

Appendix B Monitoring

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Grizzly Bear Secure Habitat</i>
Applicable Direction	<p>The grizzly bear, a threatened species, is currently protected under the Endangered Species Act. The Forest Plan, including Amendment 19, offers some direction in relation to access and grizzly bears. In addition, there is more current direction for grizzly bear in relation to access management in the Final Conservation Strategy for the Grizzly Bear in the Yellowstone Ecosystem (ICST 2003). This direction is the ‘best science’ and is likely to be amended to the Gallatin National Forest Plan through the Grizzly Bear Conservation Strategy Amendment for the GYA process which is currently underway.</p> <p>For the grizzly bear, there are a number of Forest-wide goals, objectives, standards and guidelines in the Travel Plan FEIS (Chapter 1) in relation to access and secure habitat. These include: Goal G-1, Objective G-1 (Grizzly Bear Recovery), and all other direction for grizzly bear. Under Alternative 7-M, no additional programmatic direction was included for the grizzly bear, and some was dropped because the Gallatin National Forest will follow current applicable management direction (see summary description of Alt. 7-M in Chapter 2 of the FEIS).</p> <p>Individual TPAs such as Lionhead, Cabin Creek, Hebgen Basin, and Taylor Fork have additional goals, objectives, standards and guidelines for grizzly bear or that may affect grizzly bear. These are for typically for Alternatives 2 through 7-M.</p>

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Grizzly Bear Secure Habitat</i>
Monitoring Objectives	<p>Monitor the percent of secure habitat, Open Motorized Access Route Density (OMARD) and Total Motorized Access Route Density (TMARD) within each bear management subunit on the Gallatin National Forest. This will be monitored by GIS covers of the legally designated routes in the selected alternative for the Travel Management Plan.</p> <p>Maintain percent secure habitat at or better than the 1998 baseline. Pay special attention to the subunits currently 'in need of improvement' which are Gallatin #3, Henry's Lake #2 and Madison #2 (ICST 2003).</p> <p>Monitoring items will match the current applicable management direction.</p>
Monitoring Procedure	<p>Use the most current travel map of all motorized routes on the Forest and the 1998 baseline map of routes to determine if the Forest is at or below baseline for route densities or above it for secure habitat. Pay special attention to the subunits currently 'in need of improvement' which are Gallatin #3, Henry's Lake #2 and Madison #2 (ICST 2003).</p>
Frequency of Measurement	Annually
Reporting Interval	<p>Approximately annual. This will be completed jointly with other Forests in the GYA once the grizzly bear is delisted and the Grizzly Bear Conservation Strategy Amendment to the Forest Plans is in place.</p>
Evaluation Criteria	<p>Changes in percent secure habitat by grizzly bear subunit</p> <p>Percent of secure habitat affected by unauthorized motorized use</p>
Annual Cost Estimate	<p>The annual cost of maintaining the CEM Access database at the level necessary is approximately \$10,000. The first year cost after the Travel Management Planning Amendment will be significantly higher at approximately \$40,000. Annual monitoring for unauthorized motorized routes within 500 m of secure habitat will cost approximately \$10,000/year. Enforcement costs and route closures costs are not estimated here but could be substantial.</p>
Risk	<p>The final monitoring plan will match that required by the Grizzly Bear Conservation Strategy Amendment to the Forest Plan.</p>

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Implementation of Wildlife Goals, Objectives, Standards and Guidelines</i>
Applicable Direction	<p>Sensitive Species (FSM 2670.5.19) National Forest Management Act (NFMA) (36 CFR 219.19). Gallatin National Forest Plan and wildlife related amendments ESA.</p> <p>All Forest-wide wildlife related goals, objectives, standards and guidelines including Goal E, Objective D-1, Goal F, Objectives F-1 and 2, Standard F-1 and 2, Goal G, Objective G-1, Goal H, Objective H-1, Goal I, Objective I-1, Standards M-7-10. In addition, there are some TPA specific goals, objectives, standards and guidelines that relate to wildlife. (Some of these are covered in more detail in the Monitoring Plans for winter use and for grizzly bear.)</p> <p>Monitoring will occur for the issues of big game, riparian habitat, snags, subnivian habitat, bald eagle, sensitive species, and wildlife corridors. Also the Travel Plan Programmatic Direction will provide some additional goals, objectives, standards and guidelines for wildlife.</p>
Monitoring Objectives	<ol style="list-style-type: none"> 1) Did we do what we said we would do in the Travel Plan related to wildlife issues and are we meeting objectives? 2) Has what we've been doing been effective for wildlife? 3) Is our management direction for wildlife valid or does something need to change?
Monitoring Procedure	<p>Convene an implementation review team comprised primarily of wildlife and others as appropriate and conduct periodic field review.</p>
Frequency of Measurement	<p>Conduct periodic review.</p>
Reporting Interval	<p>Results would be reported approximately annually.</p>
Evaluation Criteria	<p><u>Implementation</u>: Were the Goals, Objectives, Standards and Guidelines implemented? (yes, no, not applicable) <u>Effectiveness</u>: Were they effective in mitigating effects? (yes, no, explanation) <u>Validation</u>: Are they still valid? (yes, no, if no why?)</p>
Remedial Action	<p>Ensure that appropriate Goals, Objectives, Standards and Guidelines action are implemented to remedy the shortcoming; if they were implemented but were not effective, modify them to ensure effectiveness; if they are no longer pertinent, remove them from the GNF Plan and replace as appropriate.</p>

