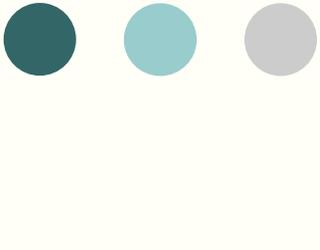


Blackfoot River TMDL

5-Year Review Update

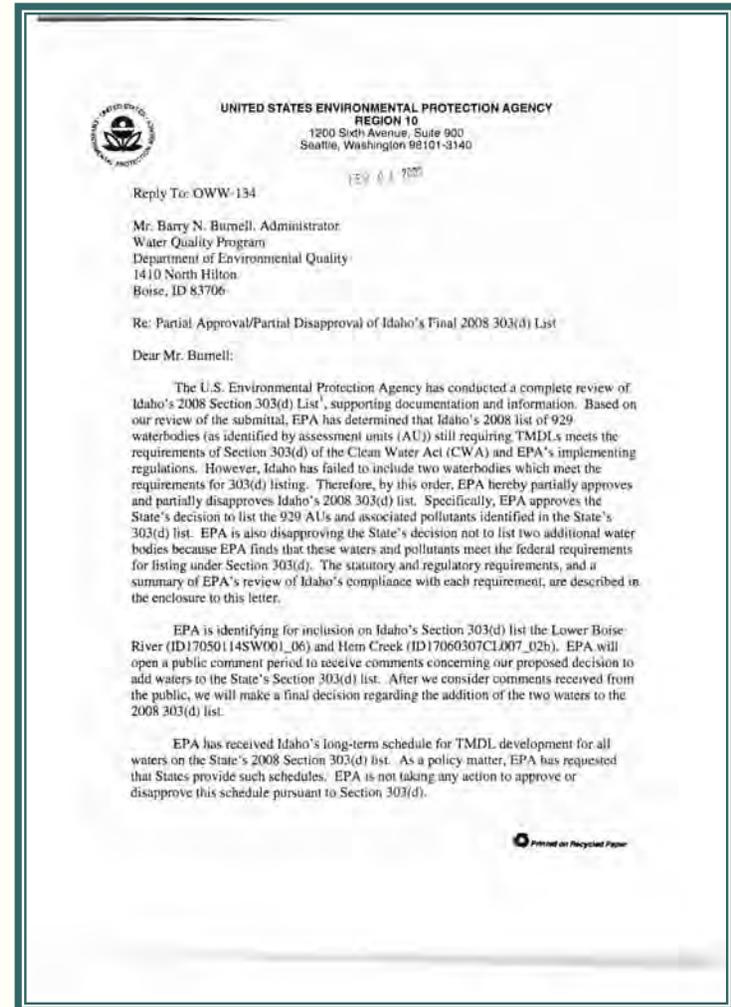


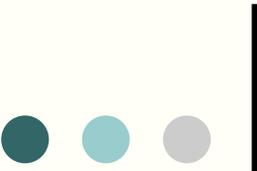
Blackfoot River WAG

April 16, 2009

2008 Integrated Report

○ Approved
February
2009

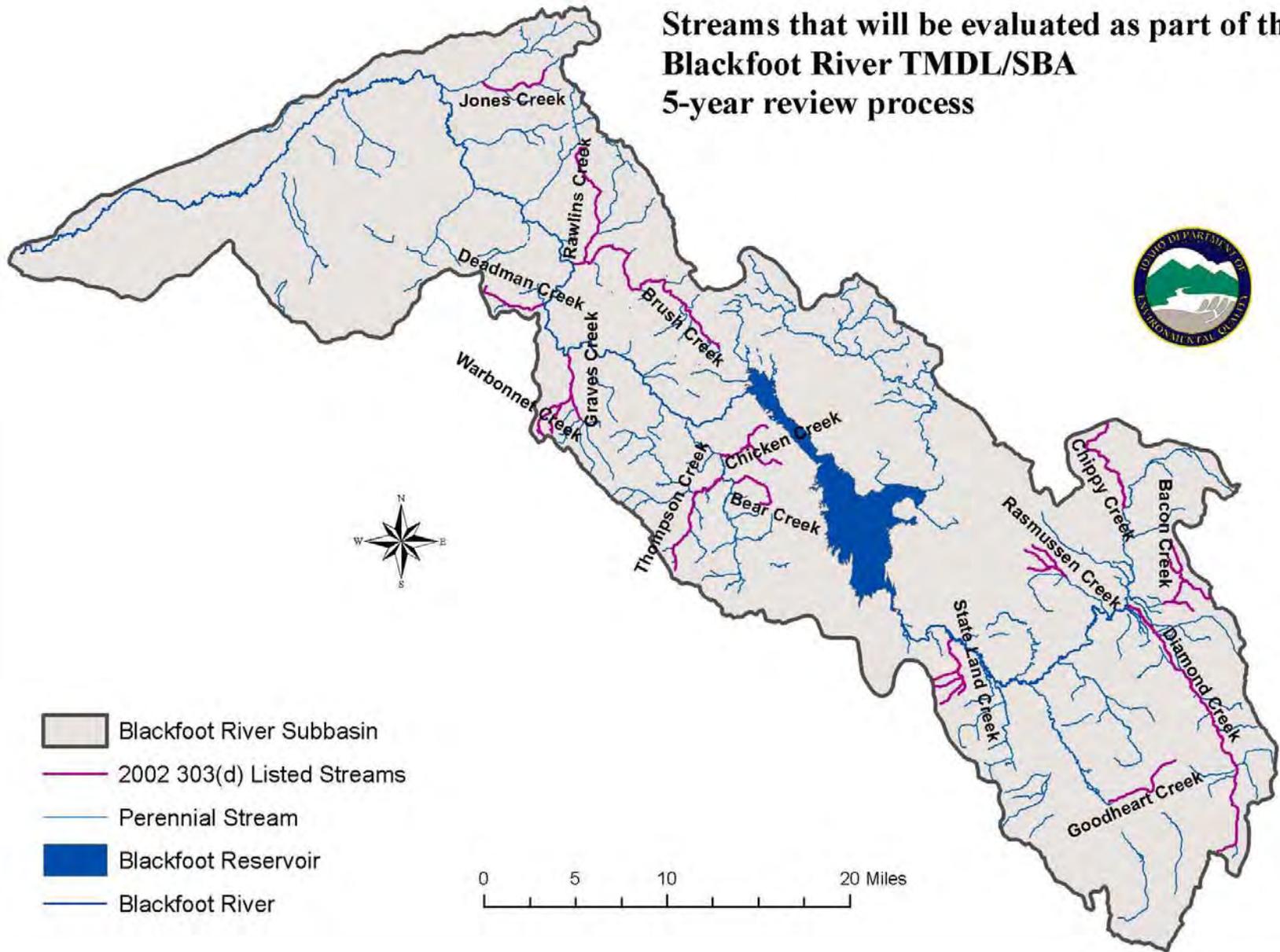


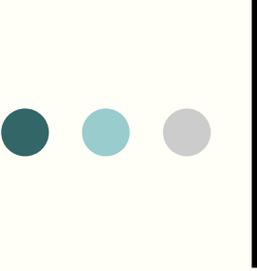


2002 §303(d) Listings

| Waterbody | Segment | 2002 303(d) listed Pollutant(s) ¹ |
|----------------------------------|--|--|
| Bacon Creek ² (upper) | Headwaters to USFS boundary | Sediment |
| Bear Creek | Headwaters to mouth | Sediment |
| Brush Creek | Headwaters to mouth | Bacteria |
| Chicken Creek | Headwaters to mouth | Sediment |
| Chippy Creek (lower) | 3 rd order section to mouth | Sediment |
| Deadman Creek | Headwaters to mouth | Sediment |
| Diamond Creek | Headwaters to mouth | Bacteria |
| Goodheart Creek | Headwaters to mouth | Sediment |
| Grave Creek | Headwaters to mouth | Sediment |
| Jones Creek | Headwaters to mouth | Sediment |
| Rasmussen Creek | HW to Angus Creek | Sediment |
| Rawlins Creek | Headwaters to mouth | Pathogen |
| State Land Creek | Headwaters to mouth | Sediment |
| Thompson Creek | Headwaters to mouth | Sediment |
| Warbonnet Creek | Headwaters to mouth | Sediment |

Streams that will be evaluated as part of the Blackfoot River TMDL/SBA 5-year review process

