

FY 2011 Monitoring and Evaluation Report

Bighorn National Forest



Emerald Lake (B.Matthews)

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CERTIFICATION

The Revised Bighorn National Forest Land and Resource Management Plan Record of Decision (ROD) was signed September 30, 2005. The forest plan is a dynamic document, subject to change based on annual monitoring and evaluation as we implement. Through monitoring, we determine whether the plan is sufficient to guide management for the subsequent year or whether the plan or our management actions should be modified.

Through a site-specific analysis, we found the biological evaluation for the forest plan needed to be updated to include species on the most current Regional sensitive species lists. Review of the biological evaluation showed that existing forest plan direction addresses the needs of the additional species and there is no need to change guidelines, strategies, or standards. The 2011 *Supplement to the Forest Plan Biological Evaluation* can be seen on the forest's external web page at <http://www.fs.usda.gov/main/bighorn/home>.

I have reviewed the fiscal year (FY) 2011 annual monitoring and evaluation report for the Bighorn National Forest. I believe the results of monitoring and evaluation for FY 2011 meet the intent of chapter 4 of the forest plan and of 36 CFR 219.11. I also believe the monitoring and evaluation requirements in chapter 4 have been met, and the decisions made in the forest plan are still valid.

/s/ William T. Bass

WILLIAM T. BASS
Forest Supervisor

March 13, 2013

Date

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2011 Monitoring and Evaluation Report Overview of the Monitoring Process

This report contains the annual monitoring done in 2011. Monitoring results are reported in Attachment A – the Monitoring Table. The following discussion is an overview of the monitoring process used on the forest.

Monitoring and evaluation are important parts of implementing the forest plan. When the plan was revised in 2005, four steps for successful monitoring were established:

- 1) setting priorities for monitoring items so budgeting could focus on the highest priority,
- 2) identifying who would be responsible for the monitoring items and who potential cooperators might be,
- 3) evaluating the collected data, and
- 4) publishing the data in a report.

Monitoring is the collection of data and information; evaluation is the analysis of the collected data and information. Evaluation answers the monitoring questions, determines whether forest plan revision or amendment is warranted, and shows whether plan implementation should be modified.

Monitoring and evaluation are the backbone of adaptive land management, and there are three primary parts. The first part is making sure the forest plan is being followed during

project planning and implementation. That is *implementation monitoring*. Another part is regularly checking in with forest plan objectives to see how well they are being achieved – *effectiveness monitoring*. *Validation monitoring* is done to determine if forest plan expectations and assumptions still hold true.

The desired conditions for the forest are described in three-tiered hierarchy of goals, objectives, and strategies. The four main goals (see page 2) are the basis for the development of the objectives, and each objective has specific strategies.

The monitoring strategy for the Bighorn National Forest looks at all the forest plan objectives and strategies using the three types of monitoring. Some monitoring is done annually; other monitoring is done less frequently – every two, three, five, or ten years, for example.

Implementation Monitoring

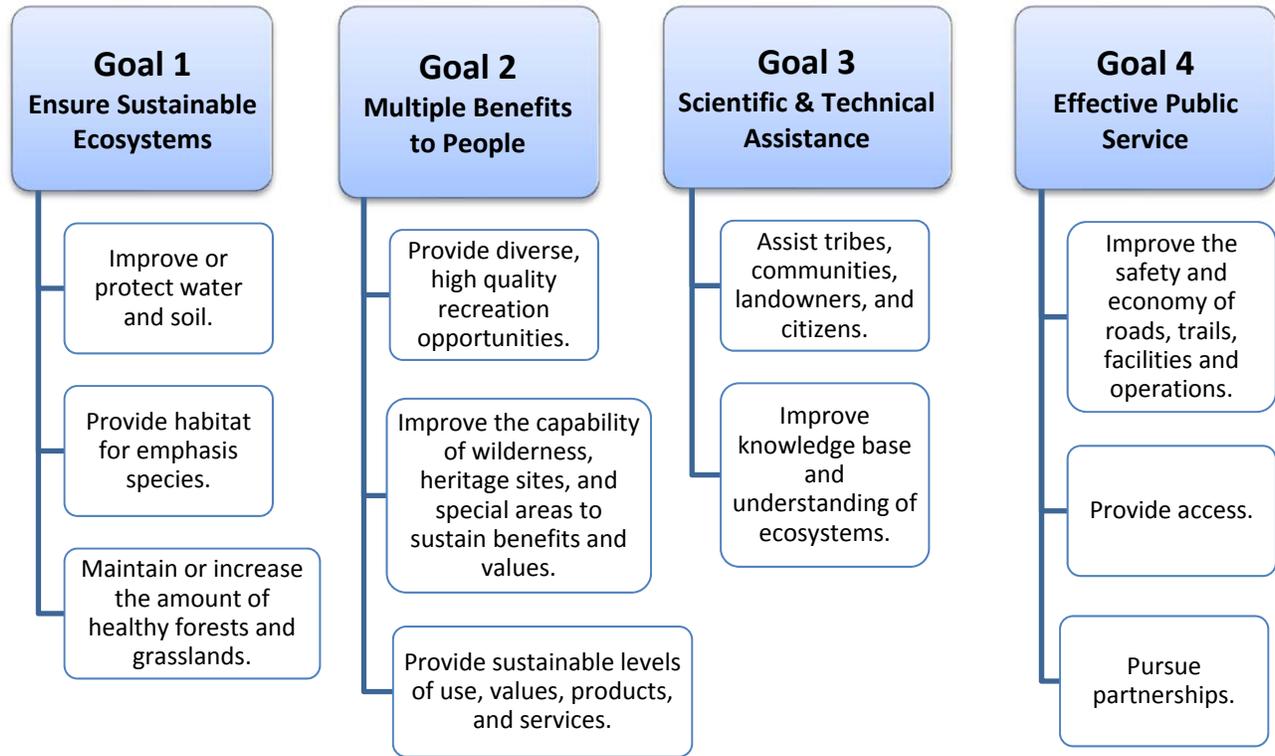
Is forest plan direction being followed during project planning and implementation?

Effectiveness Monitoring

Are management activities effective in achieving forest plan goals, objectives, and strategies?

Validation Monitoring

Is there a better way to meet forest plan goals and objectives and achieve desired conditions? Is there a need to change or amend the forest plan?



So, how do the three types of monitoring and the goals and objectives all fit together? Implementation monitoring focuses on projects, while effectiveness and validation monitoring tie to the objectives listed above. The following sections present the three monitoring approaches and summarize what we have learned from the monitoring.

Implementation monitoring focuses on the projects the forest analyzed and/or implemented in 2011.

The *Effectiveness Monitoring* section summarizes monitoring for the eleven objectives. Specific monitoring for the objectives and all their strategies is discussed in the monitoring table (see attachment A). The section on *validation monitoring* reports any changes that have taken place since the forest plan was revised in 2005 and discusses how those changes impact our assumptions, desired conditions, and direction.

Attachment A

2011 Monitoring Table

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Monitoring Results

The following table takes the monitoring items from chapter 4 of the revised forest plan and lists them by the resource areas to which they apply.

Effectiveness, implementation, and validation monitoring items are described for each resource. In doing this, the numbering system derived for the forest plan is out of sequence.

