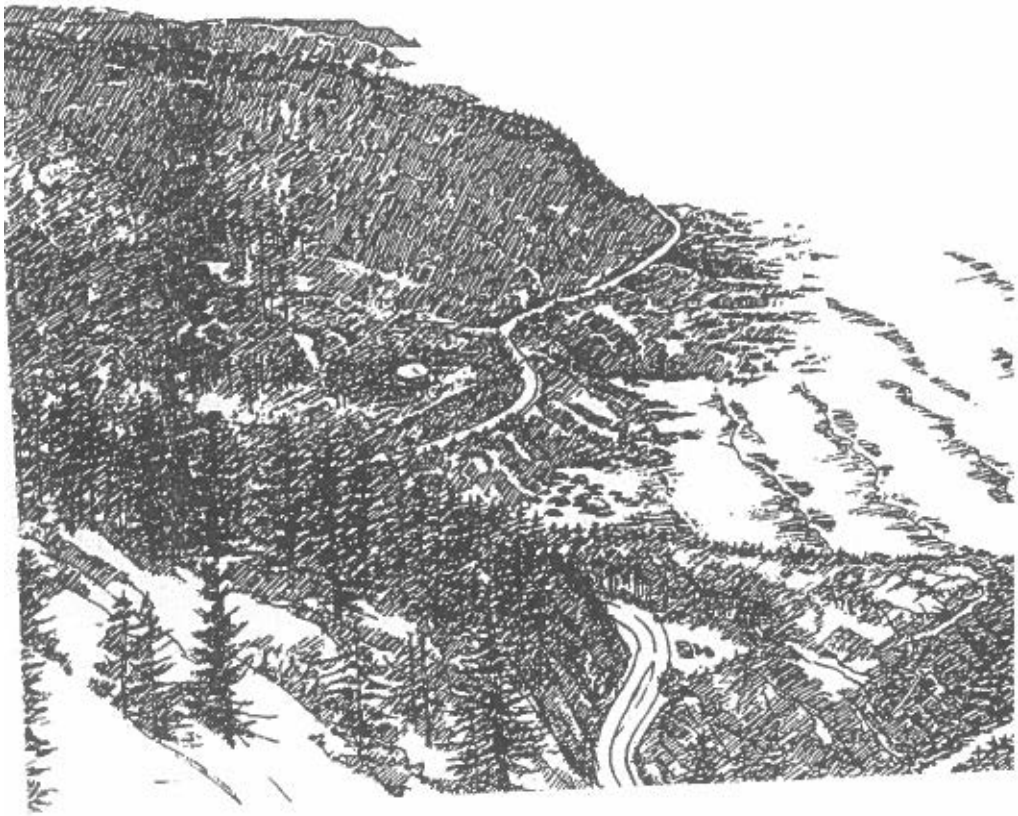
Siuslaw National Forest Monitoring Plan

May 2015

Siuslaw National Forest

Corvallis, Oregon



This updated version of the forest monitoring plan was prepared by an interdisciplinary team from the:

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INTRODUCTION

This update of the Forest Monitoring Plan is in response to the 2012 National Forest System Land Management Planning Rule (Planning Rule). The Planning Rule stated, "Where a plan's monitoring program has been developed under the provisions of a prior planning regulation and the unit has not initiated plan revision under this part, the responsible official shall modify the plan monitoring program within 4 years of the effective date of this part (May 9, 2012), or as soon as practicable, to meet the requirements of this section."

Each plan monitoring program must contain one or more monitoring questions and associated indicators addressing each of the following:

(i) The status of select watershed conditions.

(ii) The status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems.

(iii) The status of focal species to assess the ecological conditions required under § 219.9.

(iv) The status of a select set of the ecological conditions required under § 219.9 to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern.

(v) The status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives.

(vi) Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.

(vii) Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities.

(viii) The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land (16 U.S.C. 1604(g)(3)(C)).

The Siuslaw National Forest updated its Forest Plan Monitoring Questions in March 1999. The Interdisciplinary Team reviewed these questions to determine if they were still relevant and how they might fit under the eight 2012 Planning Rule indicators.

Two monitoring questions from the 2012 Planning Rule are difficult to tie back to the 1990 Siuslaw National Forest Plan as amended by the 1994 Northwest forest Plan. These two indicators are (iii) The status of focal species to assess the ecological conditions required under § 219.9 and (vi) Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.

The Siuslaw Forest Plan monitored Management Indicator Species rather than focal species up until the 1999 update of the Forest Monitoring Questions not Focal Species. The Interdisciplinary Team reviewed the Management Indicator Species to determine if any would serve as Focal Species under the 2012 Planning Rule. It was determined that none of them met intention of Focal Species monitoring. The definition of Focal Species from the 2012 Planning Rule is: *"A small subset of species whose status permits inference to the integrity of the larger ecological system to which it belongs and provides meaningful information regarding the effectiveness of the plan in maintaining or restoring the ecological conditions to maintain the diversity of plant and animal communities in the plan area. Focal species*

would be commonly selected on the basis of their functional role in ecosystems." Additionally, it states: "*In the final rule, MIS monitoring has been replaced with monitoring of focal species. The concept of focal species is well supported in the scientific literature and community. Focal species are not surrogates for the status of other species. Focal species monitoring provides information regarding the effectiveness of the plan in providing the ecological conditions necessary to maintain the diversity of plant and animal communities and the persistence of native species in the plan area. (It) does not require or prohibit monitoring of population trends of focal species. Instead, it allows the use of any existing or emerging approaches for monitoring the status of focal species that are supported by current science. Monitoring methods for evaluating the status of focal species may include measures of abundance, distribution, reproduction, presence/absence, area occupied, survival rates, or others.*

The Department (of Agriculture) expects that monitoring key ecosystem and watershed conditions along with monitoring the status of a set of well-chosen focal species will provide timely information regarding the effectiveness of plan components related to plant and animal diversity."

Monitoring questions that tie to Siuslaw Forest Plan as amended by the Northwest Forest Plan that the Interdisciplinary Team determined best represent climate change dealt with water temperature, sensitive vegetation types, and insects and disease organisms.

For the most part, the 1999 Monitoring Questions remain. The 2012 National Best Management Practices monitoring has been incorporated. Several National and Regional monitoring efforts to address questions that are more appropriately answered at scales beyond the Forest boundary are incorporated, including Northern Spotted Owl demographic monitoring by the Pacific Northwest Laboratory and marbled murrelet ocean surveys by the US Fish and Wildlife Service. Other Regional monitoring efforts can be scaled to the Forest, such as the Late-Successional Old Growth monitoring.

The 2012 Forest Planning Rule states, "*The responsible official shall conduct a biennial evaluation of new information gathered through the plan monitoring program and relevant information from the broader-scale strategy, and shall issue a written report of the evaluation and make it available to the public."* It further states: "*Where the monitoring program developed under the provisions of a prior planning regulation has been modified to meet the requirements of paragraph (c)(1) of this section, the first monitoring evaluation must be completed no later than 2 years from the date the change takes effect."*

The goal of the monitoring report is: "*The monitoring evaluation report must indicate whether or not a change to the plan, management activities, or the monitoring program, or a new assessment, may be warranted based on the new information. The monitoring evaluation report must be used to inform adaptive management of the plan area."*

And finally, the monitoring report is not a decision document. The 2012 Planning Rule states: "*The monitoring evaluation report is not a decision document representing final Agency action, and is not subject to the objection provisions of subpart B."*

The Siuslaw Monitoring Plan is organized by Monitoring Question. Several indicators are monitored under each question.