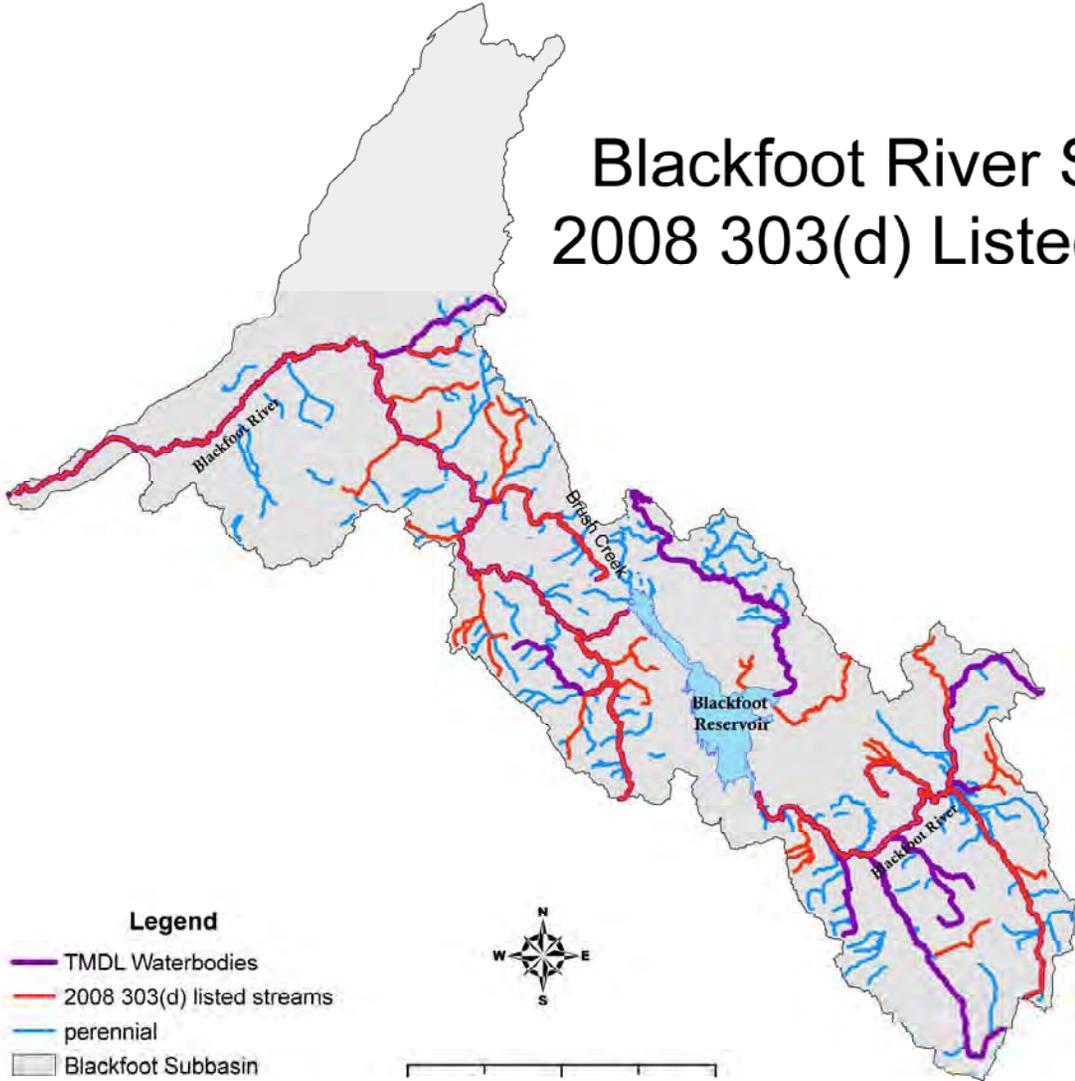




2008 §303(d) Listings

| Waterbody | Segment | 2008 303(d) Listed Pollutants |
|------------------------|-----------------------------------|-------------------------------|
| Angus Creek | Lower | <i>E. coli</i> |
| Blackfoot River | Headwaters to Reservoir | DO, Temperature |
| Cedar Creek | Lower | Sediment |
| Collett Creek | Headwaters to Reservoir | Sediment |
| Corral Creek | Headwaters to mouth | <i>E. coli</i> |
| Coyote Creek | Headwaters to Mouth | Sediment |
| Clarks Cut | Sheep Creek to HUC Boundary | Sediment |
| Little Blackfoot River | Headwaters to Reservoir | Sediment |
| Poison Creek | Headwaters to Blackfoot Reservoir | <i>E. coli</i> , Sediment |
| Rawlins Creek | Headwaters to mouth | Sediment |
| Spring Creek | Headwaters to Mouth | <i>E. coli</i> |
| Warbonnet Creek | Headwaters to mouth | <i>E. Coli</i> |
| Wood Creek | Headwaters to mouth | Sediment |

Blackfoot River Subbasin 2008 303(d) Listed Streams

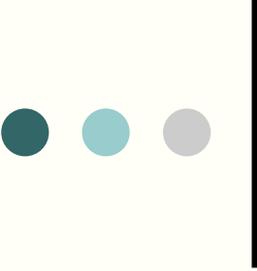


Legend

- TMDL Waterbodies
- 2008 303(d) listed streams
- perennial
- Blackfoot Subbasin



0 5 10 20 Miles



§303(d) Summary

- 2002 303(d) List
 - 12 Sediment
 - 3 Bacteria
- New to 2008 303(d) List
 - 8 Sediment
 - 5 *Bacteria*
 - 1 Temperature
 - 1 Dissolved Oxygen
- Total Listings on 2008 303(d)
 - 20 Sediment
 - 8 Bacteria
 - 1 Temperature
 - 1 Dissolved Oxygen



DEQ Water Quality Data Collected Since 2002

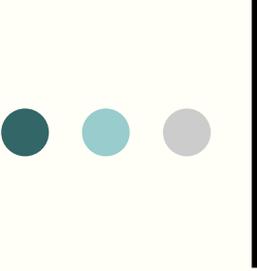
- McNeil Sediment Core Samples
- Streambank Erosion Inventories
- Continuous Water Quality
- BURP
- Bacteria

