

# Kootenai River Habitat Restoration Project 200200200



# Libby Dam

## Kootenai River, MT

### (USACE 1975)

- 422 feet tall, 3055 feet long
- Lake Koocanusa – 4.98 maf
- 600 MW Capacity (5 units)
- Max powerhouse discharge 25 kcfs
- Ave annual discharge 11.3 kcfs
- 238 MWa production

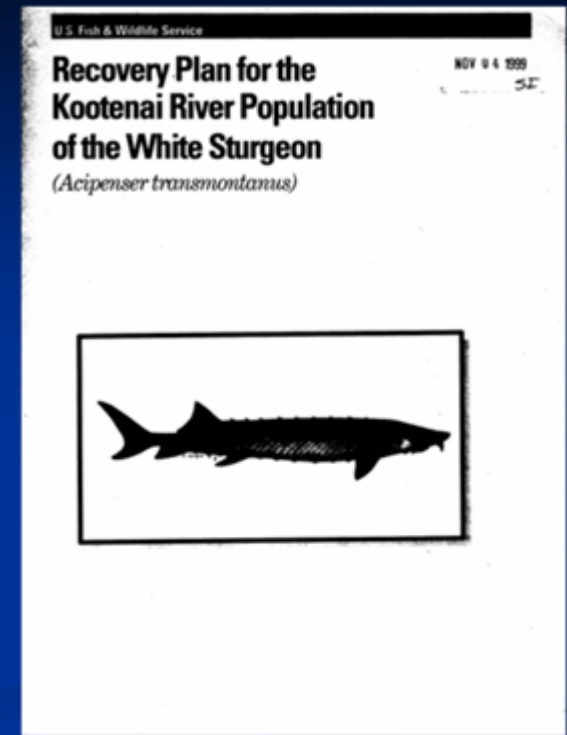


# Kootenai River White Sturgeon

- Listed as endangered 1994
- Population estimate less than 1,000 fish

## Recovery Plan Priority Actions:

- Flow augmentation
- Conservation aquaculture
- Re-establish suitable habitat conditions to increase survival past egg/larval stage



# Kootenai River Basin BPA Funded Actions through Fish and Wildlife Program

**Approximately \$7 million annually:**

- Partnerships with Kootenai Tribe of Idaho, Idaho Fish and Game, Montana Fish Wildlife and Parks and Canadian entities
- Conservation aquaculture program
- Nutrient enhancement
- Monitoring and evaluation
- Development of an Ecosystem Restoration Plan for restoring habitat

# Biological Opinion History

- Initial Libby Dam Biological Opinion (BiOp) in 1995, new opinions in 2000 and 2006
- 2006 BiOp included Reasonable and Prudent Action (RPA) to avoid jeopardy - focused on actions to achieve needed attributes for successful sturgeon recruitment with an adaptive management approach
  - *Substrate* - *Depth* - *Velocity* - *Temperature*
- Center for Biological Diversity (CBD) initially sued in 2003 and amended their complaint in 2006 to challenge the new BiOp
- Settlement Agreement negotiated in 2007 resulting in clarification to the RPA and dismissal of the CBD suit

# Libby Biological Opinion Clarified RPA

- Operations designed to achieve temperature, depth and velocity attributes
- Spill test if needed
- Operational and structural improvements for water release temperature management
- Cooperate and support the Tribe's efforts to implement the Kootenai River Habitat Restoration Project Master Plan

# Libby Biological Opinion Clarified RPA

The Kootenai River Restoration Project Master plan includes plans that are consistent with the RPA requirements to:

- Provide adequate habitat conditions for spawning and recruitment in currently degraded area (Meander reach)
- Provide adequate habitat conditions for spawning in better quality habitat (Braided reach)
- Maintain the future of the population by continuing the operation of the conservation aquaculture program

# Libby Biological Opinion Clarified RPA

## ■ Contingency

If construction of the Kootenai River Restoration Project has not begun by December 2012, is determined not to be feasible, or otherwise does not proceed to implementation then:

- Reinitiation of consultation will be triggered
- Interim river operations will continue.
- The AA's will evaluate the benefits of sturgeon associated with additional Kootenai River Flows through the use of spill over Libby Dam (spill test)
- If additional flows prove successful the AAs will analyze the benefits to sturgeon associated with installation of an additional turbine or turbines at Libby Dam under NEPA.



