

Deschutes National Forest Transitional Monitoring Plan

1/25/2016

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Deschutes National Forest Transition Monitoring Plan

Deschutes National Forest Monitoring Element Table – 1/25/2016

Selected Plan Component	Monitoring Question	Monitoring Indicator
(i) The status of select watershed conditions		
<p>1. Objective - Functioning Watershed Condition</p>	<p>What is the status of the watersheds? Are watershed conditions functioning properly? Which watershed conditions are functioning properly and why? Which are functioning improperly and why? What are the trends in watershed conditions and function?</p>	<p>Trends in functioning condition for the watersheds – Watershed Condition Framework monitoring indicators</p>
<p>2. Standard – Water Quality - Best Management Practices are employed to protect water quality.</p> <p>(LRMP – 4-69 to 4-70) and National Core BMP direction (4/30/2012)</p>	<p>What BMPs been implemented and are they effective at managing water quality consistent with the Clean Water Act? If needed, what corrective actions and adaptive management measures were implemented? Were they effective?</p>	<p>Results from BMP Annual monitoring protocols</p>
(ii) The status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems.		
<p>3. Goal is to maintain or enhance stream temperatures in streams on the forest.</p> <p>(Fisheries – LRMP 4-67 to 4-68)</p>	<p>Are watersheds functioning properly with the focus on stream temperature to support desired fish habitat, including downstream habitat? Describe conditions and trends in watersheds. Which watersheds are not functioning properly and why?</p>	<p>Stream temperature trends on select streams on the forest</p>

Selected Plan Component	Monitoring Question	Monitoring Indicator
<p>4. Goal is to maintain or enhance stream habitat conditions in streams on the forest to provide for desired aquatic habitat for both focal and T&E species.</p> <p>(Fisheries – LRMP 4-67 to 4-68)</p> <p>INFISH and Northwest Forest Plan Riparian Reserve and ACS standards</p>	<p>Are streams functioning properly with the focus on stream habitat to support desired aquatic habitat, including downstream habitat?</p> <p>Which streams are not functioning properly and why?</p> <p>Have any trends been identified in habitat conditions in monitored streams and what are the trends?</p> <p>What S&Gs have been followed to protect riparian habitat?</p>	<p>Habitat parameters such as riffle to pool ratios, width to depth ratios, pebble counts, bank condition, large woody debris and other parameters collected during stream surveys.</p>
<p>5. Improvement in watersheds with the select ecological condition being fuels arrangement and management.</p> <p>(Fire and Fuels Management – LRMP 4-73 to 4-74)</p>	<p>Are forest fuels conditions functioning properly as determined by departure from desired forest fuels conditions?</p> <p>How many acres of the different plant association groups are at desired fuel levels and where are they located?</p> <p>What are the barriers to maintaining or improving conditions?</p>	<p>Identification of desired forest fuels conditions.</p> <p>Identification of desired fuels conditions.</p> <p>Acres treated by treatment type.</p> <p>Acres treated by treatment type by Wildland Urban Interface and Non-Wildland Urban Interface.</p> <p>Changes in fuel arrangements within treatment units and within watersheds.</p>
<p>6. Desired Terrestrial Conditions are Properly Functioning -</p> <p>Status of late successional and old growth forests (LOS) by Plant Association Group.</p> <p>Northwest Forest Plan and Eastside Screens focus on management of late and old forest systems.</p>	<p>What progress has been made toward maintaining and restoring resiliency in the identified Plant Association Groups?</p> <p>What are the structural stages for each PAG, with a focus on LOS?</p> <p>How far are stands departed from historical range of variation?</p>	<p>Changes in tree abundance, tree age and size distribution, species composition and distribution.</p> <p>Compare existing conditions to desired conditions by PAG.</p>