Subsurface Sediment Sampling



McNeil – Measures sediment impact on spawning gravel





Dept Fine Results

Target
25%



Target
10%



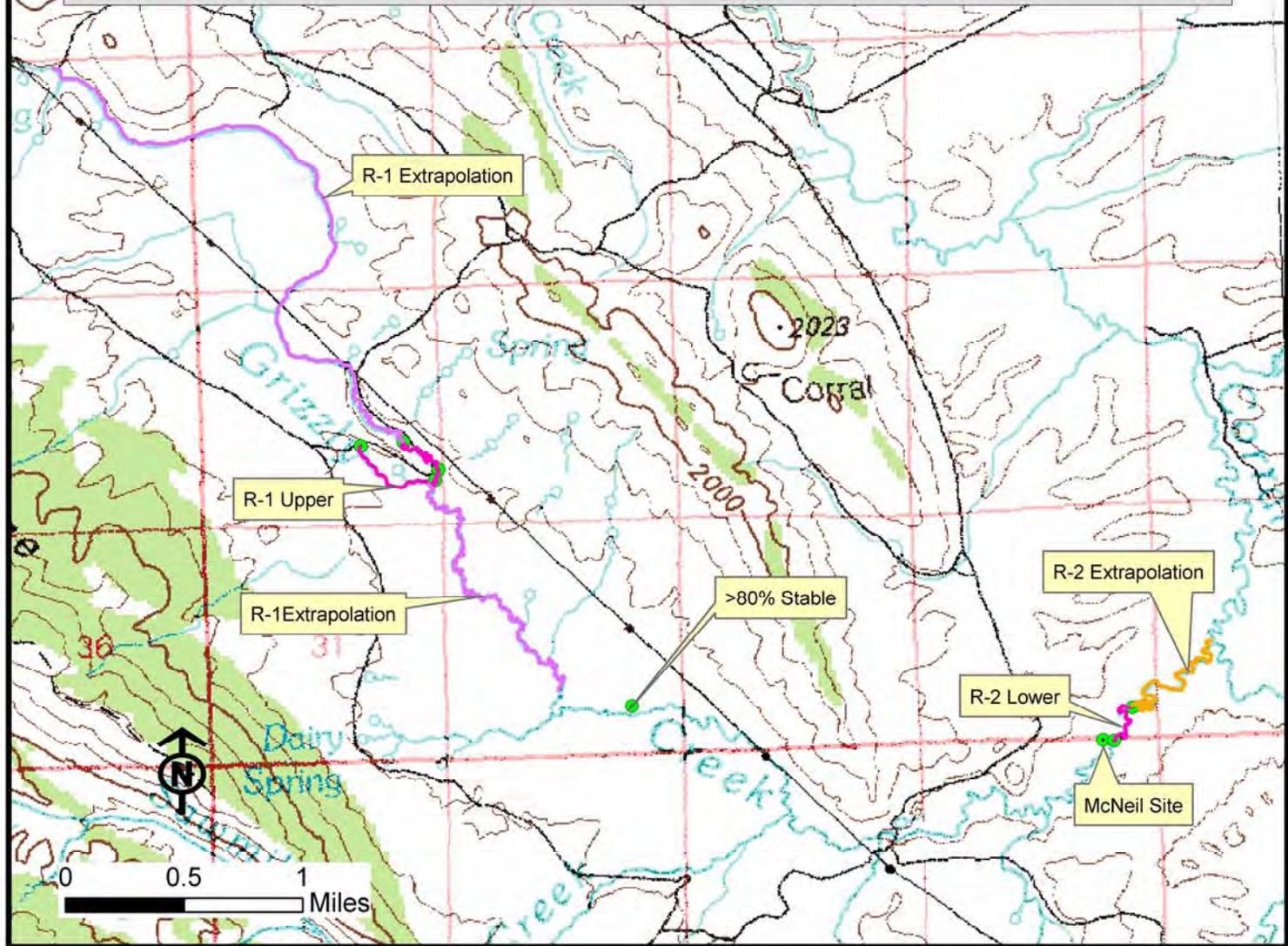
| Stream | Location (DD) | Sample Date | % Fine Material <6.35mm (0.25") | % Fine Material <850µm |
|--------------------------|-----------------------------|-------------|------------------------------------|------------------------|
| Chicken Creek | N 42.95854° W-111.7216° | 8/11/08 | 63.30% | 29.30% |
| Jones Creek | N 42.25016° W-111.9726° | 7/31/08 | 49.68% | 16.58% |
| Grizzly Creek | N 42.93336° W-111.75245° | 8/19/08 | 49.79% | 20.60% |
| Bacon Creek | N 42.82807° W-111.27184° | 8/18/08 | 26.65% | 16.54% |
| Rasmussen Creek Creek | N 42.85749° W-111.38189° | 7/29/08 | 66.71% | 31.63% |
| State Land Creek | NA | 7/30/08 | No suitable Habitat | |
| Thompson Creek | NA | 8/21/08 | No suitable Habitat | |
| Bear Creek | NA | 8/19/08 | No suitable Habitat | |
| Goodheart Creek | NA | 8/26/08 | No suitable Habitat | |
| Graves Creek | NA | 8/14/08 | No suitable Habitat | |

Streambank Erosion Inventories



- Field evaluation of streambank conditions
 - Determine % erosive
 - Estimate erosion rates
 - Calculate loads