# Kootenai Tribal Fish and Wildlife Restoration Principles

**Holistic**

**Science Based**

**Community supported**

**Collaborative**

**Adaptive**

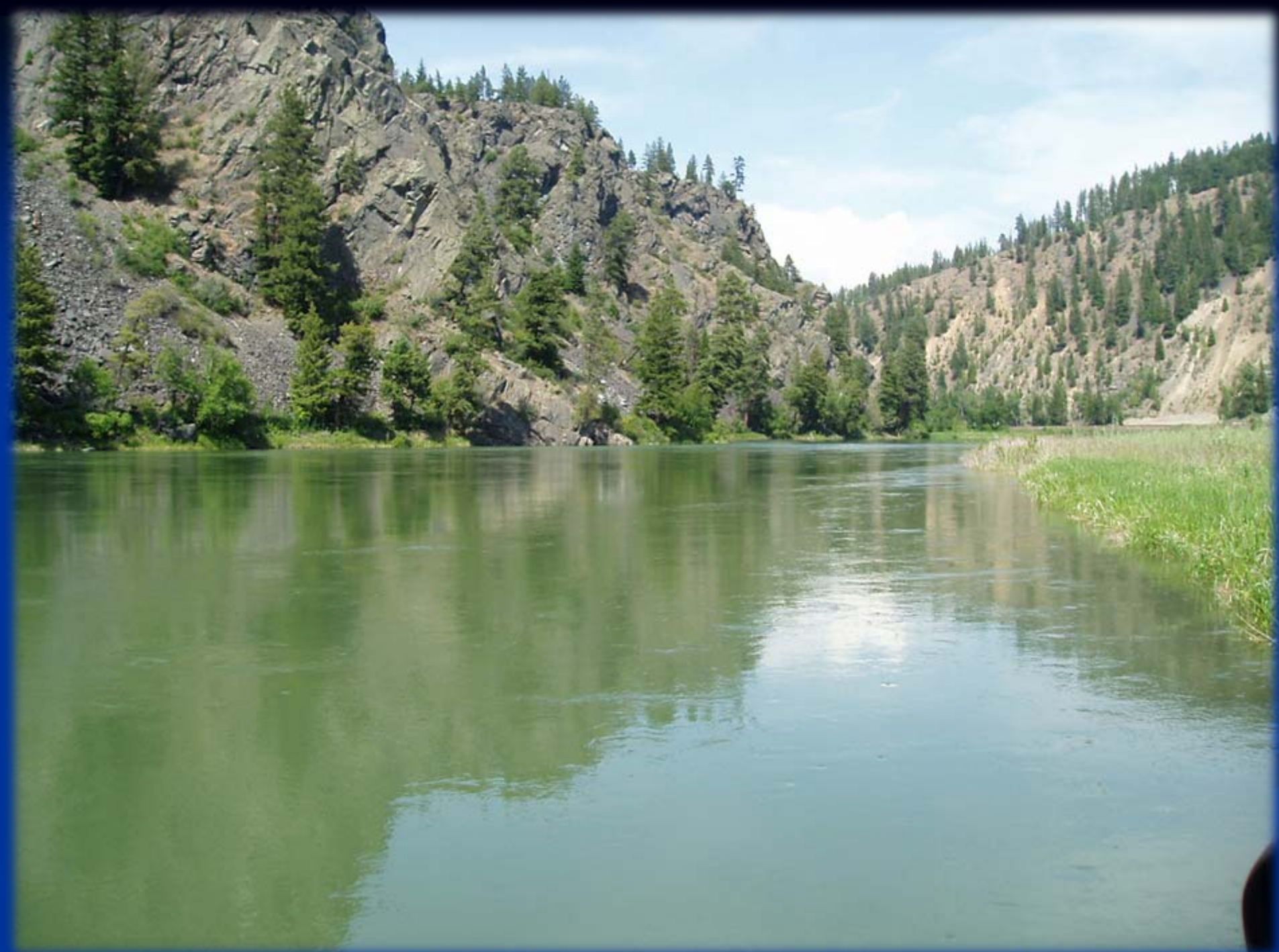


# Kootenai River Habitat Restoration Project Purpose (Project 200200200)

- Restore and enhance Kootenai River habitat to provide a more resilient ecosystem, capable of sustaining diverse native plant and animal populations.
- Restore and maintain Kootenai River habitat conditions that support all life stages of endangered Kootenai River white sturgeon (*Acipenser transmontanus*) and other aquatic species.



- Restore the Kootenai River landscape in a way that sustains Tribal and local culture and economy.



