

## **Wyoming Powder River Basin CBNG Wildlife Taskforce Monitoring Plan.**

### **Introduction**

The Powder River Basin Interagency Working Group (PRBIWG) was established as the forum for government agencies to address, discuss, and find solutions to issues of common concern to all parties involved in permitting and monitoring of Coalbed Natural Gas (CBNG) development. The PRBIWG organization is divided into three levels, with level one consisting of resource specific task groups for air, aquatics, water, and wildlife; task groups are comprised of technical specialists from the various government entities. The wildlife task group was given the following assignments: (1) Wyoming representatives to coordinate with Montana representatives to develop a monitoring plan which builds off the plan adopted in the Montana EIS, (2) develop triggers to identify when additional action is necessary, (3) develop monitoring protocol to assess habitat reclamation/restoration, and (4) provide technical assistance on wildlife issues to the PRIWG state working groups (level II) and interagency coordinating committee (level III).

This plan satisfies the first three assignments, monitoring plan, triggers, and reclamation monitoring.

### **Monitoring Plan**

The Powder River Basin Oil and Gas Project Environmental Impact Statement (PRBEIS) included a mitigation, monitoring, and reporting plan which for wildlife identified specific monitoring requirements for grouse (sage grouse and sharp-tailed grouse), raptors, bald eagle, black-footed ferret, mountain plover, and Ute ladies'-tresses orchid. The task force has identified additional monitoring needs.

Table one identifies the individual monitoring tasks identified in the adopted Montana mitigation and monitoring plan, the PRBEIS, the additional tasks identified by the Wyoming wildlife task group, and the scale(s) the task is to be monitored at.

**Table 1. Summary of Wildlife Monitoring Parameters Identified by the Wildlife PRBIWG Task Force.**

<b>Task</b>	<b>Wyoming</b>				<b>Montana</b>	
	<b>Project</b>	<b>Basin</b>	<b>Responsible Party</b>	<b>Cost Estimate</b>	<b>Project</b>	<b>Basin</b>
EIS required						
Sage grouse breeding	X	3 yrs	WGFD	\$30,000	X	5 yrs
Sagebrush change	X	2 yrs (change detection)	BLM USDAFS	\$7,500		
Noxious weeds	X	5 yrs	BLM USDAFS			
Raptors	X	5 yrs	BLM USDAFS WGFD	\$50,000	X	
Bald eagle mortality	X	Continuous	BLM USDAFS	None		
Bald eagle winter roosting	X	10 yrs	BLM USDAFS	\$10,000	X	
Bald eagle nesting	X	5 yrs	BLM USDAFS WGFD	Included raptor nesting	X	
Bald eagle productivity	X	Annual	BLM USDAFS WGFD	Included raptor nesting	X	

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Bald eagle habitat change	X	2 yrs (change detection)	BLM USDAFS	Habitat Change		
Roadside carcass monitoring	X	Continuous	BLM	None		
Prairie dog colonies	X	10 yrs	BLM USDAFS WGFD	\$50,000	X	
Prairie dog colony change (veg. or habitat type change)	X	2 yrs (change detection)	BLM USDAFS			
Mountain plover nesting	X	5 yrs (control)	BLM USDAFS			
Mountain plover habitat change	X	2 yrs (change detection)	BLM USDAFS	Habitat Change X		
Mountain plover habitat reclamation		2 yrs (change detection)	BLM USDAFS			
Ute ladies' -tresses habitat	X	Baseline needed	BLM USDAFS			
Ute ladies' -tresses habitat change	X	2 yrs (change detection)	BLM USDAFS	Habitat Change		

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Ute ladies' -tresses habitat reclamation	X	Continuous	BLM USDAFS			
Additional						
Landcover change detection		2 yrs	BLM USDAFS	Habitat Change		
Big game winter range use		As available	WGFD		When applicable	
Sage grouse winter use	X		WGFD BLM USDAFS			
Change detection Roads Wells Powerlines Pipelines	X	2 yrs	BLM USDAFS	Habitat Change		

The authorizing agencies (BLM and USDAFS) are responsible for monitoring at the project level; the responsibility is frequently extended to the operators. Monitoring begins during project planning as a component of the permitting process. Project proponents are encouraged to minimally perform a habitat assessment, and preferably occupancy surveys, and discuss their project with an agency biologist prior to submitting their Applications for Permit to Drill (APD), to ensure projects are designed with minimal impact to wildlife. Project areas are monitored annually during project planning and construction phases. If occupied habitat is identified, monitoring continues for at least five years into project implementation.

