

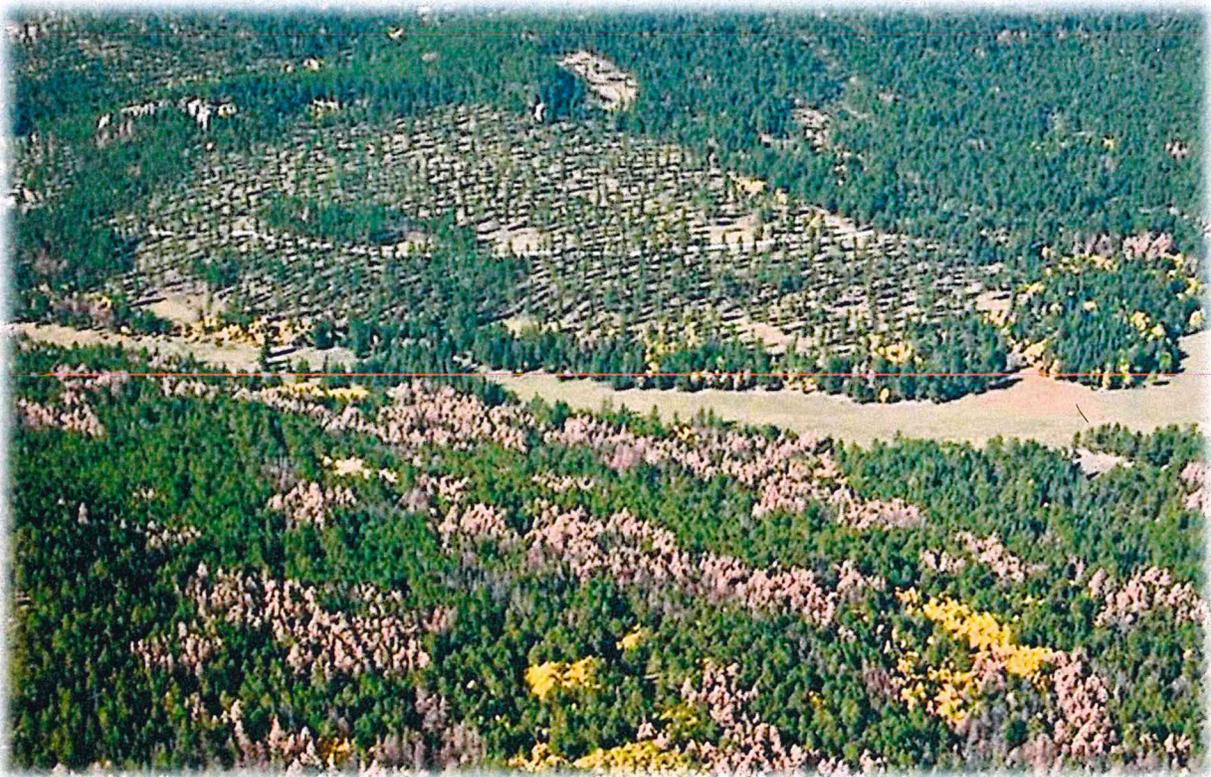
United States  
Department of  
Agriculture

Forest  
Service

Black Hills  
National  
Forest

December 2013

# MOUNTAIN PINE BEETLE RESPONSE PROJECT FISCAL YEAR 2013 MONITORING AND EVALUATION REPORT



Prepared By: Katie Van Alstyn Date: 12/05/13  
Katie Van Alstyn  
PBR Team Leader

Approved By: Craig Bobzien Date: 12-6-13  
Craig Bobzien  
Forest Supervisor

## Commonly Used Acronyms and Abbreviations

ARC	At-Risk-Community	HFRA	Healthy Forests Restoration Act
BA	Basal Area	ID Team	Interdisciplinary Team
BF	Board Foot	MA	Management Area
BHNF	Black Hills National Forest	MBF	Thousand Board Feet
BMP	Best Management Practices	MIS	Management Indicator Species
CCF	Cubic Hundred Feet	MMBF	Million Board Feet
CDA	Connected Disturbed Area	MPB	Mountain Pine Beetle
CEQ	Council on Environmental Quality	MPBRP	Mountain Pine Beetle Response Project
CF	Cubic Feet		
CFR	Code of Federal Regulations	MVUM	Motorized Vehicle Use Map
CMAI	Culmination of Mean Annual Increment	NEPA	National Environmental Policy Act
		NFMA	National Forest Management Act
CPUA	Concentrated Public Use Area	NFS	National Forest System
CWD	Coarse Woody Debris	NFSR	National Forest System Road
CWPP	Community Wildfire Protection Plan	OHV	Off Highway Vehicle
		PTA	Potential Treatment Area
DBH	Diameter Breast Height	ROD	Record of Decision
DEIS	Draft Environmental Impact Statement	S&G	Standard(s) and Guideline(s)
		SDGF&P	South Dakota Game, Fish and Parks
EIS	Environmental Impact Statement	SHPO	State Historic Preservation Officer
EPA	Environmental Protection Agency	SOLC	Species of Local Concern
		T&E	Threatened and Endangered
FEIS	Final Environmental Impact Statement	TMP	Travel Management Plan
		TSI	Timber Stand Improvement
FRCC	Fire Regime Condition Class	USDA	United States Department of Agriculture
FS	Forest Service		
FSH	Forest Service Handbook	USFWS	United States Fish and Wildlife Service
FSM	Forest Service Manual		
GIS	Geographic Information System	WUI	Wildland-Urban Interface
GPS	Global Positioning System		

