

Kootenai River Habitat Restoration Program Update

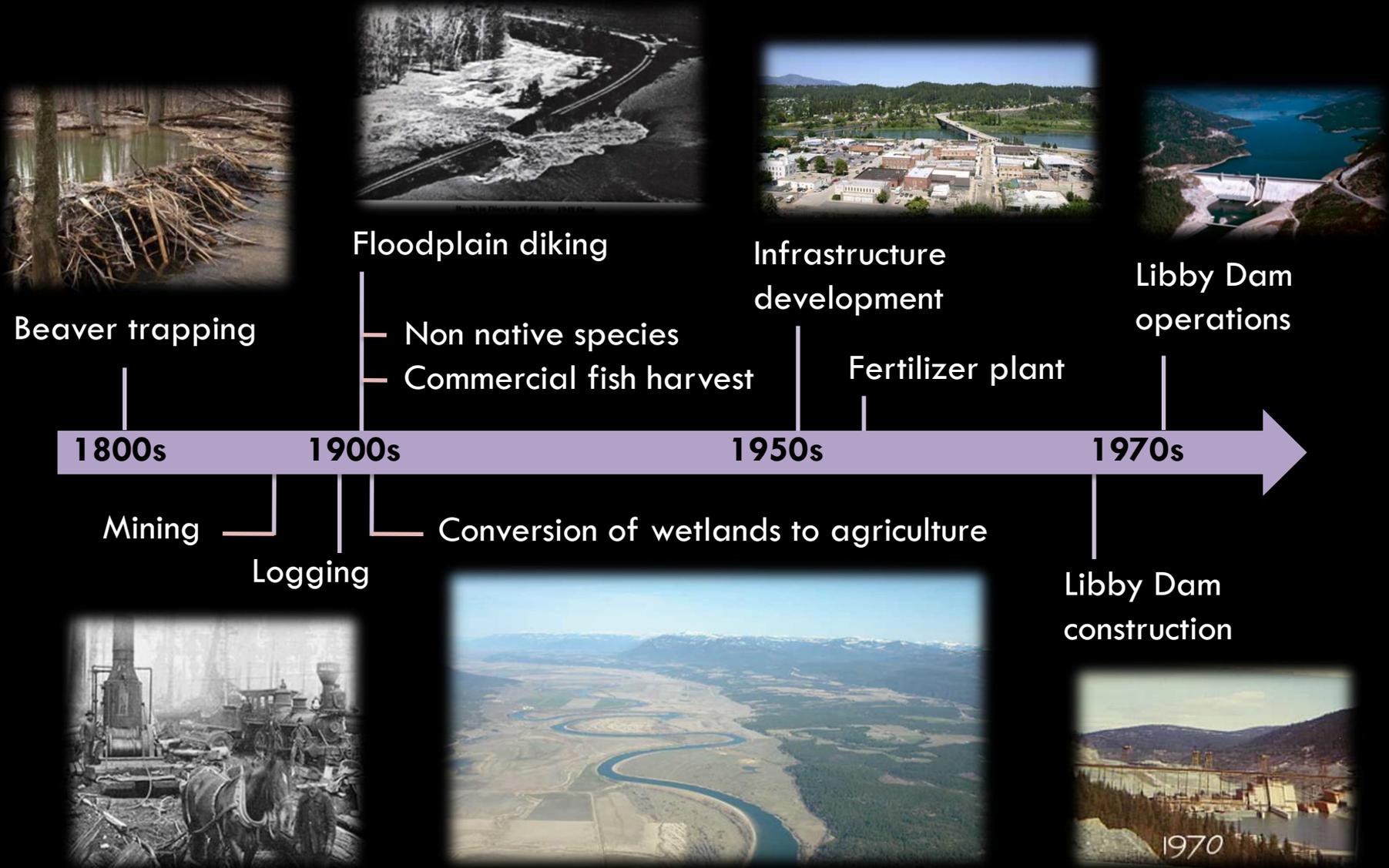


Kootenai Tribe of Idaho

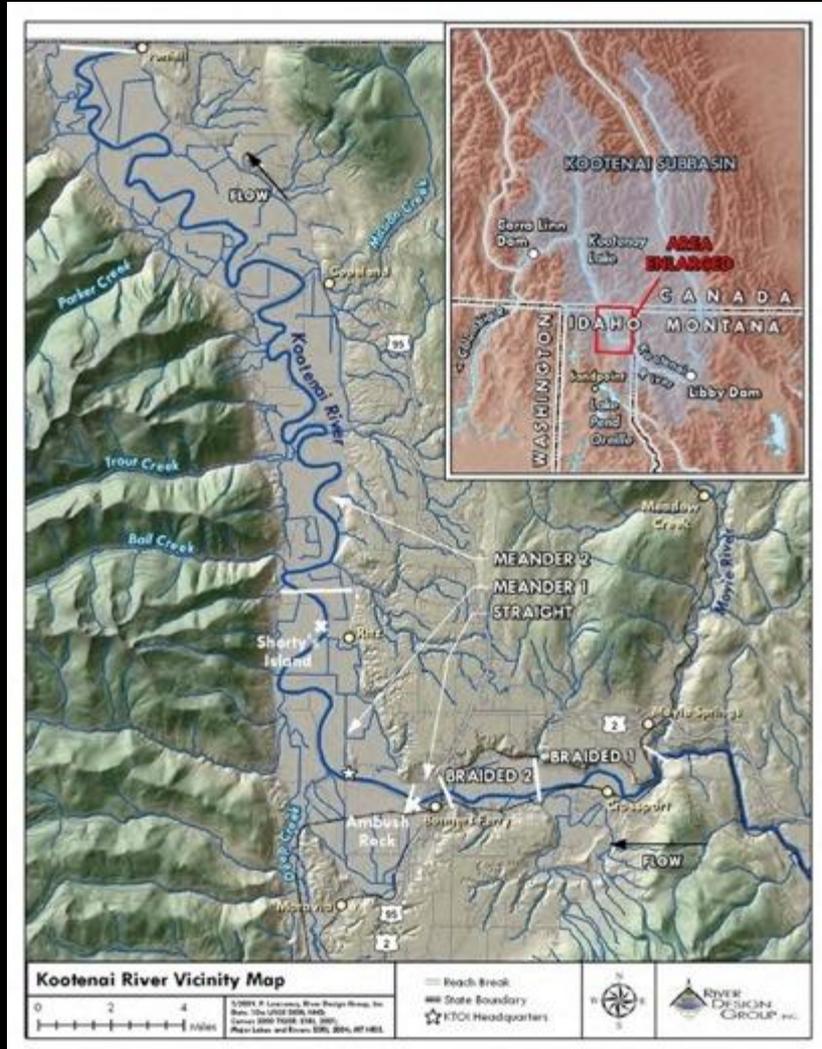
Kootenai Valley Resource Initiative

November 19, 2012 ❖ Bonners Ferry, Idaho

Changes to Kootenai Basin



