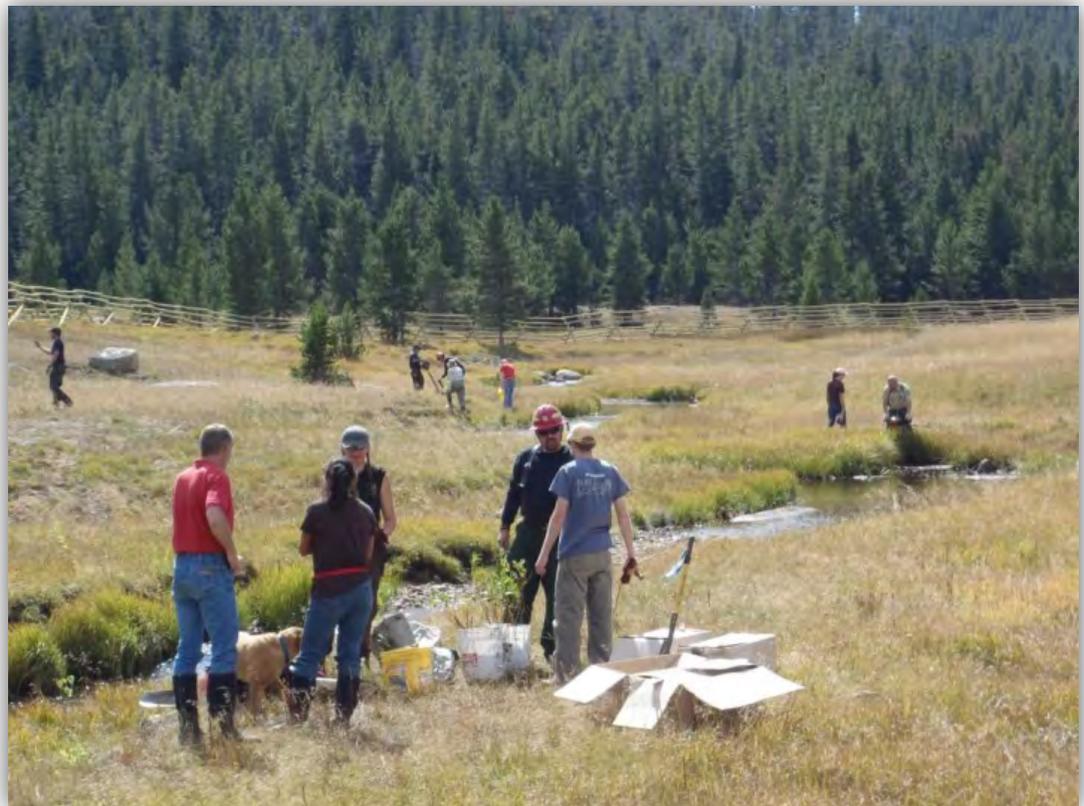


# FY 2013 Monitoring and Evaluation Report

Bighorn National Forest

*April 2014*



Planting willows on the West Fork of the South Tongue River – 2013 watershed improvement project.

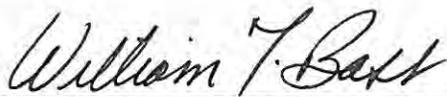
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## **CERTIFICATION**

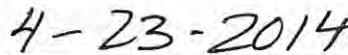
The Revised Bighorn National Forest Land and Resource Management Plan Record of Decision (ROD) was signed September 30, 2005. The forest plan is a dynamic document, subject to change based on annual monitoring and evaluation as we implement. Through monitoring, we determine whether the plan is sufficient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

I have reviewed the fiscal year (FY) 2013 annual monitoring and evaluation report for the Bighorn National Forest. I believe the results of monitoring and evaluation for FY 2013 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.

In 2012, I assigned several forest specialists to a monitoring team. This team is responsible for review of this monitoring report and making recommendations to me regarding any changes to the forest plan. The team provides me with interdisciplinary review of this report and analysis of how well we are meeting expected outputs. That information is included in this 2013 report.



WILLIAM T. BASS  
Forest Supervisor



Date

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## 2013 Monitoring and Evaluation Report Overview of the Monitoring Process

The following discussion is an overview of the monitoring process used on the forest. Monitoring results are reported in attachment A. Some monitoring is done annually; some is on a 2, 3, 5 or 10 year schedule. Only those items due 2013 are included in this report.

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
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, deter-

mines 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.

### Implementation Monitoring

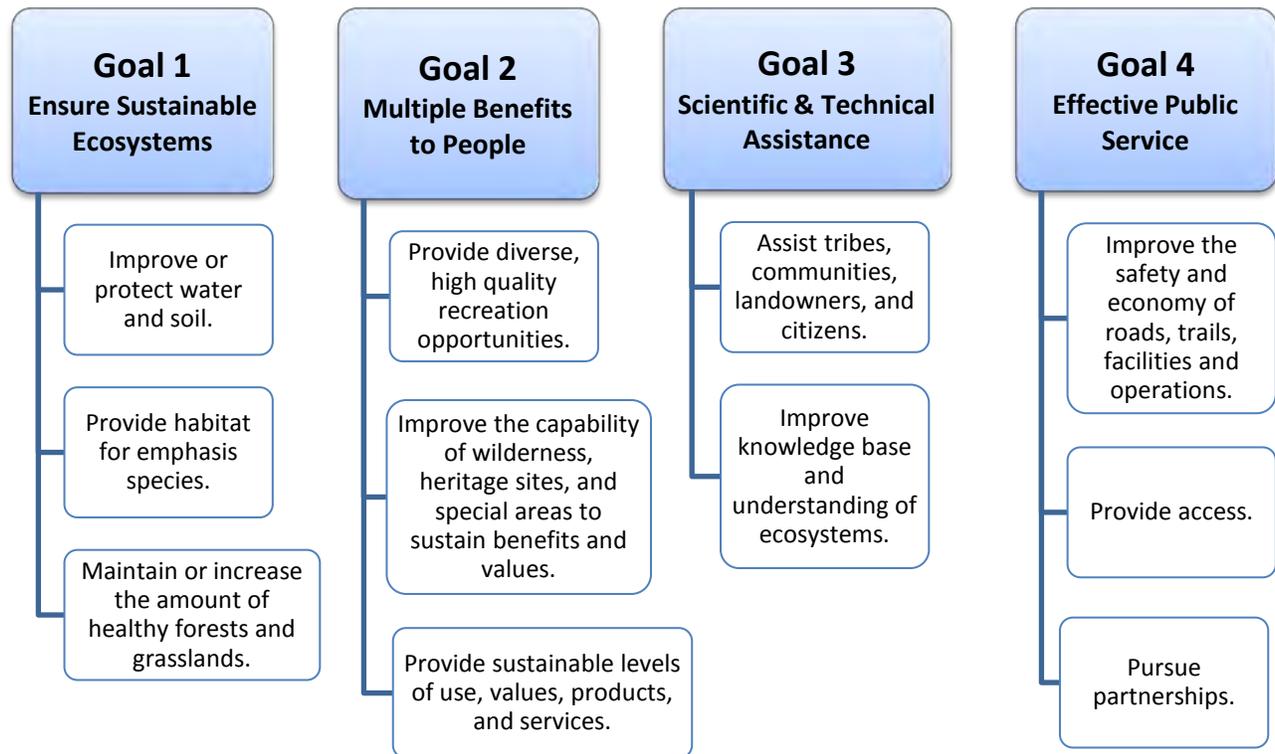
Is forest plan direction being followed during project planning and implementation?

### 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?



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

The monitoring strategy for the forest looks at all the forest plan objectives and strategies using the three types of monitoring: implementation, effectiveness, or validation. Results for 2013 are shown in the next section – Attachment A.

# Attachment A

## 2013 Monitoring Results

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## Monitoring Results

For this report, the monitoring items from chapter 4 of the revised forest plan are listed by the resource areas to which they apply. Because of this, the numbering system from chapter 4 is out of sequence. All of the plan components being monitored are tied to the larger goals shown on page 2. For example, objective 2a relates back to part of goal 2 – multiple benefits to people.

### General Monitoring

#### #1. Are projects being implemented according to Revised Plan direction? This includes both planned actions and actual implementation.

Note: Priority projects include prescribed fire, timber harvest, travel management and dispersed recreation, and livestock grazing (these are major revision or implementation topics).