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotope, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Cover Photo: Vegetation Thinning, Black Hills National Forest

# Mountain Pine Beetle Response Project

## Monitoring Report

### December 2013

#### Background

The mountain pine beetle (MPB), a native insect, has rapidly expanded in the western United States. According to the Western Bark Beetle Strategy (WBBS), approximately 41.7 million acres in the United States have been infested by pine beetles over the past 15 years. The epidemic gained public attention as beetle-killed forests affected scenic vistas, increased wildland fire hazards, impacted rural economies and increased the risk to public safety.

In the Black Hills area, 416,000 acres have been affected by MPB since 1996. Each year the Black Hills National Forest has taken action to address the MPB in selected landscapes, and continues to increase its collaboration with partners addressing MPB and hazardous fuels. Localized actions to make the Black Hills National Forest more resilient have been successful. Under the authority of the Healthy Forests Restoration Act of 2003, the Black Hills National Forest developed the Mountain Pine Beetle Response (PBR) Project at the forest landscape scale, with adaptive design features to more swiftly address the expanding MPB populations and reduce hazardous fuels.

The PBR Project increases landscape scale restoration by moving from 25,000 acre landscapes to a quarter million acres resulting in significant cost savings. Creative local partnerships have attracted millions of dollars by Wyoming and South Dakota, counties and private stakeholders. The extensive collaboration and engagement by partners has resulted in strong ownership and support for adaptive resource strategies and public land stewardship practices.

On December 10, 2012, Forest Supervisor Bobzien, signed the Record of Decision (ROD) for the Mountain Pine Beetle Response Project.

#### Introduction

This report provides an overview of implementation and effectiveness monitoring and evaluation requirements of the Mountain Pine Beetle Response Project Record of Decision. It contains the protocols used in implementing ROD. Other techniques that are widely used by the scientific community may also be used if they are approved in advance by the Forest Service. All data collected is subject to field checks and verification before it is accepted.

This report is intended to be flexible and may be changed as new methodologies, techniques, and needs are identified. Monitoring may be performed by the Forest Service or other interested parties. The report uses information in the Forest Plan but it is not part of the Forest Plan Monitoring.

#### Format

While monitoring and evaluation is specifically required for PBR, the principles and learning from PBR will help us improve on a forest-wide basis.

#### *Guiding Principles for Monitoring and Evaluation*

**Simple:** as possible to meet objectives.

**Verifiable:** methodology would allow persons with requisite skills to draw similar results.

**Accountable:**

- A) Consistent with the decision or contract,
- B) Contains appropriate signatures.

**Timely:** to be most effective**Dynamic:**

- A) Specifies follow-up action where needed,
- B) System can be modified and improved over time.

This report contains a section on the monitoring items developed by the Interdisciplinary Team (ID Team) for their resource based on the analysis of the PBR Environmental Impact Statement (EIS), ROD, and Specialist Implementation Field Guides. This report includes findings on the effectiveness of treatments and conservation measures and recommendations for changes, if needed. If monitoring finds resource protection objectives are not being achieved, then:

- Vegetation treatment operations can be modified or reduced and/or
- Resource protection measures can be improved or changed
- Monitoring to determine the source of impact and apply appropriate mitigation can be improved or increased.

**Summary of PBR Project Fiscal Year (FY) 2013 Accomplishments:****Specialist Implementation Field Guides Initiated: Eight (8)**

- Rose Petal Timber Sale
- Buck Mountain Cut and Chunk
- Fox Ridge Timber Sale
- Buck Mountain Timber
- Hell Canyon
  - PBR Deer Spring 19A, 22A, 26A, 28A, 29A Timber Sale
  - Dry Beaver 31A, 32A, 33A, 34A, 100A Timber Sale
  - McNerny 6A, 29A, 30A, 40A Timber Sale
- Viento Timber Sale
- Mongoose Timber Sale
- Custer Gap Timber Sale

**Activities Completed: One (1)**

- Buck Mountain Cut and Chunk

**Integrated Pest Management Tools and Techniques:**

- **Cut and Chunk Completed Acres: 841**
  - Buck Mountain Cut and Chunk
- **Ground-based Logging Completed Acres: 67**
  - Rose Petal Timber Sale – Sale Area has not Closed.