Monitoring Category (i) – The status of select watershed conditions.

MONITORING ISSUE - i.1.1-3:

Are water, aquatic, and riparian resources protected during and after implementation of construction or reconstruction of aquatic ecosystems improvements, including those that involved streams, rivers, ponds, wetlands, and their banks or shorelines, floodplains, or both aquatic ecosystems and floodplains?

GOALS/DESIRED CONDITION:

Best Management Practices (BMPs) are employed to protect water, aquatic, and riparian resources during implementation of construction or reconstruction of aquatic ecosystems improvements. BMPs are effective in completed aquatic ecosystem projects in protecting water, aquatic, and riparian resources.

EVALUATION QUESTION 1:

Are BMPs effective in protecting and improving waterbodies, bank/shorelines, or floodplains?

EVALUATION QUESTION 2:

Are BMPs effective for longer-term sustainability of project objectives?

TYPE OF MONITORING:

Effectiveness/Implementation

MONITORING INDICATORS:

BMP monitoring protocols

SAMPLING METHODS:

BMP National survey forms.
Random selection of projects.
Data will be collected and compiled by an interdisciplinary team. Summary reports will be prepared.

THRESHOLD OF VARIABILITY:

BMPs are met 90% of the time.

RESPONSIBILITY:

Interdisciplinary Team

REPORTING PERIOD:

Annually

MONITORING ISSUE - i.2.1:

Are wetland and estuary habitats being restored or maintained?

GOALS/DESIRED CONDITION:

Priority wetlands or estuaries identified by the Forest are being restored or maintained.

EVALUATION QUESTION 1:

Where are the locations of wetland or estuary habitats that are being restored or maintained?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Acres of wetland or estuaries that is restored or maintained.

SAMPLING METHODS:

10 year Salmon River Estuary monitoring report – Green Point Consulting
Oregon estuary study (CICEET) at Hebo Ranger District
Karnowsky Creek restoration monitoring report – Forest Service
Fivemile Bell Restoration monitoring report – Forest Service
Bailey Creek Restoration monitoring report—Forest Service

THRESHOLD OF VARIABILITY:

Wetland and estuary restoration is effective 90% of the time.

RESPONSIBILITY:

Hydrology staff

REPORTING PERIOD:

Biennially

MONITORING ISSUE - i.2.2:

Are wetland and estuary habitats being restored or maintained?

GOALS/DESIRED CONDITION:

The goal is to identify wetland management opportunities and promote wetland management across the Forest. Desired condition is to improve wetland capacity to provide breeding, brood rearing, and migratory habitat for western Oregon waterfowl, shorebirds, and other species dependent on wetlands.

EVALUATION QUESTION 2:

What types and how many acres of wetland or estuary habitats (i.e. suitable for waterfowl and shorebirds) are being restored or maintained?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

Acres of waterfowl, shorebird and wetland habitat inventoried.
Acres of waterfowl, shorebird and wetland habitat restored, or maintained.
Trends in the amount and distribution of waterfowl, shorebird and wetland habitat managed.

SAMPLING METHODS:

Pre and post wetland delineation and as-built surveys completed to quantify restored wetlands.
Field biologists will be interviewed or project accomplishment reports reviewed for completion of above monitoring indicators.
Monitoring will be based on review of activities critical to Forest target accomplishment.
Audubon Salmon River estuary monitoring report
Pacific Flyway Project

THRESHOLD OF VARIABILITY:

Less than 90% of target accomplishment for inventory and wildlife habitat improvement of wetland habitats.

RESPONSIBILITY:

Wildlife & Hydrology/Engineering Staff

REPORTING PERIOD:

Biennially or as necessary pre and post project implementation.

MONITORING ISSUE - i.3.1:

Are Standards and Guidelines maintaining or improving watershed conditions?

GOALS/DESIRED CONDITION:

Watersheds that are functioning properly are commonly referred to as healthy watersheds. Watersheds that are functioning properly have five important characteristics (Williams et al. 1997):

1. They provide for high biotic integrity, which includes habitats that support adaptive animal and plant communities and reflect natural processes.

2. They are resilient and recover rapidly from natural and human disturbances.

3. They exhibit a high degree of connectivity longitudinally along the stream, laterally across the floodplain and valley bottom, and vertically between surface and subsurface flows.

4. They provide important ecosystem services, such as high quality water, the recharge of streams and aquifers, the maintenance of riparian communities, and the moderation of climate variability and change.

5. They maintain long-term soil productivity.

EVALUATION QUESTION 1:

Are key indicators at the 5th and 6th field watershed scales improving?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Water quality	Water quantity	Aquatic habitat
Aquatic Biota	Riparian/Wetland Vegetation	Roads and Trails
Soils	Fire regime or wildfire	Forest Cover
Rangeland Vegetation	Terrestrial invasive species	Forest Health

SAMPLING METHODS:

Watershed Condition Framework (WCF) analysis of key indicators at the 5th and 6th field watershed scales.

THRESHOLD OF VARIABILITY:

90% key indicators showing improvement.

RESPONSIBILITY:

Interdisciplinary Teams

REPORTING PERIOD:

The national direction is to review the status of priority 6th fields every 5 years.

Monitoring Category (ii) – The status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems.

MONITORING ISSUE - ii.1.1:

Are forest plant species, structure, and landscape patterns moving toward the desired condition?

GOALS/DESIRED CONDITION:

The desired forest landscape of the Siuslaw NF is an interconnected mosaic of large blocks of older forests with the appropriate mix of younger forests of various ages in various shapes and sizes that fits the natural disturbance regime for this area and for this time period. Under the current Forest Plan, much of the forest is within Late-Successional Reserve land use allocations. The management objective in Late-Successional Reserves is to protect and enhance late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth wildlife, such as the northern spotted owl and marbled murrelet. Management within these reserves includes reduction in fragmentation caused by past clearcut harvests. (NFP C-11)

EVALUATION QUESTION 1:

What are the spatial trends in seral conditions including age and structural distribution?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

- The following groups of metrics will be used measure seral stage distribution on a 5 year cycle as GNN or like-data is updated and becomes available:
  - Forest type distribution
  - Forest age-class distribution
  - Forest structural distribution
  - Distribution of old forests will include measures of total area, patch size, interior core area, and connectivity

SAMPLING METHODS:

- Information used to monitor fragmentation levels within LSRs over time will include:
- The NWFP Interagency Monitoring Program monitors status and trends in older forests across the entire NWFP area every 5 years.
  - Use of older forest GIS layers derived from remote sensed data (e.g., LandSat, lidar, etc.)
  - Use of forest landscape pattern analyses software.
  - Periodic updates of the forest's old forest GIS layer to reflect losses of older forest from the current harvest or disturbance activities.

THRESHOLD OF VARIABILITY:

A reduction in older forest fragmentation and an increase in area of large older forest until the desired amounts of older forests are achieved.

RESPONSIBILITY:

NWFP Interagency Monitoring Program and Forest Silviculturist

REPORTING PERIOD:

Every 5 years

MONITORING ISSUE - ii.2.1-3:

Are invasive plant species being managed?

GOALS/DESIRED CONDITION:

Invasive plants exist on the Siuslaw National Forest. The goal is for no net are increase. The Desired Condition is for invasive species to be subordinate to native species throughout the Forest.

EVALUATION QUESTION 1:

Are control measures effective resulting in no net area increase of invasive plants?