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Implementation of Wildlife Goals, Objectives, Standards and Guidelines</i>
Annual Cost Estimate	\$25,000
Risk	Goals, Objectives, Standards and Guidelines may not be applied to projects, and unacceptable impacts to many resources, including TES species, may occur in violation of laws, etc.

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Gallatin National Forest OHV Monitoring</i>
Applicable Direction	Gallatin Forest Plan 1987 – Provides direction to annually monitor the effects of Off Highway Vehicles (OHVs). Executive Orders 11644 as Amended by 11989 36 CFR 295.5 – Regulatory direction for monitoring OHV effects. Forest Service Manual 2355 – Off Road Vehicle Use Management Forest Service Manual 2355.04d (4) – OHV monitoring requirements.
Monitoring Objectives	1) Implementation monitoring objectives: determine if new designated routes and areas are being used as designed (trespass monitoring). Monitor trespass areas for resource damage. 2) Effectiveness monitoring: are the OHV opportunities provided effective in mitigating resource and social conflicts identified during the travel planning process? Are the roads and trails functioning as designed for OHV use? 3) Were the assumptions made about the suitability for an area to provide OHV opportunities in travel revision valid?
Monitoring Procedure	Track the function of facilities (roads and trails) for OHV use through road and trail condition survey protocols already established (TRACS for trails, ERL for roads). Monitor off-route trespass annually. Field crews will track trespass information while completing trail/road condition surveys. Location, extent of resource damage, time of year, etc. to be catalogued on field forms (See example field form – project file). Monitor winter use (and closed area trespass) following the GYCC protocol for winter recreation monitoring. See project file for GYCC protocol. Validation monitoring to be designed by an interdisciplinary team including biologists, soils/hydrologists, engineers and recreation managers. Suggest random field reviews of OHV concentrated use areas to verify the area is meeting stated goals and objectives and standards from travel revision (1-3 per year).
Frequency of Measurement	Annually
Reporting Interval	Summary reports for OHV trespass and winter use monitoring to be compiled annually. Reporting cycles for trail/road condition surveys are 20% per year of all system routes to be surveyed (data is stored in INFRA database).

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Gallatin National Forest OHV Monitoring</i>
Evaluation Criteria	<p>If trespass is occurring – is it random or infrequent, or an established pattern?</p> <p>If trespass is occurring – is it causing untenable resource impacts (IDT to describe what “untenable” means within the confines of law – establish “trigger points”).</p> <p>Is lack of compliance an education/time/acceptance issue, or more a function of suitability of the area or facility design to accommodate OHV use?</p> <p>See evaluation criteria for other resource specific monitoring items, and Implementation item.</p>
Remedial Action	<p>Improve information/ education efforts targeting problem areas.</p> <p>Work with user groups to gain compliance and self police.</p> <p>Make minor changes to the configuration of designated routes to gain better compliance.</p> <p>Employ different seasonal restrictions as necessary during critical periods.</p> <p>Lastly – prohibit OHV use if all other techniques fail to gain compliance, and resource damage or other effects to wildlife, recreation opportunities, etc. as a result trespass are untenable. This action would require public involvement and Forest Plan revision.</p>
Annual Cost Estimate	\$15,000 (Note – does not include cost of road and trail condition survey work – just OHV trespass monitoring and winter use monitoring.)
Risk	Resource damage could accrete rapidly in fragile areas if undetected trespass occurs for lengthy time periods. User conflicts could escalate in areas managed for non-motorized uses if trespass goes unchecked. We would be out of compliance with national direction to monitor the effects of OHV use on resources.