Grizzly Creek Streambank Erosion Inventory



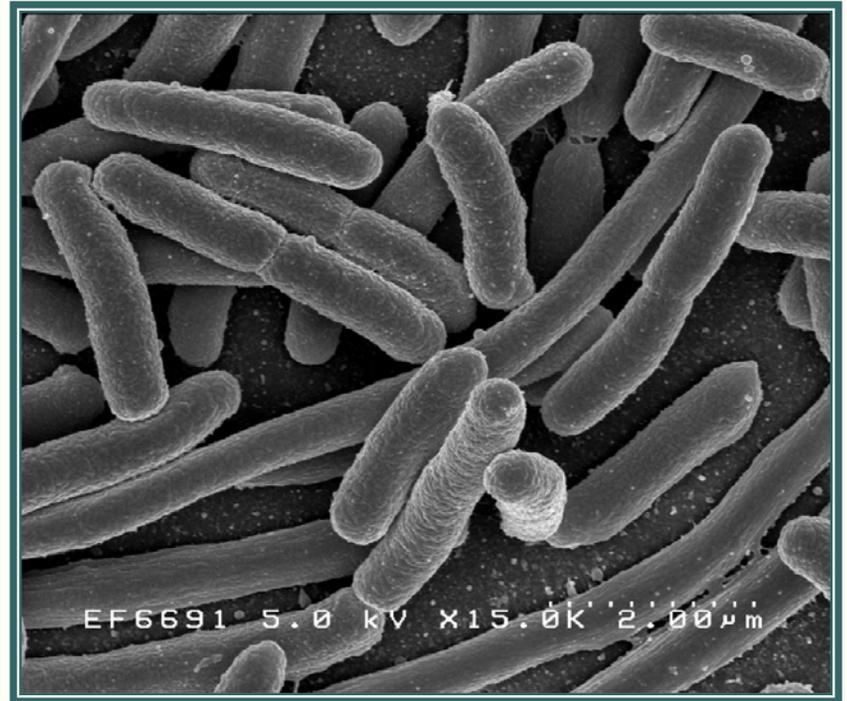
Streambank Stability Results

80% Stability Target

| Stream | Date | Total Inventoried (ft) | Erosive Banks (ft) | % Erosive | Average Erosive Bank Height (ft) | Average Recession Rate (ft/yr) |
|--|---------|------------------------|--------------------|-----------|----------------------------------|--------------------------------|
| Bear Creek | 8/19/08 | 1609 | 1431 | 89 | 2.7 | 0.215 |
| Chicken Creek | 8/11/08 | 1355 | 428 | 32 | 2.2 | 0.04 |
| Chippy Creek | 8/27/08 | 3297 | 1695 | 51 | 3.9 | 0.105 |
| Goodheart Creek – Reach A | 8/26/08 | 1887 | 564 | 30 | 4.2 | 0.075 |
| Goodheart Creek – Reach C | 8/26/08 | 1761 | 771 | 44 | 6.3 | 0.15 |
| Graves Creek | 8/14/08 | 1584 | 588 | 37 | 2.5 | 0.03 |
| Grizzly Creek (upper) – Reach 1 | 8/19/08 | 2931 | 2592 | 88 | 0.8 | 0.15 |
| Grizzly (lower) – Reach 2 | 8/19/08 | 1965 | 1395 | 71 | 3.1 | 0.5 |
| Jones Creek | 7/31/08 | 629 | 525 | 83 | 10.6 | 0.27 |