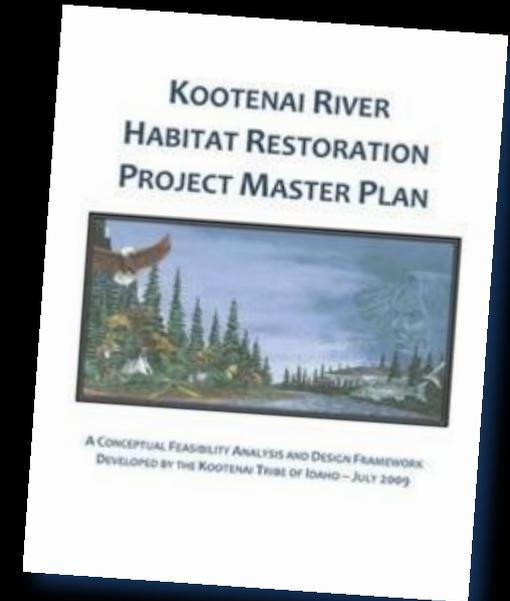
Kootenai River Habitat Restoration Program



- Ecosystem-based restoration program in 55-mile reach of Kootenai River in Idaho
- Multiple projects in different reaches
 - Braided Reaches
 - Straight Reach
 - Meander Reaches