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	General Discussion
Implementation Monitoring – Are projects being implemented according to Forest Plan direction?			
1. NFMA; Multiple Goals, Objectives, Strategies	Are projects being implemented according to Revised Plan direction? This includes both planned actions and actual implementation.	Select at least one NEPA project, and conduct a thorough review of all resource areas to see if Revised Plan strategies, management prescription desired conditions, standards, and guidelines were followed and if the treatment/project was effective to improve land management. Monitor annually	The Woodrock EA, signed March 18, 2005, was reviewed June 2011. The decision is still being implemented, however the travel management aspects of the decision have been completed and are being monitored for effectiveness. Field visit to timber sale area showed on the ground actions were adhering to the decision notice and effects were as expected during analysis.
Notes: Priority projects include prescribed fire, timber harvest, travel management and dispersed recreation, and livestock grazing (these are major revision or implementation topics).			
2. Objective 2a, Strategy 8 Objective 4c, Strategy 4	How well is the Forest interacting and planning in cooperation with communities and local governments?	Narrative summary of grants and agreements; meetings and coordination efforts with local governments and communities. Narrative summary of pre-project collaborative planning. Narrative summary of bi-annual monitoring meetings. Monitor annually	36 grants and agreements were maintained. See appendix A for a complete description of these coordination efforts. Two steering committee meetings were held: one in April and the other in September. See appendix A for a complete description of these meetings. Communities and volunteer contributions to the recreation and trails program = 5,264 hours. For specific information, see appendix A.

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	General Discussion
4. Objective 3a	Is the Bighorn National Forest assisting in building the capacity of Tribal governments, rural communities and private landowners to adapt to economic, environmental, and social change related to natural resources?	<p>1. Summary of financial and technical assistance provided to local communities and natural resource based businesses to pursue self-sufficiency and sustainability.</p> <p>Monitor annually</p>	<p>In FY 2011, the forest contributed approximately \$565,000 toward grants and agreements. Approximately sixty percent went to local communities and natural-resource-based businesses which allows them to be more self-sufficient.</p> <p>The forest continued to support Fort Washakie interagency helicopter program through an agreement for fire suppression.</p>
		<p>2. Summary of Bighorn National Forest enhancement of communities' capacities to reduce wildfire risk.</p> <p>Monitor annually</p>	<p>The forest participated in meetings, with committees, and jointly implemented fuels reduction projects (see appendix A).</p> <p>The State and Private Forestry program awarded numerous grants to local counties for hazardous fuel treatments. The program is administered by the Regional Office. See appendix A for a description of the projects.</p>

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Aquatics Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
5. Objective 1a Strategy 1	Is water quality on the Forest being maintained according to state water quality standards?	<p>1. Coordinate with Wyoming Department of Environmental Quality (WYDEQ) and other stakeholders, to develop a water quality monitoring plan for streams identified in the 305(b) Report and 303(d) List of Impaired Streams.</p> <p>Monitor annually</p>	<p>The draft 2012 WYDEQ 305(b) and 303(d) integrated report lists the North Tongue River and Granite Creek. The following discussion explains why further water quality monitoring in these streams is not planned.</p> <p>The 2012 report states, “The formal stakeholder involvement coupled with federal land management and allotment planning is considered equivalent to watershed planning, and the North Tongue River has been given a low priority for TMDL development.”</p> <p>A picnic ground with an outhouse in the Granite Creek floodplain was removed in 2011 and the Antelope Ski Area remains closed. Therefore two main potential sources for water quality impacts have been reduced. A TMDL study for the Bighorn River watershed is underway. BMPs in the North Fork Crazy Woman Creek have been implemented but WYDEQ monitoring has not determined effectiveness.</p>
6. Objective 1a Strategy 2	Were watershed improvement projects completed?	<p>Summarize number and type of watershed improvement projects. Identify what percentage of the watershed or length of stream reach has been treated.</p> <p>Monitor annually</p>	<p>1) Planted willows along the North Tongue River for ¾ mile.</p> <p>2) Grazing was not allowed in approximately 50 acres within the Boy Scout stream restoration project (completed 2009) in order to allow plantings to become established.</p> <p>3) Relocation of the Hunter Corrals campground away from the riparian area on North Fork of Clear Creek was completed.</p>

	Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Aquatics Discussion
6.	Objective 1a Strategy 2			4) Watershed condition classification was completed and critical watersheds were chosen for future projects. Two restoration projects were developed: the Woodrock area on the West Fork of the South Tongue and a smaller project in the Middle Clear Creek watershed (led by YMCA at the Pines with support from WGFD).
8.	Objective 1a Strategies 4 – 7		2. Summarize results of habitat improvement projects (acres/miles) by watershed. Monitor annually.	One streambank revegetation project was completed in 2011 in cooperation with Trout Unlimited. It benefitted approximately 3/4 mile of the North Tongue River.

Validation Monitoring- Are the desired conditions, objectives, and assumptions made in the Forest Plan correct?

40.	Objective 1a, Strategy 1	Are best management practices (BMPs) effective in meeting water quality standards?	Conduct long-term best management practice effectiveness studies according to study plans for specific BMPs coordinated across the forest. Monitor annually	Livestock grazing BMP reviews were conducted in three pastures: West Bull Creek pasture in the Bull/Woodrock Allotment (Tongue Ranger District), Upper Doyle Creek pasture in the Upper Doyle Creek Allotment (Powder River Ranger District) Cabin pasture in the Whaley Creek Allotment (Medicine Wheel/Paintrock Ranger District). Allotments were reviewed for BMP implementation and effectiveness. In each review, range management practices (developed using standards and guidelines) were maintaining or helping to improve watershed conditions, and soils were not being degraded, thereby showing that water quality standards are being met.
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Notes: Examples include stability and effectiveness of stream buffers, road drainage structure operations and maintenance, soil disturbance and downstream aquatic habitat effects in harvested versus non-harvested areas, effectiveness of stream protection to minimize sediment delivery to fish streams. Annual status reports to be completed.

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Wildlife Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
Note: Many items depend on coordination with Wyoming Game and Fish Department and reliance on their population/harvest data for big game and fish species.			
9. NFMA Species Viability Objective 1b Strategies 1 – 5	Is the Bighorn National Forest providing the ecological conditions to sustain viable populations of native and desired non-native species and to achieve objectives for Management Indicator Species (MIS)?	1. Number of conservation strategies developed or implemented. Monitor annually	<i>Risk Assessment of Contact Between Domestic Sheep and Bighorn Sheep on the Bighorn National Forest</i> was completed in June 2011.
		2. Acres/miles of species at risk habitat restored or improved by Forest Service management or permitted activities. Monitor annually	Planted more willows on North Tongue River with a total project length of ¾ mile. Grazing was not allowed in approximately 50 acres within the Boy Scout stream restoration project (completed 2009) in order to allow plantings to become established. Relocation of the Hunter Corrals campground (approximately 1.5 acres) away from the riparian area on North Fork of Clear Creek was completed. In cooperation with the Wyoming Game and Fish Department (WGFD), non-native fishes were removed from four miles of Buckskin Ed Creek. The Reservoir Fire (wildland fire use) improved habitat conditions for a variety of sensitive species over a 2,100-acre area.

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Wildlife Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
9. NFMA Species Viability Objective 1b Strategies 1 – 5		3. Acres/miles of species at risk potential habitat inventoried and number of populations discovered. Monitor annually	<p>PLANTS</p> <p>Wyoming Natural Diversity Database (WYNDD) completed four studies of sensitive plants/ species of local concern:</p> <p>Status of <i>Physaria didymocarpa</i> var. <i>lanate</i> (wooly winpod)</p> <p>Status of <i>Musineon vaginatum</i> (sheathed musineon)</p> <p>Status of <i>Pyrrocoma clementis</i> var. <i>villosa</i> (hairy tranquil goldenweed)</p> <p>Status report on <i>Sensitive Plant Species on Fen Habitats, Big Horn Mountains, North-central Wyoming</i>. This study resulted in identifying three species new to the forest: <i>Drosera anglica</i> (English sundew), <i>Eriophorum gracile</i> (slender cottongrass) and <i>Carex diandra</i> (lesser panicaled sedge).</p> <p>A fifth report, <i>The Bryophyte Flora of Bighorn National Forest Fens</i>, was the first assessment of this group of plants.</p> <p>One known population of a new species, <i>Botrychium psuedomontanum</i>, was surveyed.</p>
9. NFMA Species Viability Objective 1b Strategies 1 – 5			<p>WILDLIFE</p> <p>West Zone</p> <p>Amphibians: 4 sites surveyed</p> <p>Bighorn sheep: 2 herds monitored in collaboration with WGFD</p> <p>Owl nest boxes: 29 surveyed</p> <p>Goshawks: 4 historic nesting sites and three additional project areas surveyed</p> <p>Peregrine falcons: 2 sites surveyed</p> <p>Flammulated owls: 2 survey routes completed</p>