| Rasmussen Creek – Reach 1 (Upper) | 7/29/08 | 189 | 362 | 52 | 0.9 | 0.03 |
| Rasmussen Creek – Reach 2 (Upper-middle) | 7/29/08 | 1198 | 629 | 53 | 2.1 | 0.045 |
| Rasmussen Creek – Reach 3 (lower) | 7/29/08 | 620 | 606 | 98 | 1 | 0.155 |
| State Land Creek | 7/30/08 | 1638 | 1566 | 96 | 0.6 | 0.09 |
| Thompson Creek | 8/21/08 | 2694 | 2316 | 86 | 2.9 | 0.61 |

Bacteria Results

- 2002-2008
 - 32 streams monitored for *E. coli*
 - 8 exceeded state WQS
 - Angus Creek
 - Corral Creek
 - Diamond Creek
 - Poison Creek
 - Sawmill Creek
 - Spring Creek
 - Thompson Creek
 - Warbonnet Creek



Bacteria Monitoring

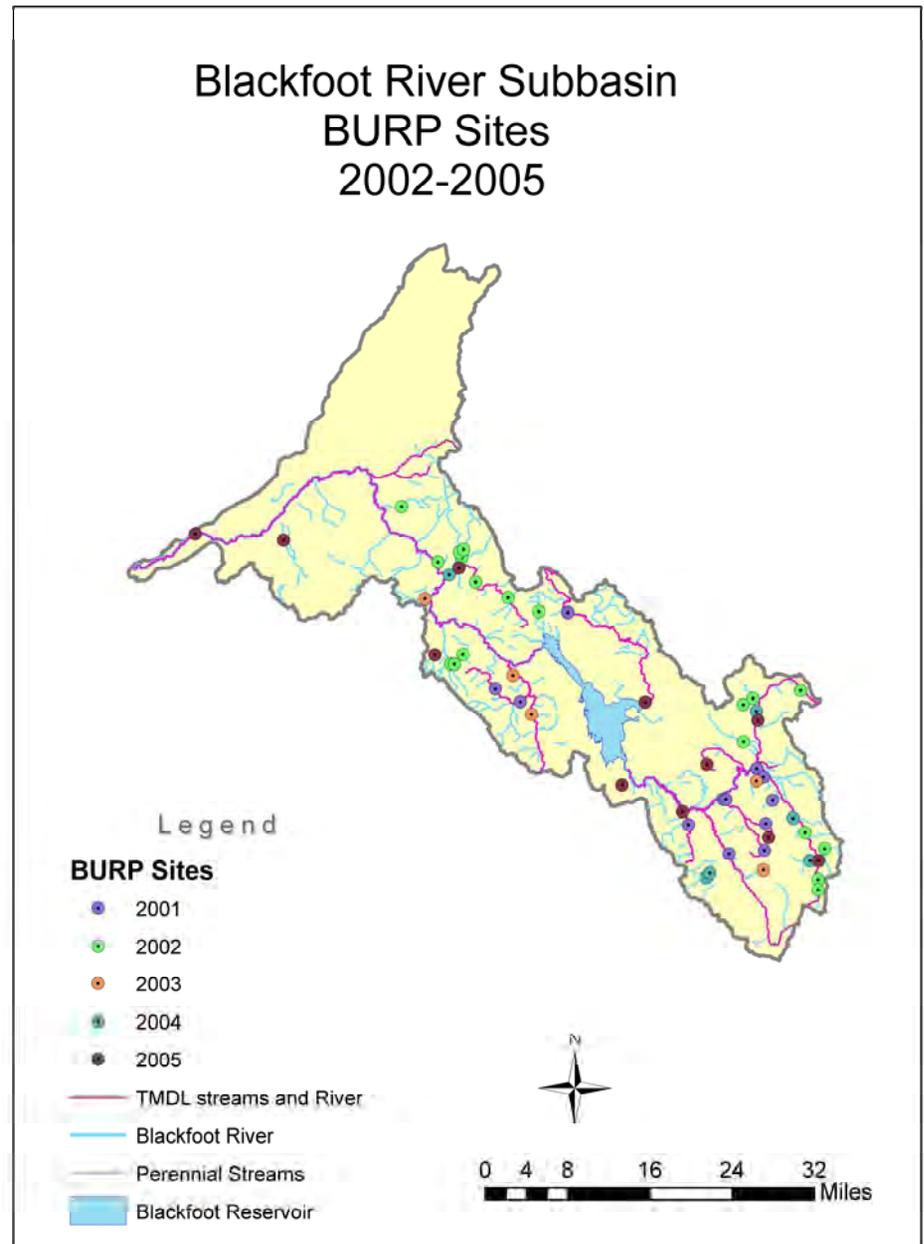
○ Eight Exceedances

- 2002 Listed
 - Diamond Creek
- 2008 Listed
 - Angus Creek
 - Corral Creek
 - Poison Creek
 - Spring Creek
 - Warbonnet Creek
- Not Listed Yet
 - Sawmill Creek
 - Thompson Creek



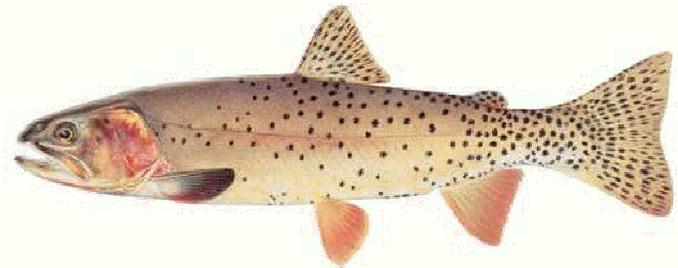
BURP Summary

- Unlisted streams that did not pass
 - Listed for suspected pollutant
 - 2002
 - 2008

