

Table IV-2. Monitoring Elements

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
1	Perception of management activities on the Forest	Are interested citizens raising concerns about management activities?	Comment cards, personal contacts, level of National Environmental Policy Act (NEPA)/National Forest Management Act (NFMA) involvement, appeals, litigation	Low	Annually, via review of substantive comments and NEPA decision appeals and/or feedback from Forest personnel staffing public events (i.e. county fairs, Idaho Sportsmen's Show, etc.)	5 years
2	Perception of management activities on the Forest	Are consulting agencies part of the process, and are concerns being raised about implementation of the Forest Plan?	Level 1 meeting notes, level of NEPA or NFMA involvement	High	Annually, Forest Level 1 Operating Guide, update to Forest Operations Map, Counterpart Regulations reporting. Level 1 meeting notes, State 303(d)	5 years
3	Management actions	Are proposed actions and associated effects being adequately disclosed in NEPA documents?	Review of actions on the Quarterly Schedule of Proposed Actions	Moderate	Annual review of selected projects	3 years
4	Tribal participation with the Forest	Are current processes meeting the needs for consultation?	Program reviews and personal contacts	Moderate	Annually, using personal contacts, and formal feedback	3 years
5	Coordination with Tribes	Are traditional cultural resources and special interest areas being considered and maintained?	Projects within known special interest areas or potentially affecting traditional cultural resources	Moderate	Annually review up to 10 percent of projects within known special interest areas or potentially affecting traditional cultural resources	3 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
6	State and local government participation with the Forest	Are current processes such as commission appearances, field reviews, etc., meeting coordination needs?	Program reviews and personal contacts	Moderate	Annually, using personal contacts, and formal feedback (surveys)	3 years
7	Accessibility improvement efforts in developed recreation and administrative use facilities	Is disabled access improving in relation to federal laws and other agency guidelines?	Accessibility status of Forest administrative facilities. Percentage of accessible developed recreation sites	High	Annually, conduct condition surveys of up to 20 percent of the Forest's administrative and developed recreation facilities	5 years
8	Safety of administrative facilities	Are administrative sites including drinking water sources safe and accessible for visitors and employees?	On-site inspection of facilities and drinking water testing	High	As needed, but at least annually using building safety inspection forms and drinking water testing program	Annually
9	Safety of developed recreation sites	Are developed recreation sites free of high-risk conditions? Do water systems meet Federal, State, and local requirements?	% of developed rec sites that meet all Region 4 Critical Health and Safety Standards (e.g. Meaningful Measures).	High	Annual review of Health and Safety Standard compliance based onsite inspection of facilities and drinking water testing as prescribed by State and/or agency requirements.	Annually for water systems; 5 years for other
10	Condition, level of use, and maintenance of roads	Are road conditions improving related to safety or user comfort?	<del>Miles maintained by maintenance class, and condition surveys</del> <a href="#">National Visitor Use Monitoring Results</a>	Moderate	<del>Annually track miles of roads maintained. Conduct condition surveys in accordance with National Condition Survey policy and protocol</del>	5 years
14	Recreation demand	Are the amount and types of recreation opportunities provided meeting customer needs and expectations?	National recreation use monitoring survey results, Comment forms and user correspondence	Medium	The National Recreation Use Monitoring survey results; Annually during Forest recreation meetings for other sources	5 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
12	Recreation use trends, distribution and levels	Are recreation activity levels changing, and are shifts occurring between types of activities, and locations of recreation use?	Field observations by recreation staff, comments, letters, available State and industry data sources, and National Recreation Use Survey results	Low	The National Recreation Use Monitoring survey results; Annually during Forest recreation meetings for other sources. Review and interpretation of State and industry data every 2 years	5 years