EVALUATION QUESTION 2:

If new infestations occurring, why?

EVALUATION QUESTION 3:

Are treatments for invasive species effective?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Field observations by Forest Service.

SAMPLING METHODS:

- Spatial Information tracked in NRIS.
- Treatments tracked in FACTS.

THRESHOLD OF VARIABILITY:

No net increase.

RESPONSIBILITY:

Botanist

REPORTING PERIOD:

Biennially

Monitoring Category (iii) – The status of focal species to assess the ecological conditions required under §219.9

MONITORING ISSUE - iii.1.1:

How are the quality and quantity of anadromous fish habitat changing?

GOALS/DESIRED CONDITION:

Maintain fish habitat near present levels. Although habitat capability may continue to decline in the short term due to decay of large woody debris, this will be offset somewhat in the long term by ongoing watershed restoration activities, particularly underplanting of conifers and reestablishment of healthy, diverse, uneven-aged forests in late seral stages in most riparian areas. Many large conifer trees are growing where they can either fall into channels of streams supporting salmonid fishes, or become nurse logs for conifer regeneration in otherwise marginally hospitable streamside soils. Generally cool water temperatures are within tolerances of aquatic organisms naturally found in the system, and channels contain many pools and well-distributed complexes of large logs that interact over time and through a wide range of flows to create a high diversity of aquatic habitat types.

EVALUATION QUESTION 1:

What percent of the Forest's fish-bearing streams have been restored using large log placements?

EVALUATION QUESTION 2:

What percent of the Forest's fish-bearing streams have human-created fish passage barriers and in what percent have human fish-passage barriers been removed through Aquatic Organism Passage culverts, bridge construction or culvert removal?

EVALUATION QUESTION 3:

What are the population trends of Coho salmon?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

- Miles of fish-bearing streams restored.
- Miles of fish-bearing above human created fish barriers.
- Miles of fish-bearing streams with restored access above human created barriers.
- Numbers of Coho salmon (stratified by ownership if possible).

SAMPLING METHODS:

- Watershed Improvement Tracking (WIT) – for assessment of restoration projects
- Knowles Creek Fish population trends (Forest Service) and Cooperative life-history salmon monitoring (ODFW) – for comparison of range-wide trends and analysis of life-history bottlenecks.
- ODFW Coho salmon surveys

THRESHOLD OF VARIABILITY:

No net loss of habitat.

RESPONSIBILITY:

Forest Fish Biologist

REPORTING PERIOD:
Biennially

MONITORING ISSUE - iii.2.1:

Are the species that depend on snags utilizing created snags in managed stands?

GOALS/DESIRED CONDITION:

The goal for created snags is retention and use on the landscape for as long as feasible. The desired condition is that created snags are used by primary cavity excavators and eventually by secondary cavity users for breeding/feeding habitat.

EVALUATION QUESTION 1:

When do man-made snags species begin to be used and what species (primary and secondary cavity users) are using them?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Trend in snag use from initial creation. What species are using the snags, for what purpose (foraging, cavity exaction, perching, bark nesting), and at what year post creation? Are clumped and isolated snags being used by same species, purpose and time period?

SAMPLING METHODS:

Forest surveys.
Stewardship Group multi-party monitoring

THRESHOLD OF VARIABILITY:

Evidence of use of 80% of created snags within 5 years of creation.

RESPONSIBILITY:

Wildlife Staff

REPORTING PERIOD:

Biennially

MONITORING ISSUE - iii.3.1:

Are managed stands moving toward a desired future condition that supports cyano-lichens, a late-successional species guild?

GOALS/DESIRED CONDITION:

The goal for managing stands within late-successional reserves is to accelerate late-seral conditions. The desired condition is that cyano-lichens, a late-successional species guild establishes following management activities designed to accelerate late-seral conditions.

EVALUATION QUESTION 1:

Do cyano-lichens establish in managed stands following thinning? If they do establish how long does it take? In what abundance do they establish?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Evidence of Cyano-lichens and abundance.

SAMPLING METHODS:

Air program/Forest Inventory & Analysis program lichen monitoring protocol within managed stands. Forest surveys.

THRESHOLD OF VARIABILITY:

Evidence of establishment within 80% of managed stands.

RESPONSIBILITY:

Air program

REPORTING PERIOD:

Biennially

Monitoring Category (iv) – The status of a select set of ecological conditions required under §219.9 to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern.

MONITORING ISSUE - iv.1.1:

What are the population trends of the Northern Spotted Owl that inhabits the Oregon Coast Range?

GOALS/DESIRED CONDITION:

Northern spotted owl population recovery is a primary goal for lands within the range of the species. The desired future condition is a well distributed, genetically interacting, demographically diverse population of northern spotted owls that inhabit a high percent of their native range.

EVALUATION QUESTION 1:

What is the health of the Northern Spotted Owl population that inhabits the Oregon Coast Range? Specifically, is the population of Northern Spotted Owls decreasing, stabilized or increasing?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Results and conclusions from the Northern Spotted Owl Effectiveness Monitoring Plan for the Northwest Forest Plan.

SAMPLING METHODS:

Data will be retrieved from Pacific Northwest Research Station and Regional Office and summarized for the Forest as feasible. Monitoring of northern spotted owl population size and reproduction for the Forest relies on the current PNW demographic study.

THRESHOLD OF VARIABILITY:

- Decline in numbers or reproductive performance that exceeds levels as determined by the Pacific Northwest Research Station.
- Loss of owl pairs in excess of anticipated levels as determined by the Regional Northern Spotted Owl Effectiveness Monitoring Team.

RESPONSIBILITY:

Wildlife Staff

REPORTING PERIOD:

Biennially

MONITORING ISSUE - iv.2.1:

What are the population trends of the Marbled Murrelet populations on the Forest?

GOALS/DESIRED CONDITION:

Marbled murrelet population recovery is a primary goal for lands within the range of the species. The desired future condition is a well distributed, genetically interacting, demographically diverse population of marbled murrelets that inhabit a high percent of their native range.

EVALUATION QUESTION 1:

What is the health of the Marbled Murrelet population that inhabits the Oregon Coast Range? Specifically, is the population of Marbled Murrelet decreasing, stabilized or increasing?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

- Trend in marbled murrelet densities within each Recovery Plan Zone on the Forest
- Trend in juvenile ratios (ratio of juveniles to after-hatch-year birds) within each Recovery Plan Zone on the Forest
- Results and conclusions from the Marbled Murrelet Effectiveness Monitoring Plan for the Northwest Forest Plan that relate to murrelet population health and distribution.

SAMPLING METHODS:

The PNW Research Station conducts effectiveness monitoring for marbled murrelets. Effectiveness monitoring for the marbled murrelet has two facets: (1) assess population trends at sea by using a unified sampling design and standardized survey methods, and (2) establish a credible estimate of baseline nesting-habitat data by modeling habitat relations, and use the baseline to track habitat changes over time.

THRESHOLD OF VARIABILITY:

No threshold of variability has been determined for marbled murrelet density, trend in juvenile ratios or population health and distribution.

RESPONSIBILITY:

Wildlife Staff

REPORTING PERIOD:

Biennially

MONITORING ISSUE - iv.3.1:

What are the trends of the Western Snowy Plover breeding and wintering populations on the Forest?

GOALS/DESIRED CONDITION:

Western snowy plover population recovery is a primary goal for the Central Oregon Coast The desired future condition is a well distributed, genetically interacting, demographically diverse population of western snowy plovers that inhabit the Central Oregon Coast.