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<p>7. Riparian Habitats Status of Riparian Areas / Wetlands, Streamside Management Units, and Flood Plains (LRMP 4-61 to 4-67), Northwest Forest Plan Riparian Reserve, ACS and INFISH standards)</p>	<p>Are habitats being protected in accordance with LRMP S&Gs at selected sites (INFISH, NWFP and ACS)?</p> <p>What is the trend in riparian habitat conditions?</p> <p>Are restoration activities effective in maintaining / enhancing riparian habitats?</p>	<p>Adherence in planning and implementation to riparian management standards</p> <p>Changes in riparian vegetation cover and species compositions compared to desired conditions.</p>
(iii) The status of focal species to assess the ecological conditions required under § 219.9.		
<p>8. Redband trout – (Sensitive Species)</p> <p>(stream habitat conditions)</p> <p>(Fisheries - LRMP 4-67 to 4-68)</p>	<p>Are habitat conditions being provided consistent with the conservation plans and / or biological evaluations?</p>	<p>Stream Habitat Status</p> <p>Population Status</p> <p>Review of NEPA project BEs for inclusion of S&Gs and assessment of treatment impacts</p>
<p>9. White bark pine - (Sensitive species)</p> <p>(Threatened, Endangered, and Sensitive Plant Species – LRMP 4-60 to 4-61)</p>	<p>What are whitebark pine population trends, especially in monitored sites?</p> <p>Is there an increase in blister rust occurrence and mortality (including bark beetle impacts)?</p> <p>Is whitebark pine regeneration increasing or declining?</p> <p>Is dwarf mistletoe affecting whitebark pine regeneration?</p> <p>Are whitebark pine restoration plantings successful?</p>	<p>Percent of whitebark pine infected with rust cankers</p> <p>Percent of dead whitebark pine trees and data on suspected causes</p> <p>Whitebark pine regeneration data from permanent plots</p>
<p>10. <i>Botrychium pumicola</i> (pumice moonwort) (Sensitive species)</p> <p>(Threatened, Endangered, and Sensitive Plant Species – LRMP 4-60 to 4-61)</p>	<p>What are population trends, especially in monitored sites?</p> <p>What is the status of habitat condition and threats for this species on the Forest?</p>	<p>Numbers of pumice moonwort plants counted at selected monitoring plots</p> <p>Observations on general habitat condition and disturbances/threats from field site visits.</p>

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<p>11. <i>Penstemon peckii</i> (Peck's penstemon)) (Sensitive species)</p> <p>(Threatened, Endangered, and Sensitive Plant Species – LRMP 4-60 to 4-61)</p>	<p>What are population trends and habitat condition and threats for Protected and Managed Populations (per the Conservation Strategy)</p> <p>Is grazing impacting Peck's penstemon?</p> <p>Are mitigations specific to protecting Peck's penstemon populations and their habitats being implemented?</p> <p>Are these mitigations effective?</p>	<p>Numbers of plants counted during field visits at selected sites.</p> <p>Number and condition of plants in various phenological stages in grazing monitoring plots.</p> <p>Data from project implementation and monitoring reviews.</p>
<p>12. Bald eagle (focal species – currently Management Indicator Species (MIS)) Goal is to maintain habitat on the forest and to not contribute to declines.</p> <p>(Wildlife – LRMP 4-51 to 4-60)</p>	<p>Are current breeding territories being maintained and are new territories being added on the forest?</p> <p>Are nests and nest stands being protected?</p> <p>Are S&Gs for Bald Eagle Management Areas being followed?</p> <p>What are the trends in recreation use near nests and nest stands?</p> <p>What are the trends in wintering bald eagles on the Forest?</p>	<p>Nesting surveys and nesting success rates.</p> <p>Winter bald eagle counts.</p> <p>Implementation of closures to protect nesting eagles.</p> <p>Habitat Monitoring</p>
<p>13. Snags (woodpeckers) – (focal species and MIS)</p> <p>Habitat that is of a concern is snags in key plant associations such as Ponderosa Pine / Douglas-fir, Mixed conifer, lodgepole pine and burned habitat.</p> <p>(Wildlife – LRMP 4-51 to 4-60)</p>	<p>What are the current snag densities and sizes on the forest?</p> <p>Are they represented well in all important plant groups?</p> <p>Are MIS S&Gs being followed?</p> <p>How are the amount of burned acres affecting or contributing to foraging and nesting habitat?</p>	<p>Snags – 6th field watershed by habitat type (DecAid) for the following plant groups:</p> <ul style="list-style-type: none"> • PP Doug fir • Mixed conifer • Lodgepole <p>Burned habitat – acres and locations</p>

