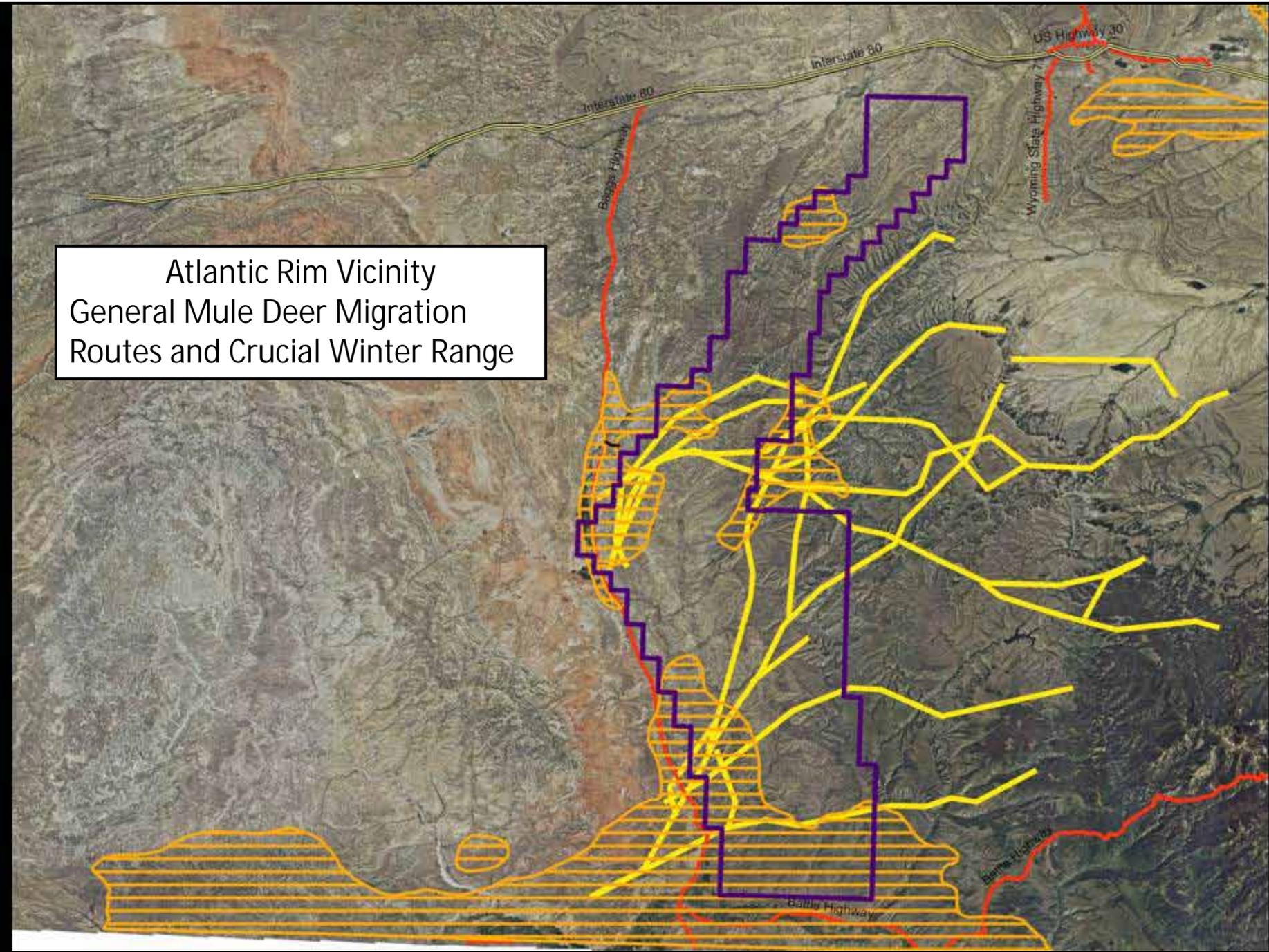


Atlantic Rim Natural Gas Development Project Summer 2010

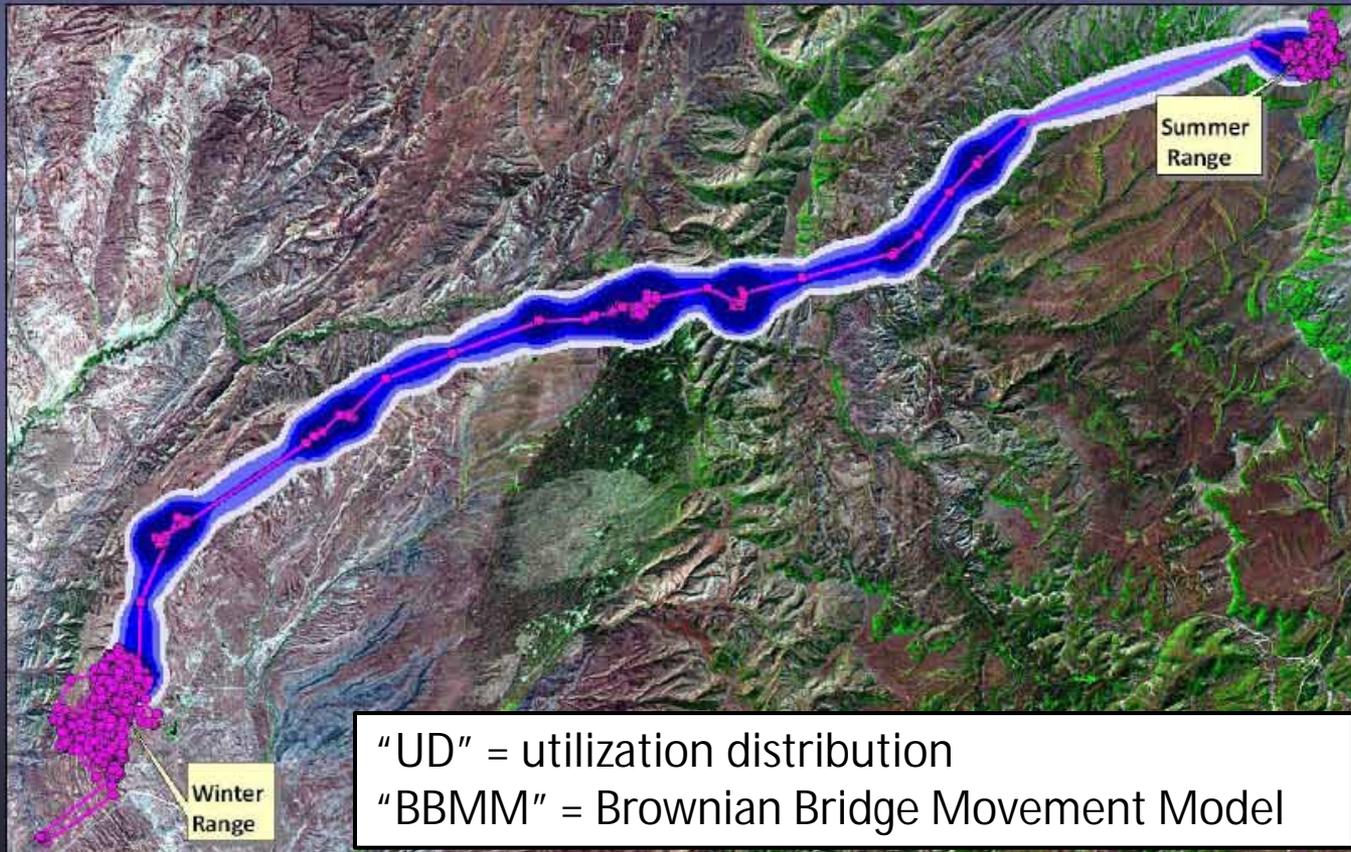
Item	Performance Goal	Group Assigned
Migration Routes	maintain functional migration routes through or around development areas	Mule Deer Monitoring Group,
Big Game Crucial Winter Range	provide an adequate amount of suitable, undisturbed crucial winter range for big game animals	
Sage and Sharp-Tailed Grouse	provide well-dispersed sage-grouse breeding, nesting, brood rearing, and winter habitat	Sage Grouse Monitoring Group
Shrub-Dependent Song Birds	assure occupied habitat for shrub-dependent song birds is well distributed throughout the project area	Song Bird Monitoring Group

Atlantic Rim Vicinity
General Mule Deer Migration
Routes and Crucial Winter Range



METHODS (Objective #1: Identify population-level migration)

- Used the BBMM to estimate a UD for each migration route
- UDs from each winter range were combined to estimate a “population-level” migration route for each winter range