**Activities Initiated FY13 (completion in subsequent FYs):**

- Ground-based Logging Sold and/or Add-on Acres: 1,076
- New Level 1 Roads: 0
- New Temporary Road Miles: 4.3
- Road Maintenance: 4.7
- Road Reconstruction: 4.7

All activities completed and initiated in FY13 were consistent with the ROD and the EIS analysis. Two resource areas identified a need to adapt treatments and/or design criteria to better implement the ROD. These recommendations are consistent with the ROD and EIS (see Hydrology / Fisheries/Soils and Wildlife sections). With one activity completed in FY13, implementation and effectiveness monitoring is insufficient for many resources to recommend modification(s) of treatments and/or design criteria.

## **BOTANY**

The Buck Mountain Cut and Chunk project was the only project under the PBR FEIS that was completed in FY 2013. This site was visited for monitoring on August 12, 2013. In summary, the design criteria that apply to botanical resources were met. This site should be visited in 2015 in order to gather some longer term monitoring information and record the impact of treating an area with cut and chunk followed by commercial timber sale (Buck Mountain TS planned for FY14).

**Recommendations:** No changes to the Field Guide or adaptations of the design criteria appear to be necessary at this time.

## **FIRE / FUELS**

The fuel profile associated with mountain pine beetle impacted stands continues to be highly dynamic and in a state of constant change. The mountain pine beetle impacted stands vary widely from recently hit tree's (still green), to trees with red needles still attached, to tree's that have shed their dead needles and are beginning to break off at 10 to 15 feet off the ground, to completely falling on the ground. This complex situation is expected to continue at a pace largely dependent on future mountain pine beetle activity.

**Recommendations:** Discussion with District Fuels Specialist indicate that current design criteria are adequate and meeting the intent of the PBR Project Record of Decision. However, it is felt that continued monitoring and discussion between resource specialists needs to take place to ensure that the correct treatments in terms of scope and scale are being applied within each project area/unit to ensure operational efficiency and effectiveness with regard to post treatment fuel loading. In addition, documentation of observed fire behavior and associated fuel moisture conditions is recommended to be a focus item in 2014 to validate design criteria in areas that have been treated utilizing the cut and chunk treatment method.

## **HERITAGE**

### **Objectives of Cultural Resources Monitoring Report**

- Summarize and assess FY2013 implementation activities undertaken as part of the first year of Mountain Pine Beetle Response Project (MPBRP) as they relate to cultural resources management.
- Provide recommendations, where appropriate, to improve or fine-tune the Black Hills National Forest's (Forest's) activities so as to minimize the potential for adverse effects to historic properties and sacred sites.

### **Cultural Resources Design Criteria (Indicators)**

The Forest identified one primary indicator in the 2012 MPBRP Final Environmental Impact Statement that is to be used to determine the potential for adverse effects to historic properties and sacred sites: the number of at-risk historic properties and/or sacred sites identified within the Area of Potential Effect (APE). National Historic Preservation Act (NHPA) mandates and the associated implementing regulations found at 36 CFR §800 define an adverse effect:

*An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative. (36 CFR §800.5(a)(1))*

### **Cultural Resources Implementation Mandates**

The Forest developed and executed a Programmatic Agreement (PA) with the Wyoming and South Dakota State Historic Preservation Officers (SHPOs) in order to fulfill the Forest's legal obligations for this project under Section 106 of the NHPA. A PA was necessary because of the multi-state scope and similar and repetitive nature of the project (pursuant to 36 CFR §800.14(b)(1)(i)). A PA was also warranted because the effects of the project could not be fully determined prior to signing an Environmental Impact Statement (EIS) Record of Decision (pursuant to 36 CFR §800.14(b)(1)(ii)). Stipulations in the PA govern how the Forest will comply with Section 106 mandates for MPBRP undertakings. This report provides an overview of Forest compliance with those stipulations for the first year of project implementation.

### **Implementation Field Guide**

The Cultural Resources Program developed a Field Guide soon after the MPBRP Record of Decision was signed. The Field Guide consists of a brief user guide designed to ensure compliance with stipulations in the PA. Stipulations in the PA, however, are more complex and comprehensive and not as easily condensed into the Field Guide matrix. The Field Guide is intended as a quick-reference checklist only and should not be used as definitive evidence that Section 106 mandates have been met according to the terms of the PA.

The Field Guide was developed as a brief checklist to determine:

- Whether or not the project area has been adequately surveyed for cultural resources.
- Whether or not significant cultural resources (i.e., historic properties) have been identified.
- What the anticipated effects will be on historic properties, where identified.

