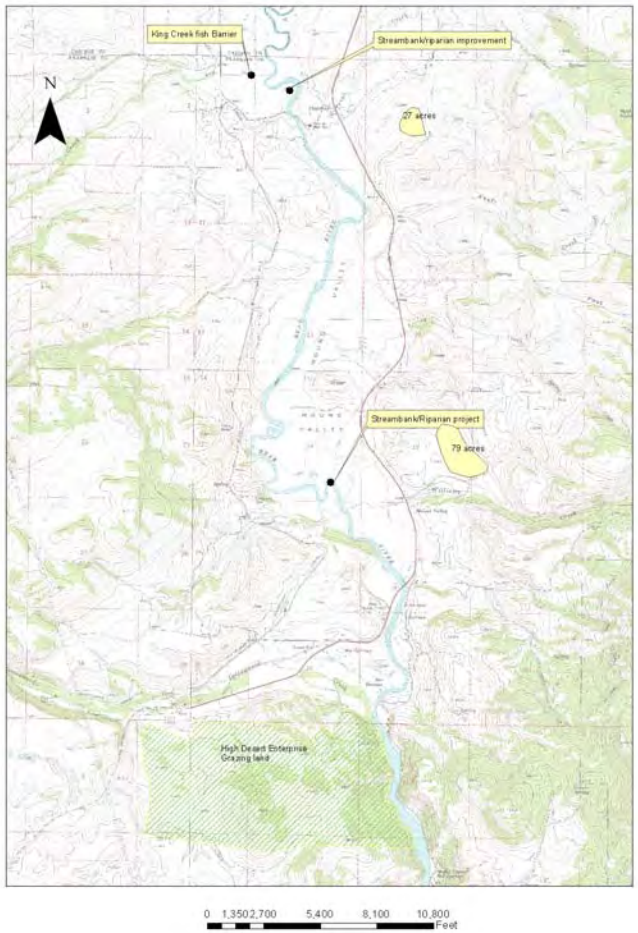
# Middle Bear River
# Mound Valley

319 grant:FY 2009 POC1100190

Application date: May 8, 2009

# PROJECT AREA

Middle Bear River-Mound Valley

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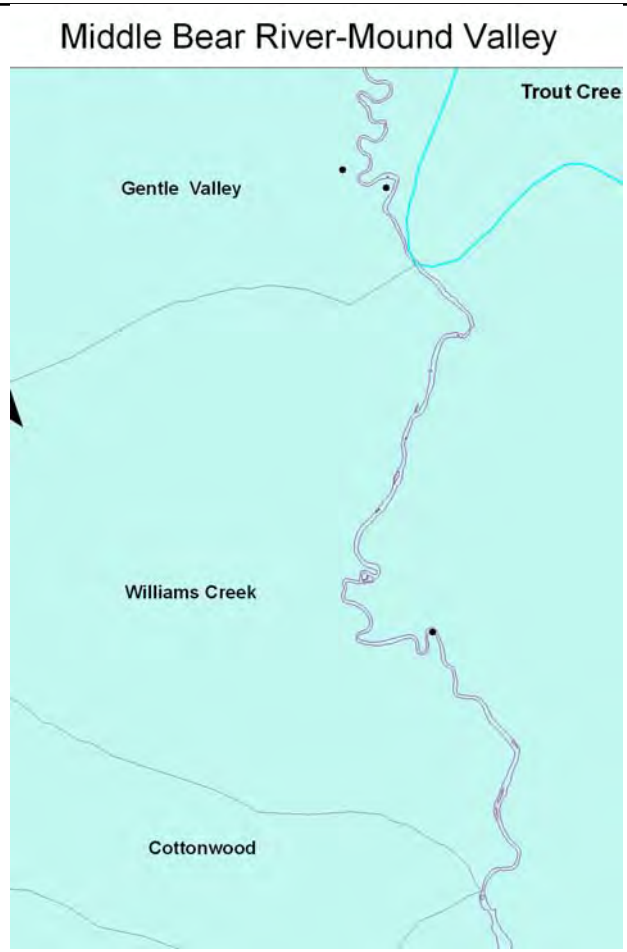
# Sub Watershed

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# POLLUTANTS

- Bear River—Flow alteration, nutrients, sediment(303-d list)
- Cottonwood Creek—Sediment(303-d list)
- Williams Creek—Nutrients, Sediment (303-d list)
- Trout Creek—Source of Phosphorus (TMDL 2005)

# BENEFICIAL USES

- Bear River (Alexander to Oneida reservoir)—Agricultural water supply, Salmonid Spawning, Cold Water aquatic life, Primary contact recreation.
- Cottonwood Creek—coldwater aquatic life
- Williams Creek—Coldwater aquatic life.