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Gallatin National Forest Winter Use in relation to Canada Lynx</i>
Applicable Direction	<p>The following items fall under the auspices of the Endangered Species Act and direction for threatened and endangered species. The Lynx Conservation Assessment and Strategy (LCAS, Ruediger 2000) gave direction on winter use monitoring. There is a standard in the LCAS (p. 7-9) to map and monitor the location and intensity of snow compacting activities. The LCAS will be followed until such time that the Northern Rockies Lynx Amendment (NRLA) to the Forest Plan is completed, superceding the LCAS. It is not known for sure what the NRLA may require relative to monitoring.</p>
Monitoring Objectives	<p>For Implementation Monitoring, the Forest would complete the monitoring procedures and prepare an annual report.</p> <p>For Effectiveness Monitoring, the Forest would determine if there are any impacts to lynx through winter use from predator competition or disturbance/ displacement.</p> <p>For Validation Monitoring, the Forest would meet with the USFWS to determine if what the Forest is doing is adequate and if there has been any new literature or research in this area.</p>
Monitoring Procedure	<p>Monitor winter use (and closed area trespass) following the GYCC protocol for winter recreation monitoring. See monitoring item for OHV monitoring in winter.</p> <p>Use the GYCC winter use monitoring plan (as updated) to gather information on all winter recreation uses to assess the potential and probable impacts of snowmobile or skier use on lynx.</p> <p>The USFS will meet annually with the USFWS to review and discuss GYA lynx presence and info on impacts of snow compaction.</p> <p>The Forest shall prepare an annual report documenting the monitoring results, discussions with FWS, and any actions to be taken.</p>
Frequency of Measurement	Information will be collected each winter season.

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Gallatin National Forest Winter Use in relation to Canada Lynx</i>
Reporting Interval	Reports will be prepared periodically on winter use and potential effects on lynx. Designated routes (groomed and marked routes) will be monitored by LAU and discussion with USFWS will occur as monitoring results are compiled.
Evaluation Criteria	The criteria to use to evaluate monitoring results and indicate a need for change in management are as follows: -a change in research in literature on the effects of winter use on lynx both from predator competition and disturbance/ displacement factors -known impacts to lynx through winter use -presence of lynx in a winter use area when activities are occurring -changes in lynx management direction through the NRLA to Forest Plans will become the new evaluation criteria, if they differ from current
Remedial Action	As per the current LCAS, if the amount of groomed or designated over-the-snow routes proposed to increase in an LAU, it must be mitigated for by closures of other routes or areas or some other means acceptable to the USFWS. Similarly, if monitoring indicates that designated use is not consolidating use in those areas as predicted relative to areas where dispersed use is occurring or if trespass is occurring in snowmobile closure areas serving this purpose, the USFWS would be consulted for direction on appropriate action.
Annual Cost Estimate	This monitoring can be done in conjunction with the winter use portion of OHV monitoring item and the winter use monitoring relative to lynx.
Risk	The Canada lynx winter use monitoring item is a standard in the LCAS, and is expected to be retained in the lynx NRLA, and is therefore mandatory.

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Gallatin National Forest Winter Use in relation to Grizzly Bear</i>
Applicable Direction	<p>The following items fall under the auspices of the Endangered Species Act and direction for threatened and endangered species. The National Forests in the GYA with the exception of the Targhee consulted with the USFWS on a Biological Assessment (2001) on the effects of snowmobiling on grizzly bears. The Biological Opinion (2002) of the USFWS gave the Forests a number of Reasonable and Prudent Measures and Terms and Conditions. The Gallatin National Forest is responsible only for its own activities and not those of other Forests in the GYA.</p> <p>The Forest-wide Goals, Objectives, Standards and Objectives in Chapter I of the Travel Management FEIS will be applied. The TPA specific Goals, Objectives, Standards and Objectives in Chapter I will also be applied.</p>
Monitoring Objectives	<p>For Implementation Monitoring, the Forest would complete the monitoring procedures and prepare an annual report.</p> <p>For Effectiveness Monitoring, the Forest would determine if any known grizzly bear den sites needed protection from snowmobile use and if any bears were known to have been disturbed by snowmobiling.</p> <p>For Validation Monitoring, the Forest would meet with the USFWS and IGBST to determine if what the Forest is doing is adequate and if there has been any new literature or research in this area. This meets Travel Management Objective F-2.</p>