### **Implementation Guide Adjustments**

As can be expected with any new guide or implementation process, the Cultural Resources Field Guide required several modifications after the initial draft was developed for the first project initiated under the MPBRP Record of Decision (Rose Petal Timber Sale). By the end of the second contract awarded (Buck Mountain Cut-and-Chunk), the content of the Field Guide was, for

the most part, finalized. Only minor modifications were made to the Field Guide for subsequent MPBRP projects. It is possible that a need for additional modifications will be identified as a result of specific nuances encountered with individual sales. This will pose no problem as the Cultural Resources Field Guide is intended to be fluid in content so as to adequately address specific projects with unique conditions/circumstances.

### **Monitoring Strategy**

The monitoring strategy for cultural resources identified within the boundaries of MPBR projects focusses primarily on those historic properties that the Forest has identified as Priority Heritage Assets. Priority Heritage Assets (PHAs) embody a distinct public value that are, or should be, actively maintained. PHAs should meet one or more of the following criteria:

- a) The significance and management priority of the property is recognized through an official designation; such as listing on the National Register of Historic Places, State register, etc.
- b) The significance and management priority of the property is recognized through prior investment in preservation, interpretation, and use.
- c) The significance and management priority of the property is recognized in an agency-approved management plan.

Qualified personnel from the Forest's Heritage Resources staff shall complete a condition assessment for every PHA identified within the APE of MPBR projects. PHA condition assessments constitute one of seven criteria that are evaluated annually to determine the status of each National Forest's Heritage Resources Program. If a historic property meets the criteria for a PHA, then it should have a documented condition assessment completed every five years in addition to a recommended management use in order to realize its agency and public benefit(s). These baseline data can be used to determine whether or not PHA properties have suffered any potential adverse effects as a result of the MPBRP undertakings.

A second component of the cultural resources monitoring strategy is optional and subject to the professional opinion of the Heritage Resources staff whose jurisdiction each specific project is under. Upon completion of a MPBR project, the Heritage staff shall review the *Stipulation Narrative* included in the Project Summary section of the Cultural Resources Field Guide to learn what mitigations (if any) were specified for cultural resources prior to project implementation. The following questions should be addressed as the professional feels circumstances warrant:

- What were the project stipulations/site mitigations?
- Were the stipulations/mitigations implemented?
- Were the stipulations/mitigations effective for protecting the site from the PBR timber sale activities?
- If no, were the sites adversely impacted (according to criteria found at 36 CFR §800.5)?
- Is there a need for additional monitoring for historic properties located in the APE?

### **Status of Mountain Pine Beetle Projects Completed in Fiscal Year 2013**

- *Buck Mountain Cut and Chunk*. This project is the single MPBR project that was fully completed in FY13. Vegetation treatments prescribed for this particular undertaking

were limited to non-mechanized, non-ground disturbing field methods. The majority of the APE for Buck Mountain had been previously surveyed for cultural resources using contemporary field methods. Seven historic properties had been identified within the Buck Mountain APE. These properties were marked as 'Areas to Protect' (ATPs) during implementation activities. Sale activities and vehicle traffic were prohibited within the boundaries of ATPs, to include no skidding, no decking, and no felling of trees. No PHAs are located within the boundaries of the Buck Mountain Cut and Chunk APE. For that reason, combined with the unusually stringent mechanical limitations, there was no need to complete post-activity monitoring of historic properties.

## **HYDROLOGY/FISHERIES/SOILS**

### **Soil, Water and Fish Implementation Guide Development**

As identified in the MPBRP EIS, varying activities to be implemented had different effects and expected levels of effects to soil, water and fish resources. Therefore two implementation guides were developed for the various activities authorized under the MPBRP ROD:

1. Mountain Pine Beetle Response Project Soil, Water and Fisheries Design Criteria Field Guide (for areas of greater levels disturbance such as for projects identifying the use of commercial thinning and road construction)
2. Mountain Pine Beetle Response Project Soil, Water and Fisheries Design Criteria Checklist Non-Ground Disturbing Activities (Non-Mechanized)

The non-mechanized guide, used for projects such as those limited to cut and chunk activities, is far less extensive, commensurate with general expectation of potential effects and design criteria identified in the MPBRP EIS, as compared to the other guide.

### **Implementation Guide and Monitoring Guide Adjustments**

As was to be expected with any new guide or implementation process, the Mountain Pine Beetle Response Project Soil, Water and Fisheries Project Implementation Guides were altered from the initial drafts developed for the first projects initiated after the MPBRP Record of Decision. The guide associated activities such as commercial thinning and road construction received the greatest level of alteration based on the larger amount of that type of proposed implementation and based on a variety of factors. These factors included but were not limited to such needs as increasing implementation clarification, as well as addressing differing site characteristics and components as compared to those identified in the initial project within the Rose Petal Timber Sale area.