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<p>14. Deer and elk – (focal species and MIS)</p> <p>Habitat that is of a concern is hiding cover in summer range.</p> <p>Hiding cover and road densities are also important in Deer Habitat Management Area (MA-7).</p> <p>Key Elk areas also provide important habitat.</p> <p>(Wildlife – LRMP 4-51 to 4-60)</p>	<p>What are the current hiding cover percentages in summer range?</p> <p>What are the current cover percentages in Key Elk Areas and are they meeting S&Gs?</p> <p>What are the current cover percentages in Management Area 7 - Deer Habitat?</p> <p>If there are deficiencies, what is the cause?</p> <p>What are road densities?</p> <p>What factors could be contributing to disturbances and diminished habitat effectiveness?</p>	<p>Hiding cover – 6th field watershed – 30% hiding cover (summer range)</p> <p>Key Elk areas – hiding cover, road density, recreation impacts (Trail mileages, use levels and capacity, user created trails, etc.)</p> <p>Management Area 7 - Deer Habitat (winter range cover percentages)</p> <p>Road density by 6th field watershed and for Key Elk areas, summer range and Deer Habitat.</p>
<p>15. Caves and Bats – (focal species and some MIS)</p> <p>Townsend's big-eared bat (caves)</p> <p>Spotted bat (cliff face)</p> <p>Pallid bat (caves / snags)</p> <p>Fringed Myotis and bats in general (snags)</p> <p>(Wildlife – LRMP 4-51 to 4-60 and Caves – LRMP 4-31 to 4-32 and Northwest Forest Plan)</p> <p>Cave Management Act</p>	<p>Is cave habitat being protected?</p> <p>Are mitigations effective to prevent White nose syndrome?</p> <p>What are human impacts to cave habitat where access is granted and allowable?</p>	<p>Implementation of mitigation measures for white nose syndrome and surveys for presence of infections.</p> <p>Conditions of important habitat components</p> <p>Recreation use at specific caves</p> <p>Cave habitat for bats include:</p> <ul style="list-style-type: none"> • Summer maternity • Winter hibernacula • Protection of habitat <p>Alternative habitat - Abandoned buildings / bridges</p>

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(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.		
<p>16. Bull Trout – T&E species</p> <p>Goal - bull trout recovery is a prime goal for streams on the Deschutes NF.</p> <p>(Fisheries - LRMP 4-67 to 4-68 and Northwest Forest Plan)</p>	<p>Are habitat conditions being provided consistent with the Recovery plans or with regional direction?</p>	<p>Stream Habitat Status</p> <p>Population Status</p> <p>Review of NEPA project BAs and BOs for treatment impacts</p>
<p>17. Spotted Owls – T&E species, NWFP key species</p> <p>Goal – Spotted owl recovery is a prime goal for the Deschutes NF.</p> <p>(Wildlife – LRMP 4-51 to 4-60 and Northwest Forest Plan)</p>	<p>What is the amount of Nesting, Roosting, and Foraging (NRF) and dispersal habitat and how has it changed?</p> <p>Are barred owls invading spotted owl habitat and what are the trends?</p>	<p>Amount and distribution of NRF and dispersal habitat and changes over time.</p> <p>Barred owl known sites</p> <p>Nesting surveys and nesting success rates</p>
<p>18. Oregon Spotted Frog – T&E species</p> <p>Goal – Spotted frog recovery is a prime goal for the Deschutes NF.</p> <p>(Wildlife – LRMP 4-51 to 4-60)</p>	<p>What is the trend in populations as indicated by egg masses?</p> <p>What are impacts of management activities?</p>	<p>Egg Mass Survey results</p> <p>Big Marsh and Ryan Ranch habitat restoration results</p>
(v) The status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives.		
<p>19. Recreation</p> <p>Goal - settings and opportunities provide high visitor satisfaction, meeting current and future public demands in sustainable ways. This</p>	<p>Are the current recreation settings and opportunities moving toward desired recreation settings and opportunities?</p>	<p>Recreation opportunity spectrum: acres, location, and distribution (mapped).</p> <p>Satisfaction levels from USDA Forest Service national visitor use monitoring survey results by</p>