Kootenai River Habitat Restoration Program

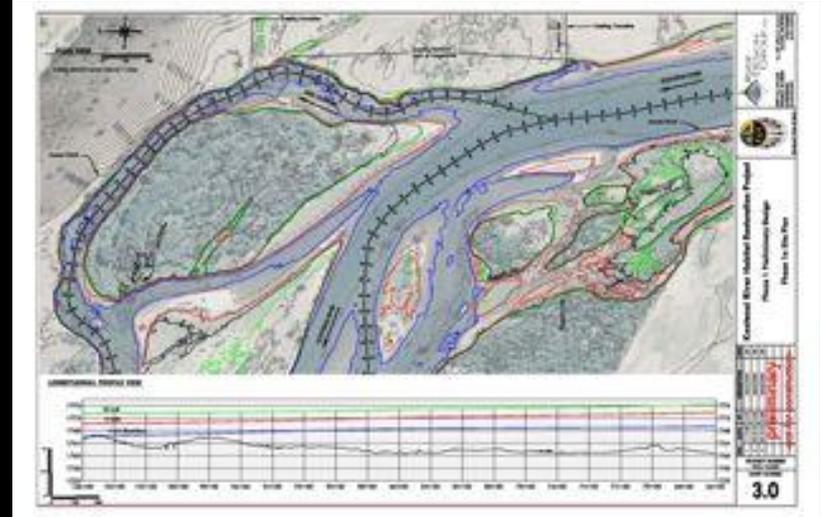
- Completed Master Plan 2009
 - **Technical analysis**
 - Provides framework & identifies restoration treatments
 - **Focus on sturgeon, burbot, kokanee, bull trout, westslope cutthroat, and redband rainbow**