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Wildlife Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
9. NFMA Species Viability Objective 1b Strategies 1 – 5			<p>East Zone</p> <p>Owls: 4 routes and 4 owl boxes surveyed</p> <p>Goshawk: 1 new nest site located, 5 reports received and surveyed, approximately 1,000 acres of surveys conducted.</p> <p>Amphibians: 8 sites surveyed</p> <p>Water vole: Walk-through surveys conducted on approximately 2 miles of stream.</p>
		<p>4. Acres/miles of species at risk occupied habitat and/or populations discovered.</p> <p>Monitor annually</p>	<p>West Zone</p> <p>Goshawks: Two were seen but their specific nesting location was not identified.</p> <p>East Zone</p> <p>Goshawks: 3 confirmed pairs found, one new nest site located.</p> <p>Wood frog and Columbia spotted frog: several populations located through surveys.</p>
		<p>6. Number of species or habitat monitoring programs established or implemented, including cave management and Research Natural Area (RNA) management plans.</p> <p>Monitor annually</p>	<p>None.</p>
10. Objective 1b, Strategies 5-11		<p>7. Continued habitat use by forest carnivores in known locations using snow-track or other methods. Determine validity of any reported lynx sightings upon report.</p> <p>Monitor every two years: 2007, 2009, 2011, 2013, 2015.</p>	<p>No lynx were identified during winter track surveys conducted on March 30 and April 6, 2011.</p>

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Fire and Timber Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
11. Objective 1c Strategies 1 – 7, cont.		<p>6. Summary of control measures for insect/disease outbreaks in high value* areas (acres treated).</p> <p>Monitor every 3 years; due in 2008, 2011, 2014.</p> <p>* The forest plan defines high value areas as campgrounds, summer homes, lodges and other developed facilities (silviculture guideline #7).</p>	<p>The Forest has used anti-aggregative pheromones in and around Shell Fall Visitor Center to successfully repel the Douglas fir bark beetles that have killed many of the trees elsewhere in the canyon.</p>
		<p>7. Summarize insect/disease treatments, and compare to aerial inventory of insect/disease occurrences and extent to determine effectiveness.</p> <p>Monitor every 3 years; due in 2008, 2011, 2014.</p>	<p>Treatment included removal of infected trees, reduction of stand density to improve vigor of remaining trees, or placement of pheromone traps to catch or repel insects.</p> <p>722 acres of mistletoe, Comandra and western gall rust infected overstory trees were removed from plantations.</p> <p>1,623 acres of stand density reduction.</p> <p>The effectiveness of treatments is often difficult to determine due to the time frames involved in growing trees and the challenge of proving any effect. The treatments described above are supported by research and experience. The treatments completed help increase stand resilience and resistance to endemic pest populations. The least effective treatment monitored was the use of prescribed fire to thin ponderosa pine stands which did not kill the trees but merely weakened them making them easy prey to the bark beetle creating an epicenter of increased activity.</p>

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Fire and Timber Discussion
11. Objective 1c Strategies 1 – 7, cont.			<p>White pine blister rust, a non-native invasive disease, continues to weaken limber pines throughout the Bighorn Mountain range enabling the mountain pine beetle to kill off many stands.</p> <p>In comparison to the level of bark beetle activity in western North America, the Bighorn Forest has fared well. The Douglas fir has seen high mortality but it's been limited to that species and range. Mortality from spruce beetles continues to be confined in localized areas in the northern Bighorn Mountains in Big Horn, Sheridan and Johnson Counties. Epicenters of mountain pine beetle activity continue to be seen mainly on the face of the mountain, however to date none have created the epidemic situations seen elsewhere.</p> <p>Aerial survey detected over 2,000 acres of defoliation of lodgepole pine suspected to be caused by the rusty tussock moth. This is new to the Bighorns and the Rocky Mountain region. This moth does not typically feed on pines.</p>
		<p>8. Summary of wildland fire interagency relationships maintained, fostered or improved. Summary of firefighter and public safety based on these actions. Monitor annually</p>	See appendix A.
		<p>9. Acres of fuel reduction accomplished in Fire Regimes I, II, and III. Monitor annually.</p>	2,634 acres

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Timber Discussion																																								
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?																																											
27. Objective 2c Stewardship Strategy 1	Is the Bighorn National; Forest utilizing stewardship contracting appropriately? Is stewardship contracting a benefit to local communities?	Narrative summary of stewardship contracts utilized compared to the opportunities and other tools used. Estimate benefits to communities. Monitor annually.	No stewardship contracts were offered in 2011 as no opportunity arose.																																								
29. Objective 2c Timber Strategies 1, 2, 3	Is the Bighorn National Forest providing the desired level of uses, values, products and services of wood products?	Forest product outputs in CCF and approximate MMBF, including: Sawtimber (7" +) Roundwood (5-6.9"), personal use fuelwood, other vegetation management (POL) Other Vegetation Management (OVM) Allowable sale quantity Christmas trees Special forest products Monitor annually	<table border="1"> <thead> <tr> <th colspan="2">Total Volume Offered FY 11 (CCF)</th> </tr> <tr> <th></th> <th>CCF</th> </tr> </thead> <tbody> <tr> <td>Sawtimber</td> <td>422</td> </tr> <tr> <td>POL</td> <td>248</td> </tr> <tr> <td>Dead</td> <td>2,660</td> </tr> <tr> <td>OVM</td> <td>203</td> </tr> <tr> <td>TOTAL</td> <td>3,533</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="2">% Output compared to plan projections (MMBF)</th> </tr> <tr> <th colspan="2"><i>See Notes</i></th> </tr> <tr> <th></th> <th>MMBF</th> </tr> </thead> <tbody> <tr> <td>Sawtimber</td> <td>0.02</td> </tr> <tr> <td>POL</td> <td>0.07</td> </tr> <tr> <td>PUF*</td> <td>0.89</td> </tr> <tr> <td>OVM</td> <td>NA</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">*PUF = personal use firewood Christmas Trees (CT) and Special Forest Products (SFP)</th> </tr> <tr> <th></th> <th>MMBF</th> <th>% of projection</th> </tr> </thead> <tbody> <tr> <td>CT</td> <td>2,010</td> <td>.95</td> </tr> <tr> <td>SFP</td> <td>2,376</td> <td>.79</td> </tr> </tbody> </table>	Total Volume Offered FY 11 (CCF)			CCF	Sawtimber	422	POL	248	Dead	2,660	OVM	203	TOTAL	3,533	% Output compared to plan projections (MMBF)		<i>See Notes</i>			MMBF	Sawtimber	0.02	POL	0.07	PUF*	0.89	OVM	NA	*PUF = personal use firewood Christmas Trees (CT) and Special Forest Products (SFP)				MMBF	% of projection	CT	2,010	.95	SFP	2,376	.79
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Notes: The Revised Plan projected the following outputs annually:		CCF = 100 cubic feet																																									
Sawtimber (7" +): 10,688 CCF, (8.5 MMBF)		MMBF = million board feet																																									
POL:3,716: CCF, (1.3 MMBF)		Allowable Sale Quantity: 27,183 CCF, (9.8 MMBF)																																									
Roundwood (5-6.9"): 1,693 CCF, (0.6 MMBF)		Christmas Trees (number sold): 2,100 trees																																									
Personal Use Fuelwood: 3,000 CCF, (1.5 MMBF)		Special Forest Products: 3,000 permits																																									
Other Vegetation Management: 3,550, (1.3 MMBF)																																											