EVALUATION QUESTION 1:

What is the health of the Western Snowy Plover that inhabits the Oregon Coast? Specifically, is the population of Western Snowy Plover decreasing, stabilized or increasing?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

- Trend in the number of western snowy plover nest sites on the Forest.
- Trend in reproductive success of nest sites on the Forest.
- Trend in the over wintering western snowy plover population.
- Western snowy plover winter use from ongoing investigations by Oregon Biodiversity Information Center (ORBIC), Central Coast Ranger District/Oregon Dunes NRA, U.S. Fish and Wildlife Service, and volunteers.

SAMPLING METHODS:

Data will be retrieved from the nesting, reproduction, and winter survey effort collected by Oregon Biodiversity Information Center (ORBIC), Central Coast Ranger District/Oregon Dunes NRA, U.S. Fish and Wildlife Service, and volunteers and summarized for each monitoring indicator above.

Data collection needed for Central Oregon Coast snowy plover reproductive, nesting and winter population monitoring relies on surveys carried out by Oregon Biodiversity Information Center (ORBIC), Central Coast Ranger District/Oregon Dunes NRA, U.S. Fish and Wildlife Service, and volunteers and summarized for each monitoring indicator above.

THRESHOLD OF VARIABILITY:

Threshold of variability is determined by U.S. Fish and Wildlife Service.

RESPONSIBILITY:

Wildlife Staff

REPORTING PERIOD:

Biennially

MONITORING ISSUE - iv.4.1-2:

Are recovery plan objectives for the Oregon Silverspot Butterfly being met?

GOALS/DESIRED CONDITION:

Secure and enhance existing habitats of the Oregon silverspot butterfly, thus assisting removal of the subspecies from the list of threatened and endangered species. This includes areas with known butterfly populations as well as those identified as sites for habitat rehabilitation and/or introduction of butterflies. Overall, provide 400 acres of prime meadow habitat within Management Area 1.

Natural meadow habitat, consisting primarily of wildflowers and native grasses, provides cover for butterfly larvae. Abundant growth of common blue violets is needed to provide food for the larvae. It is important to determine if management practices are effective in maintaining sufficient larval rearing habitat to meet recovery objectives. In addition, nectar sources for adults should be scattered throughout the meadows and forest fringes should provide food and protect adult butterflies from wind and adverse weather at some sites.

A Forest goal is to prepare and implement long-term plans for management of each habitat site as called for in 1990-1996 Management Plans for the Oregon Silverspot Butterfly (Hammond, 1989).

EVALUATION QUESTION 1:

Is the habitat area quality and quantity increasing?

EVALUATION QUESTION 1:

Are butterfly populations being maintained on the Siuslaw National Forest?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

See Sampling Methods

SAMPLING METHODS:

- Field review in potential habitat areas, done in conjunction with other monitoring activities, to determine if all silverspot butterfly habitat is included in Management Area 1. Emphasis will be on areas surrounding sites at Rock Creek/Big Creek, Bray Pt., Cascade Head, and Mt. Hebo.
- Use transect surveys as outlined in McCorkle et al. 1980. "Ecological Investigation Report Oregon Silverspot Butterfly (Speyeria zerene hippolvta)." Siuslaw National Forest 117 pp. Survey annually (usually by contractor and U.S. Fish and Wildlife Service) to determine if density of violets is at or above original survey levels. Concentrate sampling at Rock Creek/Big Creek, Mt. Hebo, and Bray Pt.
- Every two years, review management plans for population areas at Rock Creek/Big Creek, Bray Pt., Mt. Hebo and any other newly discovered or introduced population.

THRESHOLD OF VARIABILITY:

- No net loss in habitat quality or quantity.
- Threshold of variability for silverspot buttery populations is determined by U.S. Fish and Wildlife Service.

RESPONSIBILITY:
Wildlife Staff

REPORTING PERIOD:
Biennially

Monitoring Category (v) – The status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives

MONITORING ISSUE - v.1.1:

Are BMPs employed to protect water, aquatic, and riparian resources during the operation and maintenance of developed and dispersed recreation sites?

GOALS/DESIRED CONDITION:

Best Management Practices (BMPs) are employed to protect water, aquatic, and riparian resources during the operation and maintenance of developed and dispersed recreation sites, including those that impact water quality within the Aquatic Management Zone.

EVALUATION QUESTION 1:

Are BMPs effective in preventing bank trampling or instability, erosion, sediment deposition, trash, domestic animal or human sanitary waste, chemical or fuel spills or leaks, and other indicators of impacts to water quality within the Aquatic Management Zone?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

BMP monitoring protocols

SAMPLING METHODS:

- BMP National survey forms.
- Random selection of projects.
- Data will be collected and compiled by an interdisciplinary team. Summary reports will be prepared.

THRESHOLD OF VARIABILITY:

BMPs are met 90% of the time.

RESPONSIBILITY:

Interdisciplinary Team

REPORTING PERIOD:

Annually

MONITORING ISSUE - v.2.1:

Is the diversity of recreation opportunities provided for in the Forest Plan being supplied and used?

GOALS/DESIRED CONDITION:

The goal is that the management of the following areas is consistent with the assigned ROS, WROS classification, or other direction in, or referenced by, the Forest Plan: Wilderness, Oregon Dunes NRA, Cascade Head SRA, Special Interest Areas, Undeveloped areas, Sutton, Sand Lake,, and Developed recreation sites

EVALUATION QUESTION 1:

Is management of the following areas consistent with the assigned ROS, WROS , or other direction in, or referenced by, the Forest Plan: Wilderness, Oregon Dunes NRA, Cascade Head SRA, Special Interest Areas, Undeveloped areas, Sutton, Sand Lake,, and Developed recreation sites?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

A. ROS Physical Setting Criteria
    a. Remoteness
    b. Size
    c. Evidence of Humans
B. ROS Social Setting Criteria (user density)
C. ROS Managerial Setting Criteria (degree of regulation and noticeability)

SAMPLING METHODS:

Field reviews of management areas and developed sites for ROS/WROS consistency. Review 5 randomly selected sites/areas every year to determine whether they are consistent with designated ROS/WROS class criteria.

THRESHOLD OF VARIABITITY:

Any deviation from designated ROS/WROS class criteria.

RESPONSIBILITY:

Forest Recreation Staff

REPORTING PERIOD:

Biennially

MONITORING ISSUE - v.3.1:

Is off-highway vehicle (OHV) use taking place as intended in the Forest Plan?

GOALS/DESIRED CONDITION:

Management and monitoring of off-highway vehicle use is required by 36 CFR Part 212 in order to assure such use is not or will not cause unacceptable adverse effects on soil, water, fish, wildlife, vegetation, forest visitors, and cultural and historic resources. Opportunities for off-highway vehicle recreation are provided on the Oregon Dunes NRA and Sand Lake.

EVALUATION QUESTION 1:

Is off-highway use of vehicles confined to those areas designated for such use in the Forest Plan?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

- Violations of vehicle closures and restrictions (e.g., designated routes, noise buffers and designated dispersed campsites at Oregon Dunes NRA).
- Tracks and other evidence of vehicle use in closed areas.
- Use of non-designated routes and dispersed camping areas.
- New user-developed routes/campsites outside those designated.