<b>2013 results</b>	The environmental assessment for the Crater Ridge vegetation management project was completed September 2013. The document was reviewed for forest plan consistency.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	NFMA; multiple goals, objectives, strategies

#### #2. How well is the Forest interacting and planning in cooperation with communities and local governments?

<b>2013 results</b>	<p>See appendix A for more information about the following coordination efforts.</p> <p>Three participating grant agreements with Wyoming State Trails in 2013</p> <p>Two steering committee meetings: one in April and the other in August.</p> <p>District rangers met with their respective county commissioners several times during the year. At least once during the year, they met with Congressional staffers.</p> <p>Volunteers provided over 7,880 hours of labor valued at \$159,574.00 on 13 recreation, heritage, and trails program projects on the Bighorn National Forest.</p> <p>Partnership with Wyoming State Trails provided money and resources for education, travel management enforcement, and trail maintenance and improvement.</p> <p>Cost-share agreement with the Rocky Mountain Nature Association to operate the Shell Falls Interpretive site.</p> <p>Participating agreement with the Student Conservation Association (SCA) provided three students to work at the Medicine Wheel interpretive site.</p> <p>Work with WY Department of Transportation (WYDOT) to manage scenery for two construction projects along the Bighorn Scenic Byway (U.S. highway 14).</p>
<b>How often?</b>	Annually

<b>What plan component is being monitored?</b>	<p>Objective 2a. Improve the ability of the Bighorn National Forest to provide diverse, high quality outdoor recreation opportunities.</p> <p>Strategy 8. Encourage, establish, and sustain a diverse range of recreational facilities and services on NFS lands. Partnerships are one mechanism for accomplishing this.</p> <p>Objective 4c. Enhance the public services provided by the Bighorn National Forest through the pursuit of cooperation and public and private partnerships.</p> <p>Strategy 4. Cooperate with federal, state, and county agencies, individuals, American Indian tribes, and non-government organizations for control of noxious weeds, pathogens, invasive species, and animal damage.</p>
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**#4. 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?**

<b>2013 results</b>	<p>Forest personnel participated in meetings with communities and homeowners to discuss fuels reduction projects. These presentations/workshops help cabin owners understand fire risks to their cabins and help them implement Firewise best management practices.</p> <p>Forest fire personnel helped provide training that was open to community fire departments: for example, the Johnson County fire school and the Medicine Wheel/Paintrock (MWPR) district employees helping with training in Lovell.</p> <p>During annual meetings, District rangeland management specialists discussed upcoming environmental challenges with permittees and explored ways to minimize the impacts.</p> <p>Forest heritage personnel met with Tribal Historic Preservation Officers over 2 days to provide training in the National Historic Preservation Act Section 106 consultation process. During the meeting, forest personnel talked about employment opportunities for tribal members, particularly in fire and at the Medicine Wheel National Historic Landmark (NHL).</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 3a. Provide assistance in building the capacity of Tribal governments, rural communities, landowners, and private citizens to adapt to economic, environmental, and social change related to natural resources.

***Aquatics, Soils, and Fisheries Monitoring*****#5. Is water quality on the Forest being maintained according to state water quality standards?**

<b>2013 results</b>	<p>The North Tongue River, Granite Creek, and North Fork of Crazy Woman Creek (NFCW Creek) are Category 5 waters with use(s) impaired (WYDEQ 2012). These streams are potential sites for long-term water quality monitoring.</p> <p>“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” (WYDEQ 2012).</p> <p>Two potential sources of water quality impacts have been removed on Granite Creek.</p> <p>BMPs in the NFCW Creek have been implemented but Wyoming Department of Environmental Quality (WYDEQ) monitoring has not determined effectiveness. A WYDEQ summary report is expected in 2014.</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 1a, Strategy 1. Attain or maintain water quality necessary to comply with state of Wyoming water quality standards in all streams on the Forest. Water must be of sufficient quality to support state-designated beneficial uses and healthy riparian, aquatic, and wetland ecosystems.

**#6. Were watershed improvement projects completed?**

<b>2013 results</b>	<p>Completed livestock and wildlife exclosure fence in the Woodrock area on the West Fork of the South Tongue River and planted over 1,200 willows to begin restoration of the large meadow.</p> <p>Completed work on the wildlife and livestock exclosure in a large meadow reach of Sucker Creek (also in the South Tongue watershed).</p> <p>Started the first phase of work in the Middle Clear Creek watershed. It will result in dredging the pond and a diversion structure to keep bedload sediment in the creek and out of the pond.</p> <p>Started field work for stream crossing improvements on Buckskin Ed Creek (Forest Service Trail 360). This work will improve fish passage and watershed conditions for newly reintroduced Yellowstone cutthroat trout.</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	<p>Objective 1a Improve and protect watershed conditions to provide the water quality and quantity and soil productivity necessary to support ecological functions and intended beneficial water uses.</p> <p>Strategy 2. Complete watershed scale improvement projects, such as road relocations or improvements, on at least three 5th-level hydrologic unit code (HUC) watersheds within 15 years. Annually complete an average of three watershed improvement projects in priority watersheds, such as road/trail stabilizations, culvert replacements and dispersed campsite management. Prioritize watersheds considered in degraded condition by Winters et al. (2004).</p>

### #8. Are aquatic habitat conditions being maintained for native plant, invertebrate and vertebrate riparian-dependent species?

<b>2013 results</b>	Follow-up maintenance, repair, and surveys were completed on two aquatic organism passage (AOP) road-stream crossings on Soldier Creek and Buckskin Ed Creek. These installations removed two barriers to Yellowstone cutthroat trout movement and reconnected over 15 miles of upstream and downstream habitat.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	<p>Objective 1a, strategies 4-7.</p> <p>Strategy 4. Measure status and trend of aquatic habitat conditions forestwide to develop baseline habitat objectives that evaluate the relative health or condition of aquatic habitats.</p> <p>Strategy 5. Within five years, identify and maintain at the 6th-level watershed scale, at least one representative area for each ecological subsection (e.g., sedimentary and granitic) on the forest as a barometer for baseline aquatic habitat conditions.</p> <p>Strategy 6. Manage for the structural and compositional diversity of native plant communities in riparian zones and wetlands.</p> <p>Strategy 7. Maintain, protect, and enhance wetland function and value when analyzing or implementing all projects.</p>

### #40. Are best management practices (BMPs) effective in meeting water quality standards?

<b>2013 results</b>	<p>Conducted two range best management practices (BMP) reviews: the Wiley Sundown pasture (review postponed from 2012) and the Medicine Lodge Creek pasture.</p> <p>In each review, range management practices (developed using standards and guidelines) were maintaining or helping to improve watershed conditions/water quality relative to past conditions.</p> <p>In the Wiley Sundown pasture, upland grazing standards are being met except in the cow camp area. Reduced cattle numbers in the last few years and attentive riders helped achieve generally even distribution of grazing in 2013. Trailing near two springs and short stream reaches in the pasture was evident, but fencing put in after the 2009 BMP review has reduced cattle impacts near water sources, especially in the cow camp area.</p> <p>Grazing standards are being met in the Medicine Lodge Creek pasture. Riparian conditions appear to be improving with the current practices that include reduced cattle numbers in the last several years. Trailing scars appear to be healing and streambanks are stabilizing. Upland areas met standards and there was little, if any, evidence of bare ground or concentrated use by cattle.</p> <p>One timber BMP review was conducted for the Woodrock timber sale using the new national protocol for ground-based skidding and harvesting. Timber activities in the area met standards and were effective in minimizing potential impacts to water quality.</p> <p>Erosion and sediment control BMPs were successfully implemented by the engineering road crew on various projects and were effective in minimizing impacts to water quality.</p>
<b>How often?</b>	Annually

<b>What plan component is being monitored?</b>	Objective 1a, Strategy 1. Attain or maintain water quality necessary to comply with state of Wyoming water quality standards in all streams on the Forest. Water must be of sufficient quality to support state-designated beneficial uses and healthy riparian, aquatic, and wetland ecosystems.
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**#42. Are the standards and guidelines effective in meeting regional soil quality standards?**

<b>2013 results</b>	Conducted two range BMP reviews: the Wiley Sundown pasture (review postponed from 2012) and the Medicine Lodge Creek pasture. One timber BMP review was conducted for the Woodrock timber sale using the new national protocol for ground-based skidding and harvesting. The reviews indicated BMPs (developed using standards and guidelines) were preventing soil degradation, thereby meeting regional soil quality standards. No severely impacted soils were measured or recorded in 2013.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 1a. Improve and protect watershed conditions to provide the water quality and quantity and soil productivity necessary to support ecological functions and intended beneficial water uses.

**#43. Are fisheries and riparian standards and guidelines effective in maintaining or improving fish habitat or do they need revised?**

<b>2013 results</b>	There is no indication that fisheries and riparian standards and guidelines are not effective in maintaining or improving aquatic habitats.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 1a, strategy 4. Measure status and trend of aquatic habitat conditions forestwide to develop baseline habitat objectives that evaluate the relative health or condition of aquatic habitats.