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Invasive Species Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
12. Objective 1.c Invasive Species Strategy 2	How many acres of priority noxious weeds have been treated this year by what means?	Acres of priority weeds and method(s) Monitor annually	16.75 acres using mechanical and chemical methods
	How many total acres of noxious weeds have been treated this year?	Acres of noxious weeds Monitor annually	629 acres
	What prevention activities and cooperative efforts have been implemented during the past year?	Narrative description Monitor annually	<p>The primary method of treatment is through cooperative agreements with Big Horn, Johnson, and Washakie counties. Specific information is discussed in appendix A.</p> <p>Educational programs presented to seasonal crews have increased weed awareness and have resulted in identification of new noxious weeds populations and follow-up treatment. Noxious weed prevention and control is considered in NEPA projects on the forest, including timber harvest, grazing activities, and dispersed and developed recreation. Noxious weed dispersal by ATV's continues to be a concern.</p> <p>The weed seed free program continues to be monitored and compliance is found to be high.</p>

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Recreation Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
17. Objective 2a, Strategies 5, 6, 9, 10, and 12 Objective 4a, Strategy 1	Is an adequate range of travel opportunities being offered across the Forest?	1. Individual and organized recreation club contacts, location, trend, and nature of use conflicts, incident reports. Monitor every 3 years; due in 2008, 2011, 2014.	Seven projects that focused on travel opportunities or included aspects of travel opportunities were proposed or completed in 2011. For specifics see appendix A.
		2. Number of travel management plans completed. Monitor annually	No new travel management plans were initiated or completed in 2011. Implementation of the Hunt Mountain, Clear/Crazy, and Woodrock Travel Management Decisions was continued through trail improvements, signing, closures, and patrols.
Notes: Studying use and projected demand should assist in future project planning to provide multiple benefits to multiple people. Vegetation within developed facilities (e.g., campgrounds) contributes substantially to the recreation setting. Attaining desired conditions and monitoring results will protect these values over the life of the facility.			
39. Objective 2c, Tourism and Recreation Strategy 1 Objective 3b, Strategy 3	Are research, education, and interpretation activities being conducted and in conjunction with partners?	Number of educational presentations, research projects, agreements, or activities conducted with and for others. Identify by resource function. Monitor annually	1) Cloud Peak Wilderness rangers made over 449 public contacts while on patrol in the backcountry in 2011. Each of these contacts included information and education on Leave No Trace outdoor skills and ethics. Powder River District Front country dispersed recreation staff made 1,500+ contacts to provide Tread Lightly! Information to the Off Road Vehicle and to monitor State ORV sticker compliance in 2011. Sticker compliance exceeds 95%.

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Recreation Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
39. Objective 2c, Tourism and Recreation Strategy 1	Objective 3b, Strategy 3, cont.		<p>2) A University of Wyoming graduate student conducted American pika studies in the Cloud Peak Wilderness in 2011. The study is to determine relative pika abundance and as an indicator of predicted climate change, its potential impacts to alpine systems, and the potential for the American pika to serve as a sentinel species.</p> <p>See appendix A for numbers and attendance of conservation and education outreach activities.</p>

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Wilderness Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
18. Objective 2b, Wilderness Strategies 2 – 5	What level of crowding occurs on trails? Does the wilderness provide opportunities for solitude?	Report number and type of users by trailhead, law enforcement contacts, and educational presentations. Monitor annually	Users by travel method and trailhead – See appendix A for this monitoring item. Law enforcement contacts are also reported in appendix A.
	Are special exceptions affecting the wilderness resource?	Report the number and type of special exceptions to limited activities Monitor annually	One motorized intrusion was authorized during FY 2011. On July 18, 2011, a helicopter landing was granted to rescue a severely injured hiker near Shell Lake. A five-year MOU between county sheriffs and the Bighorn NF was reauthorized in 2011. The MOU authorizes sheriffs to use helicopters and all-terrain vehicles for life-and-death emergencies and/or body recoveries without needing to obtain case-by-case approval from the forest supervisor.
Notes: Monitoring may indicate if a limited permit system or other restrictions are necessary.			
19. Objective 2b Wilderness Strategy 1	Is air and water quality being improved, maintained or degraded in the Cloud Peak Wilderness, and on the Forest as a whole?	1. Coordinate collection and analysis of IMPROVE ¹ data (or subsequent protocols) on air quality. Monitor annually	No change from FY 2010. The state of Wyoming Department of Environmental Quality continues to operate an IMPROVE station on Hunter Mesa. This is used to monitor effects of energy development occurring in the Powder River Basin and general effects to air quality in the Cloud Peak Wilderness from upwind development activities. Data from this station can be viewed or downloaded at WDEQ's Air Quality Monitoring Website (http://www.wyvisnet.com/plot.asp).

¹ Interagency Monitoring of Protected Visual Environments (IMPROVE)

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Wilderness Discussion
19. Objective 2b Wilderness Strategy 1		2. Collect and analyze alpine lake water samples for information on air and water quality. Apply quality assurance protocol. Monitor annually	The long-term lake sampling work continued in 2011. Due to a late spring with heavy snow pack and frozen lakes, Emerald Lake and Florence Lake were sampled two times instead of the standard three. Quality assurance is conducted by the Rocky Mountain Research Station in Fort Collins, CO.
		3. Review state air quality data for incidences of impairment in relation to Forest activities. Monitor annually	State air quality data did not report impairment in 2011. There were no Forest activities that instigated data reviews in 2011.
		4. Prepare summary of annual compliance and identify needed improvements. Monitor annually.	A summary of 2011 data was not prepared, however an overall review of air and water quality will be conducted in 2012 after receiving an analysis of the water chemistry from the Rocky Mountain Regional Office.
20.	This Monitoring Driver was a duplicate of #18. The number has been retained to avoid renumbering all subsequent monitoring drivers.		

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Heritage Resources Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
21. Objective 2b Heritage Strategy 1	Have programmatic agreements for heritage resources been negotiated and implemented for Forest programs?	<p>1. Number and types of agreements in place.</p> <p>Monitor every two years; due in 2007, 2009, 2011, 2013, 2015</p>	<p>Two programmatic agreements (PAs) are in place: 1) A comprehensive PA with the Wyoming State Historic Preservation Office (SHPO) and 2) Medicine Wheel Historic Preservation Plan (HPP).</p>
		<p>2. Identify other program needs and reduce backlog.</p> <p>Monitor every two years; due in 2007, 2009, 2011, 2013, 2015</p>	<p>In progress: development of historic context for recreation residence cabins in partnership with Wyoming SHPO to resolve back log of evaluations.</p> <p>Significant backlog in heritage module of INFRA. Working with an enterprise team to reduce backlog over next two year period. As part of the project, scanning of reports was completed in FY11.</p>
		<p>3. Summarize if terms of agreements are being met.</p> <p>Monitor annually</p>	<p>2011 – The terms of both current agreements are being met.</p> <p>For the forestwide PA, Wyoming SHPO concurred with the Forest’s year-end-report on the forestwide agreement (2011).</p> <p>For the Medicine Wheel HPP, the revised National Historic Landmark (NHL) nomination was accepted by the Secretary of Interior in June 2011. Monitoring meetings were held with the consulting parties in July and August at the Medicine Wheel and in December in Billings, Montana.</p>
22. Objective 2b Heritage Strategy 2	Is the Bighorn National Forest preparing and implementing Historic Preservation Plans?	<p>Number of plans completed and implemented.</p> <p>Monitor annually</p>	<p>The Medicine Wheel and Medicine Mountain National Historic Landmark nomination completed.</p>

	Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Heritage Resources Discussion
23.	Objective 2b Heritage Strategy 3	What progress has the Forest made for inventorying areas having a high probability for heritage resources?	1. Acres inventoried. Monitor annually	Total acres inventoried in FY 2011= 172 Cumulative acres inventoried since 2005 = 14,433
			2. Number of new sites evaluated. Monitor annually	Forest total = 21
			3. Number of backlogged, unevaluated sites that have been evaluated. Monitor annually	Forest total = 4
23.	Objective 2b, Heritage Strategy 3, cont.		4. Number of sites evaluated sent to the state National Register of Historic Places. Monitor annually	Forest total = 25
Notes: Related to Section 110 of the National Historic Preservation Act.				
24.	Objective 2b Heritage Strategy 4	Is the Forest meeting its consultation responsibilities for American Indian traditional cultural properties?	1. Number of sites identified. Monitor annually	One site, Medicine Wheel / Medicine Mountain NHL was monitored an average of twice a month for the summer season.
			2. Number of sites consulted on. Monitor annually	Forest total = 2
Notes: Includes responsibilities under Sections 110 and 106 of the National Historic Preservation Act.				
25.	Objective 2b, Heritage Strategy 5 Objective 2c, Tourism and Recreation Strategy 2	What actions has the Forest taken to increase public awareness and education of heritage resources?	1. Number of projects conducted. Monitor annually	Forest total = 3 The Boyde Ridge Passport In Time archaeology project A newspaper article on the Medicine Wheel / Medicine Mountain National Historic Landmark The NHL dedication ceremony held in August 2011 which was attended by over 100 guests

	Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Heritage Resources Discussion
25.	Objective 2b, Heritage Strategy 5 Objective 2c, Tourism and Recreation Strategy 2		2. Number of heritage programs delivered. Monitor annually	5 programs
			3. Number of interpretive signs or brochures constructed or maintained. Monitor annually	53 interpretive signs

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Livestock Grazing Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
26. Objective 2c Livestock Grazing Strategies 1 and 2	What total AUMs were permitted through term permit this grazing season?	AUMs permitted Monitor annually	Cattle: 87,772 Sheep: 10,412 Horses: 819 Total = 99,003
	What total AUMs were authorized through term permit this grazing season?	AUMs authorized Monitor annually	Cattle: 73,624 Sheep: 5,999 Horses: 849 Total = 80,472
	Total number of active allotments (This includes temporary grazing in vacant allotments)	Number of allotments Monitor annually	77
	Number of active allotments monitored	Number of monitored allotments Monitor annually	49
	Percent of monitored allotment that exceeded forage utilization standards to the point of discussing/implementing actions to resolve the situation.	Percent of active allotments that were monitored Monitor annually	54
	How many suitable acres are meeting or moving toward desired conditions?	Acres meeting or moving toward desired condition	26,268
		Acres not meeting or moving toward desired conditions	124,591
		Acres undetermined	9,588

	Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Livestock Grazing Discussion
26A.	Objective 2c Livestock Grazing Strategies 1 and 2, cont.	How was information sharing and cooperation with livestock permittees, state and private agriculture organizations, universities, and research partners demonstrated?	Narrative discussion Monitor annually	See appendix A

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Paleontology, Minerals Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
28A. Objective 2c Geologic and Paleontological Resources Strategy 1	Have impacts to paleontological resources resulted in a need to revise/amend the plan for additional direction?	New paleontological sites identified during cultural or other inventories and associated impacts from land management activities. Monitor annually	There have been no new paleontological sites identified.
28B. Objective 2c Mineral and Energy Resources Strategy 1	Are the effects of mining activities on surface resources consistent with Revised Plan expectations, as allowed in approved Plans of Operations?	Summarize monitoring efforts, results and findings under project-specific plans of operation. Monitor annually	The Pascalite mining operation continued in 2011 under their approved plan of operations near the headwaters of South Paintrock Creek on the Powder River Ranger District. The effects of the mining activities are consistent with the revised forest plan. The Peaches lode claim in the Poison Creek drainage operated according to the filed and approved plan of operations. The effects of the mining activities are consistent with the revised forest plan. The Hazelton Peak mining proponent allowed the claim to expire; further review of the plan of operation (POO) was not needed.

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Scenery Resources Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
31. Objective 2c Scenery Strategy 2	Are resource activities and forest uses consistent with the landscape character goals and scenic integrity objectives?	1. Review a sample of management activities, and compare forest plan direction with actual outcomes. Monitor annually	<p>Implementation of the West Tensleep II Fuels Project began in 2011 in a 4.2 and 4.3 management areas where emphasis is on scenery and dispersed recreation resource respectively. The scenic integrity objective (SIO) for the project area is moderate. The existing scenic condition was inventoried as low based on the effects of past development. Forestwide scenery guideline 3 assigns a rehabilitation SIO in this situation (FPlan page 1-57).</p> <p>The NEPA workplans and project record document limited attention to potential effects on scenery. The EA and DN/FONSI in combination with the timber site prescriptions and implementation guides fall short of forestwide scenery guidelines 4 and 7 (FPlan page 1-57).</p> <p>Units 6, 61, 7, and 71 of the fifteen proposed cutting units were treated during the winter of 2010-2011. (only units 7 and 71 have been completed and accepted under the contract). Although much work remains to be completed, specific outcomes are discussed in appendix A.</p>

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Facilities/Infrastructure Discussion
Effectiveness Monitoring – Are desired conditions and outcomes of the Forest Plan being met?			
33. Objective 4a, Strategies 3 – 5	Are all system roads being maintained as desired on the Bighorn National Forest?	Percent of roads maintained to standard via forest road crews, contract, cooperators, or other means (See annual roads accomplishment report). Monitor annually	The forest continues to maintain 95-100% of level 3-5 roads to standard yearly. 25% of level 1-2 roads are also maintained to standard. 85% of road maintenance was accomplished by forest road crews and 15% being accomplished by contract/agreements. In 2011, 99% (298 miles) of all maintenance level 3, 4, and 5 roads received full maintenance. 38% (112 miles) of level 1-2 roads received full maintenance. Majority of level 1-2 roads receiving maintenance were on the Powder River Ranger District.
34. Objective 4a Strategy 6	Are unclassified roads and trails being decommissioned?	Report road decommissioning accomplishments and trail decommissioning accomplishments performed via forest road crews, contract, cooperators, or other means (see annual roads accomplishment report). Monitor annually	Road Program: In 2011 the forest road crews decommissioned 1.75 miles of forest system road and 0.55 miles of unauthorized roads. The majority of this decommissioning took place on the Tongue Ranger District was in compliance with forest travel management decisions. Trail Program: The forest trail crew monitored previously decommissioned trail routes. When openings in closures were found the crew fell dead trees across them. Most of the work was conducted on the Shutts Flat Trail. The MWPR District recreation technicians closed approximately 2 dozen unauthorized trails by building barriers, posting signs. The process of GPSing these unauthorized trails began.

	Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Facilities/Infrastructure Discussion
35.	Objective 4a Strategies 7, 8	Are new construction and maintenance projects being done to reduce maintenance backlogs and are they being done consistent with the current master plan, and meeting the current image guide?	Report all new facility and transportation construction, reconstruction, decommissioning, and maintenance projects and state how they are reducing maintenance backlogs, or how they are meeting the current Facility Master Plan (FMP) and the Built Environment Image Guidelines (BEIG) Monitor annually	<p>Several facility/ infrastructure improvement projects were accomplished in 2011. These projects include 1 (qty each) toilet replacement with a precast structure at both West Tensleep Trailhead and Hunter Campground. Also completed was an interior renovation at the Sheridan work center dwelling #1. Various other FA&O sites received necessary annual maintenance as well. These projects reduced forest deferred maintenance backlog by \$150,000. All completed construction and reconstruction projects complied with the Forest Master Plan recommendations and met Forest Built Environmental Image Guidelines.</p> <p>Trail Program: Approximately ¼ mile of rerouted motorized trail (#809) was completed on the Medicine Wheel/Paintrock (MWPR) District by the state trail crew. The Montana Conservation Corps conducted heavy maintenance on .2 miles of trail on the MWPR. The Wyoming Conservation Corps improved 2 miles on the Tongue Ranger District. An Iowa Boy and Girl Scout group completed over 5 miles of trail maintenance on the Tongue Ranger District. A total of 231 miles of trail was maintained by the trail crew, partners and volunteer groups. The trail strategy is updated and used annually to determine trail priorities and Forest Service Handbook and Manual standards were implemented.</p>
37.	Objective 4a Strategy 11	How many miles of system or non-system road were decommissioned?	Review annual engineering work accomplishment reporting Monitor annually	0.55 miles of non-system roads were decommissioned in 2011. Most of these were unauthorized, user created routes on the Tongue Ranger District.