SAMPLING METHODS:

- Review violation notices annually for vehicle closure violations.
- Three times annually during the high OHV-use season (May-September), randomly select one OHV-closed area at Oregon Dunes NRA and examine for tracks and/or other evidence (e.g. equipment parts, engine noise, etc.) of vehicle use in closed areas.
- At the Oregon Dunes NRA in Management Area 10C (OHV Restricted) areas, annually monitor (during the May-September high OHV-use season) 5 randomly selected deflation plain routes that are NOT designated for continued OHV use. Examine for evidence of continued OHV use.
- At the Oregon Dunes NRA, in areas where dispersed camping is allowed only in designated sites (Management Areas 10A and 10C), annually monitor (during the May-September high OHV -use season) *5* randomly-selected historic camp sites that are NOT designated for continued use. Examine for evidence of continued use.
- At the Oregon Dunes NRA, tour 2 randomly selected OHV riding areas (Management Areas 10B and 10C) once annually. Examine for evidence of new-developed OHV routes in vegetated areas and for newly developed dispersed camping sites.
- At the Oregon Dunes NRA, monitor the Woahink Noise Buffer (Management Area 10L) for 1 hour twice annually (randomly selected dates) during the high OHV-use season (May-September) to determine if OHV use is restricted to the 2 dunes access corridors and that use is at prescribed slow speeds (less than 20 mph).

THRESHOLD OF VARIABILITY:

Closure Compliance -

- Greater than 100/o increase in number of violation notices from previous year (from # 1 above) or

- Evidence of closure violations found 33% or more of the time (I or more times out of the 3 sample dates) (from #2 above).

Designated OHV Route Compliance -

- Evidence of continued use on more than 20% (I out of *5* sampled) of non-designated historic deflation plain routes (from #3 above) or New OHV routes are the same or increased from previous year (from *#5* above).

Designated Dispersed Camping Compliance -

- Evidence of continued use at more than 20% (1 out of *5* sampled) of non-designated historic dispersed camp sites (from #4 above) or New dispersed camp sites (undesignated) are the same or increased from previous year (from #5 above).

Buffer Compliance -

- Thirty percent (30%) or more of use observed during sample period (2 hours total) is either outside designated access corridors or in excess of prescribed 20 mph speed

RESPONSIBILITY:
Ranger District Recreation Staff

REPORTING PERIOD:
Biennially

MONITORING ISSUE - v.3.2:

Is off-highway vehicle (OHV) use taking place as intended in the Forest Plan?

EVALUATION QUESTION 2:

Is off-highway vehicle use at the Oregon Dunes NRA complying with operating hour restrictions (curfews) and noise emission (dB) standards established in the Forest Plan?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

- Violation of decibel output maximums by individual machines.
- OHV -noise trend for NRA user population.
- Violation of operating hour restrictions.

SAMPLING METHODS:

- Using random sample days (stratified for day of week and season of year) and randomly selected OHV staging areas, systematically sample (noise test) OHVs entering the sand at the Oregon Dunes NRA. Sample a total of 80 hours per year (40 two-hour sample periods) with 2-hour sample periods occurring during peak OHV –use hours (10 a.m. to 4 p.m.) on selected days.
- Four times annually during the peak OHV use season (May-September) randomly select a curfew area at the Oregon Dunes NRA and monitor it for 1 hour during the curfew period to determine if OHV use is occurring within the area during the curfew hours.

THRESHOLD OF VARIABILITY:

- OHV Noise Compliance -
- Greater than 5% of all machines sampled exceed allowable noise standards.
- Curfew Compliance-
- Curfew violation exceeds 25% (more than once during 4 sample periods).

RESPONSIBILITY:

Ranger District Recreation Staff

REPORTING PERIOD:

Biennially

MONITORING ISSUE - v.3.3:

Is off-highway vehicle (OHV) use taking place as intended in the Forest Plan?

EVALUATION QUESTION 3:

What is the interaction between off-highway vehicle use and western snowy plovers in areas where OHV use is permitted?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

- Are vehicles staying within appropriate boundaries
- Are riders responsive to temporary closures as plovers expand and occupy new areas
- Do plover numbers continue to increase and expand in extent

SAMPLING METHODS:

A plan will be developed with USFWS, and USFS Wildlife and Rec personnel.

THRESHOLD OF VARIABILITY:

Determined by USFWS

RESPONSIBILITY:

Ranger District Recreation Staff

REPORTING PERIOD:

Biennially

MONITORING ISSUE - v.4.1-2:

Are Forest recreation facilities, building, administrative sites and environmental education programs usable by all people regardless of physical or mental ability?

GOALS/DESIRED CONDITION:

Constructed sites on the Forest and Forest programs are accessible to people of all physical and mental abilities (Section 504, Rehabilitation Act of 1973).

Section 504 of the Rehabilitation Act of I 973 requires that all federal facilities and programs be accessible to people with disabilities. The standard for recreation sites for the Forest Service is Forest Service Outdoor Recreation Accessibility Guidelines, and for trails is Forest Service Trail Accessibility Guidelines, U.S. Forest Service, both dated May 22, 2006. The Siuslaw Accessibility Transition Plan for Recreation Sites (1996) outlined what changes were needed for Forest recreation sites to meet access standards.

EVALUATION QUESTION 1:

Are recreation sites on the Forest brought to standard in accordance with the Forest Accessibility Transition Plan, 1996 and the Forest Service Guidelines, 2006?

EVALUATION QUESTION 2:

Are administrative facilities on the Forest brought to standard in accordance with the Forest Accessibility Transition Plan (1996)?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

Percentage of sites and programs that meet standard. The exceptions are where it has been determined that there are "conditions for departure" from standards, "where compliance would cause substantial harm to cultural, historic, religious, or significant natural features or characteristics" as defined in the Forest Service Standards, 2006.

SAMPLING METHODS:

Review and update recreation site records, trail records, building and administrative site records to find percentage of sites that meet standard. If sites are not accessible, determine why they are not meeting the standards.

Review two or three environmental education programs a year against access standards.

THRESHOLD OF VARIABILITY:

At least 75% of the Forest's facilities are accessible.

RESPONSIBILITY:

Forest Landscape Architect.

REPORTING PERIOD:

Biennially

MONITORING ISSUE - v.5.1-2:

Is the Forest restoring, maintaining, or enhancing scenic quality?

GOALS/DESIRED CONDITION:
The Forest meets scenery resource objectives.

EVALUATION QUESTION 1:
Do management activities meet scenery resource objectives?

EVALUATION QUESTION 2:
Are viewshed integrity levels being maintained or raised?

TYPE OF MONITORING:
Implementation

MONITORING INDICATORS:
Visual effects of landscape changing projects and extent of visual effects in a viewshed would be measured. The units of measure are scenic quality objectives and scenic integrity levels.

SAMPLING METHODS:
Field review of completed projects and field inventory of overall viewshed condition. The Scenery Resource Management Handbook. No. 701, outlines the scenery management system to be used in evaluating impacts to scenery on National Forest lands. Photo points will be established in each area and corridor. At least one highway corridor, special area (Special Interest Areas, Mount Hebo, Cascade Head), or recreation complex is photographed and evaluated each year. . All major Forest views are photographed at five to ten year intervals.

LOCATIONS FOR SCENERY MONITORING:
Corridors selected for having highest scenic importance in the Forest Plan (pg. IV- 26) are: Highway 101, Highway 38, Highway 34, Highway 18, and Highway 126. All the Special Interest Areas, the Oregon Dunes, and Cascade Head also have high scenic values recognized as important in their management.