#### Soil

The soil monitoring assessment process is a national process. This process was identified for use in the implementation guide. It was also repeated in a MPBRP Soil, Water and Fisheries Design Criteria Monitoring Guide. Therefore, since the soil disturbance monitoring protocol is a national process, no adjustments will be made for the project.

#### Water

Due to the lack of sites to monitor, at this point in time no adjustments need to be made to the Implementation Guide and Monitoring Guide. One Design Criteria is being proposed for an adjustment is the "no wheeled or tracked equipment for 0-50 feet from the stream". Depending on

the topography, this design criteria may be adjusted on a site specific basis to allow a tracked feller into this zone. Coordination with the Hydrologist will determine which ground to allow entering this zone. No wheeled equipment for 0-50 feet from the stream will still be implemented.

Fish

At this point in time no adjustments need to be made to the Implementation Guide and Monitoring Guide.

**Potential Future Monitoring**

Soil

Rose Petal Timber Sale

Recommend Project Unit Numbers for Monitoring
Unit 1- susceptible to compaction and near meadow

FoxRidge Timber Sale

Recommend Project Unit Numbers for Monitoring
1 – Soils disturbance protocol, pre and post, on Q0304D for soil Compaction and fine slash retention.

Buck Mountain Timber Sale

Recommended Units	Rationale for Monitoring (i.e. slope, mass movement, compaction, erodibility, etc.)
1	Soil potential for mass movement (28 acres or 14% of unit), compaction, and severe or very severe soil erosion hazard
3	Soil potential for mass movement (22 acres or 21% of unit), compaction, and severe or very severe soil erosion hazard
6	Soil potential for mass movement (23 acres or 18% of unit), compaction, and severe or very severe soil erosion hazard. Unit probably will be forwarder unit so provides good monitoring opportunity of that type of harvest equipment.
7	Soil potential for mass movement (24 acres or 11% of unit), compaction, and severe or very severe soil erosion hazard. Much of unit contains large cobbles and boulders so provides good monitoring opportunity of soil characteristics in light of surface rock.
11	82% of unit contains soils with low productivity potential related to Forest Plan Guidelines 1108 and 4112. Soils also identified with potential for compaction and severe or very severe soil erosion hazard.

PBR Deer Spring 19A, 22A, 26A, 28A, 29A; Dry Beaver 31A, 32A, 33A, 34A, 100A; and McInerny 6A, 29A, 30A, 40A Timber Sales

Recommend Project Unit Numbers for Monitoring	Rationale for monitoring
Units: All – 6A, 19A, 22A, 26A, 28A, 29A(D), 29A(Mc), 30A, 31A, 32A, 33A, 34A, 40A & 100A	Soil Compaction Potential

Viento Timber Sale

Recommend Project Unit Numbers for Monitoring	Rationale for monitoring
Unit 1	Soil Compaction Potential – Signs of past rutting

Mongoose Timber Sale

Recommend Project Unit Numbers for Monitoring	Rationale for monitoring
17	Mass Movement potential, steeper slopes, soils susceptible to compaction, highly erosive soils
A	Mass Movement potential, steeper slopes, soils susceptible to compaction, highly erosive soils

Water

Buck Mountain Timber Sale

Recommended Units	Rationale for Monitoring (i.e. slope, mass movement, compaction, erodibility, etc.)
2	Perennial stream (Bogus Jim Creek), stream crossing on FSR 166.1F. Fisheries timing restrictions for trout.
4	Perennial spring-fed stream located along FSR 659 downslope of treatment area.
6	Perennial spring-fed stream, spring, and associated wetlands along existing road template (future Trail TR6321) proposed for use as temp road. Three existing stream crossings: one rock-fill, one concrete culvert, and one un-improved low-water crossing.
7	Spring and associated wetland and perennial stream segment near junction of FSR 201.1B and FSR 201 (Bogus Jim Road). Temp road on existing trail template crosses ephemeral stream channel just upstream of spring/wetland.
10	Unit proximity to Boxelder Creek (perennial). Separated from stream by CTY-T234 (Nemo Road) but culvert cross-drains exist.
12/13 FSR 659	Spring-fed perennial stream; road located within the AMZ (less than 50 feet).
15	Unit proximity to Boxelder Creek (perennial) and Custer Gap stream loss/groundwater recharge zone. Separated from stream by CTY-T234 (Nemo Road) but culvert cross-drains exist.
21	Proposed temp road and use of existing un-improved low water crossing on stream with intermittent and ephemeral segments.

Mongoose Timber Sale

Recommend Project Unit or Roads for BMP Monitoring
U660014 and U660013

Fish

The Buck Mountain Timber Sale has a road-stream crossing identified for design criteria implementation monitoring in FY14. Forest System Road (FSR) 166.1F is a level-1 (closed) road that will be temporarily used to cross Bogus Jim Creek. The creek is assigned the beneficial use of “coldwater marginal fish life propagation waters” by the State of South Dakota.