**Wildlife Monitoring**

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. 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)?**

<b>2013 results</b>	No new at-risk fish populations were discovered in 2013. East Tensleep Creek was surveyed in cooperation with the WGFD; no Yellowstone cutthroat trout (YCT) were found. Approx. 22 miles of stream (in 8 drainages) were surveyed during monitoring of recent Yellowstone cutthroat trout restoration/reintroduction projects. A YCT population had been extirpated in one of the surveyed streams. Annual monitoring by the Wyoming Game and Fish Department (WGFD) showed elk populations above herd unit objectives across the forest. Rocky Mountain Bird Observatory continues to collect data for MIS birds
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	<p>and red squirrel populations annually.</p> <p>The 13-acre livestock-wildlife enclosure on Sucker Creek (see #6 above) should benefit potential water vole habitat.</p> <p>The willow planting and livestock-wildlife enclosure on the South Tongue River (see #6 above) should benefit at-risk wildlife species such as water vole, olive-sided flycatcher, Columbia spotted frog, as well as a sensitive riparian-associated plant species.</p> <p>550 acres of prescribed burning should improve summer brood rearing habitat for sage-grouse and habitat for blue grouse, elk, and mule deer.</p> <p>Treatment of 120 acres of conifer encroachment in aspen stands should benefit a variety of wildlife species, including beaver.</p> <p>Monitored 4,380 acres for interactions between domestic sheep and bighorn sheep. WGFD bighorn sheep classification flights of 9,200 acres on or adjacent the forest. Additional 1,000 acres of bighorn sheep surveys done in conjunction with late-season rangeland monitoring.</p> <p>15 peregrine falcon pairs and 10 occupied golden eagle nests found on and off-forest in helicopter monitoring with WGFD.</p> <p>Goshawk surveys east and west of the Black Mountain Road (FSR 16) and north of junction with FSR 26 produced 5 responses. Goshawk surveys in proposed Crater Ridge project area located 1 adult and 2 juvenile sharp-shinned hawks.</p> <p>Northern leopard frog, wood frog, and Columbia spotted frog egg masses were observed during WGFD amphibian surveys. No new species or populations were discovered. A University of Wyoming study tracked movements of Columbia spotted frog.</p> <p>Completed risk assessment for white-nose syndrome in bats which resulted in a forest decision on cave management and special management of areas where bats hibernate during the winter.</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	<p>Objective 1b. Provide ecological conditions and habitat within the ecological capability and disturbance regimes of the Forest to sustain well-distributed viable populations of native and desired non-native emphasis species listed in Appendix C of the Revised Plan.</p> <p>Strategy 1. Incorporate published conservation strategies for species at risk into project design ...</p> <p>Strategy 2. Proactively conserve populations of emphasis species at risk by maintaining or improving habitat availability and quality ...</p> <p>Strategy 3. Improve knowledge of the distribution of species at risk and their habitat by inventorying 10,000 acres or 10 species per decade.</p> <p>Strategy 4. Provide adequate habitat to support populations of big game species according to population objectives developed in concert with the Wyoming Game and Fish Department. Treat 3,000 acres of big game winter range every 5 years to improve habitat value.</p> <p>Strategy 5. Where suitable habitat exists, cooperate with the Wyoming Game and Fish Department to reintroduce beaver (MIS) into three 6th-level HUC watersheds over 10 years to re-establish self-sustaining populations in historical habitats.</p>

**#10. Are the habitat trends (and therefore population trends by inference) for MIS and other emphasis species being maintained or improved with respect to management activities conducted?**

<b>2013 results</b>	0 lynx sightings reported. Snow track surveys: 26.5 miles were surveyed.
<b>How often?</b>	Every two years, due in 2013
<b>What plan component is being monitored?</b>	Objective 1b (see above), strategies 5-11 Strategy 9. ... Conduct surveys as needed and appropriate on the Forest to determine whether mapped lynx habitat is occupied ... Strategy 5 is discussed above under #9. Strategies 6-8 and 10-11 are reported every five years; due in 2015.

***Fire and Timber Monitoring***

**#11. Is the Bighorn National Forest increasing the amount of vegetative communities restored to or maintained in a healthy condition with reduced risk and damage from fires, insects and diseases and invasive species?**

<b>2013 results</b>	Meetings and agreements to coordinate fire suppression are discussed in appendix A. Accomplished 7,190 acres of ecological restoration. This includes mechanical treatments in wildland urban interface areas, prescribed burning of sagebrush, and wildfire. Acres accomplished were higher than normal due to wildfire.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 1c. Increase the amount of forests and rangelands restored to or maintained in a healthy condition with reduced risk and damage from fires, insects and diseases, and invasive species. Strategy 5. Continue to strengthen interagency relationships to increase wildland fire protection capabilities to provide for firefighter and public safety. Strategy 6. Place high priority on fuel reduction activities in Fire Regimes I, II, and III (ponderosa pine, sagebrush/grass, mixed conifer) and other strategic areas where high fire hazards exist ...

**Timber Monitoring**

**#27. Is the Bighorn National Forest utilizing stewardship contracting appropriately? Is stewardship contracting a benefit to local communities?**

<b>2013 results</b>	Stewardship contracts offered = 0
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2c. Improve the capability of the Bighorn National Forest to provide a desired sustainable level of uses, values, products, and services.  Stewardship strategy 1. Within the limitation of the small business set-aside program and while stewardship contracting authority exists, evaluate each vegetation management project for its potential and feasibility as a stewardship contract.

**#29. Is the Bighorn National Forest providing the desired level of uses, values, products, and services of wood products?**

Numbers for forest plan projections are total sale program quantity (TSPQ). TSPQ is the volume we expect to offer based on past experience. It includes timber from suited and unsuited land.

<b>2013 results</b>	<b>2013 numbers</b>	<b>Forest plan projections</b>
Additional information is presented in appendix A.	Sawtimber: 14,429 CCF Products other than logs: 383 CCF Sawtimber from other veg mgmt: 6 CCF Personal use firewood: 2,404 CCF Christmas trees: 1,928 trees Special forest products: 2,977 permits	10,688 CCF 1,693 CCF 3,550 CCF 3,000 CCF 2,100 trees 3,000 permits
<b>How often?</b>	Annually	
<b>What plan component is being monitored?</b>	Objective 2c (see above)  Timber strategy 1. Annually offer a reliable sustainable level of forest products (sawtimber, posts and poles, Christmas trees, and fuelwood) on forest lands.  Timber strategy 2. Offer not more than the allowable sale quantity of sawtimber from suitable lands.  Timber strategy 3. Strive to offer to the public sawtimber, products other than logs, and firewood at the average annual Total Program Sale Quantity.	

**Recreation Monitoring**

**#17. Is an adequate range of travel opportunities being offered across the Forest?**

<p><b>2013 results</b></p>	<p>Travel management plans initiated or completed = 0</p> <p>The forest continues to manage for a range of motorized and non-motorized travel opportunities. 154 miles of nonmotorized trails were maintained in 2013</p> <p>The forest entered into three participating grant agreements with Wyoming State Trails to improve motorized trails: North Bighorn Lodge connector Trail, Granite Creek trails #421, and the MiddlePaintrock Trail #066. All three projects improve user safety.</p> <p>The Wyoming state trail crew completed maintenance on the Middle Paintrock #066, Doyle System #148, #147, #141 &amp; #143, Bonanza Dead Swede #211, Woodrock #216, Shutts Flat #430 trails.</p> <p>Some motorized recreation groups are promoting use of vehicles over 50" wide on motorized trails. The forest has not entertained this proposal to date because our motorized trails are not designed to handle vehicles over 50" wide and because this opportunity is at least partially provided on less developed level 2 roads.</p>
<p><b>How often?</b></p>	<p>Annually</p>
<p><b>What plan component is being monitored?</b></p>	<p>Objective 2a. Improve the capability of the Bighorn National Forest to provide diverse, high-quality outdoor recreation opportunities.</p> <p>Strategy 5. Provide nonmotorized and motorized trails/areas for a wide variety of uses and experiences.</p> <p>Strategy 6. Express clear expectations of travel opportunities. Minimize conflicts among users.</p> <p>Strategy 9. Develop or identify one day-use trail system on a scenic byway within 15 years.</p> <p>Strategy 10. Provide for motorized and nonmotorized dispersed recreation opportunities.</p> <p>Strategy 12. When conducting travel management planning, promote the concept of loop trails, routes to feature destinations, connections between developed and private recreation attractions, and interpretive opportunities.</p> <p>Objective 4a. Improve the safety and economy of Forest Service roads, trails, facilities, and operations, and provide greater security for the public and employees.</p> <p>Strategy 1. Focus efforts to improve travel management education, enforcement, and signing, including designating motorized and nonmotorized travel ways and areas, and identify reasons for restrictions.</p>