Notes: Providing access to public lands is critical for meeting resource management and multiple-use objectives.

Monitoring Driver	Monitoring Question	Monitoring Items and Frequency	Soil Discussion
Validation Monitoring- Are the desired conditions, objectives, and assumptions made in the Forest Plan correct?			
42. Objective 1a	Are the standards and guidelines effective in meeting regional soil quality standards?	<p>1. Conduct surveys on a representative sample of areas with management activities and uses.</p> <p>Monitor annually</p>	<p>BMP reviews were conducted in the following pastures: West Bull Creek Pasture in the Bull/Woodrock Allotment (Tongue Ranger District), the Upper Doyle Creek pasture in the Upper Doyle Creek Allotment (Powder River Ranger District), and the Cabin pasture in the Whaley Creek Allotment (Med Wheel/Paintrock Ranger District). Allotments were reviewed for BMP implementation and effectiveness.</p> <p>In each review, range management practices (developed using standards and guidelines) were maintaining or helping to improve watershed conditions, and soils were not being degraded, thereby showing that regional soil quality standards are being met.</p>
		<p>2. Measure the amount of severely impacted areas and compare with regional standards.</p> <p>Monitor annually</p>	<p>No severely impacted areas recorded in 2011, therefore none were measured.</p>

List of Contributors

The following individuals participated in the monitoring and preparation of this report:

Name	Position
David Beard	Tongue District rangeland management specialist
Ruth Beckwith	Forest landscape architect
Beth Bischoff	Medicine Wheel/Paintrock District rangeland management specialist
Bernie Bornong	Forest resources staff officer
Craig Cope	Powder River District recreation/wilderness/lands staff
Jason Ruybal	Forest civil engineer
R. Scott Gall	Powder River District rangeland management specialist
Mike Bower	Forest terrestrial biologist, fisheries biologist
Leslie Horsch	Writer-editor
Bob Cochran	Medicine Wheel/Paintrock District recreation staff officer
Cheri Jones	Tongue District recreation staff officer
Gayle Laurent	Forest realty specialist
Rick Laurent	Archaeologist (east zone)
Bill Mathews	Archeologist (west zone)
Dave McKee	Forest lands, special uses and recreation staff officer
Laurie Walters-Clark	Forest planning staff officer
Chris Williams	Forest hydrologist
Christopher Thomas	Forest silviculturalist, certified forester #626
Jon Warder	Forest fire management officer
Amy Nowakowski	Hydrologist
David Anderson	Forest data manager
Amy Ortner	GIS specialist

Appendix A – Narrative Description of Cooperative Agreements / Activities

General Discussion

Monitoring Driver	Monitoring Question
2. Objective 2a, Strategy 8 Objective 4c, Strategy 4	How well is the forest interacting and planning in cooperation with communities and local governments?
<p>Continued successful cost share partnership with Wyoming State Trails program to provide education and travel management enforcement during summer off-road and winter snowmobile seasons. The State contributed over \$80,000 in funding support. During snowmobile season 6,317 contacts were made. During summer and fall off-road vehicle season 13,098 contacts were made. Compliance with the Wyoming State Trails sticker program is 98%. Education included providing directions and copies of the Forest MVUM map, aid and assistance, and presenting information on travel safety, particularly.</p>	
<p>Continued successful cost share partnership with the Rocky Mountain Nature Association to operate the Shell Falls and Burgess Visitor centers. Through sales of RMNA inventory the Forest obtained funding (\$36,000) to staff several positions at Burgess and Shell Falls. In addition to selling inventory the staff provided key information on Forest regulations, resource protection, safety information, and recreation opportunities to visitors.</p>	
<p>Two student Conservation Association (SCA) members worked at the Medicine Wheel interpretive site. Both worked approximately ten fourty hour weeks (800 hours) total) at the site. Both also spent approximately another 90 hours total helping with the visitor centers and other recreation duties. Both also helped a few days working with the archeologist on a dig/survey. 1 SCA member worked 400 hours at Shell Falls Visitor Center and 88 hours performing developed and dispersed recreation site maintenance work as well as other recreation duties.</p>	
<p>The City of Buffalo's Trail Board completed the planning and funding efforts for building a connector trail from City of Buffalo's trail system connecting to the Bighorn National Forest by non-motorized trail. The City hired a trail contractor who spent 15 weeks building the trail entirely by hand labor. Approximately 4 miles of new trail were constructed with most of that mileage on the Bighorn National Forest. City trail users may now connect by non-motorized trail access directly to the Bighorn National Forest. A Five-year Challenge Cost share agreement has been entered into by the City for maintenance of this new trail.</p>	
<p>Under a Participating Agreement the Montana Conservation Corps (MCC) constructed 79 dimensional lumber steps on the Porcupine Falls Trail #135. They also completed the hardening of two switchbacks and finishing work on a reroute on the same trail. This work (Phase I) was funded with Title II SRS funds through the Big Horn County Resource Advisory Committee.</p>	
<p>Under a Participating Agreement the Wyoming Conservation Corps (WCC) improved the Tongue River Cave Trail #093 in its entirety. They replaced rock and wooden steps, hauled rock and fill and repaired fences. They also cut back brush and collected garbage.</p>	
<p>Rehabilitation of facilities at Shell Falls Wayside was completed under a Forest Service contract with majority funding from a scenic byway grant by Wyoming Department of Transportation (WyDOT).</p>	
<p>Significant areas for the disposal of waste material were designated, clearing limits were established, and preparations for sale of timber were completed for WyDOT's County Line West highway reconstruction project on Hwy 16 (Cloud Peak scenic byway).</p>	

Monitoring Driver	Monitoring Question
<p>2. Objective 2a, Strategy 8 Objective 4c, Strategy 4</p>	<p>How well is the forest interacting and planning in cooperation with communities and local governments?</p>
<p>A successful scenic byway grant proposal was prepared and an award made. Funds will provide for community involvement in updating 3 scenic byway plans.</p>	
<p>Two steering committee meetings were held in 2011: one in April and the other in September. The April meeting was held in Sheridan. Topics of discussion included the revised forest plan 5 year monitoring report, Big 6 FEIS, Forest length of stay order, and the forest service travel management decision process.</p> <p>The September meeting was in the field on the Powder River District. Topics included an update on the status of forest resorts, the water level lowering of Meadowlark lake, the Big Horn County RAC, implementation of the RFA implementation, Rock Creek Wilderness, managed fire, West Ten timber sale, Big 6 FEIS status and Big Horn Sheep/domestic sheet design feature implementation. Twenty three attended the meeting; 12 steering committee members, 9 FS personnel and 2 members of the general public.</p>	
<p>As part of the West Tensleep Master Recreation Project public scoping process, presentations were made to the Four county Big Horn Mountain Coalition in February 2011. Responses from the various counties were used to make slight adjustments to the proposed actions.</p>	
<p>The Recreation staff, Forest Protection Officers, and Forest Law Enforcement Officers met with Wyoming State Game and Fish personnel to coordinate hunting patrols and receive updates on State hunting regulations..</p>	
<p>One meeting was held between the MWPR Recreation Staff, District Ranger and a County Commissioner where we discussed a proposed project which would improve camping at the Bucking Mule Falls T.H.</p>	
<p>Each District Ranger met with their respective County Commissioners to discuss ongoing and future projects within their counties.</p>	
<p>The MWPR District Recreation Staff participated in a meeting with the Bighorn National Canyon Park staff, park concessionaires, State and County Representatives and local public groups and individuals.</p>	
<p>District Recreation communicated a number of times with the local Chamber of Commerce regarding obtaining support for the Porcupine Falls Trail Project</p>	
<p>Black Mountain Nordic Ski Club completed its 12th winter of volunteer efforts on Sibley and Cutler Hill Nordic ski areas. The volunteers donated 176 hours to trail grooming and clearing projects.</p>	
<p>Wyoming State Trail Crew completed construction on a re-route on the Cottonwood Creek Trail #809 in the Hunt Mountain Area.</p>	
<p>An Iowa based Boy/Girl Scout volunteer group completed trail maintenance on Trails #410, #076, #429 and constructed a puncheon on trail #013 at Sibley Lake.</p>	
<p>Twenty middle school students from Big Horn and their teacher volunteered during our National Trails Day event. They maintained two miles of the Story/Penrose Trail #033. Their efforts included the removal of trees and brush from the corridor, repair of rolling dips, rock removal and tread repair.</p>	