Program web site: www.restoringthekootenai.org

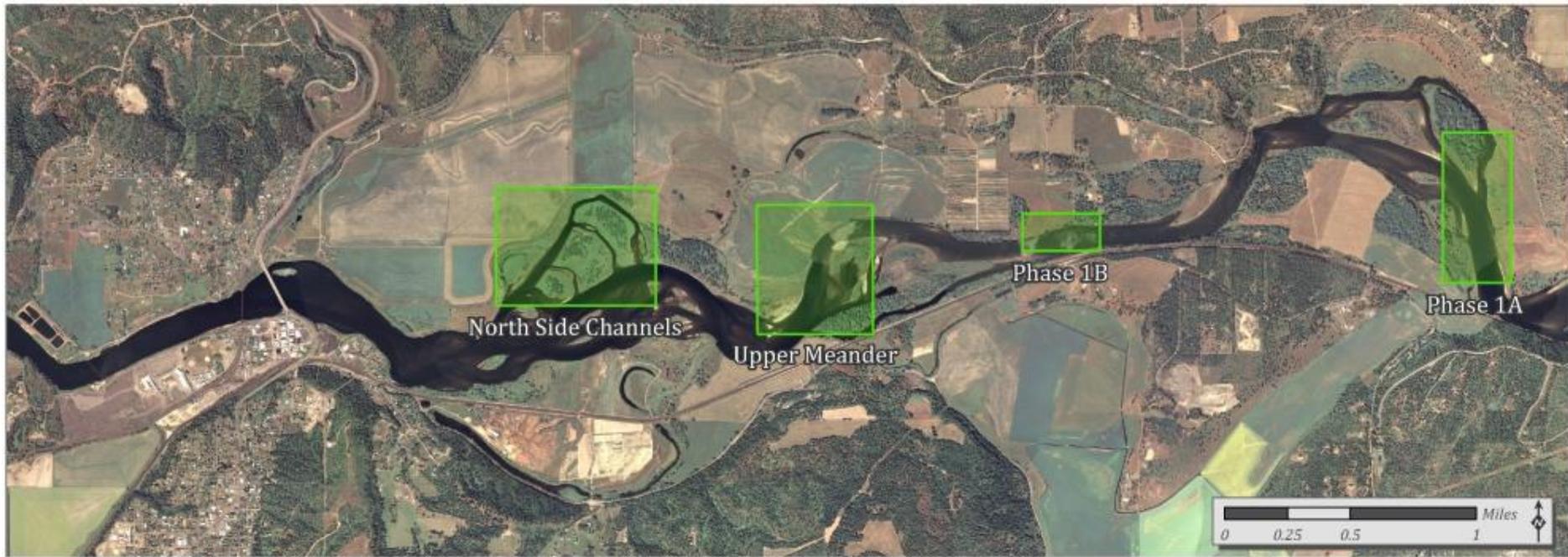
Kootenai River habitat restoration

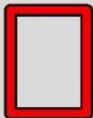
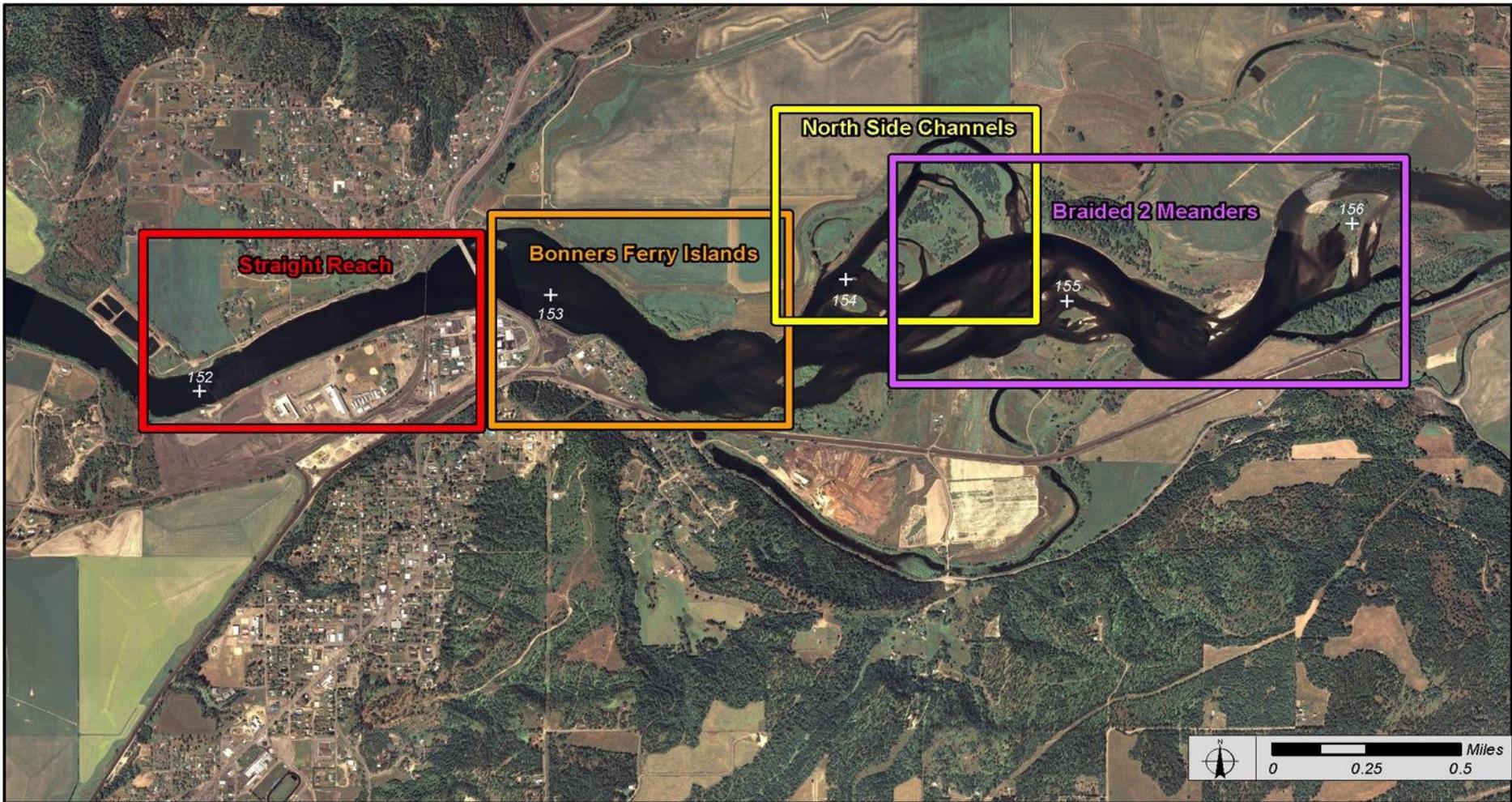
- Floodplain reconnection & creation of floodplain surfaces
- Bank restoration
- Bank corridor re-vegetation & riparian buffers
- Creation or enhancement of secondary channels
- Instream structures
- Channel modifications
- Construct or enhance wetlands
- Tributary restoration
- Substrate enhancement





Completed 2011 Phase 1 and 2012 Phase 2 Projects





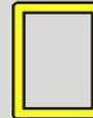
Straight Reach

Treatments pool enhancement structures, spawning substrate placement, bioengineering bank restoration, riparian buffer development, and eddy/alcove habitat creation.



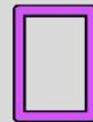
Bonners Ferry Islands

Treatments include placing fill on existing bars, installing large woody debris roughness elements, microtopography grading, trash removal, and revegetation.