**#39. Are research, education, and interpretation activities being conducted and in conjunction with partners?**

<b>2013 results</b>	<p>630 public contacts by Cloud Peak Wilderness rangers.                  45 conservation and education outreach activities.                  49,805 registered visitors at Shell Falls Visitor Center.                  11,535 visitors contacted and documented at the Medicine Wheel NHL.                  Several school groups received presentations at the Medicine Wheel.                  14,304 customers saw educational slides at the Hyart movie theater in Lovell.</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	<p>Objective 2c. Improve the capability of the Bighorn National Forest to provide a desired sustainable level of uses, values, products, and services.</p> <p style="padding-left: 40px;">Tourism and recreation strategy 1. Coordinate with local government entities on tourism or recreation opportunities.</p> <p>Objective 3b. Improve the knowledge base provided through research, inventory, and monitoring to enhance scientific understanding of ecosystems, including humans, to support decision-making and sustainable management of the Bighorn National Forest.</p> <p style="padding-left: 40px;">Strategy 3. Pursue partnerships with Forest Service and University research, other agencies, cooperators, and volunteers to acquire high priority information and pursue monitoring needs.</p>

**Wilderness Monitoring**

**#18. What level of crowding occurs on trails? Does the wilderness provide opportunities for solitude?**

Note: Monitoring may indicate if a limited permit system or other restrictions are necessary.

<b>2013 results</b>	<p>Wilderness rangers reported 9.78 encounters per day for trailed areas in the Cloud Peak Wilderness. For areas without trails, encounters were 0. The forest plan guideline for trailed areas is 10 per day and for areas without trails, it is less than 2 per day.</p> <p>Fifteen of the individual daily encounter totals exceeded the forest plan guidelines for MA 1.13. Thirteen of the 15 were on the Trails 063 and 065 (West Tensleep Trailhead). Two days were on Trail 046 (Circle Park Trailhead).</p> <p>Additional information on recreation visitor days (RVDs) by trailhead and warnings/violations is presented in appendix A.</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	<p>Objective 2a, Strategies 5, 6, 9, 10, and 12 (see #17 above)                  Objective 4a, Strategy 1 (see #17 above)</p>

**#18. Are special exceptions affecting the wilderness resource?**

<b>2013 results</b>	<p>One motorized intrusion was authorized in August 2013. A helicopter landing was conducted to rescue a hiker in diabetic shock near Lost Twin Lakes.</p> <p>The forest has a memorandum of understanding (MOU) with the County Sheriff. The MOU preauthorizes the use of helicopters and/or four wheelers to search or rescue with a follow-up report of the details.</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	<p>Objective 2b. Improve the capability of wilderness and protected areas to sustain a desired range of benefits and values.</p> <p>Wilderness strategy 2. Provide for human values and benefits while preserving the wilderness character.</p> <p>Wilderness strategy 3. Control and reduce the adverse physical and social impacts of human use in wilderness through education and regulation as needed.</p> <p>Wilderness strategy 4. Favor wilderness-dependent activities in wilderness. Discourage activities that are not consistent with wilderness values.</p> <p>Wilderness strategy 5. Manage special exceptions provided by wilderness legislation with minimum impact on the wilderness resource.</p>

**#19. Are air and water quality being improved, maintained, or degraded in the Cloud Peak Wilderness, and on the Forest as a whole?**

<b>2013 results</b>	<p>WYDEQ 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 (<a href="http://www.wyvisnet.com/plot.asp">http://www.wyvisnet.com/plot.asp</a>).</p> <p>The long-term lake sampling work continued in 2013. Quality assurance is conducted by the Rocky Mountain Research Station in Fort Collins, CO.</p> <p>No incidences of air quality impairment were reported by WDEQ and forest activities were such that DEQ did not instigate data reviews in 2013. A summary of 2013 data has not been prepared as of February 2013 so no summary compliance information is available.</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2b, wilderness strategy 1. Monitor air and water quality, particularly in alpine lakes in coordination with appropriate state agencies.

### Scenery Resources Monitoring

#### #31. Are resource activities and forest uses consistent with the landscape character goals and scenic integrity objectives?

<b>2013 results</b>	Communication sites: Forest plan guidelines have not been applied consistently. Technical and financial considerations for the development of these facilities are established by the permittee or the Forest Service's Chief Information Office – Land Mobile Radio Program. There is an opportunity to review technical, financial and forest plan considerations to better integrate criteria for these facilities in the future. See appendix A for more information.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2c. Improve the capability of the Bighorn National Forest to provide a desired sustainable level of uses, values, products, and services.  Scenery strategy 2. Outside MA 4.2, manage for high quality scenic landscapes consistent with forest plan desired conditions and scenic integrity objectives. Restore 10% of landscapes that do not meet scenic integrity objectives.

### Heritage Resources Monitoring

#### #21. Have programmatic agreements for heritage resources been negotiated and implemented for Forest programs?

<b>2013 results</b>	Two programmatic agreements (PAs) are in place: 1) A PA with the Advisory Council on Historic Preservation and the Wyoming State Historic Preservation Office (SHPO) for compliance with the National Historic Preservation Act and 2) the Medicine Wheel Historic Preservation Plan (HPP).  1) A <i>Historic Context for Recreation Residence Cabins</i> was completed in partnership with Wyoming SHPO.  2) Backlog of heritage INFRA module data entered by enterprise team was reduced.  Terms of the PA and the Medicine Wheel HPP are being met.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2b, heritage strategy 1. Negotiate programmatic agreements with State Historic Preservation Office (SHPO) and the Advisory Council for the timber and fire programs and historic administrative sites to emphasize inventory and management strategies within 15 years.

**#22. Is the Bighorn National Forest preparing and implementing Historic Preservation Plans?**

<b>2013 results</b>	Terms of both current agreements are being met. Report submitted as part of the PA regarding implementation of the National Historic Preservation Act was accepted by the Wyoming SHPO. Monitoring meetings for the Medicine Wheel HPP were held with the consulting parties in July and August at the Medicine Wheel and in December in Crow Agency, Montana.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2b, heritage strategy 2. Assess identified sites eligible for the National Register of Historic Places (NRHP) in conjunction with SHPO and Tribal Historic Preservation Office (THPO) and provide interpretation for NRHP sites where appropriate and consistent with developed preservation plans. Reduce backlog of unevaluated sites by evaluating 50 sites in 15 years.

**#23. What progress has the forest made for inventorying areas having a high probability for heritage resources?**

<b>2013 results</b>	Total acres inventoried in FY 2013 = 603 Cumulative acres inventoried since 2005 = 15,714 Total sites = 26 (17 new, 9 previously backlogged) Total sites sent to the state or national register of historic places = 26
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2b, heritage strategy 3. Inventory and evaluate 500 acres per year of the highest probable lands for cultural resources. Identify examples of the most important heritage site types, incorporate into a programmatic agreement, and nominate to NRHP.

**#24. Is the forest meeting its consultation responsibilities for American Indian traditional cultural properties?**

Note: Includes responsibilities under Sections 110 and 106 of the National Historic Preservation Act.

<b>2013 results</b>	One site, the Medicine Wheel NHL, was monitored an average of twice a month for the summer season. Number of sites consulted on = 2
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2b, heritage strategy 4. Establish and maintain effective consultation with federally recognized American Indian tribes on traditional cultural properties as specified in 36 CFR 800.2 and National Register Bulletin 38.

**#25. What actions has the forest taken to increase public awareness and education of heritage resources?**

<b>2013 results</b>	Number of projects = 11. Includes overviews of resource types and resource-specific contextual studies. Number of heritage programs = 12 Number of interpretive signs/brochures = 6
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2b, heritage strategy 5. In partnership with American Indian tribes and state, county, and local government, increase public awareness, protect heritage resources, and further the goals of research through education and interpretation.  Objective 2c. Improve the capability of the Bighorn National Forest to provide a desired sustainable level of uses, values, products, and services.  Tourism and recreation strategy 2. Foster a sense of place unique to the Bighorns by appropriately integrating cultural resources and natural resources into education and recreation opportunities.

***Invasive Species Monitoring***

**#12. How many acres of priority noxious weeds have been treated this year by what means? How many total acres of noxious weeds have been treated this year?**

<b>2013 results</b>	Acres of priority weeds treated = 42 Total acres of noxious weeds treated = 355
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 1.c. Increase the amount of forests and rangelands restored to or maintained in a healthy condition with reduced risk and damage from fires, insects and diseases, and invasive species.  Strategy 2. Strive to limit further expansion or new infestations of invasive species and reduce existing infestations of invasive species. Within 5 years, complete an invasive species management plan.