13	Recreation use conflicts	Are conflicts rising between recreational uses? Are conflicts being resolved?	Development of plans or other mechanisms (e.g. user group forums) to resolve conflicts.	Moderate	Annually	5 years
14	Dispersed recreation use and distribution	Is the level of use occurring in dispersed sites having impacts to other resource values? If so, what actions were taken and were they effective?	Site inventory and use survey	Moderate	Annually, via review of comments and necessary on the ground mitigations planned or implemented	5 years
15	Recreation Opportunity Spectrum (ROS) Inventory	Are management activities changing the ROS settings?	Review of project implementation and updating the ROS inventory to reflect any changes in ROS class acres	Moderate	Annually via review of projects at RD and SO project levels to determine changes in ROS class acres at Mgmt Area level.	5 years
16	Level of trail maintenance relative to trail use	Do trail maintenance priorities reflect trail use levels, health and safety issues, and resource impact mitigation needs?	Miles of high priority trail maintained. Field observations of use and resource impacts from recreation staff, volunteers, and public comments.	Moderate	Annual review of completed trail maintenance accomplishments, trail use and resource impacts from observations and comments from recreation staff, resource specialists, volunteers, and trail users	5 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
17	Potential impacts to visual resources	Are Forest management actions being designed and implemented to meet Visual Quality Objectives (VQOs)?	Monitoring project areas from sensitive viewpoints	Moderate	Annually review up to 10 percent of projects on-the-ground from identified viewpoints	3 years
18	Modification of established VQOs	Are the VQOs appropriate given resource management needs?	Number of Forest Plan amendments that modify established VQOs	High	Every 5-years review management areas where amendments for VQOs were completed	5 years
19	Protection of historic properties during project implementation	Are historic properties being affected by project activities?	Assess the effects of project implementation on selected projects for at least 5 percent of the projects for which Cultural Resource Management approval had been recommended during the previous year	Low	Annually using field inspection	Annually

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
20	Stewardship of historic properties	Are historic properties being managed to standard protected, studied and the findings shared with the public?	<p><del># of heritage priority assets with critical deferred maintenance</del></p> <p># of historic properties harmed by natural processes, illegal activities, overuse, and effects of Forest Service or Forest Service-authorized activities.</p> <p>#of cultural resource sites recognized through official designations</p>	Low	Annually survey up to 5 percent of the historic properties based on heritage assets using <del>condition assessments</del> <a href="#">R4 Heritage Program Managed to Standard guidelines</a>	5 years
21	Gathering activities on the Forest	Are Forest gathering activities resulting in resource depletion (i.e., mushrooms, bear grass, huckleberries)?	<p>Estimated amount of miscellaneous products collected</p> <p>Reproduction and age class distribution of live plants being collected</p>	Low Moderate	Annually, via review of miscellaneous product permits issued for any given area	3 years
22	Vegetation treatments	Are planned treatments being implemented?	Acres treated annually	High	Annually via NEPA document decisions	5 years
23	Effectiveness of vegetation treatments and effects resulting from natural disturbances such as unplanned	Is live vegetation at, or moving towards, desired conditions as described in Appendix A of the Forest Plan?	Existing quantity of forested PVG or non-forest cover type acres across the planning unit by size class and/or canopy closures and species	Moderate	Every 5 years (FY09 and FY14) or sooner using best available mid-scale vegetation data such as aerial photography, LANDSAT imagery, LANDFIRE datasets, FIA and other intensified field grid inventories, BAER severity/intensity maps, and FHP inventories and maps. Latest	5 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
	wildfire		type. Relative distribution and patch size of PVGs/cover type, or groups of PVGs/cover types, across the planning unit.		science concerning estimates of the HRV vegetative quantities, as well as fire regime patch size and distribution.	