North Side Channels

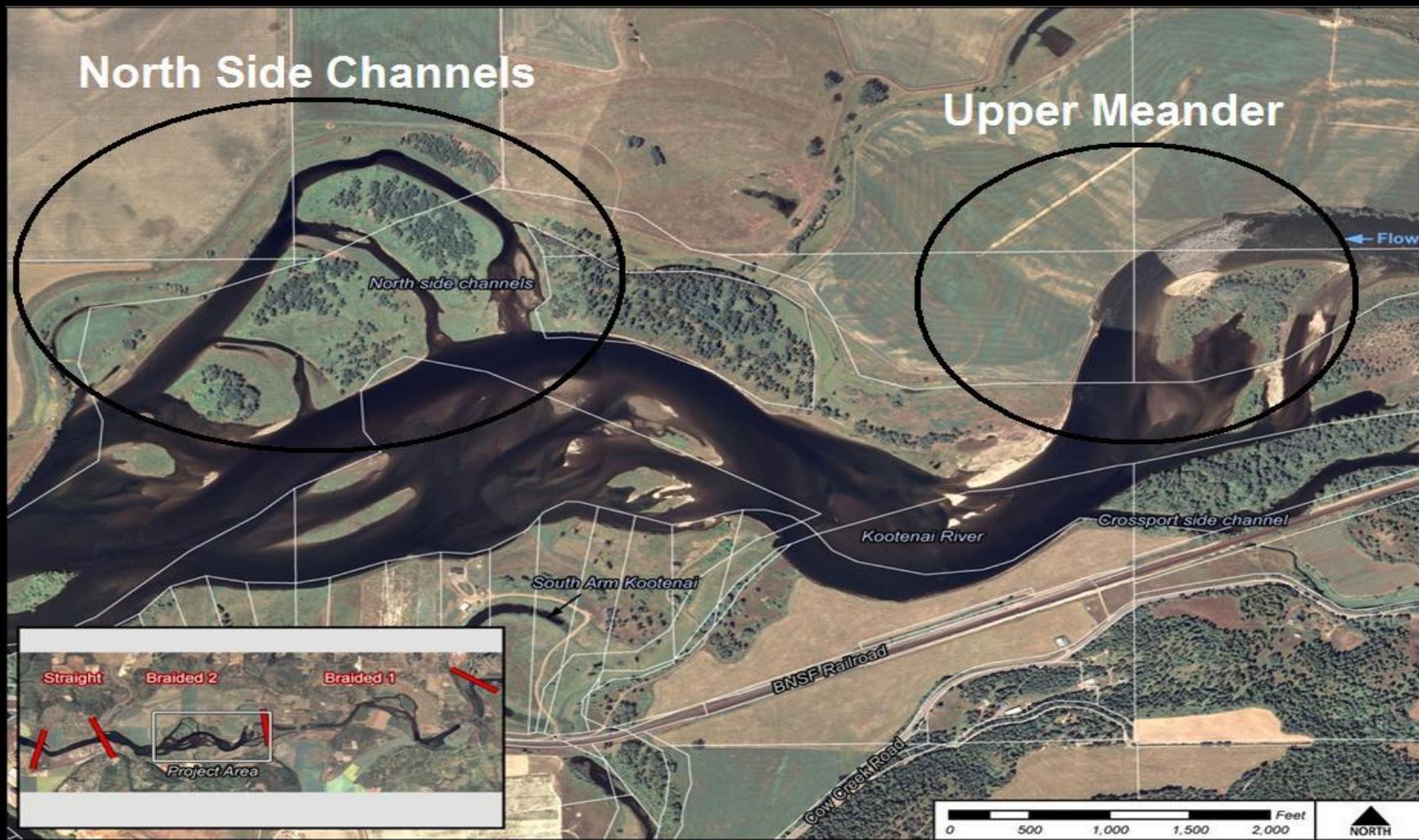
Treatments include restoring off-channel habitat, installing large woody debris structures, revegetation, managing side channel connectivity, and addressing weeds/invasive species.



Braided 2 Meanders

Treatments include bank protection structures, pool enhancement structures, bioengineering bank restoration, large woody debris roughness elements, and eddy/alcove habitat creation.

