Past and Current Research on Natural Resource Issues in the Blue Mountains

- Recreation, Hunting, Access
- Livestock Production (and Wild Ungulate Ecology)
- Restoration
- Timber Harvest, Production
- Biodiversity, T&E Species

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Past and Current Research on Natural Resource Issues in the Blue Mountains

- **Wildland Disturbances**
- **Climate Change**
- **Community Sustainability**

Starkey Experimental Forest and Range

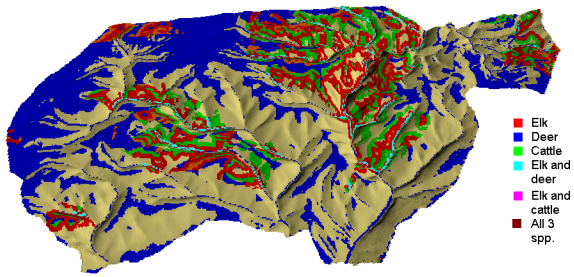
- **Past Studies**
  - **Silviculture and Timber Management**
  - **Fire and Fuels**
  - **Livestock Grazing**
  - **Wild Ungulate Herbivory**
  - **Hunting**
  - **Other Recreation**
  - **Roads and Traffic**
  - **Insect Pests**
  - **Vegetation Dynamics**
  - **Non-native Plants**

Recreation, Hunting, Access Research

- Deer and Elk Hunting
- Roads and Traffic
- Off-Road Recreation
- Hunter Surveys
- Other Recreation Surveys

Livestock, Wild Ungulate Research

- Beef Cattle Production
- Wild-Domestic Ungulate Herbivory Effects
- Wild-Domestic Ungulate Interactions, Competition
- Cattle Grazing, Elk Herbivory, and Riparian Recovery
- Elk and Cattle Nutrition and Habitat Modeling
- Cougar, Bear, Wolf Predation
- Optimization Models for Allotment Management Plans



Restoration Research

- Riparian restoration
  - Meadow Creek, Catherine Creek, Middle Fork John Day River, Camp Creek
- Rangeland restoration
  - Invasive Species (Juniper, Cheatgrass)
  - Rehabilitation following wildfire
- Forest restoration
  - Fuels reduction
  - Thinning
  - Fire Modeling

Timber Harvest and Production Research

- Intensive Timber Harvest Effects on Ungulates
- Timber Harvest Effects on Vertebrate Spp. of Concern
- Elk-Thermal Cover Relationships
- Limber Jim Multi-Resource Effects
- Silvicultural Prescriptions and Timber Yield
- Timber Yield and Optimization Models

Biodiversity, T&E Species Research

- Wildlife Habitat Relationships Syntheses and Models
- Interior Columbia Basin Science Assessments
- Salmon and Steelhead Recovery
- Terrestrial Vertebrate Species of Conservation Concern
  - White-headed woodpecker
  - Black-backed woodpecker
  - White-breasted nuthatch
  - Western bluebird
  - Marten

Long-Term Data Sets for Research

- Climate
- Vegetation
- Insect Pests
- Coldwater Fish
- Ungulates

Long-Term Data Example

- **Starkey Project: one of the largest, most comprehensive data set on ungulates ever collected**
  - **25 years of ungulate telemetry data**
  - **25 years of associated spatial data**
  - **25 years of hunting season data**
  - **25 years of animal condition data**
  - **25 years of climate data**

Long-Term Data Sets for Research

- **Less time is often required to analyze existing data to gain new knowledge than on new research to collect new data.**
- **Syntheses of existing data are often tedious and time-consuming and don't involve the glamour of field work.**
- **Funding sources often willing to pay for new research rather than fund analyses of current data in new ways.**

Experimental Design Rigor

- **Manipulative landscape experiments with clean treatments and controls, with results that are scalable.**
- **Adaptive management experiments designed and implemented as research-management partnerships.**
- **Diverse science and management partners**

Some Example Knowledge Gaps

- **Silvicultural effects on fish and wildlife**
- **Integrated effects of multiple, interacting wildland disturbances on fuel loading, fire risk and insect pest outbreaks**
- **Riparian restoration effectiveness for salmonid recovery and interacting effects of wild vs. domestic ungulate herbivory**

Some Example Knowledge Gaps

- **Climate change effects on beef cattle production and deer and elk productivity**
- **Silviculture optimization models for meeting multi-resource forest objectives across time and space**
- **Testing new social science methods for effective use of research findings to help address controversial natural resource decisions (e.g., travel management)**

Around-the-Room Thoughts on Research Needs