Selected Plan Component	Monitoring Question	Monitoring Indicator
<p>includes the following recreation assets: trails, developed recreation (Campground and Day Use sites) trailheads, snow parks and dispersed uses; Motorized and non-motorized uses and Summer and Winter use</p> <p>Recreation – LRMP 4-31 to 4-34,</p>	<p>How have the recreation settings and opportunities trended?</p> <p>What is the trend in visitor use and satisfaction?</p> <p>Are water and soil resources being protected from recreational uses?</p>	<p>single administrative unit, every 5 years new data is collected.</p> <p>Satisfaction levels gathered through local recreational studies and specific site data collection.</p> <p>Best Management Practices monitoring indicators for recreation site monitoring</p>
<p>20. Special Use Authorizations Opportunities for recreation are provided through special use authorizations.</p> <p>Special Uses – LRMP 4-74 to 4-77)</p>	<p>Are people satisfied when using the forest through permits including recreation events, resorts, outfitter guides services and recreation residences and are permit holders providing a good quality experience?</p>	<p>Annual results from developed recreation monitoring (concessionaire) along with Field and Winter Ranger site reporting.</p> <p>Percent compliance with terms of the permit.</p> <p>Visitor satisfaction based on number of permits issued and results of required surveys.</p>
(vi) Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.		
<p>21. Climate change may be impacting the plan area in a variety of ways including but not limited to:</p> <ul style="list-style-type: none"> • Extent, duration, and severity of disturbance events such as fire, insects and disease, • Changes in stream flow and temperature regimes and timing of flows • Changes in vegetation location, composition and structures. 	<p>What are the plan area vulnerabilities?</p> <p>What stressors are impacting the plan area?</p> <p>Are there trends in stressors and if so, how are they affecting the plan area?</p> <p>Are timing and amount of stream flows changing in select watersheds?</p> <p>Is stream temperature being affected?</p>	<p>Changes in disturbance regimes such as:</p> <ul style="list-style-type: none"> • Insect and disease, wildfire impacts, etc. <p>Changes in timing and amounts of stream flows and stream temperatures.</p> <p>Changes in vegetation location, composition and structures.</p>

Selected Plan Component	Monitoring Question	Monitoring Indicator
(See also Fisheries, Watershed Conditions, Vegetation, Fuels, Insects and Disease, Invasive species monitoring elements)		
<p>22. Insects and Disease - Insects and diseases are an integral disturbance agent in the forest ecosystem however the goal is to prevent epidemics outside the normal range of disturbance.</p> <p>(Forest Health – LRMP 4-36 to 4-37)</p>	<p>What are the extent of outbreaks and infestations?</p> <p>What are the trends?</p> <p>Are trends related to causal events or conditions and what are those?</p> <p>Are areas identified in the Risk mapping showing evidence of outbreaks and infestations and what are they?</p> <p>What are the responses to insects and disease related to fire impacts?</p>	<p>Acres of stands affected by the various disturbance agents (insects and disease)</p> <p>Effectiveness of treatments for mistletoe infections.</p>
(vii) Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities.		
<p>23. Social and Economic status- Contribution of the timber and recreation programs to social and economic community stability.</p> <p>(LRMP 4-9 to 4-15)</p>	<p>What are the annual timber targets? What are the trends?</p> <p>What are the special forest products and what are the trends in their use?</p> <p>What are the impacts of the recreation and lands special uses programs?</p>	<p>Levels of production of multiple uses including timber, special forest products and recreational visits and their connected economic benefits.</p> <p>Qualitative economic effects on the surrounding communities from lands and recreational special uses.</p>
<p>24. Collaborative Forest – the Deschutes Collaborative Forest committee has identified Ecological Indicators to assess progress towards meeting landscape scale desired conditions</p>	<p>Are landscapes within the Deschutes Collaborative Forest Project area being restored to desirable vegetation conditions, watershed conditions, fire regime conditions, fish and wildlife habitat conditions, invasive species severity, as described in the ecological indicator report?</p>	<p>Metrics are identified in the 2014 Ecological Indicator Report and also accomplishments relative to the metrics.</p> <p>Deschutes Collaborative Forest Website - http://deschutescollaborativeforest.org/</p>

Selected Plan Component	Monitoring Question	Monitoring Indicator
for as long the Collaborative active.		Reports associated with Ecological Indicator Progress Reports. http://www.r5.fs.fed.us/restoration/CFLRP/results.shtml
<p>25. Energy Resources - Geothermal Exploration, Development and Production Goal - to provide for exploration, development and production of energy resources on the Forest. Because the forest has no oil or gas resources, the focus will be on geothermal resources, mostly around Newberry Crater.</p> <p>(LRMP 4-83)</p>	<p>Have leases been issued by the BLM and do they contain stipulations consistent with FS decisions?</p> <p>Have geothermal exploration and development occurred?</p> <p>What are the trends in exploration and development?</p> <p>What has been explored and what has been developed?</p> <p>What is the status of existing exploration and development?</p> <p>What are the consequences of exploration and development?</p> <p>Are restoration activities being accomplished and are they effective?</p>	<p>Numbers of geothermal leases, active and inactive.</p> <p>Exploration and development status</p> <p>Trends in seismic activity from USGS monitoring stations and lease holder data</p> <p>Rehabilitation status of inactive leases, especially those that were previously active and where ground disturbance had occurred.</p>
<p>26. Transportation System (Roads) – Goal - to plan, operate and maintain a safe and economical transportation system providing efficient access for the movement of people and materials involved in the use and protection of NFS lands.</p> <p>(LRMP 4-71 to 4-73)</p>	<p>Are road densities meeting forest-wide and allocation specific guidelines?</p> <p>How many miles of roads have been constructed?</p> <p>How many road miles have been closed?</p> <p>How many road miles have been decommissioned?</p> <p>What are the trends and what is affecting those trends?</p>	<p>Miles of open roads per by 6th field watershed (aka known as 12th field).</p> <p>Miles of roads closed per year</p> <p>Miles of roads decommissioned per year</p> <p>Miles of roads constructed per year</p> <p>Miles of roads maintained per year</p>