Monitoring Driver	Monitoring Question
2. Objective 2a, Strategy 8 Objective 4c, Strategy 4	How well is the forest interacting and planning in cooperation with communities and local governments?
<p>Powder Pass Nordic Club (PPNC) completed its sixth winter of volunteer efforts on nordic ski areas. The volunteers donated over 570 hours to trail marking, clearing and packing projects. There were 15 individuals who donated time for the PPNC club. In cooperation with the Johnson county Recreation District, the PPNC was granted funding and purchased a track roller groomer for one of the Nordic areas west of Buffalo, WY.</p>	
<p>Cloud Peak Chapter Wilderness Watch (CPCWW) volunteered 285 hours in 2011 in conducting Rapid Assesments of user created campsites in connection with one of the action items for the Wilderness Stewardship Challenge. Fifteen to twenty individuals assisted with the chapter's monitoring efforts.</p> <p>CORE of Casper, WY completed another week's worth of projects with 800 hours donated. The group assisted the District by reconstructing a portion of Trail #068 that had been washed out by the high level of spring run-off. They also continued planting more trees in the recently refurbished Boulder Park Campground and working around Meadowlark Lake picking up trash and litter. This group has been assisting the District in project work for over eight years.</p>	
<p>Three volunteers worked a total of 767 hours at the Burgess Junction and Shell Falls Visitor Centers.</p>	
<p>Boyscout Troop performed cleanup at Bucking Mules Falls T.H. 15 scouts and 4 adults 2 hours.</p>	
<p>One volunteer worked a approximately 370 hours performing developed and dispersed recreation site maintainenece and patrols.</p>	

4. Objective 3a Potential Monitoring Item #1	Is the Bighorn National Forest assisting in building the capacity of Tribal governments, rural communities and private landowners to adapt to economic, environmental, and social change related to natural resources.
<p>Big Horn County Resource Advisory Committee (RAC) was established in 2010 under the Secure Rural Schools and Community Self-Determination Act (Pub. L. 110-343). Two meetings were held in 2011. Potential available dollars were over \$160,000. The committee recommended 9 projects by September 30, 2011. All recommended projects were approved by the Forest Service.</p>	

4. Objective 3a Potential Monitoring Item #2	See potential monitoring item #1 above.
<p>The forest held meetings with all four counties for to coordinate fire suppression.</p> <p>The Johnson County Fuels Mitigation Committee was formed to address private and forest (WUI) hazardous fuels concerns.</p> <p>Implementation of the Story fuels project continued with county, state, and forest programs combined. One hundred acres of prescribed burning on forest were achieved, with the county completing other private land activities through a Forest Service grant.</p>	

Invasive Species

Monitoring Driver	Monitoring Question
<p>12. Objective 1.c, Invasive Species Strategy 2,</p>	<p>What prevention activities and cooperative efforts have been implemented during the past year?</p>
<p>The forest continued cooperative agreements with Big Horn, Johnson, and Washakie counties to treat noxious weeds on national forest system lands. GPS points were provided for some treatment and inventory data. Inventory and treatment were also conducted on lands adjacent to the forest.</p> <p>Johnson County added treatment areas at the Hunter Work Center, Steerhead Ranch (on and adjacent to the forest), and Penrose Trailhead.</p> <p>In the past 2 years, the treatment strategy with Big Horn County Weed and Pest has resulted in finding additional noxious weeds (e.g., knapweed) in areas where only Canada thistle had been inventoried. Cooperation is excellent with Big Horn County Weed and Pest, as evidenced by the private forestry grant funding provided to treat the forest interface and their willingness to come across county boundaries to treat noxious weeds on the Tongue District in Sheridan County.</p> <p>Big Horn County Weed and Pest and the Medicine Wheel/Paintrock Ranger District have cooperatively applied for State and Private Forestry funding annually. In 2010, they received about \$20,000. This was used for both treatment and inventory on lands at the forest interface.</p>	
<p>Through the State and Private Forestry program, administered by the USFS Rocky Mountain Regional Office, numerous grants have been awarded to local counties for hazardous fuel treatments. Some of these projects have included the Canyon Country Estates Project, Johnson County Wildfire Mitigation Plan Implementation, Story Fuels Reduction Project, and Stumpy Ridge Fuels Reduction Project, Big Horn County Community Wildfire Protection Plan Implementation and Update. In addition, through a grant to the State of Wyoming, each County surrounding the Forest receives wildfire training and equipment preparedness funding. Coordination of hazardous fuels reduction projects are ongoing.</p>	

Recreation

Monitoring Driver	Monitoring Question
17. Objective 2a, Strategies 5, 6, 9, 10, and 12 Objective 4a, Strategy 1	Is an adequate range of travel opportunities being offered across the Forest?
<p>The Johnson Creek Vegetation Management project was completed in 2011. Part of the decision was influenced by collaboration and input from Black Mtn Nordic Club and Shell Racing Team (mtn bike) and interested individuals. Part of the decision included expansion of the ski trail system, with new trails designed to accommodate mountain bikes. Issues on Trail 33 continue to be raised from individuals concerned about motorized and non-motorized use on a narrow, rocky, high-use trail. Some trail work is completed annually to improve this trail.</p>	
<p>Public comments on the Beaver Lakes portion of Trail 38 initiated planning to convert this section to non-motorized for public health and safety.</p>	
<p>The Burgess Junction area lodges raised awareness for a connector trail opportunity between lodges to avoid use on highways. Some planning work has been done to look at potential routes.</p>	
<p>Local outfitters and interested individuals expressed the need to correct resource issues on Trail 219. Contract work was completed in 2011 to address these concerns.</p>	
<p>The Mosier Gulch Trail project done in cooperation with the City of Buffalo's Trails Board was completed on the ground in FY 2011.</p>	
<p>The MWPR District Rec. Staff contacted State Representative who is also an interested OHVer about ongoing OHV #809 trail reconstruction project</p>	
<p>The MWPR District Recreation Staff and Forest Trail Coordinator met with a local mountain biking proponent and hiked the Bench Area and discussed future volunteer trail improvement projects and the possibility of adding some loop opportunities.</p>	