# DEGRADATION FORMS

- Reduction in the amount and diversity of aquatic life
- Reduction in the base flow contribution from groundwater
- Increase in water temperature
- Increase in bed and bank erosion
- Changes in the distribution and character of sediment with local increases in deposition
- Increases in nutrient loading
- Changes in channel geometry towards straightening, gradient steepening, and channelization

# ECOSYSTEM APPROACH

- This approach is defined as “a method for sustaining or restoring natural systems and their functions and values.”

- “It is goal driven and based on a collaboratively developed vision of desired future ecosystem conditions that integrates ecological, economic, and social factors”

# Ecosystem approach goal

- Restore and sustain the health productivity and biological diversity of ecosystem while supporting sustainable economies and communities.

# Mound Valley Project's key components using the ecosystem approach

- A partnership of private interest with federal, state, and local representatives and organizations
- Common set of goals refined into measurable objectives and used as a basis for developing restoration and management alternatives.
- Attempt to integrate management of human and natural resources
- Uses science to set goals and measure progress by monitoring using adaptive management
- Utilizes cooperative programs to leverage resources
- Demonstrates effort to inform and engage youth and volunteers in the restoration endeavors.

# OVERALL PROJECT GOAL

A Watershed-Wide Cooperative Effort to Restore, Enhance and Preserve the Bear River Watershed.

# OBJECTIVES

- Improve the Water Quality of Bear River
- Restore rangelands and wildlands for wildlife and domestic animals
- Produce cost effective improvements

# BEST MANAGEMENT PRACTICE

BMP is defined as a inter-related collection of structural measures and management techniques that can be applied to help mitigate non-point source pollution and implement effective stream restoration.

# STREAMBANK BMP

- Channel Stabilization
- Fish Passage

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# RIPARIAN BMP

- Fence
- Filter Strip
- Prescribed Grazing
- Streambank and Shoreline Protection
- Tree/shrub Establishment

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# ADJACENT AGRICULTURAL LANDS BMP

- Critical Area Planting
- Pasture & Hayland Planting
- Field Border
- Fence

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# GRAZING UPLAND BMP

- Fence
- Prescribed Grazing
- Range Planting
- Spring Development
- Tree/Shrub Establishment
- Upland Wildlife Habitat Management

# PLANNING/ACTION PLAN

- Focus on Streambank, Riparian, Adjacent Agricultural lands, and Grazing and Wildlands

# STREAMBANK PROJECTS

Owner-Fox

# STREAMBANK PROJECTS

## Owner-Wheeler

# RIPARIAN/ FISH BARRIER

- King Creek

# TRIBUTARIES

- King
- Cottonwood
- Williams
- Trout

# GRAZING & WILDLANDS

- High Desert Enterprises
- Carl Wheeler Grazing
- Todd Jensen Cattle

# MONITORING PLAN

- Baseline Monitoring
- Effectiveness Monitoring
- Implementation Monitoring
- Project Monitoring

# MONITORING TOOLS

- Photo Monitoring
- Site Selection & Inventory
- Field Reviews
- Quality Assurance Construction Inspection
- Biomass Estimation
- Ground Cover survey
- Riparian Plant Assessment
- Woody Species Regeneration
- Idaho one plan
- Phosphorus Assessment tool

# MONITORING

- We could hire our monitoring but by including the youth in our community we expose them to their life-long responsibility to improve and protect the natural resources.

# LOAD REDUCTION ESTIMATES

| Project | Length | Sediment | Phosphorus |
|---|---|---|---|
| 1-wheeler | 1,000 ft | 163.9 | 1,506.2 |
| 2-fox | 9,000 ft | 15.3 | 140.6 |
| 3-fox-king | 500 ft | 8.5 | 78.1 |
| Unit 1 | 200 ac | 3.0 | 27.57 |
| Unit 3 | 150 ac | 3.9 | 35.8 |
| Rangeland | 2,740 ac | 3.0 | 27.57 |
| Total | | 197.6 | 1,815.84 |

# PROJECT COSTS

| Projects | Landowner Match | 319 | Other | Totals |
|---|---|---|---|---|
| Riparian/ Streambank | 18% | 60% | 22% | $76500 |
| Agricultural | 23% | 60% | 17% | $43000 |
| Rangeland | 33% | 60% | 7% | $60000 |

“The highest level of effort required to remove the phosphorus mass from the Bear River will have to occur in the reaches from Alexander Dam to Oneida Dam to the State Line.”

Multiple tributaries are in this stream segment. Because of the loading from tributaries, which drain mostly agricultural and forest land, best management practices that reduce sedimentation in the adjacent agricultural and uplands will have to be implemented along with practices focused on the main stem if water quality TMDL goals are to be attained.

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