**#12. What prevention activities and cooperative efforts have been implemented during the past year?**

<b>2013 results</b>	The forest has cooperative agreements with Big Horn, Johnson, and Washakie counties for treatment of noxious weeds on the forest. Educational programs presented to seasonal crews led to identification of new populations of noxious weeds on the forest and follow-up treatment has occurred or is planned. Weed-seed-free feed program continues to be monitored and compliance by forest users in general is very good. Forest Service wilderness rangers and volunteers treated oxeye daisy near the Cloud Peak Wilderness in the Circle Park Trailhead area. Areas known to have populations of cheatgrass are excluded from prescribed burning.
<b>How often?</b>	Annually

<b>What plan component is being monitored?</b>	Objective 1.c, strategy 2 (see above).
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**Livestock Grazing Monitoring**

**#26. What total AUMs were permitted through term permit this grazing season? What total AUMs were authorized through term permit this grazing season?**

<b>2013 results</b> Permitted and authorized numbers from 2010 through 2013 are charted in appendix A.	Permitted Cattle: 81,235 Sheep: 10,339 Horses: 935 Total = 92,509	Authorized Cattle: 61,408 Sheep: 8,091 Horses: 952 Total = 70,451
<b>How often?</b>	Annually	
<b>What plan component is being monitored?</b>	Objective 2c. Improve the capability of the Bighorn National Forest to provide a desired sustainable level of uses, values, products, and services.  Livestock grazing strategy 1. Provide forage for livestock while managing to meet desired conditions. Provide forage for livestock at a level that strives to maintain or exceed the year 2004 permitted stocking level of 113,800 animal unit months (AUMs), while recognizing that stocking levels may be adjusted through the implementation of allotment management plans (AMPs) and administration of grazing permits.	

**#26. Total number of active allotments (this includes temporary grazing in vacant allotments)? Number of active allotments monitored? Percent of monitored allotments that exceeded forage utilization standards to the point of discussing / implementing actions to resolve the situation?**

<b>2013 results</b>	Active allotments = 82 Allotments monitored = 45 % exceeding utilization standards = 44%
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2c, livestock grazing strategy 1 (see above).

**#26. How many suitable acres are meeting or moving toward desired conditions?**

<b>2013 results</b>	Meeting = 120,858 Not meeting = 33,457 Undetermined = 158,691
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2c, livestock grazing strategy 1 (see above).

**#26A. How was information sharing and cooperation with livestock permittees, state and private agriculture organizations, universities, and research partners demonstrated?**

<b>2013 results</b>	Appendix A describes the meetings with other agencies, organizations, and permittees; Society for Range Management meeting attendance; and cooperative monitoring efforts.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2c (see above). Livestock grazing strategy 2. Share information and cooperate with livestock permittees, state and private agriculture organizations, universities, and research partners to communicate improved technology and other applications associated with resource uses, utilizing livestock as a management tool.

***Paleontology and Minerals Monitoring***

**#28A. Have impacts to paleontological resources resulted in a need to revise/amend the plan for additional direction?**

<b>2013 results</b>	No new paleontological sites were identified in 2013.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2c. Improve the capability of wilderness and protected areas to sustain a desired range of benefits and values. Geologic and paleontological resources strategy 1. Inventory for paleontological resources during cultural or other surveys.

**#28B. Are the effects of mining activities on surface resources consistent with Revised Plan expectations, as allowed in approved Plans of Operations?**

<b>2013 results</b>	The Pascalite mining operation continued in 2013 under their approved plan of operations near the headwaters of South Paintrock Creek on the Powder River Ranger District (PRRD). The effects of the mining activities are consistent with the revised forest plan. The Peaches lode claim in the Poison Creek drainage on the PRRD operated according to the filed and approved plan of operations. The effects of the mining activities are consistent with the revised forest plan. The Escapee #1 mine, a placer claim in the headwaters of Porcupine Creek on the MWPR District, applied for a change in operations in 2012, namely using a small backhoe to increase the rate of material processing. A new plan of operations was approved in early in the year, but very little new activity occurred in 2013.
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	Objective 2c, geologic and paleontological resources strategy 1 (see above).

**Facilities/Infrastructure Monitoring**

**#33. Are all system roads being maintained as desired on the Bighorn National Forest?**

<b>2013 results</b>	<p>100% (253 miles) of maintenance level 3, 4, and 5 roads received full maintenance.</p> <p>121 miles (&gt;25%) of level 1-2 roads received full maintenance. The majority of these were on the Tongue Ranger District.</p> <p>90% of the road maintenance was done by the forest road crews and 10% was done by contract/agreements.</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	<p>Objective 4a. Improve the safety and economy of Forest Service roads, trails, facilities, and operations, and provide greater security for the public and employees.</p> <p>Strategy 3. Maintain all objective maintenance Level 3, 4, and 5 roads to standard annually.</p> <p>Strategy 4. Maintain 20 percent of all objective maintenance Level 2 roads to standard annually.</p> <p>Strategy 5. Maintain 25 percent of all objective maintenance Level 1 roads to standard annually.</p>

**#34. Are unclassified roads and trails being decommissioned?**

<b>2013 results</b>	<p>The forest road crews decommissioned 5.13 miles of forest system road and 3.10 miles of unauthorized roads. The majority of this work took place on Rock Creek, Soldier Park, Seven Brothers and Lamberger roads. The unauthorized road decommissioning took place on the the Tongue Ranger District. All decommissioning was in compliance with forest travel management decisions.</p> <p>The trail crew monitored previously decommissioned trail routes. When openings in trail closures were found, the crew fell dead trees across them. The MWPR District recreation technicians closed approximately 10 unauthorized trails/roads by building barriers and posting signs.</p>
<b>How often?</b>	Annually
<b>What plan component is being monitored?</b>	<p>Objective 4a (see above)</p> <p>Strategy 6. Decommission or incorporate unclassified Forest roads and motorized trails into the travel system through travel management planning.</p>

**#35. 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?**

<p><b>2013 results</b></p>	<p>The following projects reduced forest deferred maintenance backlog by approximately \$143,250. All projects complied with the forest master plan recommendations and met Built Environmental Image Guidelines.</p> <p>2 toilet replacements with new structures at Edelman Trailhead and Sheep Mountain Lookout.</p> <p>Exterior, interior, and utility system improvements to Shell Falls Visitor Center.</p> <p>Potable water system improvements completed at Tyrrell Work Center and Big Goose Ranger Station.</p> <p>Energy conservation and sustainability enhancements completed at the Greybull Work Center Barracks, Tyrell Ranger Station and Burgess Visitor Center.</p> <p>Various other sites received necessary annual and deferred maintenance.</p> <p>A total of 154 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>
<p><b>How often?</b></p>	<p>Annually</p>
<p><b>What plan component is being monitored?</b></p>	<p>Objective 4a (see above)</p> <p>Strategy 7. Prioritize capital improvement, maintenance, construction, and reconstruction projects to reduce deferred maintenance backlog on all forest infrastructure.</p> <p>Strategy 8. Perform all facility and building construction and reconstruction, maintenance, disposal, and capital improvement consist with the Forest Facility Master Plan and the Built Environment Image Guide.</p>

**#37. How many miles of system or non-system road were decommissioned?**

<p><b>2013 results</b></p>	<p>3.10 miles of non-system roads were decommissioned. Most of these were unauthorized, user-created routes on the Tongue Ranger District.</p>
<p><b>How often?</b></p>	<p>Annually</p>
<p><b>What plan component is being monitored?</b></p>	<p>Objective 4a. Improve the safety and economy of Forest Service roads, trails, facilities, and operations, and provide greater security for the public and employees.</p> <p>Strategy 11. Identify and decommission 4 miles of system or non-system road, annually.</p>

## List of Contributors

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

<b>Name</b>	<b>Position</b>
Amy Nowakowski	Hydrologist, fisheries biologist
Amy Ortner	GIS specialist
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Ruth Beckwith	Forest landscape architect

## Appendix A – Narrative Description of Monitoring Items

### General Monitoring

#### 2. How well is the forest interacting and planning in cooperation with communities and local governments?

The forest maintains a relationship with local governments through steering committee meetings that take place twice a year. The meetings are open to the public. Members include elected officials at the city, county, state and federal levels. 2013 meetings took place in April and August.

The April meeting topics included presentations/discussions on the following topics:

- Review of the FY2011 forest plan monitoring report.
- Update on the scenic byways plans and national visitor use monitoring.
- Presentation on the 2013 fire season, fire preparedness, and fire management.
- Funding for trails.
- Preview of the new 218 objection process.
- Forestwide minimum roads analysis (travel management subpart A).
- Updating the forest plan to be consistent with the 2012 planning rule.
- Updates from each district.