- Viewshed monitoring to include views of the following areas and views of forest land from within these areas: Marys Peak, Mount Hebo, Cape Perpetua, Siltcoos Corridor, South Jetty Corridor, Horsfall Corridor, Sutton Recreation Area, Sand Lake Recreation Area and views of Cascade Head, as well as other monitoring along the corridors listed above.

THRESHOLD OF VARIABILITY:
At least 90% of the activities meet scenery objectives.

RESPONSIBILITY:
Forest Landscape Architect.

REPORTING PERIOD:
Biennially

MONITORING ISSUE - v.6.1:

Is the Travel Analysis Report being implemented as envisioned?

GOALS/DESIRED CONDITION:

Project access and travel management decisions will reflect the goals and objectives described in the Travel Analysis Report.

EVALUATION QUESTION 1:

What is the trend in system road mileage for open Key Roads, open Non-Key roads, and closed Non-Key Roads? In addition, what is the trend in road decommissioning?

EVALUATION QUESTION 2:

Are road maintenance and stabilization needs identified in Watershed Analyses or in the Road Analysis Report being accomplished?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

- Number of road system miles, reported by open Key Roads, open Non-Key roads, and closed Non-Key Roads.
- Number of road miles decommissioned.
- Annual road maintenance accomplishment and watershed restoration roads project accomplishments.

SAMPLING METHODS:

Annual review of accomplishments

THRESHOLD OF VARIABILITY:

No net gain in system roads.

RESPONSIBILITY:

Engineering Staff

REPORTING PERIOD:

Annually

MONITORING ISSUE - v.7.1-2:

Is recreation use increasing and are the people satisfied with their experience?

GOALS/DESIRED CONDITION:

Outdoor recreation opportunities on the Forest are available in a variety of settings. Opportunities for dispersed or developed recreation are appropriate. Activities such as hunting, sightseeing, OHV use, dispersed camping, and fishing are available at the appropriate scale.

EVALUATION QUESTION 1:

Is recreation use increasing?

EVALUATION QUESTION 2:

Are people having a high level of satisfaction during their visit?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

- Estimate the volume of recreation visitation.
- Descriptive information about that visitation, including activity participation, demographics, visit duration, measures of satisfaction, and trip spending connected to the visit.

SAMPLING METHODS:

National Visitor User Monitoring data

THRESHOLD OF VARIABILITY:

No less than 80% satisfaction

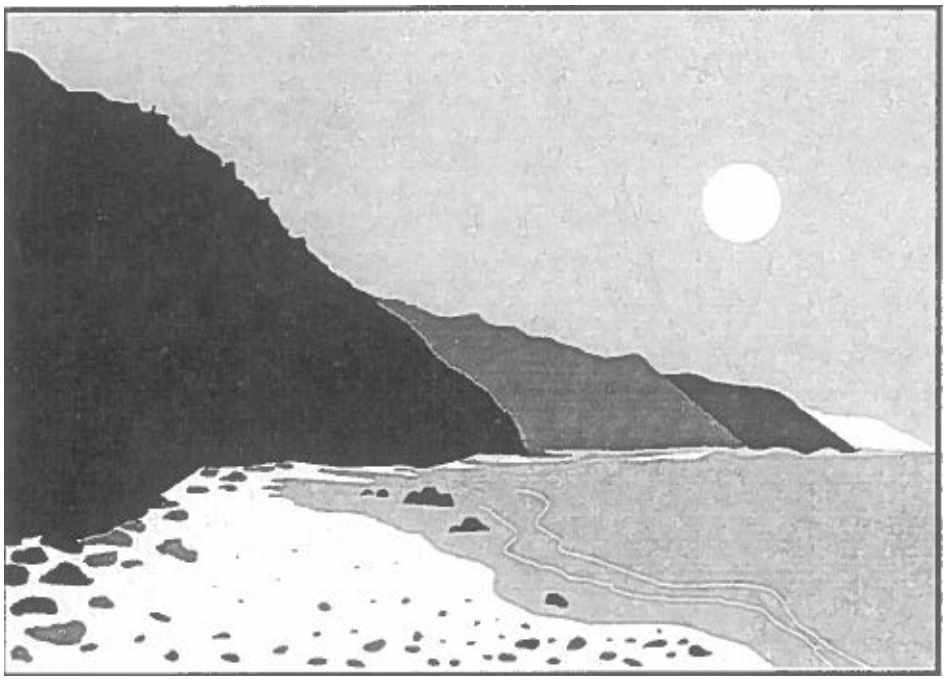
RESPONSIBILITY:

Recreation Staff

REPORTING PERIOD:

Every 5 years

Monitoring Category (vi) – Measureable changes on the plan area related to climate change and other stressors that may be affecting the plan area.



MONITORING ISSUE - vi.1.1:

Is the water quality of perennial streams, as measured by changes in water temperature, being maintained as predicted?

GOALS/DESIRED CONDITION:

Water temperatures will not be increased beyond that allowed by the State water quality standards. For streams that are 64 degrees or warmer, no increase due to management activities is allowed. Streams that are found to be 62 degree to 63.5 degrees may increase up to 0.5 degrees as a result of management activities. Streams that are found to be cooler than 62 degrees can become up to 3 degrees warmer as a result of management activities. Specific references to this standard can be found in FW-117 Standard and Guideline of the Siuslaw Forest Plan and in the State Water Quality standard described in the MOU between Oregon DEQ and USDA.

EVALUATION QUESTION 1:

Are water quality parameters for water temperature within limits established by state water quality standards?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Stream temperature.

SAMPLING METHODS:

- Aquatic and Riparian Effectiveness Monitoring Program (AREMP) Forest specific report.
- Long term water temperature monitoring (at 8 sites since 2006) located at both Hebo and Central Coast Districts.

THRESHOLD OF VARIABILITY:

For any perennial stream, when the seven day average maximum water temperature exceeds 64 degrees F.

RESPONSIBILITY:

Forest Hydrologist

REPORTING PERIOD:

Biennially

MONITORING ISSUE - vi.2.1:

What are the air quality trends and effects on sensitive vegetation types?

GOALS/DESIRED CONDITION:

The desired condition is to maintain moderate-to-high species diversity and abundance of lichens with the appropriate species composition for the baseline climate zones. Nitrogen-indicating lichen species will be absent or very low in number.

EVALUATION QUESTION 1:

Are lichen species changing indicating effects of air pollution?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Lichen richness and diversity/climate and air quality indicator lichen species

SAMPLING METHODS:

Region 6 Air Program Lichen Bio-monitoring Protocol.

THRESHOLD OF VARIABILITY:

No more than 10% increase in warmer climate or nitrogen indicator lichens species.

RESPONSIBILITY:

Air Program

REPORTING PERIOD:

Biennially

MONITORING ISSUE - vi.3.1:

Are destructive insects and disease organisms remaining below potentially damaging levels?

GOALS/DESIRED CONDITION:

Insects and disease are an integral part of the forest ecosystem; however, the goal to below damaging levels. If conditions are changed outside of the range of natural conditions, epidemics can occur. Insects and disease of major concern include Douglas-fir bark beetle, Swiss needle cast, and Phellinus (root rot). Bark beetle infestations can build up in areas of concentrated blow-down or following harvest treatments that leave a high level of down wood. Swiss needle cast, a fungus which only infects Douglas-fir, has been increasing rapidly over the past few years, most noticeably in the spruce-hemlock zone ("fog-belt") in stands where 50% or more of the trees are Douglas fir. Phellinus is present across the Forest and overstocked Douglas-fir stand conditions allow it to spread more rapidly than under natural conditions.