The Responsible Party column identifies the agencies responsible for monitoring at the basin scale. The BLM and USDAFS committed to monitoring these items during their Section 7 Endangered Species Act consultation with the U.S. Fish and Wildlife Service. The Wyoming Game and Fish Department (WGFD) has been actively involved with monitoring the items where they are identified at the PRB and/or state-wide scale. WGFD maintains sage grouse observation and lek databases, a raptor nest database, and big game seasonal range maps; WGFD shares data with BLM and USDAFS as data is updated. BLM and USDAFS share data with the WGFD to maintain and update the WGFD databases. Habitat change and reclamation is responsibility of authorizing agencies (BLM and USDAFS).

The Cost Estimate column indicates the estimated cost for monitoring the item at the basin scale. Cost estimates are not included at the project scale as the costs are associated with project analysis and processing, monitoring responsibility at the project scale is frequently extended to the project proponent. Cost estimates are not included for each habitat change item as these items are expected to be included in one monitoring effort, habitat change monitoring was estimated in the sagebrush change item.

Monitoring methodology for most items identified at the project scale are included in Appendix 1, entitled "Wildlife Survey Protocol for Coalbed Natural Gas Development in the Buffalo Field Office." Project scale monitoring is conducted "on the ground" wherever possible, aerial monitoring is authorized for some monitoring items under special circumstances. Basin scale monitoring is conducted during the same time periods as project scale monitoring, but with greater emphasis on remote technologies such as aircraft or remote imagery.

### **Sage Grouse Breeding**

Sage grouse breeding monitoring seeks to identify breeding sites (leks) and count male attendance to enable population estimations. Project scale monitoring shall occur for any project with sagebrush habitat. Authorizing agencies (BLM and USDAFS) are responsible for project scale monitoring and frequently extend the responsibility to project proponents. At the basin scale, the WGFD seeks to monitor sage grouse breeding sites on a three year rotation, to ensure coverage throughout sage grouse population cycles, which average ten years. The BLM and USDAFS assist the WGFD monitoring effort both financially (BLM \$7,500 annually) and with personnel.

### **Sagebrush change**

The sagebrush habitat removed within individual projects shall be calculated during project analysis. Many items, including sagebrush change, at the Basin scale are included in the habitat change category and shall be monitored through processing and interpreting satellite imagery. Items included under habitat change are as follows: sagebrush change, bald eagle habitat change, mountain plover habitat change, Ute ladies'-tresses habitat change, landcover change detection, and change detection. The BLM, WGFD, and U.S. Geological Survey cooperated in 2003 to analyze landcover change within the PRB between 1993 and 2003. The project cost approximately \$5,000 (\$2,000 for two Landsat VII scenes, and \$3,000 for image processing). This project identified changes in landcover but did not seek to uncover specific causes, i.e. roads, pipelines, wells, etc. The proposed monitoring shall seek to identify the change agents; therefore the cost estimate was increased for additional image analysis work.

### **Raptors**

Project areas are routinely inventoried for raptor nesting activity as part of the project planning. Occupied nest sites are monitored for productivity annually during the planning and construction phases, and minimally for the first five years following construction completion. Monitoring methodology is included in Appendix 1.

The BLM, USDAFS, and WGFD have been cooperatively monitoring raptor nesting activity at the PRB scale since the late 1998. The WGFD nongame division maintains a database of raptor nesting activity. Raptor nest sites are monitored annually on the Thunder Basin National Grasslands, the remainder of the Basin shall be monitored on a five year cycle. With the cooperative monitoring, BLM and USDAFS have provided funding (approximately \$10,000 annually) and the WGFD has provided personnel.

Power line electrocutions have been a long term concern within the Powder River Basin. Power lines shall be continuously inspected while in the field, and all new power lines constructed to the Avian Power Line Interaction Committee standards (APLIC 1996) and additional specifications identified by the USFWS within the PRB Biological Opinion. Twenty-two raptors including 16 golden eagles were electrocuted within Wyoming's Powder River Basin in 2003; 12 electrocutions were on recently constructed lines which did not fully meet APLIC standards (USFWS).

### **Bald eagle**

Bald eagle nesting and productivity monitoring shall be conducted as a component of the raptor nesting and productivity monitoring. Responsibility to report bald eagle mortalities is a condition included with every project authorization; project proponents are required to report mortalities to the USFWS and the authorizing agency.

Bald eagle habitat change shall be monitored at the project and Basin scales. Nesting and roosting habitat loss shall be during the project analysis. Basin scale monitoring shall occur as a component of the habitat change monitoring, focusing on loss of cottonwood and conifer forest loss.