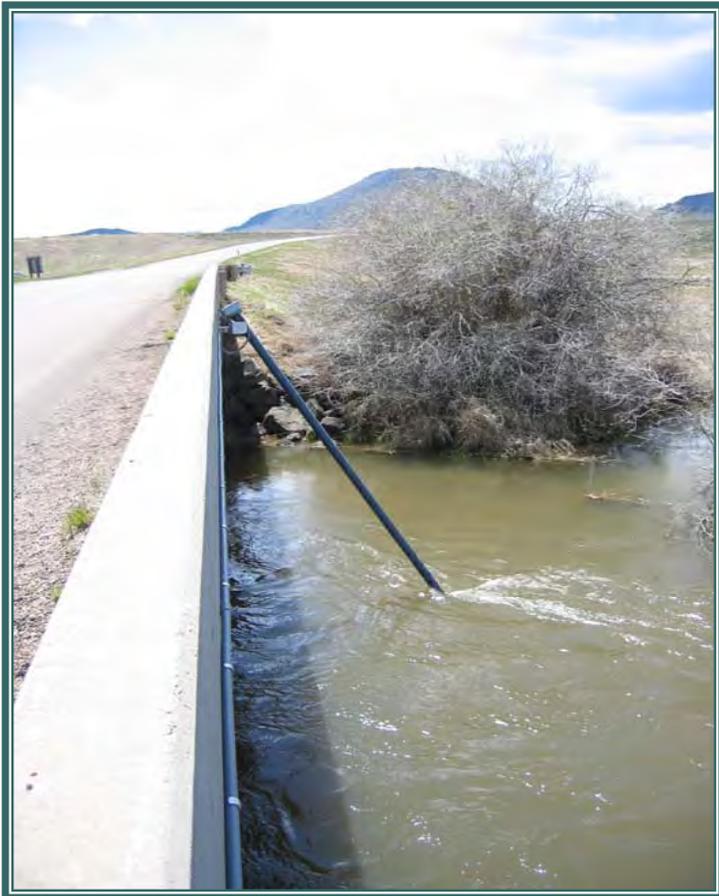


BURP Summary for 5 Year Review

- BURP support status on streams with TMDLs
 - Still not supporting
 - Meadow, Grizzly, Trail, Slug, Dry Valley, Brush, and Corral Creeks
 - Showed supporting
 - Maybe Creek – 2001
 - Sheep Creek – 2002



Continuous Water Quality Monitoring



Planned for 2009 Field Season

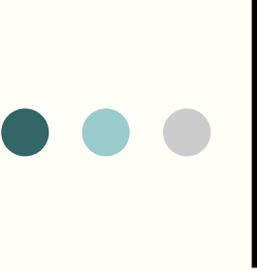
- Streambank Erosion Inventories
 - 2008 Sediment listings
 - Cedar, Colett, Coyote, Clarks Cut, Rawlins, and Wood Creeks, and Little Blackfoot River
- McNeil Sediment Core Samples
 - 2008 Sediment listings
- Vegetation Survey
 - Upper Blackfoot for PNV TMDL



TMDL Recommendations

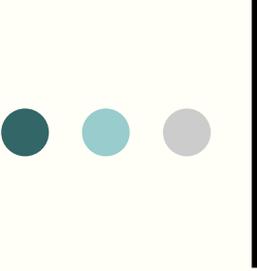
- Write Bacterial TMDLs
 - Listed and unlisted streams
- Write TMDLs for listed streams
 - 2008 Field Data – loads already calculated
 - 2009 Field Data – Will collect
- Re-Evaluate targets for Dry Valley Creek
- Develop water column sediment target for Blackfoot River
- Write DO and Temperature TMDLs for upper Blackfoot River





Implementation Plan

- Who created it?
- What was supposed to happen?
- What is happening so far?
- Results of those activities
- Recommendations for future activities



Implementation Plan Summary

| Designated Management Agency | Resource Responsibility |
|-------------------------------------|---|
| Idaho Soil Conservation Commission | Agriculture |
| Bureau of Land Management | BLM Land |
| Caribou-Targhee National Forest | USFS Land |
| Idaho Department of Lands | State Endowment Lands, Timber Harvest, and mining |
| Idaho Department of Transportation | Roads |