**Recommendations:**

Soil

Since implementation was not fully completed on areas other than the Buck Mountain Cut and Chunk, no Fiscal Year 2013 soil disturbance monitoring occurred for MPBRP ground disturbing

implementation activities. Therefore, there are no recommendations for field guide or monitoring adjustments at this time.

#### Water

None of the MPBRP projects implemented in FY13 had any Aquatic Management Zones (AMZs) that triggered Best Management Practice (BMP) monitoring. One Design Criteria is being proposed for an adjustment is the “no wheeled or tracked equipment for 0-50 feet from the stream”. Depending on the topography, this design criteria may be adjusted on a site specific basis to allow a tracked feller into this zone. Coordination with the Hydrologist will determine which ground to allow entering this zone. No wheeled equipment for 0-50 feet from the stream will still be implemented.

#### Fisheries

None of the MPBRP projects implemented in FY13 had any road-stream crossings that triggered monitoring of the seasonal inwater work restriction design criteria to protect spawning fish. There are no recommendations for field guide or monitoring adjustments at this time.

### **RANGE/WEEDS**

The Buck Mountain Cut and Chunk project was the only project under the Mountain Pine Beetle Response FEIS that was completed in 2013 before the end of the field season. This site was visited for the intent of monitoring on August 13, 2013. A site monitoring report was completed.

In summary, the design criteria that apply to the range and weed resources were met. This site should be visited in future years to gather some longer term affects and record the impact of treating an area with cut and chunk after the Buck Mountain TS has been cut. Several other projects planned under the FEIS have not been completed monitoring of these areas will need done when the project is final.

**Recommendations:** No changes to the Field Guide or adaptations of the design criteria appear to be necessary at this time.

### **RECREATION**

A Recreation/Special Uses Implementation Guide was developed to assist with the implementation of PBR activities.

#### **Implementation Guide and Monitoring Guide Adjustments**

No recommendations have been made from field personnel on the Recreation/special uses Implementation guide.

#### **Recommendations:**

Since implementation was not fully completed on areas other than the Buck Mountain Cut and Chunk, no Fiscal Year 2013 recreation/special uses related activities were monitored. Therefore, there are no recommendations for adjustments to the Field Guide or Monitoring Guide at this time.

### **SCENERY**

As identified in the MPBRP EIS, varying activities to be implemented had different effects and potential effects to Scenery. An implementation guide (Mountain Pine Beetle Response Project

Scenery Design Criteria Guide) was developed for the activities authorized under the MPBRP ROD, addressing:

- Soil Contrast
- Strong Vegetation Contrast Along Ownership Boundaries
- Protection of Non-motorized Trails
- Areas of High Recreation Use (US & State Highways, Scenic Byways, Roads leading to - or within - Recreation Facilities, Trails)

### **Implementation Guide and Monitoring Guide Adjustments**

As with any new guide or implementation process, the Mountain Pine Beetle Response Project Scenery Design Criteria Guide was altered after the initial draft was developed for the first projects initiated after the MPBRP Record of Decision. There was one alteration to the 'Strong Vegetation Contrast Along Ownership Boundaries' section, removing one step in the Guide process, otherwise, the remaining changes were formatting of the Guide. This monitoring assessment concept is based upon the method identified in the USDA, Forest Service, Handbook 701 – "Landscape Aesthetics, A Handbook for Scenery Management". The method identified in the national Handbook was incorporated into the development of the MPBRP Scenery Design Criteria Guide.

### **Recommendations:**

- Continue to monitor projects to determine whether early findings are in fact valid across the Forest.
- Continue to use the Design Guide, as the dialog it is fostering appears to be having positive results on the Scenic Resource.
- There are no recommendations for field guide or monitoring adjustments at this time.

## **SILVICULTURE**

The PBR Silviculture Field Implementation Guide was reviewed by district silviculturists for understanding and clarity. All district silviculturists concur.

There was 841 acres of cut and chunk activity on PBR potential treatment areas. There are no silvicultural prescriptions for this activity. Activity was implemented via agreement with Pennington County in collaboration with the State of South Dakota (see Timber below).

**Recommendations:** There are no recommended silviculture adaptive changes to treatment or mitigation design criteria. Large scale forest treatments, such as timber sales as the most effective strategy for reducing beetle caused mortality. The timber sales being initiated in FY13 are implementing that strategy. Add-on volume on awarded timber sales [non-PBR] also reduces the stand density and susceptibility to MPB. Sanitation efforts also harvest recently hit trees. Cut & chunk activity on National Forest System lands be implemented only adjacent (within 300 feet) to private lands where land owners cut green hit trees and preferably the chunks are utilized for firewood. Continue cooperative non-USFS efforts along forested private land areas, roads and recreation areas implementing timber sales to reduce stand density and treating slash.