EVALUATION QUESTION 1:

What are the extent of outbreaks and infestations?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Acres of stands affected by various insects and disease.

SAMPLING METHODS:

- Swiss Needle Cast study.
- Review periodic surveys conducted by Regional Office Forest Pest Management (FPM)
- Ranger District surveillance by silviculturists or other district personnel.

THRESHOLD OF VARIABILITY:

5% of total Forest acres are affected.

RESPONSIBILITY:

Forest Silviculturist, with District silviculturists

REPORTING PERIOD:

Biennially

Monitoring Category (vii) – Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities.

MONITORING ISSUE - vii.1.1:

Is the Forest providing commodities at levels projected in the Forest Plan?

GOALS/DESIRED CONDITION:

The Forest will produce a predictable and sustainable level of timber and nontimber resources to meet its obligation under the Northwest Forest Plan. A sustainable supply of timber and other forest products is needed to help maintain the stability of local and regional economies (NFP, p. 26).

The Forest will also produce a sustainable, long term supply of desired special forest products (SFPs). Along with personal and Tribal uses of SFPs, this will provide a commercial supply of SFPs that will create income for collectors.

EVALUATION QUESTION 1:

Is the timber sale quantity similar to the level predicted in the Forest Plan?

EVALUATION QUESTION 2:

Are the annual quantities of Special Forest Products within limits prescribed in the Siuslaw Commercial Forest Products Environmental Assessment?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

- Cut and sold timber volume
- Special Forest Products harvested

SAMPLING METHODS:

Timber Information Management database

THRESHOLD OF VARIABILITY:

Deviation of 10% over a 3 year period.

RESPONSIBILITY:

Timber staff

REPORTING PERIOD:

Biennially

MONITORING ISSUE - vii.2.1:

- Are cultural resources being used and protected as planned?

GOALS/DESIRED CONDITION:

Condition assessments on ***priority heritage assets*** (see definition below) are current and include allocation to management category to guide the asset's protection and use.

Priority heritage assets are properties (archaeological sites, historic structures, artifact collections, historic collections, etc.) of distinct public value that are or should be actively maintained and meet one or more of the following criteria:

- The significance and management priority of the property is recognized through an official designation; such as listing on the National Register of Historic Places, State register, etc.
- The significance and management priority of the property is recognized through prior investment in preservation, interpretation, and use.
- The significance and management priority of the property is recognized in an agency-approved management plan.
- The property exhibits critical deferred maintenance needs, and those needs have been documented. Critical deferred maintenance is defined as a potential health or safety risk, or imminent threat of loss of significant resource values.

EVALUATION QUESTION 1:

- Has a condition assessment of each priority heritage asset been completed within the past 5 years?

TYPE OF MONITORING:

- Implementation

MONITORING INDICATORS:

Condition assessments for each priority heritage asset completed within five years.

Presence of significant resource damage or the potential threat of significant resource values loss to priority heritage asset.

SAMPLING METHODS:

Condition assessments of each priority heritage asset will be accomplished by the Forest Archeologist every 5 years to determine: 1) overall condition of the resource, and 2) annual maintenance, deferred maintenance, operational, and capital improvement costs needed to manage the resource.

THRESHOLD OF VARIABILITY:

Condition assessments for each priority heritage asset not completed within five years.

Significant resource damage and/or the potential threat of significant resource values loss to priority heritage asset that is not mitigated or managed in a means to avoid significant resource values loss.

RESPONSIBILITY:

- Forest archeologist

TASKS:

Each priority heritage asset will be monitored and the condition assessment reported in the National FS Heritage Resource database within a five year period. If there has been significant resource damage or the potential threat of significant resource values loss to priority heritage asset, a mitigation and/or management plan will be developed by the Forest archaeologist and any required work will be accomplished within one year.

REPORTING PERIOD:

- Annually with each priority heritage asset monitored within a 5 year period.

MONITORING ISSUE - vii.2.2:

- Are cultural resources being used and protected as planned?

GOALS/DESIRED CONDITION:
The objective is to inventory all proposed project work following the stipulations defined in the Programmatic Agreement (PA) between the Forest Service, the Oregon State Historic Preservation Officer (SHPO) and Advisory Council on Historic Preservation (ACHP).

EVALUATION QUESTION 2:
Are cultural resource surveys being performed according to the PA with SHPO and the ACHP?

TYPE OF MONITORING:

- Implementation

MONITORING INDICATORS:
Project survey accomplishments reported in the National FS Heritage Resource database.

SAMPLING METHODS:
The Forest archeologist will annually review all proposed Forest project planning areas and identify proposed ground-disturbing activities that require cultural resource survey and reporting. The Forest archaeologist will also annually review the list of units requiring post-project monitoring as required by stipulations in project reporting to SHPO.

THRESHOLD OF VARIABILITY:
Less than 100% of required cultural resource survey and reporting, as well as post-harvest monitoring occur.

RESPONSIBILITY:

- Forest archeologist

TASKS:
The Forest archaeologist will insure that require cultural resource survey and reporting, as well as post-harvest monitoring and reporting occurs within a timely manner following the stipulations defined in the PA with SHPO and the ACHP.

REPORTING PERIOD:

- Annually

MONITORING ISSUE - vii.2.3:

- Are cultural resources being used and protected as planned?

GOALS/DESIRED CONDITION:

- Opportunities for study and/or public use of cultural resources are offered including scientific investigation, public dissemination of research results, adaptive reuse of historic properties, traditional use, interpretation, or other public outreach through Windows on the Past projects.

EVALUATION QUESTION 3:
Are opportunities for the study and/or public use cultural resources being offered on the forest?

TYPE OF MONITORING:

- Implementation

MONITORING INDICATORS:

- Scientific investigations, professional presentations, and/or professional papers focused on cultural resources on the Forest.
- Interpretive cultural resource presentations provided to the public.
- Interpretive cultural resource products (signs, websites, displays, brochures, etc.) are developed and/or maintained.
- Adaptive reuse of historic properties.
- Traditional use of cultural resources (includes plants of cultural significance), which can include objects, sites, or landscapes.
- Volunteer projects developed to support the study, protection, and use of cultural resources.

SAMPLING METHODS:
The Forest archeologist will annually review all opportunities for study and/or public use of cultural resources on the Forest.

THRESHOLD OF VARIABILITY:
Less than five specific opportunities for study and/or public use of cultural resources are offered by the Forest annually.

RESPONSIBILITY:

- Forest archeologist

REPORTING PERIOD:

- Annually

MONITORING ISSUE - vii.3.1:

Are special habitats (non-forested terrestrial habitats) on the Forest being managed in a manner that would not diminish their unique characteristics?

GOALS/DESIRED CONDITION:

Protection and proper management of special habitats is an important goal of the NFP. Desired condition is to have well distributed, diverse, and complex assemblage of special habitats on the Forest in a condition that provides continued support flora and fauna that are dependent on these habitats.

EVALUATION QUESTION 1:

Are special habitats being protected in accordance with as described in the NWFP and with Siuslaw Forest Plan Standards and Guidelines? Are habitats of sufficient amount and structure to support listed or special management species?

TYPE OF MONITORING:

Effectiveness

MONITORING INDICATORS:

Protection and management of special habitats as measured by:

- Area and number of special habitats.
- Habitat structure and functionality.
- Listed and special status species and species composition.
- Compliance with FP standards and guides (FW-071).