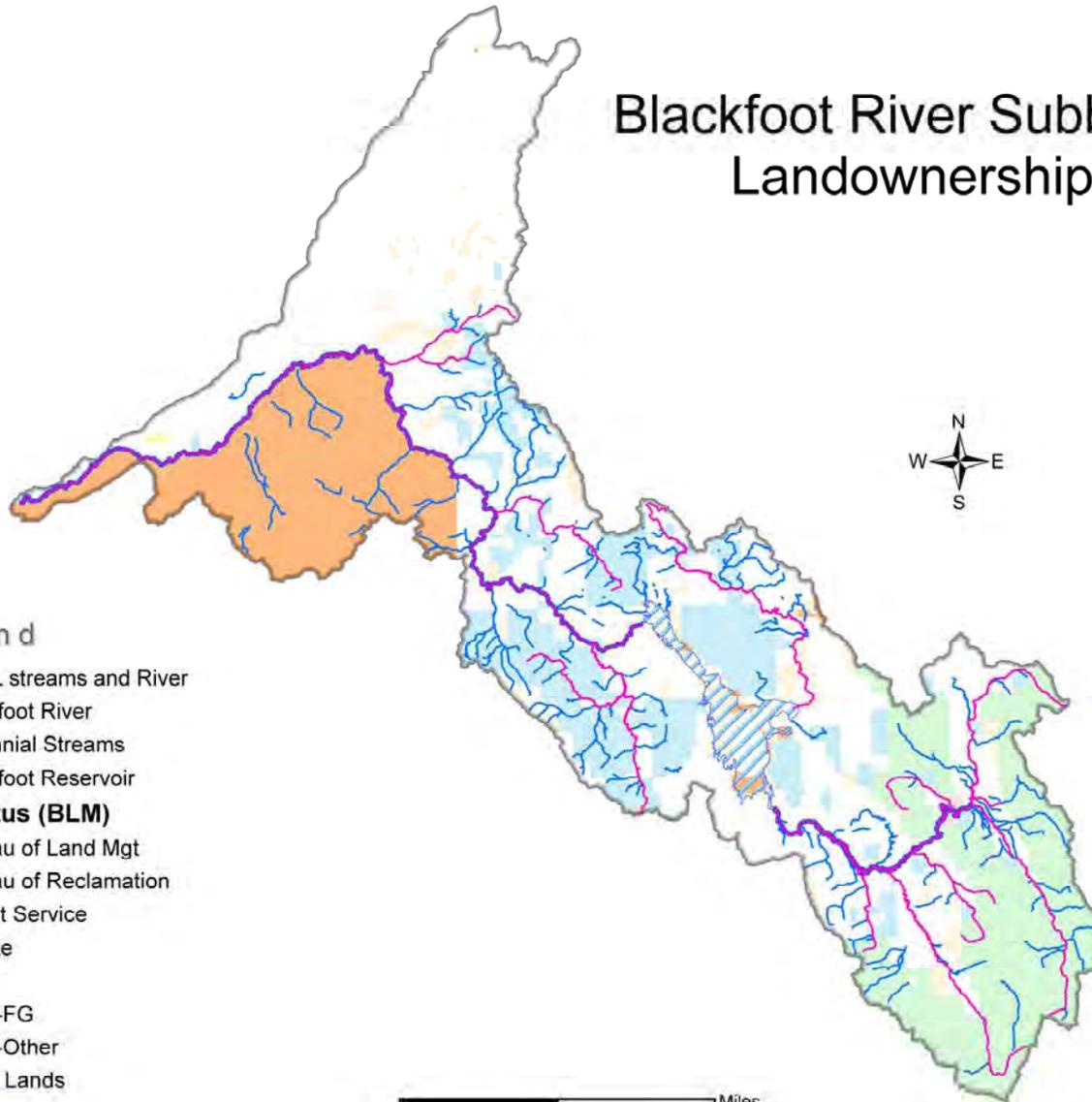
Blackfoot River Subbasin Landownership

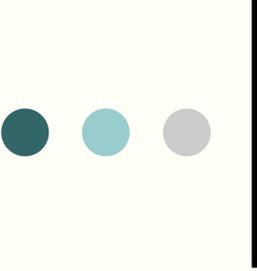
Legend

- TMDL streams and River
- Blackfoot River
- Perennial Streams
- Blackfoot Reservoir

Landstatus (BLM)

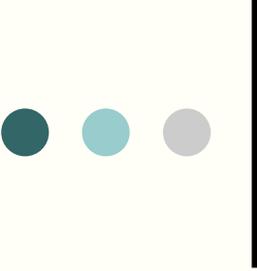
- Bureau of Land Mgt
- Bureau of Reclamation
- Forest Service
- Private
- State
- State-FG
- State-Other
- Tribal Lands
- Dept of Energy





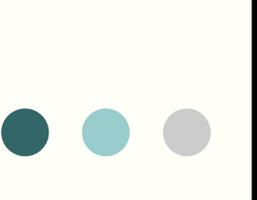
Idaho Soil Conservation Commission

| Water body | Pollutant | Activity or strategy | Priority |
|------------------|---------------------|---|----------|
| Wolverine Creek | Sediment, Nutrients | Riparian, Range, Animal Facilities | High |
| Lower Blackfoot | Sediment, Nutrients | Riparian, Crop and Pasture, Animal Facilities | High |
| Brush Creek | Sediment, Nutrients | Crop and Pasture | High |
| Middle Blackfoot | Sediment, Nutrients | Riparian, Crop and Pasture, Range Acres | Medium |
| Meadow Creek | Sediment, Nutrients | Crop and Pasture | Medium |
| Lanes Creek | Sediment, Nutrients | None ¹ | Medium |
| Upper Blackfoot | Sediment, Nutrients | Riparian, Crop and Pasture | Medium |
| Slug Creek | Sediment, Nutrients | None ¹ | Low |
| Diamond Creek | Sediment, Nutrients | None ¹ | Low |



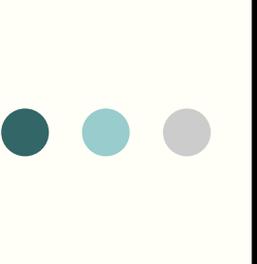
Bureau of Land Management

| Water body | Pollutant | Activity or strategy | Priority |
|---|---------------------|--|-------------------|
| Blackfoot River | Sediment, Nutrients | Reinstate primary use of area as a stock driveway, restrict overnight use of riparian area by cattle, remove fences restricting cattle movement, develop water sources, limit utilization on key forage species on steep slopes to 50%, reseed areas of agriculture trespass. If all else fails, fence riparian area and restrict use, install signs to indicate public lands. | High ¹ |
| Wolverine Creek | Sediment, Nutrients | Remove livestock from riparian habitat, exclude livestock for at least three seasons, exclusion fencing, limit overutilization on key forage species on steep slopes. If all else fails, adjust the stocking rate to > acres/aum | High ¹ |
| Jones Creek | Nutrients | Limit utilization on key forage species on steep slopes to 50%. | High ¹ |
| Brush Creek | Sediment | Work towards 80% bank stability, riparian/wetland areas towards PFC ² , 4" stubble heights | Medium |
| Dry Valley Creek | Sediment | Work towards 80% bank stability, riparian/wetland areas towards PFC ² , 4" stubble heights | Medium |
| Lanes Creek | Sediment | Work towards 80% bank stability, riparian/wetland areas towards PFC ² , 4" stubble heights | Medium |
| Meadow Creek | Sediment | Work towards 80% bank stability, riparian/wetland areas towards PFC ² , 4" stubble heights | Medium |
| Trail Creek | Sediment | Work towards 80% bank stability, riparian/wetland areas towards PFC ² , 4" stubble heights | Medium |
| All remaining unlisted streams on BLM within the subbasin | None | Monitored for PFC | Low |