### **Roadside carcasses**

The BLM records roadside carcasses associated with oil and gas project roads while conducting routine field work. A relational database enables reporting at the project and basin levels.

### **Prairie dog colonies**

Project proponents are required to map prairie dog colonies within their project areas. The BLM and WGFD have cooperated in mapping black-tailed prairie dog colonies across the black-tails Wyoming range. This mapping effort should be completed soon. The project involves mapping prairie dog colonies from color-infrared aerial photography and ground verification on a sample set. The range-wide mapping effort should be repeated on a ten year cycle if suitable imagery is available. Imagery used for the current effort came from a state-wide image library which cost \$1.1 million. The \$50,000 cost estimate is for image analysis (colony mapping) and limited field verification. If feasible, prairie dog colony change shall be monitored as a component of the habitat change monitoring; otherwise it shall be a component of the ten year colony mapping.

### **Mountain plover**

Project areas containing suitable plover nesting habitat are inventoried for mountain plover nesting activity. Occupied nest sites are monitored for productivity annually during the planning and construction phases, and minimally for the first five years following construction completion. Monitoring methodology is included in Appendix 1.

Mountain plover nesting habitat shall be estimated at the Basin scale with a predictive habitat model. Based on the project inventories and additional field work the model shall be refined over the next five years. Mountain plover habitat change and habitat reclamation are components of the habitat change monitoring.

### **Ute ladies'-tresses orchid**

Project areas containing suitable ladies'-tresses habitat are inventoried. Documented populations shall be monitored annually during the planning and construction phases, and minimally for the first five years following construction completion. Monitoring methodology is included in Appendix 1. The Wyoming Natural Diversity Database (WYNDD) has developed a predictive habitat model; however the model is based on a limited sample size, the four known Wyoming orchid populations. Additional survey work is necessary across the PRB to refine WYNDD's model. Ute ladies'-tresses habitat change, soil moisture, shall be monitored as a component of the habitat change modeling.

### **Landcover change**

Detecting changes in landcover is the strength of image processing and the habitat change monitoring. With the increased availability and reliability of satellite imagery landcover change should be monitored for the PRB every two years.

### **Big game winter range**

The WGFD routinely monitors winter big game distribution. Winter range use data can be combined with CBNG project maps maintained by the BLM and USDAFS and satellite imagery to evaluate CBNG-big game relationships.

### **Sage grouse winter use**

The WGFD has developed a predictive habitat model and has been field validating the model. Through additional field work the model shall be refined over the next five years.

### **Change detection**

As a component of the two year habitat change modeling, an effort shall be made to identify the causative agents – roads, wells, pipe lines, power lines, etc.

### **Research**

- Ongoing
  - BLM:** Sage grouse - 1. survival/demographics, 2. seasonal habitat use/suitability, 3. West Nile virus

**TBNG:** sylvatic plague monitoring

Black-tailed prairie dog

Burrowing owl

Mountain plover?

Ferruginous hawk – International study

Bats – TBNG, WGFD

Herpetology

- Needs
  - Mountain plover habitat use within CBM and effective protection measures.
  - Social/economic impacts such as recreational use on wildlife habitat
  - Bald eagle food/foraging habits – nesting and wintering.
  - Raptor habitat use within CBM
  - Big game habitat use within CBM

### **Triggers for Additional Action**

Triggers indicate when additional measures may be necessary to adequately protect wildlife resources. The Wyoming Greater Sage Grouse Conservation Plan has identified a ten percent population decrease over a ten year period or a ten percent population decrease over three consecutive years as triggers for implementation of management practices. (Olin to look at sage grouse trend data within EIS area – compare EIS area to WGFD Sheridan Region) A ten percent reduction in either population or habitat is a reasonable trigger for evaluation of protection measures for all species. If a trigger is reached, protection measures shall be evaluated and modified if determined necessary.

Endangered Species Act consultation has identified additional triggers for the bald eagle and mountain plover; the action agencies are required to reinitiate consultation when 50% of the allowed take is reached. For bald eagles these triggers would include two eagle

mortalities associated with power lines or vehicle collisions, or one winter roosting area. The FWS anticipates up to two mountain plovers per year could be taken as a result of vehicle collision; if this level of take is reached in any year, then additional protection measures shall be evaluated. The FWS has estimated that up to 3% (6,720 acres) of the potentially occupied mountain plover habitat (224,000 acres) within the PRB could be taken as a result of CBNG activities; the trigger to evaluate mountain plover protection measures would be a loss of 1.5% (3,360 acres) of the occupied habitat. Even though mountain plovers are no longer being considered for ESA listing, they are still a rare species and the identified triggers make biological sense.