Wilderness

Monitoring Driver	Monitoring Question																																						
18. Objective 2b, Wilderness Strategies 2 – 5	What level of crowding occurs on trails? Does the wilderness provide opportunities for solitude?																																						
<p>Cloud Peak Wilderness recreation visitor days (RVDs) by trailhead:</p> <table border="0"> <thead> <tr> <th style="text-align: left;">Trailhead Name</th> <th style="text-align: right;">RVDs</th> </tr> </thead> <tbody> <tr><td>West Tensleep/Lost Twin</td><td style="text-align: right;">16,911</td></tr> <tr><td>Hunter TH/N Clear Creek</td><td style="text-align: right;">12,270</td></tr> <tr><td>Circle Park</td><td style="text-align: right;">8,040</td></tr> <tr><td>Battle Park/Grace Lake</td><td style="text-align: right;">4,830</td></tr> <tr><td>Coffeen Park</td><td style="text-align: right;">4,300</td></tr> <tr><td>Paintrock Lakes</td><td style="text-align: right;">2,140</td></tr> <tr><td>Edelman/Emerald lake</td><td style="text-align: right;">1,510</td></tr> <tr><td>Twin Lakes/Stull/Coney Lake</td><td style="text-align: right;">1,240</td></tr> <tr><td>Ranger Creek/Adelaide</td><td style="text-align: right;">1,180</td></tr> <tr><td>East Fork Little Goose TH</td><td style="text-align: right;">920</td></tr> <tr><td>Cross Creek/Bighorn Res</td><td style="text-align: right;">740</td></tr> <tr><td>Shell Reservoir/Lake</td><td style="text-align: right;">510</td></tr> <tr><td>Trigger lake</td><td style="text-align: right;">460</td></tr> <tr><td>Lily Lake/Paintrock Creek</td><td style="text-align: right;">136</td></tr> <tr><td>Kearney Lake</td><td style="text-align: right;">116</td></tr> <tr><td>Lake Angeline/Mid Clear Creek</td><td style="text-align: right;">105</td></tr> <tr><td>Bald Ridge</td><td style="text-align: right;">78</td></tr> <tr><td>Geddes/Weston/Babione</td><td style="text-align: right;">73</td></tr> </tbody> </table> <p>Total incidents/violation notices/warning notices = 140 (includes law enforcement and wilderness ranger contacts)</p> <p>Incidents = 65</p> <p>Violations = 49 (32 violations in 2009).</p> <p>Warning notices = 26</p>		Trailhead Name	RVDs	West Tensleep/Lost Twin	16,911	Hunter TH/N Clear Creek	12,270	Circle Park	8,040	Battle Park/Grace Lake	4,830	Coffeen Park	4,300	Paintrock Lakes	2,140	Edelman/Emerald lake	1,510	Twin Lakes/Stull/Coney Lake	1,240	Ranger Creek/Adelaide	1,180	East Fork Little Goose TH	920	Cross Creek/Bighorn Res	740	Shell Reservoir/Lake	510	Trigger lake	460	Lily Lake/Paintrock Creek	136	Kearney Lake	116	Lake Angeline/Mid Clear Creek	105	Bald Ridge	78	Geddes/Weston/Babione	73
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Livestock Grazing

	Monitoring Driver	Monitoring Question
26.	Objective 2c, Livestock Grazing Strategies 1 and 2	How was information sharing and cooperation with livestock permittees, state and private agriculture organizations, universities, and research partners demonstrated?
<p>The forest range staff worked with Dan Uresk (Forest Service Research) on calibration of the Robel pole monitoring method on granitic soil types across the forest.</p> <p>Forest range specialists attended the meeting of the Wyoming Section of the Society for Range Management (SRM) in Cody, WY. Five specialists attended the 2010 SRM annual meeting in Denver, CO.</p>		
<p>Powder River Ranger District</p> <p>Range specialists met with BLM counterparts in Worland and Buffalo to discuss wildlife, sagebrush treatment, and grazing issues of mutual concern.</p> <p>Range specialists met with permittees, in the field and after the grazing season, to discuss management and AMP planning on Tensleep watershed allotments.</p> <p>Range specialist joined permittee and Wyoming Game and Fish habitat specialist to discuss wildlife concerns on winter range in the Tensleep Canyon area, in conjunction with pending livestock grazing NEPA decision.</p> <p>District staff met with WYDOT officials at Pole Creek Highway camp to assess potential impacts to riparian area.</p> <p>Range staff met with NRCS to discuss new pipeline construction specifications on Tensleep Canyon allotment.</p> <p>Range specialist joined permittee and UW agriculture extension agent from Greybull on North Canyon allotment to participate in cooperative monitoring. Information sharing occurred through discussion of various monitoring techniques, how they could apply to the acceptable R2 Forest Service monitoring protocols, and the relationship between the monitoring already on the allotment.</p>		
<p>Tongue Ranger District</p> <p>Range specialist, David Beard, has participated in coordinating and putting on Range Schools through the Wyoming Section SRM.</p> <p>Range specialist on the Tongue District assisted the WGFD in collecting willow samples at eight locations. A nutrient analysis was done to identify deficiencies and develop a supplement strategy to reduce wildlife preference for willows. Initial results of the analysis show minor deficiencies in trace minerals (copper and iron).</p>		
<p>Medicine Wheel/Paintrock Ranger District</p> <p>The annual west side interagency coordination meeting was held in January 2010 with BLM, Wyoming Game and Fish, and Forest Service representatives. The purpose of the meeting was to share information about accomplishments from 2009 and projected projects for 2010. Topics include fisheries, wildlife, range, prescribed fire, and timber management.</p> <p>District range specialist joined permittee representative on the north rotation of Paintrock Basin C&H allotment to participate in cooperative monitoring with a consultant they hired (Land, EKG). Information sharing occurred through discussion of various monitoring techniques the consultant is using, how they could apply to the acceptable R2 Forest Service monitoring</p>		

	Monitoring Driver	Monitoring Question
26.	Objective 2c, Livestock Grazing Strategies 1 and 2	How was information sharing and cooperation with livestock permittees, state and private agriculture organizations, universities, and research partners demonstrated?
<p>protocols, and the relationship between the monitoring already on the allotment.</p> <p>Range specialist, fire management officer, forest hydrologist, forest fish biologist, permittee and permittee representatives (Big Horn County extension agent, and Guardians of the Range executive director) conducted a BMP review of a pasture on the district and associated management in relation to hydrology, soils, ground cover, etc.</p>		

Scenery Resources

	Monitoring Driver	Monitoring Question
31.	Objective 2c, Scenery Strategy 2	Are resource activities and forest uses consistent with the landscape character goals and scenic integrity objectives?
<p>Specific scenery outcomes of the West Tensleep II Fuels Project:</p> <p>The treatment does not initiate a short and long term, fine grained mixture of age classes or structural stages to increase the diversity of forested vegetation. Excepting areas where some existing variation is maintained, the entire area of more than 650 acres is being set-up for a shelterwood seed cut in approximately 40 years (i.e. 2060). Factoring in the age of the existing trees, the opportunity forgone may make it difficult to maintain a forested character and meet scenic integrity objectives in the project area over the long term.</p> <p>A standard crown separation in lodgepole pine, which grew to its pre-treatment size in a much tighter stand, does not provide a natural appearing forest landscape. The color and texture of the forest have been modified. A standard crown separation applied to an intermediate to mature lodgepole stand does not meet a moderate SIO when applied over a significant area. In the project area with rehabilitation SIO where the current condition is low scenic integrity the treatment of more than a few acres for a standard crown separation reduces scenic integrity. Although the area treated to date continues to meet a low SIO this may change as additional harvest is completed.</p> <p>Whole tree logging produces large piles of woody debris at landings. Temporary road needs, ease of skidding, haul distances and permitted access onto a US highway influenced the location of landings and piles. There may have been an opportunity to use snow roads to locate landings and debris piles further from a Wyoming and US Forest Service designated scenic byway.</p> <p>The disposal of woody debris piles was not addressed in the EA/DN/FONSI and thus was not planned in advance. With burning as the fall-back method of disposal, there is a risk of damage to nearby trees, visible 'ash/bone piles', soil sterilization and poor re-growth at the burn pile location.</p>		