Caribou-Targhee National Forest

| Water body | Pollutant | Activity or strategy | Monitoring | Timeline |
|-----------------------|-----------|---|--|-------------------|
| Upper Blackfoot River | Sedimen, | Maintain the Blackfoot River Road by the narrows by working with county to minimize dust, maintain a vegetative buffer, minimize side cast, and continue general road maintenance | Depth fines and streambank stability every 5 years | Ongoing |
| Trail Creek | Sediment | Maintain adjacent roads by working with county to minimize dust, maintain a vegetative buffer, minimize side cast, and continue general road maintenance | Depth fines every 5 years and streambank stability every 2 years | Ongoing |
| Slug Creek | Sediment | Revised grazing standards | Depth fines every 5 years and streambank stability every 2 years | 2004 |
| Dry Valley Creek | Sediment | Modified grazing practices | Depth fines every 5 years, streambank stability every 2 years, and turbidity monitoring during high and low flows annually | 2004 |
| Maybe Canyon Creek | Sediment | Remedial actions for mining | Remedial action monitoring for 10 years | 2005 |
| Angus Creek | Sediment | Modify grazing practices, Mining site investigations | Depth fines every 5 years and streambank stability every 2 years | 2005 ¹ |
| Lanes Creek | Sediment | Revised grazing standards | Depth fines every 5 years and streambank stability every 2 years | 2004 |
| Bacon Creek | Sediment | Revised grazing standards | None ² | 2004 |
| Sheep Creek | Sediment | Grazing modifications | Depth fines every 5 years and streambank stability every 2 years | 2003 |
| Diamond Creek | Sediment | Grazing modifications | Depth fines every 5 years and streambank stability every 2 years | 2004 |



Idaho Department of Lands

○ Timber Harvest

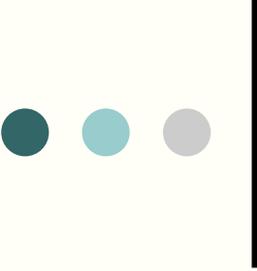
- Administer Forest Practices Act
 - Require BMPs identified in FPA
 - Monitor and inspect for compliance with FPA
 - Utilize FPA enforcement procedures for inadequate BMP implementation

○ Mining

- Idaho Department of Lands will continue to work collaboratively with all state and federal agencies in the implementation of the surface mining act (SMA).

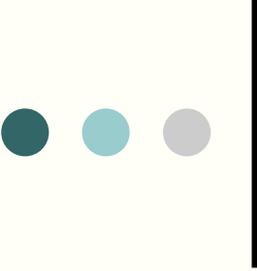
○ Idaho Endowment Lands

- Prepare grazing management plans for allotments one year following an allotment review
- Implement grazing management plans on allotments
- Perform BMP/grazing management reviews
- Develop and implement site specific monitoring of selected allotments



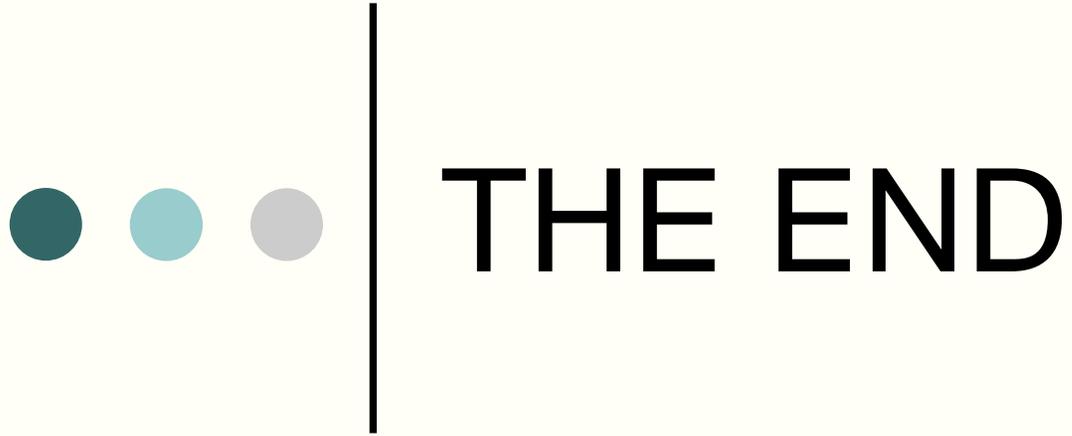
Idaho Transportation Department

- Continue to operate a comprehensive effort to control erosion and manage sediment within construction limits utilizing ITD policies and standards
- Work collaborative with local agencies on proper road construction and maintenance



What I Need?

- Specific Information Pertaining to DMA Implementation Plans
 - Where are you with respect to areas outlined in your implementation plan?
 - Allotment reviews, Conservation plans, PFC, Stubble Height, grazing plans, etc.
 - What monitoring have you done?
 - McNeil, PFC, streambank assessments,



Questions?

Blackfoot River Subbasin