2012 Projects: Upper Meander & North Side Channels



North Side Channels Project Area – Existing condition

Limiting Factors

- Lack of aquatic habitat complexity
- Lack of vegetation recruitment/diversity
- Invasive weeds
- Grazing



North Side Channels Project Area – Restored condition



- Improve hydraulic complexity
- Address reed canarygrass
- Plant native trees & shrubs
- Create topographic diversity
- Add large woody debris
- Improve fish habitat and food chain





09/27/2012



09/27/2012







Upper Meander Project Area – Existing condition



Limiting Factors

- Land use
- Lack of vegetation and riparian buffer
- Bank erosion
- Fine sediment delivery downstream
- Lack of bank cover
- Lack of aquatic habitat



Upper Meander Project Area – Restored condition



- Improve resistance to erosion
- Establish a riparian buffer
- Enhance existing pools
- Add complexity and LWD
- Reduce land loss





09/27/2012





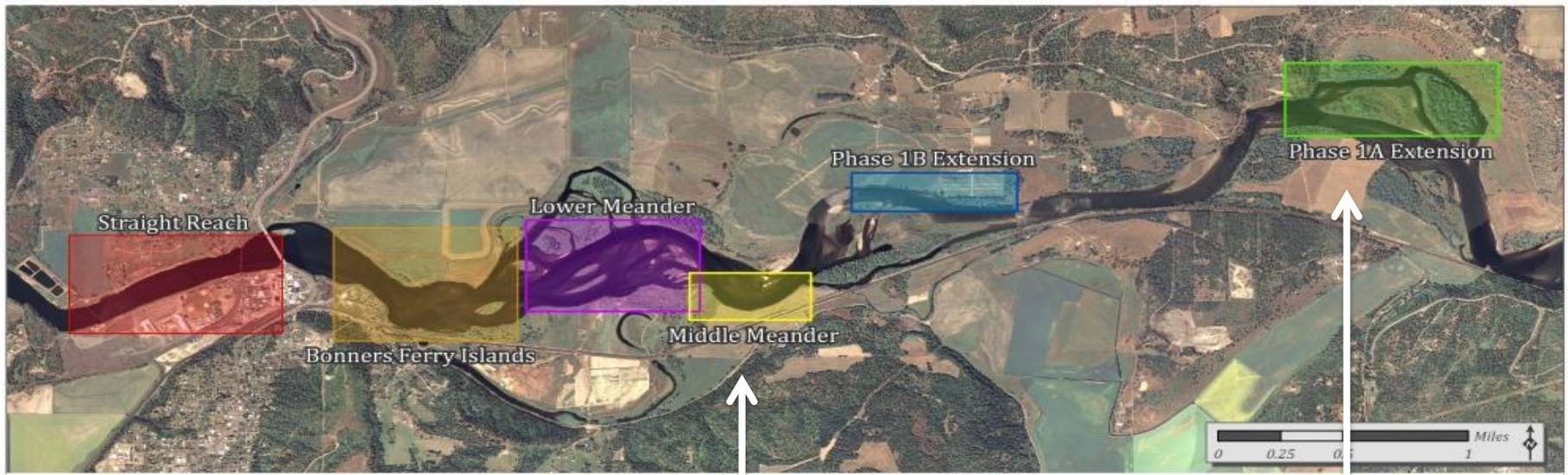




2013 & 2014 Projects



2013 Projects



Middle Meander

1A Extension



Shorty's Island Area
Substrate Pilot

2013 Projects: Middle Meander



Middle Meander Project Area – Pre-Project

- Lack of riparian vegetation
- Agricultural land use
- Bank Erosion
- Fine sediment loading
- Lack of bank cover
- Aquatic habitat not optimal



Middle Meander Project Area – Proposed condition

- Improved resistance to bank erosion
- Reduce land loss
- Establish riparian buffer
- Enhance existing pools
- Add aquatic complexity and LWD