## **TIMBER**

The Timber Sale Preparation Implementation Field Guide or known as the "Black Hills National Forest Sale Preparation User's Guide (SPUG)" has been in effect since April of 2009. The

Timber Sale Preparation Implementation Field Guide for the Mountain Pine Beetle Response Project incorporated the SPUG in full to keep years of successful implementation guidance intact to ensure proven successful timber sale preparation efficiencies were kept for this project. All districts have successfully prepared and implemented a number of timber sales for years following this guidance in line with Forest Handbook and Manual Direction.

### **Mountain Pine Beetle Projects Initiated in Fiscal Year 2013**

1. The Buck Mountain Timber Sale cut & chunk – No sale preparation guidelines were used for this project as this project was not a timber sale. In 2012 and 2013 Pennington County in cooperation with Black Hills National Forest Mystic Ranger District implemented a landscape treatment strategy to perform sanitation control tactics on MPB infested trees within the upcoming Buck Mt timber sale area to serve as a holding action, until the area can be thinned to a lower basal area (See figure 1 below). The cut and chunk occurred in 2012 and monitoring occurred in 2013. Monitoring results concluded that overall, the use of the cut and chunk sanitation method in this instance was not effective at reducing beetle caused mortality. Forest Health monitoring of cut and chunk practices have a goal of at least 80% brood reduction to be effective. Buck Mountain cut and chunk had a 59% brood reduction. The use of cut and chunk as a holding action to reduce beetle caused mortality at Buck Mountain was ineffective. Large scale forest treatments, such as timber sales are still the most effective strategy for reducing beetle caused mortality.

Figure 1 Buck Mountain Cut and Chunk



- Rose Petal Timber Sale – Not monitored in 2013 as sale was not yet complete. Per message received on October 31, 2013, implementation of ground disturbing activities within the Rose Petal Timber Sale had occurred but the sale was not yet complete (95% complete). If completed this winter, the monitoring protocol would not be adequately completed until the Fiscal Year 2014. Timber sale preparation implementation field guide protocols have been successfully followed to date and the Rose Petal timber sale was successfully awarded to Neiman Timber Company in May of 2013. Sale completion date is scheduled for June 30, 2014 where a full monitoring of sale preparation and implementation will be conducted.

- Fox Ridge Timber Sale – Not yet completed per message received on October 31, 2013. Timber sale preparation implementation field guide protocols have been successfully followed to date and the Fox Ridge timber sale was successfully awarded to Sanford Logging Company in July of 2013. Sale completion date is scheduled for March of 2015 where a full monitoring of sale preparation and implementation will be conducted.
- PBR Deer Spring 19A, 22A, 26A, 28A, 29A; Dry Beaver 31A, 32A, 33A, 34A, 100A; and McInerny 6A, 29A, 30A, 40A Timber Sales – Active Timber Sales Deer Springs, Dry Beaver and McInery had over 861 acres of PBR PTAs that existed within their sale boundaries that were evaluated and added to the sales. Timber sale preparation implementation field guide protocols have been successfully followed to date for these additional units. The units were successfully added to the three sales with a contract modification September of 2013. Sale completion dates are scheduled for Deer Springs and Dry Beaver in 2015 and 2016 for McInery. Full monitoring of sale preparation and implementation will be conducted following each of the sales closures.
- Buck Mountain Timber Sale – Not monitored in Fiscal Year 2013 as sale was not awarded until Fiscal Year 2014 (Nov. 6, 2013). Timber sale preparation implementation field guide protocols have been successfully followed to date and the Buck Mountain Timber Sale was successfully awarded to Neiman Timber Company November 2013. Sale completion date is scheduled for March 2019 where a full monitoring of sale preparation and implementation will be conducted.
- Viento Timber Sale – Sale is scheduled for sale in November of 2013.
- Mongoose Timber Sale – Sale schedule for sale in September of 2014.
- Custer Gap Timber Sale – Sale schedule for sale in May of 2014.

**Recommendations:**

Timber Sales located over large landscapes are the most effective strategy for reducing beetle caused mortality. Also, the addition of recently beetle hit trees to existing timber sales (add-on volume) is also very effective in reducing the spread of beetle infestations. Cut & and chunk activity is only effective on a limited basis and should not be used to cover vast landscapes. The most effective cut & chunk treatments to date have been done in October and November within small areas where the infestations were less than a ½ acre and had less than 100 trees.

**TRANSPORTATION**

A Transportation Implementation Guide was developed to assist engineers and engineering technicians with the implementation of PBR activities. This guide provides a link between the various road related activities and the FEIS. This transportation guide has been used for implementation of PBR related activities.

**Implementation Guide and Monitoring Guide Adjustments**

No recommendations have been made from field personnel on the Transportation Implementation guide. The monitoring guide has not been used to date.