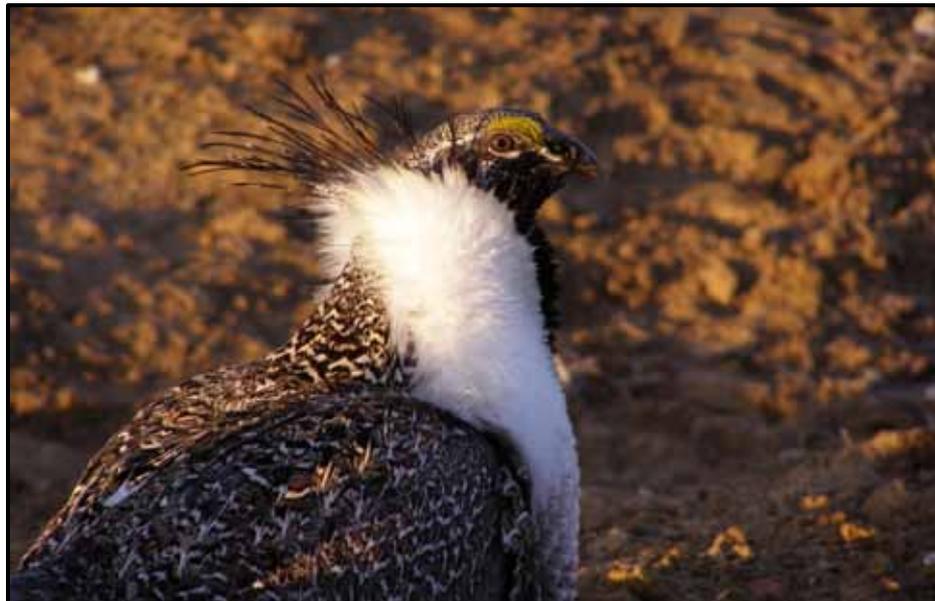


Atlantic Rim Greater Sage-Grouse Monitoring and Performance Goal Attainment

Item	Performance Goal	Group Assigned
Sage and Sharp-Tailed Grouse	provide well-dispersed sage-grouse breeding, nesting, brood rearing, and winter habitat	Sage Grouse Monitoring Group

We have conducted numerous studies for sage grouse including:

- Wintering concentration habitat mapping
- On-going sage grouse tracking flights (year round)
- Raven predation study
- Working on a population trend monitoring process with USGS
- Annual sage-grouse lek monitoring and counts (BLM / WyG&F / APC)



Winter Concentration Habitat Mapping Study Objectives

1. Generate winter probability-of-occurrence maps across the Atlantic Rim based on data collected in winter 2007–2010
2. Identify source winter habitats through seasonal risk-assessment modeling (i.e., determine which habitats identified as having a high probability-of-occurrence also have high probabilities of adult female survival during winter)
3. Generate maps depicting areas of winter conservation concern across the Atlantic Rim based on winter occurrence of grouse and risk of adult female survival



“Avian Predator Densities associated with Sage Grouse Nests in SW Wyoming”

Jonathon Dinkins, et. al.

Study Highlights

- Point Counts and Line-transects
- Predation risk (Marzluff 2007)
 - Comparison of nests to random sites
 - Comparison of successful to unsuccessful nests
- Early and late sage-grouse nesting season



“IDENTIFYING HABITATS FOR GREATER SAGE-GROUSE POPULATION PERSISTENCE IN A DEVELOPING COALBED METHANE FIELD IN SOUTH-CENTRAL WYOMING”

CHRIS KIROL, ET AL

- 1. Generate probability-of-occurrence maps specific to the reproductive period of female sage-grouse**
- 2. Quantify habitat value as related to reproduction and survival through risk-assessment modeling**
- 3. Combine these models to identify critical and/or limiting reproductive habitats across the project area (i.e., sink and source habitats)**



Mule Deer Inventory & Monitoring

- *Mule Deer Collaring Study:*
- 2006-2007 (Phase I) – Final report completed
- 2008-2010 (Phase II) – Final report due Summer of 2011
- 2011 (Migration Corridors Vegetation Analysis) – Final report completed 2011
- 2010 / 2011 - Prioritizing fences for modification
- 2010 - Defined terms from performance goals
- 2010 - Developed triggers for adaptive management for performance goals

Sage Grouse Inventory & Monitoring

- Sage Grouse Collaring Study:
- 2007 - Collaring Study – track and monitor sage grouse locations – aerial
- 2008 - Collaring Study – identify important nesting and brood rearing habitat – air and ground
- 2009 - Collaring Study – identify important nesting and brood rearing habitat – air and ground
- 2008 - Predation Study (ongoing study with University of Utah)
- 2010 - Trend monitoring proposal with USGS (pending funding)
- 2010 - Defined terms & identified triggers for performance goals

Shrub dependent Song Birds Inventory

- Song Birds
- 2008 - Shrub dependent song bird survey & report (Breeding Bird Survey (BBS))
- 2009 - (BBS)
- 2010 - (BBS)
- 2010 - Shrub dependent song bird survey & report (GRID monitoring)
- 2010 - Defined terms & identified triggers for performance goals
- 2011 - Review and compare results from BBS and GRID monitoring – not completed yet



Record of Decision

Monitoring, Reporting, and Adaptive Management

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- “As noted above in Monitoring, Reporting, and Adaptive Management, Operators are responsible for demonstrating successful achievement of Performance Goals”

- “The Review Team, the BLM, or both, will identify the level of effort required for performance-based monitoring and develop associated monitoring plans”

The End