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Gallatin National Forest Winter Use in relation to Grizzly Bear</i>
Monitoring Procedure	<p>Use the GYCC winter use monitoring plan (as updated) to gather information on all winter recreation uses-this will help FWS reassess the probably impacts of snowmobiling on denning and emerging grizzly bears and understand the patterns of snowmobile use in the GYA</p> <p>If an occupied grizzly bear den is located, the FS will confer with the IGBST and FWS to evaluate the site-specific information on the bear, den site characteristics and snowmobile use in the area. If excessive snowmobile use, the FS will take measures to protect the site.</p> <p>The Forests will work with the IGBST to define a process that will report site specific information for grizzly bear sightings or activity in the winter or early spring. If a sow with young is detected prior to average den emergence dates, the USFS, IGBST, and USFWS will confer to attempt to determine cause and if snowmobile use needs further regulation in the area.</p> <p>The USFS will meet periodically with the IGBST and USFWS to review and discuss GYA grizzly population and trends and info on snowmobile use that was used in the BO.</p> <p>The Forests shall prepare and periodic reports documenting the discussions, outcomes and any actions taken as a result of implementation of items above.</p>
Frequency of Measurement	Information will be collected each winter season.
Reporting Interval	Reports will be prepared both on winter use and on grizzly bear effects annually or bi-annually.
Evaluation Criteria	<p>The criteria to use to evaluate monitoring results and indicate a need for change in management are as follows:</p> <ul style="list-style-type: none"> -a change in research in literature on the effects of winter use on grizzly bear -known impacts to grizzly bears through winter use -presence of grizzly bears in a winter use area when activities are occurring

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Gallatin National Forest Winter Use in relation to Grizzly Bear</i>
Remedial Action	Protection of an area from winter use if unacceptable impacts to grizzly bears are occurring or have occurred, or if a known sow with cubs of the year has denned in an area with winter recreation that may cause unacceptable disturbance to her and her cubs in the spring
Annual Cost Estimate	<p>Varies by actions needed.</p> <p>Monitoring of winter use for 5 GYA Forests is approximately \$60,000 of which half has been provided by the GYCC. This includes the annual report. Monitoring of grizzly bear dens in snowmobile areas is generally small (IGBST pays for their own flights). Cost estimated at \$1,000 annually for known dens found in snowmobile areas on the Forests.</p> <p>If actions are needed to protect a location, costs of law enforcement, etc. could be very high depending on the portion of the season in which protection is needed.</p> <p>In general, annual cost per Forest, without site protection, is approximately \$13,000. (GYCC has provided \$5,000/year for this per Forest.) An increase in monitoring effort could occur which would increase annual costs.</p>
Risk	The grizzly bear item is legally binding as a Term and Condition in a USFWS Biological Opinion, however, the Gallatin National Forest is responsible only for the monitoring and reports, etc. for the Gallatin National Forest. This item may change if the Biological Opinion from the USFWS on the Travel Plan has different Terms and Conditions, etc.

<i>Gallatin Forest Travel Plan Monitoring</i>	<i>Implementation of Goals, Objectives, Standards and Guidelines</i>
Applicable Direction	Depends on resource issue. Please see the Applicable Laws, Regulations and Policies section for each resource issue in Chapter 3.
Monitoring Objectives	1) Did we do what we said we would do in the Travel Plan related to this resource (Implementation Monitoring)? 2) Has what we've been doing been effective (Effectiveness Monitoring)? 3) Is our management direction valid or does something need to change (Validation Monitoring)?
Monitoring Procedure	Convene an implementation review team comprised of resource specialists (fish biologist, wildlife biologist, hydrologist, soil scientist, engineer, district ranger, and others as appropriate and conduct a field review of 10% (minimum of 2) of travel management projects to evaluate 1) whether Goals, Objectives, Standards and Guidelines were implemented; 2) when implemented, were they effective; and 3) do they remain valid? The team would have a checklist of the Goals, Objectives, Standards and Guidelines and would summarize results in a short report.
Frequency of Measurement	Monitoring would occur annually upon completion of projects.
Reporting Interval	Results would be published annually.
Evaluation Criteria	<u>Implementation</u> : Were the Goals, Objectives, Standards and Guidelines implemented? (yes, no, not applicable) <u>Effectiveness</u> : Were they effective in mitigating effects? (yes, no, explanation) <u>Validation</u> : Are they still valid? (yes, no, if no why?)
Remedial Action	Ensure that appropriate Goals, Objectives, Standards and Guidelines action are implemented to remedy the shortcoming; if they were implemented but were not effective, modify them to ensure effectiveness; if they are no longer pertinent, remove them from the GNF Plan and replace as appropriate.
Annual Cost Estimate	Approximately \$6,000
Risk	Goals, Objectives, Standards and Guidelines may not be applied to projects, and unacceptable impacts to many resources, including TES species, may occur in violation of laws, etc.