SAMPLING METHODS:

Minimum 5 year evaluation of area (acres or extent) and number of special habitats (i.e. total acres of available meadows or total number of available ledges on cliff faces).

A management plan should be developed for each special habitat type that evaluates habitat structure. Within each conservation plan, methods for evaluating the functionality of habitat types for associated species. Each plan may differ in technique and intensity depending on the complexity of each habitat type.

THRESHOLD OF VARIABILITY:

No more than 10% loss in area or extent from baseline in year 1 of the evaluation.

RESPONSIBILITY:

Wildlife Staff/Ecology Staff

REPORTING PERIOD:

5 years or what is specified in management plans.

MONITORING ISSUE - vii.4.1:

Are Research Natural Areas (RNAs) being protected according to the RNA Establishment Records?

GOALS/DESIRED CONDITION:

The goal is to preserve the ecosystems classified in Cummins/Gwynn Creek, Reneke Creek, Sand Lake, Neskowin Crest, Flynn Creek and Tenmile Creek Research Natural Areas, and to allow uses that will not impede the natural conditions of the areas.

EVALUATION QUESTION 1:

Are human impacts within acceptable levels for the Research Natural Areas, i.e., in compliance with the Standards and Guidelines?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

- Evidence of off-road vehicles, bikes and foot traffic away from established trails.
- Damaged signs or other vandalism.
- Erosion associated with trails or old roads.

SAMPLING METHODS:

- Biennial site visits by RNA stewards or Forest RNA Coordinator to identify any existing or potential problems with human uses in the RNAs.
- Pertinent standards and guidelines will be evaluated for:
  - Sand lake - 13-01, 02, 06, 07, 09, 13
  - Reneke Creek - 13-01, 09
  - Cummins/Gwynn Creek - 13-01, 05, 06, 07, 08
  - Flynn Creek - 13-07, 08, 09
  - Neskowin Crest - 13-01, 07, 08, 09

THRESHOLD OF VARIABILITY:

Any sign of visible damage.

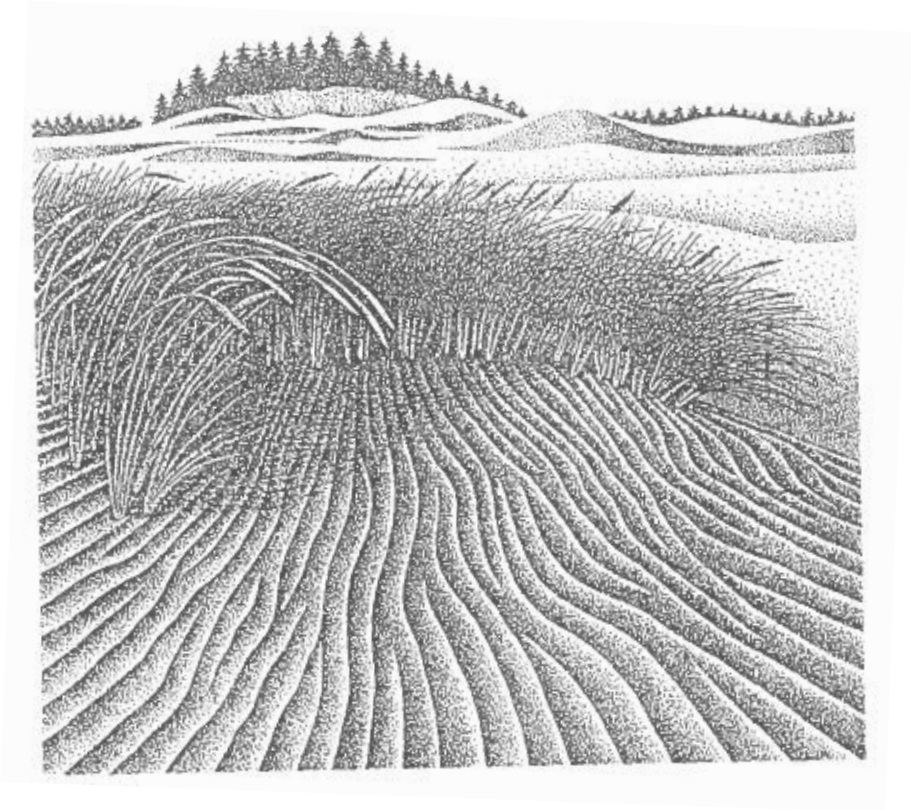
RESPONSIBILITY:

RNA Steward/RNA Coordinator

REPORTING PERIOD:

Biennially

Monitoring Category (viii) – The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land (16 U.S.C. 1604(g)(3)(C)).



MONITORING ISSUE - viii.1.1-2:

Is long-term soil productivity of forest land being maintained?

GOALS/DESIRED CONDITION:

The Forest goal is to prevent significant or permanent impairment of the productivity of the soil resource. The objective is to utilize management techniques that limit soil erosion, soil nutrient losses, and compaction to ensure maintenance of long term productivity of all resources that depend on soils for their productive potential.

The future condition of soils across the Forest includes maintenance of the natural levels of nutrients, and organic and mineral components. No more than 15% of any managed area may be left in a detrimental condition such as eroded, compacted, displaced or severely burned. Large logs, which provide the primary link between harvested and planted stands of trees, will remain at least at minimum levels across harvest units.

The basic potential of streamside soils to produce future supplies of large wood - both for the continued productivity of the soils, and for providing future sources of wood for stream channel structure is partially dependent upon persistent, long term inputs of large tree boles to the soil surface which maintain soil biological activities, and become nurse trees for future conifers in an otherwise marginally hospitable aquic soil regime.

EVALUATION QUESTION 1:

Are practices being implemented to meet Forest Plan Standards and Guidelines?

EVALUATION QUESTION 2:

Are practices being implemented to protect slope stability?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

Harvest prescriptions are implemented according to the timber sale contract

Soil disturbance is below the 15% maximum

Prescriptions for snag and down wood are implemented according to the contract (timber or service).

SAMPLING METHODS:

- Inspections by timber sale administrators or harvest inspectors for timber sales.
- Inspections by contract inspectors or contracting officer representatives.

THRESHOLD OF VARIABILITY:

Inspections indicate the contract obligations are met.

RESPONSIBILITY:

Timber Sale Administer/Harvest Inspector/ Contract Inspector/Contracting Officer Representative

REPORTING PERIOD:

Biennially

MONITORING ISSUE - viii.2.1:

Are BMPs employed to protect water, aquatic, and riparian resources applied to ground-based skidding, cable or aerial yarding and harvesting?

GOALS/DESIRED CONDITION:

Best Management Practices (BMPs) are employed to protect water, aquatic, and riparian resources during ground-based skidding, cable or aerial yarding and harvesting.

EVALUATION QUESTION 1:

Are BMPs effective in protecting water quality and aquatic health within the Aquatic Management Zones?

TYPE OF MONITORING:

Implementation

MONITORING INDICATORS:

BMP monitoring protocols

SAMPLING METHODS:

- BMP National survey forms.
- Random selection of projects.
- Data will be collected and compiled by an interdisciplinary team. Summary reports will be prepared.

THRESHOLD OF VARIABILITY:

BMPs are met 90% of the time.

RESPONSIBILITY:

Interdisciplinary Team

TASKS:

Data will be collected and compiled by an interdisciplinary team. Summary reports will be prepared.

REPORTING PERIOD:

Annually