Upper Meander, Middle Meander & North Side Channels Post-Restoration condition



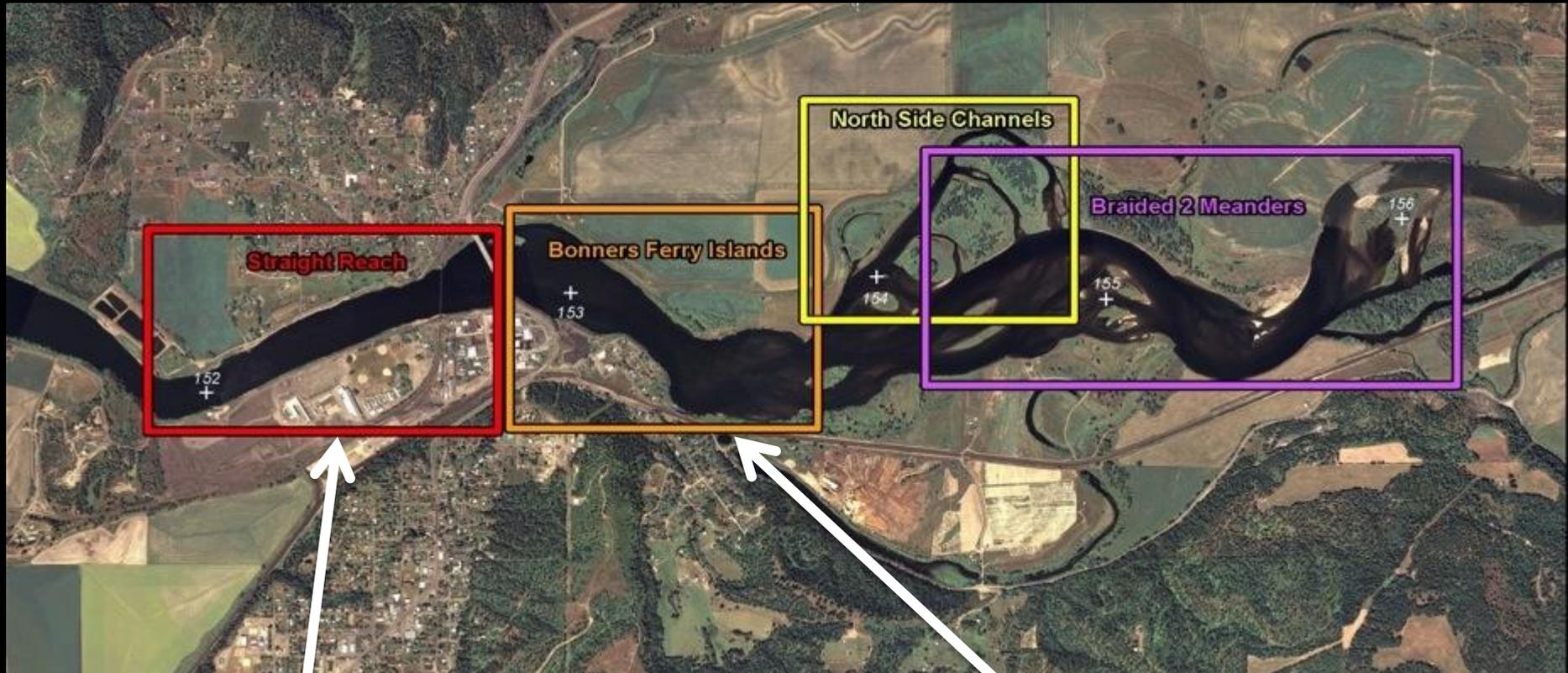
2013

Shorty's Island Pilot Project

- **Developing substrate enhancement pilot project**
- Build on 1135 work & IDFG/USGS project
- **Experimental design and robust monitoring**
- Rec'd input from PRAT and CMART in June and July 2012
- **Implement pilot in 2013**



2014 Projects



Straight Reach

Bonners Ferry Islands

2014 Projects:

Straight Reach & Bonners Ferry Islands

- Working on refining design concepts
- **Modeling, feasibility analysis**
- Work sessions with biologists, design team and expert advisors
- **Coordination with City, County and private landowners**



The Kootenai Tribe wishes to thank our partners and friends who helped with planning, coordination, design, permitting, funding and implementation of this project!

BC Ministry of Forests Land and Natural Resource Operations

Bureau of Land Management

Bonneville Power Administration

Boundary County

City of Bonners Ferry

Confederated Salish and Kootenai Tribes

Idaho Department of Fish and Game

Idaho Department of Lands

Idaho Department of Environmental Quality

Idaho Department of Water Resources

Idaho Office of Species Conservation

Kootenai Tribal Council

Kootenai Valley Resource Initiative

Montana Fish Wildlife and Parks

Natural Resource Conservation Service

Northwest Power and Conservation Council

Phase I and II Landowners

Peer Review Advisory Team

U.S. Army Corp of Engineers

U.S. Fish and Wildlife Service

U.S. Forest Service

U.S. Geological Survey

Thank you! Questions?