24	Riparian condition	Are Forest management activities adequately designed (including delineation of RCAs) to maintain or improve riparian functions and ecological processes important to furthering Forest Plan goals and objectives?	Effects on the riparian functions and ecological processes as identified in Appendix B: Guidance for Delineation and Management of RCAs	High	3 years via review of selected projects and surveys (e.g., Proper Functioning Condition; IIT Effectiveness Monitoring; remote sensing within 5 <sup>th</sup> field hydrologic units	5 years
25	Maintenance and restoration of forested conditions	Has establishment of off-site native tree species affected the maintenance or restoration of desired forested conditions?	Number of regeneration acres dominated by off-site native tree species	Moderate	Survey of regeneration acres	5 years
26	Habitat for terrestrial Threatened, Endangered, Proposed, Candidate of Forest sensitive species, both plant and animal	Are management actions providing for, or moving toward the extent of vegetation components necessary to meet the needs of TEPC species?	Changes in habitat acres	Moderate	project data and spatial tracking databases (e.g. FACTS) identifying known and restored habitats.	5 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
27	Terrestrial Management Indicator Species	Are management actions maintaining or restoring distribution and abundance of management indicator species?	Population trends, demographic population data	High	Annual completion of monitoring surveys and the distribution of occurrence records across the species' range on the Forest by watershed.	5 years
28	Terrestrial Management Indicator Species	Are management actions providing for, or moving toward the extent of vegetation components necessary to meet the needs of MIS species?	Change in habitat acres; change in large tree structure by PVG	Moderate	Existing project data and spatial tracking databases (e.g. FACTS) identifying known habitats and restored habitats.	5 years
29	Botanical species of concern, Watch species or Sensitive species	Are Forest management actions affecting known Sensitive species or Watch species habitats at the project level?	Acres of disturbance of known occupied habitat	Moderate	Three years, via review of up to 25 percent of projects within known occupied habitat	3 years
30	Soil productivity	Are management actions and forest plan direction effectively maintaining or restoring long-term soil productivity?	Amount of area in non-detrimentally disturbed condition and Total Soil Resource Commitment (TSRC)	Moderate to High	Annually; review of selected activity areas	3 years
31	Snags and coarse wood for wildlife habitat and soil productivity	Are snags and coarse woody debris at, or moving toward, desired conditions as described in Appendix A of the Forest Plan?	Number of snags and coarse wood by size class for each PVG within activity areas	Moderate to High	Annually review of selected assessments, inventories or projects. Aggregate results of annual reviews for reporting	5 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
32	Distribution of aquatic ecosystems	Are management actions maintaining or restoring the distribution, abundance, and habitat quality of management indicator and TEPC species?	Identification of Watershed Condition Indicators, tracking presence absence data, acres/mile of occupied habitat, number of strongholds, number of isolated populations as identified in the WARS database	Moderate	3 years via review of selected mid- and fine-scale assessments and restoration actions, surveys (e.g., IIT Effectiveness monitoring; Forest Service, Tribal and State Populations and Spawning Surveys)	3 years
33	Watershed restoration and conservation activities	Have restoration and conservation activities been focused in priority watersheds identified by the WARS process?	Program reviews, total dollars spent and amount of restoration activity in high priority vs. other 6 <sup>th</sup> field watersheds	High	Annually review selected projects and programs. Review results of monitoring with NOAA Fisheries and USFWS annually.	Annually
34	Project implementation	Have prescriptions, projects, and activities been implemented as designed and in compliance with the Forest Plan?	Project reviews and yearly summaries for Pacfish/Infish IIT team	High	Annual review of IIT Implementation Monitoring, State (DEQ/ DSL) and Forest reviews of selected 6 <sup>th</sup> field hydrologic units	5 years
35	Landslide prevention	Are management actions and forest plan direction effectively preventing management-induced landslides?	Changes in frequency/size of landslides stratified by hazard risk classes (low, moderate, and high)	Low	As needed via mid-, fine-, and site-scale analyses; remote sensing and GIS queries	3 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
36	Aquatic ecosystems stream flows	Are forest management actions maintaining or restoring the processes and functions that regulate stream flows and ground water character?	Tracking acres in ECA; road density; # federal water rights obtained; stream discharge in selected 6 <sup>th</sup> field hydrologic units	Moderate	Annually via IIT Effectiveness monitoring; USGS water resources data; R1/R4 Habitat Inventory; mid-, fine-, and site-scale analyses	5 years