Meeting attendees asked questions about private parties doing road maintenance; livestock grazing at full authorized numbers, use of the Robel pole; timber encroachment into meadows; timber thinning in old burned areas, tying thinning to elk security; and what is being done to address the rusty tussock moth;

The August meeting was held in the field on the Medicine Wheel/Paintrock (MWPR) district. Topics included the following:

- Vegetation management in roadless areas.
- Addressing complexity and safety in wildfire management (working with partners, risk management).
- Forest conditions (timber and fuels programs, land owner responsibilities).
- Fire preparedness.
- Fuels treatments in the wildland urban interface.

The WY State Trails program contributed over \$95,000 to provide education and travel management enforcement. Compliance with the Wyoming State Trails sticker program is over 98%. Education included providing directions and copies of the forest motor vehicle use map, aid and assistance, and presenting information on travel safety.

The forest entered into three participating grant agreements with Wyoming State Trails to improve motorized trails including the North Bighorn Lodge connector trail, Granite Creek trail #421, and the Middle Paintrock trail #066. The forest received \$16,100 to conduct planning and environmental analyses for these project. All three projects address user safety and mitigate current adverse effects to riparian areas.

Wyoming State trail crew completed maintenance on the Middle Paintrock #066, Doyle System #148, #147, #141 & #143, Bonanza Dead Swede #211, Woodrock #216, Shutt Flat #430 trails.

The forest and Wyoming State Trails held meetings this year on May 23 and November 7, 2013 to monitor the partnership agreement and set project priorities. All project partmeships with Wyoming State Trails are moving forward on schedule and being successfully implemented



Forest landscape architecture provided support for Wyoming Department of Transportation's (WYDOT) construction of a run-away truck ramp in a landslide/borrow/waste site adjacent to Highway 14 in Shell Canyon (Bighorn Scenic Byway). The objective was to blend the new facility with the natural appearing landscape.

4,900 shrub seedlings (1,108 American red raspberry, 852 wax currant, 596 common juniper, 1,864 creeping juniper, 480 Woods' rose) from locally collected seed and cuttings were transplanted in the Steamboat Point section of Highway 14 on May 30, 2013. The revegetation work was funded through an agreement with WYDOT.

Continued cost-share partnership with the Rocky Mountain Nature Association (RMNA) to operate the Shell Falls interpretive site. Through sales of RMNA inventory, the forest obtained \$7,695 to partially staff one visitor information position at Shell Falls. In addition to selling inventory, the staff provided key information on forest regulations, resource protection, safety, and recreation opportunities to visitors. The RMNA executive director conducted an on-site monitoring trip with forest personnel at Shell Falls and Burgess Junction in May 2013.

Under a participating agreement with the Student Conservation Association (SCA), three students worked at the Medicine Wheel interpretive site. All three worked 13 forty-hour weeks for a total of 1,560 hours. Two of the students also contributed another 80 hours working with the forest trail crew and on other recreation projects

Volunteers provided over 7,880 hours of labor valued at \$159,574.00 on 13 recreation, heritage, and trails program projects on the forest.

- 1) Black Mountain Nordic Ski Club completed its 13<sup>th</sup> winter of volunteer efforts on Sibley and Cutler Hill nordic ski areas. The volunteers donated 299 hours to trail marking, clearing, and packing projects.
- 2) An Iowa-based Boy/Girl Scout volunteer group donated 458 hours to complete trail maintenance on Gloom Creek Trail #425.
- 3) The Boy Scouts conducted a Leave No Trace (LNT) master educator's course which rebuilt a puncheon on Prune Creek Trail #013 (78 donated hours).
- 4) The Bomber Mountain Cycling Club participated in a National Trails Day event at Cutler Hill nordic trails (36 donated hours). The same club also volunteered to continue work on the Prune Creek Trail #013 (32 donated hours).
- 5) Powder River Pass Ski club donated 237 hours and maintained the Pole Creek nordic trails #557
- 6) The Shell Racing Team cleared trees from the Shell Bench Trail #184.
- 7) Cloud Peak chapter of Backcountry Horsemen donated 206 hours of forestwide trail maintenance.
- 8) Individual trail volunteers Denberg, Wallick, Strong, and Fox donated 59 hours.
- 9) Dingmann, Mosher, Lane, S & G Bobbit, Fowler, Holcomb, Keyser, and Leisure volunteered 2,454 hours for dispersed camping patrols.

10) Cloud Peak Chapter Wilderness Watch (CPCWW) volunteered 380 hours to conduct rapid assessments of user-created campsites in connection with one of the action items for the Wilderness Stewardship Challenge. The WW chapter had two volunteers spend 15 days each in the Cloud Peak Wilderness, continuing the three-year effort of a complete census of the Cloud Peak Wilderness for user-created camp sites.

11) CORE of Casper, WY completed another week (600 hours) of projects. The group reconstructed a portion of fence around the horse pastures at Tyrrell Work Center. This group has been assisting the district in project work for over nine years. The participants are teenagers at risk from the Casper, WY area.

12) A volunteer worked at the Shell Falls Visitor Center all summer and helped with other recreation projects – 560 hours. A second volunteer worked 2 to 3 days a week helping with developed recreation site maintenance and performing other various recreation related tasks – 320 hours.

13) Four volunteers worked with west zone archaeologist Bill Matthews to conduct Section 110 surveys in the Cloud Peak Wilderness. The volunteers contributed 440 hours to the project. 553 acres were surveyed, and a total of 23 historic and prehistoric archaeological sites were recorded and evaluated for significance.

The MWPR district coordinated with Wyoming Game and Fish Department (WGFD) on keeping the Dugway Road #213 opened longer to correspond to the late elk hunting season dates. MWPR recreation staff worked with Bighorn Canyon National Park Service Unit concessionaire who takes recreation seasonals on interpretive boat ride to educate them about the park and concession operations.

The MWPR district and the Antelope Butte Foundation installed new signs at the ski hill to stop illegal snowmobile access on the hill.

A two-year, cost-share partnership with the Rocky Mountain Elk Foundation (RMEF) began in 2013. This partnership will improve wildlife habitat conditions through prescribed burning. The RMEF will contribute \$20,000 in a matching agreement with the forest to implement planned burns. In 2013, approximately 150 acres in the Beaver Creek South project on the MWPR district were treated with this funding.

## Aquatics and Fisheries Monitoring

### 5. Is water quality on the forest being maintained according to state water quality standards?

The 2012 Wyoming Department of Environmental Quality (WYDEQ) 305(b) and 303(d) integrated report (revised every two years, next in 2014) lists the North Tongue River, Granite Creek, and North Fork of Crazy Woman Creek (NFCW Creek) as category 5 waters with use(s) impaired.

The listed reach of the North Tongue River is upstream of Road 171 to its confluence with Pole Creek. The 2012 report stated, “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.”

The Granite Creek reach is from Shell Creek upstream to an undetermined location downstream of Antelope Butte Ski Area. A picnic ground with an outhouse in the Granite Creek floodplain was removed and reclaimed in 2012, and the ski area remains closed, therefore two main potential sources for water quality impacts are minimized. A total maximum daily loads (TMDL) study for the Bighorn River watershed is underway; Granite Creek is in this watershed.

The listed reach for NFCW Creek is above the confluence with Billy Creek to the headwaters. Best management practices (BMPs) in the NFCW Creek have been implemented however, monitoring by WYDEQ has not yet determined if they have been effective. A WYDEQ summary report, including a use support determination for NFCW Creek, is expected in 2013.

**6. Were watershed improvement projects completed?**

- 1) Completed livestock and wildlife exclosure fence in the Woodrock area on the West Fork of the South Tongue River and planted over 1,200 willows to begin restoration of the large meadow.
- 2) Finish-up work for the wildlife and livestock exclosure was completed in a large meadow reach of Sucker Creek, also in the South Tongue watershed.
- 3) The first phase of work began in the Middle Clear Creek watershed, led by YMCA at the Pines camp with support from WGFD. It will result in dredging of the pond and a diversion structure will keep bedload sediment in the creek and out of the pond.
- 4) Field work began for improving three stream crossings on Buckskin Ed Creek (FST 360). The crossings will improve fish passage and watershed conditions for newly reintroduced Yellowstone cutthroat trout.