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<p>27. Cultural Resource Goal – To provide for the protection and preservation of prehistoric and historic sites, buildings, objects, and antiquities of local, Regional or National significance. (LRMP 4-34)</p>	<p>Are significant historic and prehistoric sites and properties being maintained, stabilized, and repaired according to preservation standards?</p>	<p>Status of select historic and prehistoric sites and properties.</p>
<p>28. Invasive Species (botany) Management Goal - Invasive species are being managed to reduce or eliminate the impacts native plant and vegetative communities. (2005 Regional ROD amendment to the LRMP and Deschutes / Ochoco Invasive Plant ROD/EIS)</p>	<p>Are invasive plant species being treated and are invasive plant populations being reduced in treated areas?</p>	<p>Invasive species population trends in treated sites</p>
<p>Wilderness (Management Area 6)</p>		
<p>29. Wilderness Management Goal - Preserve the Wilderness character. Allow for natural processes and provide opportunities for solitude, challenge, and inspiration and within these constraints to provide for recreational, scenic, scientific, educational, conservation and historical uses. (LRMP 4-103 to 112)</p>	<p>Is the wilderness character being preserved and protected?</p> <p>Are the physical / biological, managerial and social settings of each Wilderness Resource Spectrum (WRS) maintained consistent with the standards for wilderness management?</p> <p>Wildernesses –</p> <ul style="list-style-type: none"> • Mt. Jefferson • Mt. Washington • Three Sisters • Diamond Peak • Mt. Theilsen 	<p>Status of each wilderness as described in the Wilderness Performance Program Score Card</p>

Selected Plan Component	Monitoring Question	Monitoring Indicator
Conservation of <u>Eligible</u> Wild and Scenic River Status (Management Area 17) and Metolius Wild and Scenic Rivers (Management Area 28)		
<p>30. Eligible Wild and Scenic River Management</p> <p>Goal - Maintain the Wild, Scenic, or Recreation River character of streams <u>eligible</u> for Wild and Scenic Rivers designation as described in Appendix D of the LRMP (4-36 and 4-155 to 158).</p>	<p>Are we protecting the future eligibility/ suitability and potential classification of our eligible rivers? How is that protection being maintained?</p> <p>Those eligible rivers are:</p> <ul style="list-style-type: none"> • Paulina Creek • Deschutes River (Little Lava Lake to Crane Prairie) • Browns Creek • Fall River • Jack Creek 	<p>Change to the 3 characteristics affecting eligibility which include free flow, water quality, and outstanding remarkable values</p>
Conservation of Designated Wild and Scenic Rivers (Management Area 17) and Metolius Wild and Scenic Rivers (Management Area 28)		
<p>31. Designated Wild and Scenic River Management</p> <p>Goal - Maintain the Wild, Scenic, or Recreation River character of streams <u>designated</u> by Congress as Wild and Scenic Rivers.</p> <p>(LRMP 4-36 and 4-155 to 158).</p>	<p>Are we protecting the outstandingly remarkable values of the Congressionally designated rivers?</p> <p>Has Section 7(a) reviews been conducted when instream work is planned?</p> <p>Have River Management Plans been completed?</p> <p>Designated Rivers</p> <ul style="list-style-type: none"> • Crescent Creek • Big Marsh Creek • Little Deschutes River • Deschutes River • Metolius River • Whychus Creek 	<p>Change to the 3 characteristics affecting Wild and Scenic Rivers which are free flowing, water quality, and outstanding remarkable values.</p> <p>Change in ORVs or status of ORVs based on planning analysis.</p> <p>Status of River Management Plans</p>

Selected Plan Component	Monitoring Question	Monitoring Indicator
(viii) The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land.		
32. Soil Resource Management Goal - To maintain or enhance long-term soil productivity. (LRMP 4-70 to 4-71)	Are management activities being implemented so that they do not substantially and permanently impair the productive capacity of the land?	Extent of detrimental soil disturbance within monitored activity areas