37	Water quality and beneficial use status	Are management actions maintaining or restoring water quality to fully support beneficial uses, and native and desired non-native fish species and their habitats over multiple spatial scales?	Number of 303(d) streams listed versus de-listed; macro-invertebrate tolerance measures; water quality indicators (e.g., temperature, pH, turbidity)	Moderate to High	Annual review of TMDLs, USGS and DEQ databases, Forest water quality stations and selected NEPA projects	2 years
38	Aquatic ecosystems	Are management actions and forest plan direction effectively maintaining WCIs when currently in the range of desired conditions, and restoring WCIs when outside the range of desired conditions over multiple spatial scales?	Changes in watershed, channel and habitat condition and water quality indicators	Moderate	Annually via review of selected mid-, fine-, and site-scale analyses; review of IIT effectiveness, R1/R4 Habitat Inventory and DEQ Burp data	2 years
39	Noxious weed prevention	Are Forest Plan standards and guides effective in preventing establishment of new noxious weed infestations?	Acres of Forest areas classified as free of non-native invasive plant species (weed free)	Moderate	Annual field inspection of selected Early Detection Rapid Response (EDRR) monitoring sites and 2- 3 year follow-up monitoring identified for selected, representative projects in weed free areas	3 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
40	Noxious weed management	Are Forest management strategies effective in controlling, containing, or eradicating established nonnative invasive plant populations?	Acres of known infestation	Moderate	Annually; via inventories, treatment and EDRR surveys. Infestation data recorded in NRIS Terra database	5 years
41	Noxious weed control, containment and eradication	Are Forest Plan standards and guidelines effective in controlling, containing or eradicating established non-native invasive plant populations?	Percent change in infested acres and density in populations affected by project activities.	High	2-3 year inventory of selected projects in areas that contain or adjoin existing non-native invasive plant populations.	3 years
42	Cooperation in management of non-native invasive plant species.	Is the Forest managing nonnative invasive plant species in a cooperative manner with other agencies, land managers, and land owners and users associated with NFS lands?	1. Acres of the Forest included in coop weed mgmt areas. 2. List of Cooperators participating in CWMAs and other Forest weed mgmt activities.	High	5 years	5 years
43	Changes in the type of vegetation conditions, volume, growth, or mortality	How have conditions changed and what are the levels of volume, growth, or mortality at the Forest level.	Re-measurements of existing fixed points and new measurements to determine conditions	High	10-year interval or as needed	10 years
44	Total Sale Program Quantity, which includes Allowable Sale Quantity	Are prescriptions implemented to achieve management objectives meeting the expected outcomes for timber production?	Tracking acres treated (e.g., thinned, harvested, planted) and associated volumes.	High	Annually, via MARS reports, Sale Tracking And Reporting System (STARS), Timber Information Manager (TIM) and Timber Sale Accounts (TSA).	5 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
45	Head Months Under Permit	Are Forest Plan goals, objectives, standards, and guidelines affecting the number of head months associated with term grazing permits?	Billing and annual operating plans; allotment grazing module from IIT process	High	Annually via INFRA	5 years
46	Range Improvements	Are range improvements being adequately maintained and serving their intended design?	Field inspection of improvements based on assigned maintenance standards.	High	Annually, selected sample from improvements on allotments administered to standard. Condition recorded in INFRA maintenance reported in annual compliance report.	5 years
47	Forage Utilization Levels	Are established utilization levels providing for desired ground cover, soil stability, plant vigor and composition?	% ground cover for uplands, % bank stability in riparian areas, % utilization in uplands, & stubble height in riparian. Acres meeting/moving toward desired condition in INFRA database	High	Annually, review up to 10 percent of active allotments (allotments administered to standard). Measure use levels annually; ground cover and bank stability every 3-5 years.	3 years
48	Effectiveness of the Allotment Management System	Are current allotment management strategies effective in meeting or moving toward desired vegetation conditions for non-forested vegetation types?	Grazing Response Index: Frequency (duration of grazing); intensity (use levels); and opportunities (growing periods)	Moderate	Annually, review up to 10 percent of allotments (allotments administered to standard). Reported in annual compliance report.	5 years

Element Number	Activity, Practice, Or Effect To Be Measured	Monitoring Question	Indicator	Data Reliability	Measuring Frequency and Recommended Method	Report Period
49	Research Natural Areas	Have management plans been developed for Research Natural Areas that currently lack them? Are management activities occurring within or adjacent to RNAs that are affecting natural ecological processes within RNAs.	Number of management plans completed Number and types of activities occurring within or adjacent to RNAs.	High	5 years	5 years
50	Research Natural Areas	Have additional RNAs been recommended for establishment?	Number of RNAs recommended for establishment	High	5 years	5 years