**Recommendations:**

Since implementation was not fully completed on areas other than the Buck Mountain Cut and Chunk, no Fiscal Year 2013 road related activities were monitored. Therefore, there are no recommendations for adjustments to the Field Guide or Monitoring Guide at this time.

## **WILDLIFE**

A Wildlife Implementation Guide was developed in coordination with district biologists to facilitate transfer of information from the Final EIS to treatment design, layout and administration. The implementation guide allows district biologists to identify which design criteria from the EIS apply to the activities throughout the implementation process. The initial guide was used on two projects (Rose Petal Timber Sale, Fox Ridge Timber Sale). During the first two projects, some confusion was noted on the guide and need for clarification was identified. The implementation guide was then modified, based on comments from district biologists, to enhance clarity and ease of use.

### **Monitoring results**

A wildlife field monitoring form was developed to facilitate monitoring of wildlife design criteria implantation and effectiveness. The form allows for easy identification of applicable design criteria and gives the purpose or objective of the design criteria to facilitate evaluation of effectiveness.

#### Buck Mountain Cut and Chunk

A monitoring field form was completed for this treatment area. All applicable design criteria were applied as designed. The project did not include cutting of dead trees. We were unable to determine if snags were cut during the process for safety reasons. If some were cut for safety reasons, they were left in place as course woody debris. The project met Forest Plan snag and downed wood standards and guidelines. Most treatments were completed prior to April 1 or were far enough away from goshawk nests so there were no conflicts with the goshawk timing restrictions. Other raptor nests were adequately protected as designed. More time is needed to determine if these treatments will adequately protect goshawk and other raptor nest stands from MPB activity. There are no recommended adaptive changes to treatments based on monitoring of this treatment area.

#### Custer Gap Timber sale

This treatment area is still under development. The Wildlife Implementation Guide is still being completed for the treatments. During treatment design, the wildlife biologist and silviculturist visited the area to identify potential treatments within a goshawk nest stand. Design criteria in the EIS allows sanitation treatments in goshawk nest areas and also allows uneven-aged management within goshawk nest areas at least 600 feet away from nests. During the visit, the biologist identified the need for non-commercial treatments within the nest areas to reduce the risk of losing the nest sites to MPB or fire. The nest areas had an abundance of small diameter trees, specifically within 600 feet of the nests, that increased the risk of fire and insects. The biologist felt removing some of the non-commercial trees was consistent with the Forest Plan (Standard 3108) for managing goshawk nest areas and maintaining its value for goshawks. However, when looking at the design criteria in the EIS and Implementation Guide, it was determined that it did not specifically allow for this type of treatment within goshawk nest areas. The biologist decided not to include the non-commercial treatments near the nests so as to be consistent with the EIS design criteria, even though it meant the nest areas would be more at risk of being lost to MPB and fire.

The following design criteria apply to treatments in goshawk nest areas:

- *Uneven-aged management (e.g., group selection, group retention, free selection) that creates a mosaic of vegetation structural stages in small patches would be allowed in goshawk nest areas at least 600 ft. away from nests. In these areas, treatments would be*

*designed with non-uniform spacing to restore the natural “groupiness” of the forest and maintain the nest area’s value to goshawks.*

- *Sanitation activities that remove MPB infested trees (cut/chunk, cut/chip, cut/handpile/burn, equipment pile/burn, commercial sanitation) would be allowed within goshawk nest stands outside timing restrictions.*
- *Burning of slash piles and hand piles would be allowed within goshawk nest areas. Burning piles in nest areas or within ½ mile of historic goshawk nests would be coordinated with district wildlife biologist.*

The biologist identified a need to consider modifying the design criteria to allow non-commercial treatments that maintain the stand’s value for goshawks within goshawk nest areas.

**Recommendations:**

Add the following design criteria for treatments within goshawk nest areas:

- *Non-commercial treatments that maintain or enhance the area’s value for goshawks (e.g., thin from below, fuels reduction) would be allowed within goshawk nest areas outside timing restrictions, subject to biologist approval.*

Current design criteria lack specific direction on whether non-commercial treatments/thinning are allowed in goshawk nest areas. The recommended design criterion would meet the purpose and need of the MPBR Project to reduce hazardous fuels and MPB risk. Non-commercial thinning is described in Alternative C in the EIS (Page 37) and in the Record of Decision (Page 13) as a possible technique. The addition of this design criterion would be consistent with the goshawk analysis in the EIS because treatments would be designed consistent with Forest Plan direction (Standard 3108). The goshawk effects analysis is based on treatments being consistent with Standard 3108 (EIS pages 174, 204). This type of treatment would be consistent with Standard 3108 because it would maintain overstory structure and maintain or enhance the stand’s value for goshawks while reducing the risk of losing the nest area to insects and fire.

<<<END>>>