**Fire and Timber Monitoring**

**11. Is the Bighorn National Forest increasing the amount of vegetative communities restored to or maintained in a healthy condition with reduced risk and damage from fires, insects and diseases and invasive species?**

The forest held meetings with all four counties for to coordinate fire suppression. The forest provided mutual aid assistance on fire incidents to all four counties during 2013. Each county surrounding the forest receives wildfire training and equipment preparedness funding through a grant to the state of Wyoming. The forest maintains agreements with Johnson and Big Horn counties for prescribed fire assistance and training opportunities. The forest conducted fire prevention training for elementary school children in Buffalo, Sheridan, Lovell, and Greybull and provided media updates throughout the summer apprising the public of wildfire risk conditions. Smokey Bear fire danger signs are maintained at each major highway entry point into the forest to inform the public of fire danger.

The Big Horn County firewise program continued in 2013. Presentations to cabin owners on the Powder River and MWPR districts continue to emphasize the need for defensible space around structures. Fuels reduction partnerships and treatments also continued with Sheridan, Johnson, and Washakie counties to implement recommendations in their community wildfire protection plans.

Through the State and Private Forestry program (administered by the Rocky Mountain regional office), 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 2013, Sheridan County received additional fuels mitigation funding from the Forest Service to reduce fuels in the wildland urban interface near the town of Story.

## Timber

### 29. Is the Bighorn National Forest providing the desired level of uses, values, products and services of wood products?

We are analyzing the effects of the Roadless Area Conservation Rule (RACR), 36 CFR 294 on the forest's long-term timber output. The 2005 forest plan identified 185,277 acres as suited for timber production. When the RACR was implemented, 49% of those suited acres were in roadless areas where timber harvest is precluded. Long-term timber output could be affected by this reduction in available suited acres.

Initial analysis indicates that 20,000 to 31,000 acres may still be available for timber harvest because they were previously roaded and logged so they may meet the exemption criteria. Approximately 111,000 to 122,000 (includes the acres that may be exempt) may be considered suited and available for timber production, compared to the original 185,277 acres. Analysis is continuing to identify whether or not a forest plan amendment is needed.

The following two tables compare annual allowable sale quantity (ASQ) and total sale program quantity (TSPQ) outputs to those projected in the forest plan. ASQ is the quantity of timber that may be sold from suited lands for a time period specified by the forest plan. It is considered the maximum timber quantity that can be harvested from suited lands. TSPQ is the volume we expect to offer based on past experience. It includes timber from suited and unsuited land.

Annual outputs compared to forest plan projections.

	Total volume sold	Sawtimber 7"+	POL 5" to 6.9"	Personal use firewood	OVM
Unit of Measure	CCF	CCF	CCF	CCF	CCF
ASQ Forest Plan Projection	27,183	23,467	3,716	-	-
TSPQ Forest Plan Projection	18,931	10,688	1,693	3,000	3,550
2005	22,498	19,898	400	2,200	19,898
2006	18,073	15,200	442	2,432	99
2007	9,335	6,877	353	2,105	6,598
2008	20,629	17,789	1,500	1,340	1,354
2009	3,773	84	483	3,205	64
2010	24,508	13,942	7,496	3,070	9,060
2011	3,330	422	248	2,660	203
2012	3,238	293	317	2,628	293
2013	17,216	14,429	383	2,404	6
Total Actual Output	122,600	88,934	11,622	22,044	37,574
Total Projected ASQ Output	244,647	211,203	33,444		
Total Projected TSPQ Output	170,379	96,192	15,237	27,000	31,950
% of Projected ASQ Output	50%	42%	35%		
% of Projected TSPQ Output	72%	92%	76%	82%	118%
ASQ = allowable sale quantity. TSPQ = total sale program quantity					

Timber output compared to forest plan projections – total volume equivalent. All units in million board-feet (MMBF).

Activity	Total volume equivalent	Sawtimber Vol. (7"+)
Annual ASQ forest plan projection	9.8	9.8
Annual TSPQ forest plan projection	7.3	4.5
2005	11.1	9.8
2006	8.2	6.9
2007	4.6	3.4
2008	10.7	9.3
2009	1.8	0.0
2010	11.4	6.5
2011	1.6	0.2
2012	1.6	0.1
2013	8.1	6.7
Total Actual Output	59	43
Total Projected ASQ Output	88	88
Total Projected TSPQ Output	66	41
% of Projected ASQ Output	67%	49%
% of Projected TSPQ Output	90%	106%

## Wilderness

### 18. What level of crowding occurs on trails? Does the wilderness provide opportunities for solitude?

No changes in percentages of use by trailhead from previous years. Eighty percent of visitors to Cloud Peak Wilderness continue to be hikers, with 20% using or riding livestock. This split in user travel methods has not changed since required registration began in 1994. Use numbers are from the required registrations in place since 1994. Compliance with required registration was above 95%. Again in 2013, over 75% of wilderness visitors entered the Cloud Peak Wilderness from U.S. highway 16.

Cloud Peak Wilderness recreation visitor days (RVDs) by trailhead:

Trailhead Name	RVDs	Trailhead Name	RVDs
West Tensleep/Lost Twin	19,650	Trigger Lake	630
Circle Park	17,670	Lake Angeline/Middle Clr Ck	510
Hunter /North Clear Creek	8,110	Shell Reservoir/Lake	370
Coffeen Park	7,980	Lily Lake/Paintrock Creek	255
Twin Lakes/Stull/Coney	3,730	Cross Creek/Bighorn Reservoir	200
Battle Park/Grace Lake	3,435	Buffalo Park	60
Ranger Creek/Adelaide	990	Geddes/Weston/Babione	30
East Fork Little Goose	820	Kearney Lake	20
Paintrock Lakes	720	Bald Ridge	20
Edelman	680	<b>Total</b>	<b>65,880</b>

Incidents/warning notices/violation notices totaled 328 for the Cloud Peak Wilderness in 2013. This is an increase of 255 from the 2012 total of 88.

Law enforcement contacts – Fifteen violations were issued during 2013: two for violations of terms of a permit, six for campfire above 9,200 feet, one for bicycle in the wilderness, three for over group size of 12 people, one for horse tied directly to a tree, one for possessing wood above 9,200 feet, and one for abandoning personal property.

Seventeen warning notices were issued to individuals: one for leaving human waste exposed, ten for being in wilderness without registration, one for campfire above 9,200 feet, one for leaving trash, one for a horse less than 100 feet from water, and three for camping within 100 feet of water.

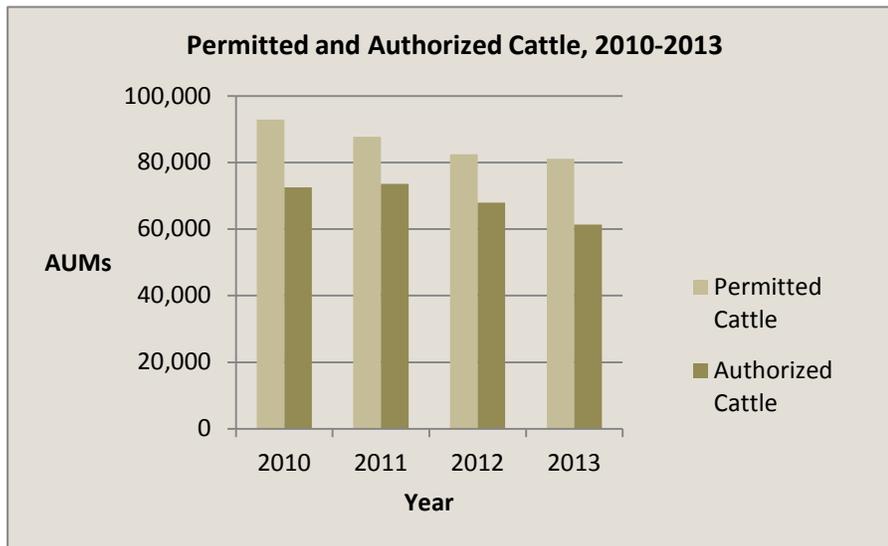
The Wilderness Rangers documented 311 violations:

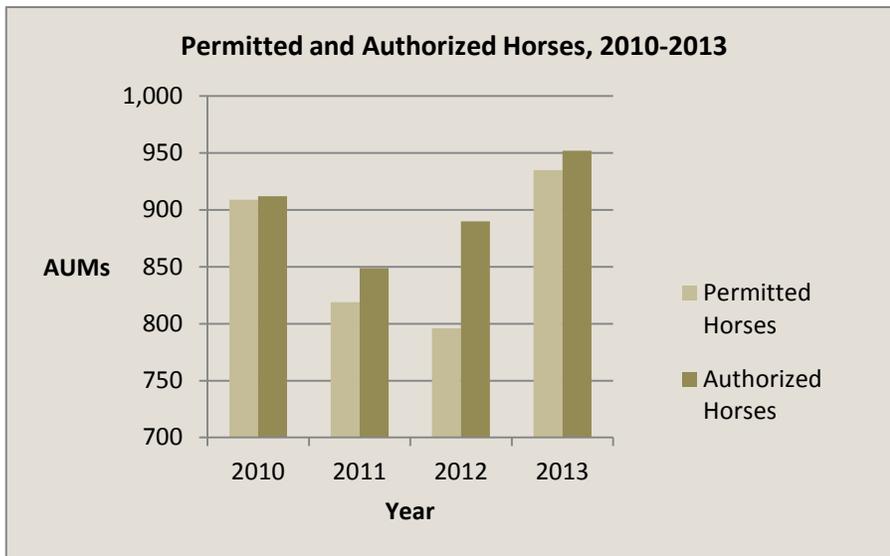
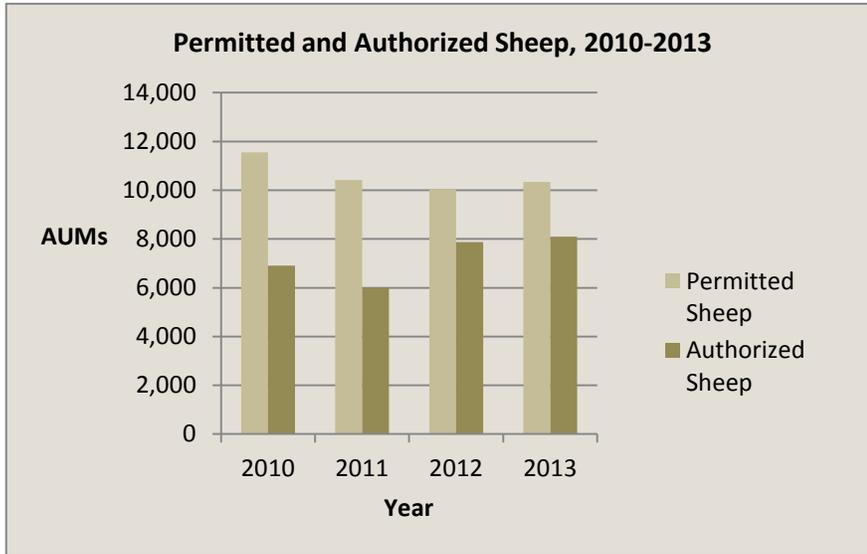
- 5 for damaging or cutting live trees.
- 2 for damaging natural features.
- 3 for constructing, maintaining a trail.
- 12 for leaving human waste in an exposed condition.
- 1 for possessing or using a bicycle.
- 107 for building campfire within 300 feet of water/above 9,200 feet.
- 7 for having a campfire below 9,200 feet but not on a fire blanket or in a pan.
- 2 for cutting a switchback.
- 1 for entering wilderness without registration.
- 122 for failure to dismantle camp structures.
- 30 for not removing human waste from West Tensleep drainage (new in 2013).
- 8 for camping within 100 feet of water or in a closed area.
- 11 for hitching a horse less than 100 feet from water.

### Livestock Grazing

**26. What total AUMs were permitted through term permit this grazing season? What total AUMs were authorized through term permit this grazing season?**

The following charts show the trends in permitted and authorized livestock grazing for cattle, sheep, and horses from 2101 through 2013.





**26. How was information sharing and cooperation with livestock permittees, state and private agriculture organizations, universities, and research partners demonstrated?**

Forest range specialists attended Wyoming section Society for Range management (SRM) meeting in Sheridan, WY. Specialists also attended SRM's 2013 annual meeting in Oklahoma City, Oklahoma.

In August, the forest plan steering committee discussed conflicts between dispersed recreation and permitted live stock grazing. Some permittees do not move livestock between pastures on weekends when ATV use is high which can make moving livestock difficult. Campers parked at dispersed camp spots are physically taking space, trampling grass, and causing disturbance to livestock movements and grazing patterns. The dispersed camping problem is of higher concern in popular dispersed sites, such as Circle Park, Battle Park, the Woodrock area, and along FSR 14.

MWPR and Tongue range and wildlife staff and WGFD cooperatively monitored for wandering bighorn sheep from the Devil's Canyon herd prior to trailing of domestic sheep along the 14A stock driveway in June and October 2013. In addition, the Forest Service, WGFD, and two domestic sheep permittees maintained close communication throughout the trailing process to ensure no stray domestic sheep were left behind. These efforts were tied to implementation of design criteria to minimize potential contact of the Devil's Canyon bighorn sheep herd and domestic sheep.

Forest aquatic, wildlife, and range personnel attended a 2-day willow assessment training on the PRRD. The training was instructed by Richard Keigley and is a continuation of the initial willow assessment conducted in 2012 by the aquatic and wildlife personnel.

**Powder River Ranger District**

Range specialists from Powder River Ranger District (PRRD) met with Bureau of Land Management (BLM) counterparts in Worland and Buffalo to discuss wildlife, sagebrush treatment, and grazing issues of mutual concern.

Range specialists from PRRD met permittees both in the field and after the grazing season to discuss management and allotment management plan (AMP) development on allotments in the Tensleep watershed.

PRRD range staff met with WYDOT officials to coordinate effects of the U.S. highway 16 reconstruction project.

PRRD range staff met with Natural Resources Conservation Service (NRCS) to discuss new pipeline construction specifications on Dry Tensleep allotment.

**Tongue Ranger District**

Tongue District range and wildlife personnel assisted Sheridan College with the Future Farmers of America (FFA) Border Wars competition attended by high school students from Wyoming and Montana.

Tongue range specialists continued a rangeland health assessment program (RHAP) pilot project in cooperation with Sheridan County Conservation District, Wyoming Department of Agriculture, and permittees. This was the third year of allowable use monitoring on the Big Goose, Little Goose and Rapid Creek C&H allotments. This was the second year in which the monitoring was conducted by contract.

### Medicine Wheel/Paintrock Ranger District

The annual west side interagency coordination meeting was held at January 24, 2013 in Worland, WY. BLM, WGFD, and Forest Service representatives shared information about accomplishments from 2012 and projected projects for 2013. Topics include fisheries, wildlife, range, prescribed fire, recreation, and timber management.

MWPR range specialists facilitated a coordinated resource management meeting with permittees, NRCS, BLM, and WGFD to share information about grazing rotations, range improvements, and resource matters.

MWPR range specialists, district ranger, recreation staff officer, forest hydrologist, and forest resource staff officer conducted a BMP review of a pasture on the district and associated management in relation to hydrology, soils, ground cover, etc.

MWPR range specialists began a Wyoming RHAP in cooperation with the Wyoming Department of Agriculture, Wyoming Cooperative Extension, and permittees. A contractor did field monitoring on the southern portion of the Paintrock allotment.

## Scenery Monitoring

### 30. Are resource activities and forest uses consistent with the landscape character goals and scenic integrity objectives?

Communication sites: The July 15, 2013 photo below is a cropped view of Dome Peak from Forest Service road 226 north of Woodchuck Pass. The microwave reflector on Dome Peak was patterned to mimic the local rock pattern. The color and pattern are successful, although it looks like the pattern was mounted 90 degrees off the natural orientation. During planning, the upper elevation of the reflector was supposed to be below the crest of Dome Peak, but the



installed elevation places the reflector partially or entirely against the sky. The prefabricated steel radio building by Pepro is also seen on the horizon. It does not include patterned surfaces.

The communication site is located in management area 1.32. The scenic integrity objective (i.e., desired condition) for the site is high – deviations from the natural appearing landscape character are not evident. Neither the building nor the reflector installation meets that criteria.

The existing scenic integrity objective for the site is moderate –

deviations are visually subordinate to the natural appearing landscape character. The reflector meets the very low standard and the building meets the low standard.

The color of the Pepro building is appropriate to site. The steel siding is not consistent with the BEIG (*Built Environment Image Guide*), and opportunities to add texture or pattern could be considered. Most visits to the Dome Peak site are by communication technicians and permit administrators; the site is seldom seen by the general public. Meeting the on-site desired condition for scenic integrity is not the high priority here that it would be at a more accessible location.

The following photo is the basis for the cropped photo above and shows Dome Peak in a larger landscape context. It is viewed from a section of FSR 226.



The existing and desired condition for this area are both moderate scenic integrity. From the travelway, the reflector is roughly ½ mile distant and is at the very low end of the moderate integrity scale or the upper end of the low scenic integrity scale. The Pepero building meets the moderate scenic integrity objective at this distance.

For both facilities, there may have been opportunities to adjust the location to reduce views of the structure against the sky and increase the scenic integrity.

There is an opportunity to review technical, financial and forest plan considerations to better integrate criteria for these factors in future development or redevelopment of communication sites.