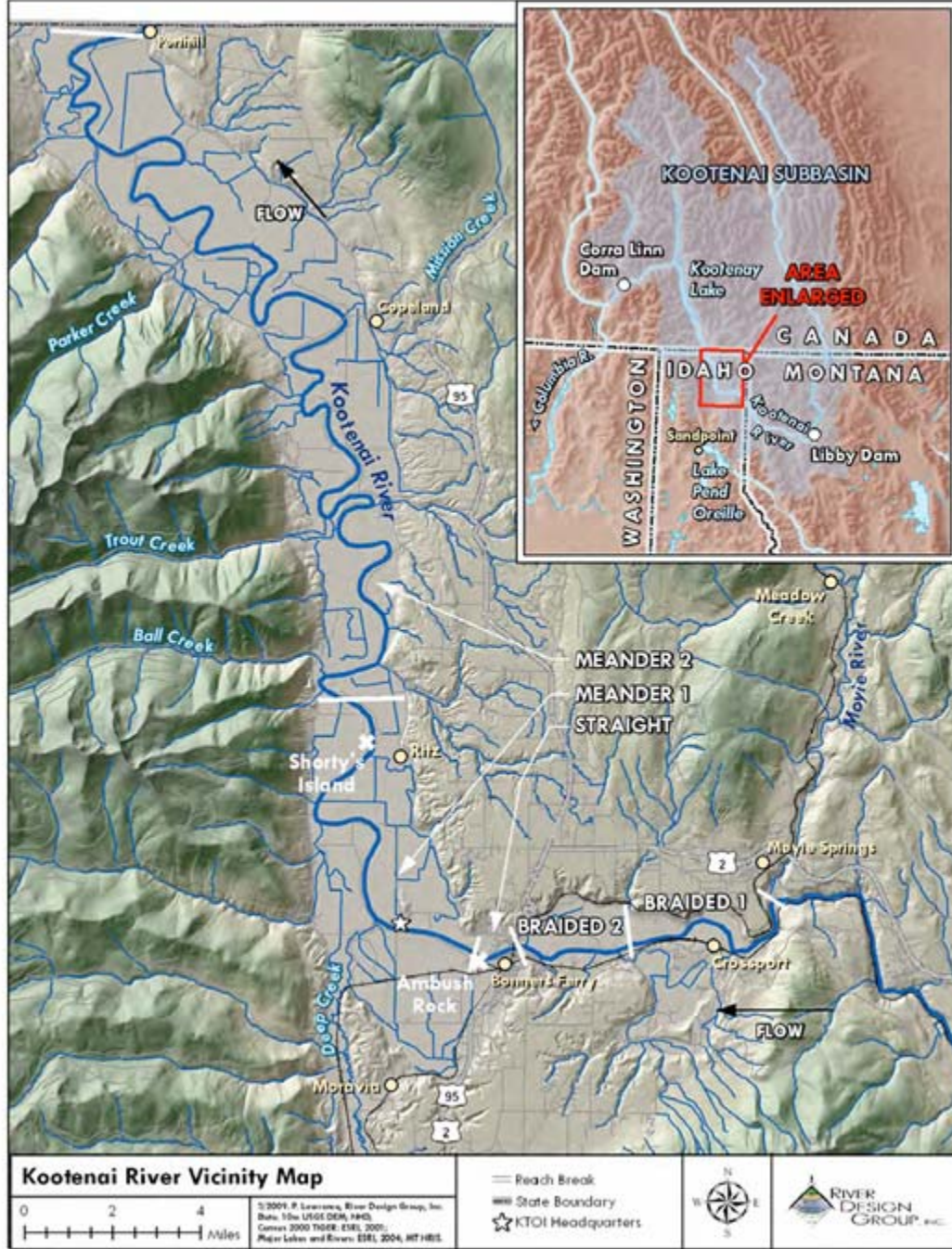




# Kootenai River Habitat Restoration

## Project Master Plan:

- Provides detailed analysis of the factors limiting ecosystem function, and management and infrastructure constraints, for different river reaches within the project area
- Presents specific restoration strategies for each river reach designed to address those limiting factors
- Identifies a suite of actions that could be combined to implement the restoration strategy for each reach
- [http://www.kootenai.org/fish\\_restoration.html](http://www.kootenai.org/fish_restoration.html)



# Implementation Milestones and Phased Approach

Implemented in three sequenced phases working generally upstream to downstream:

- *Phase 1* Braided Reach 1 and a substrate enhancement project (Section 1135 cost share) in the existing spawning area in the Meander Reaches - *Construction begins 2012*
- *Phase 2* proceeds downstream through Braided Reach 1, Braided Reach 2, and the Straight Reach
- *Phase 3* restoration actions in Meander Reach 1 and Meander Reach 2



# Implementation Funding

- Master Plan described range of potential funding sources and conceptual funding strategy
- Strategy includes use of large scale dedicated funding sources, as well as mid to small scale competitive grants
- Cost estimates for each phase to be refined at preliminary and final design stages
- Phased funding strategy linked to phased implementation - not all funding required at once
  - Phase 1 funding needed 2010-2013  
(F&W Program, USACE Section 1135 program)
  - Phase 2 needed next 2 to 6 years,
  - Phase 3 spread over approximately next 15 years

# Corps of Engineers Section 1135 Authorities for Environmental Restoration Projects

## Program Overview:

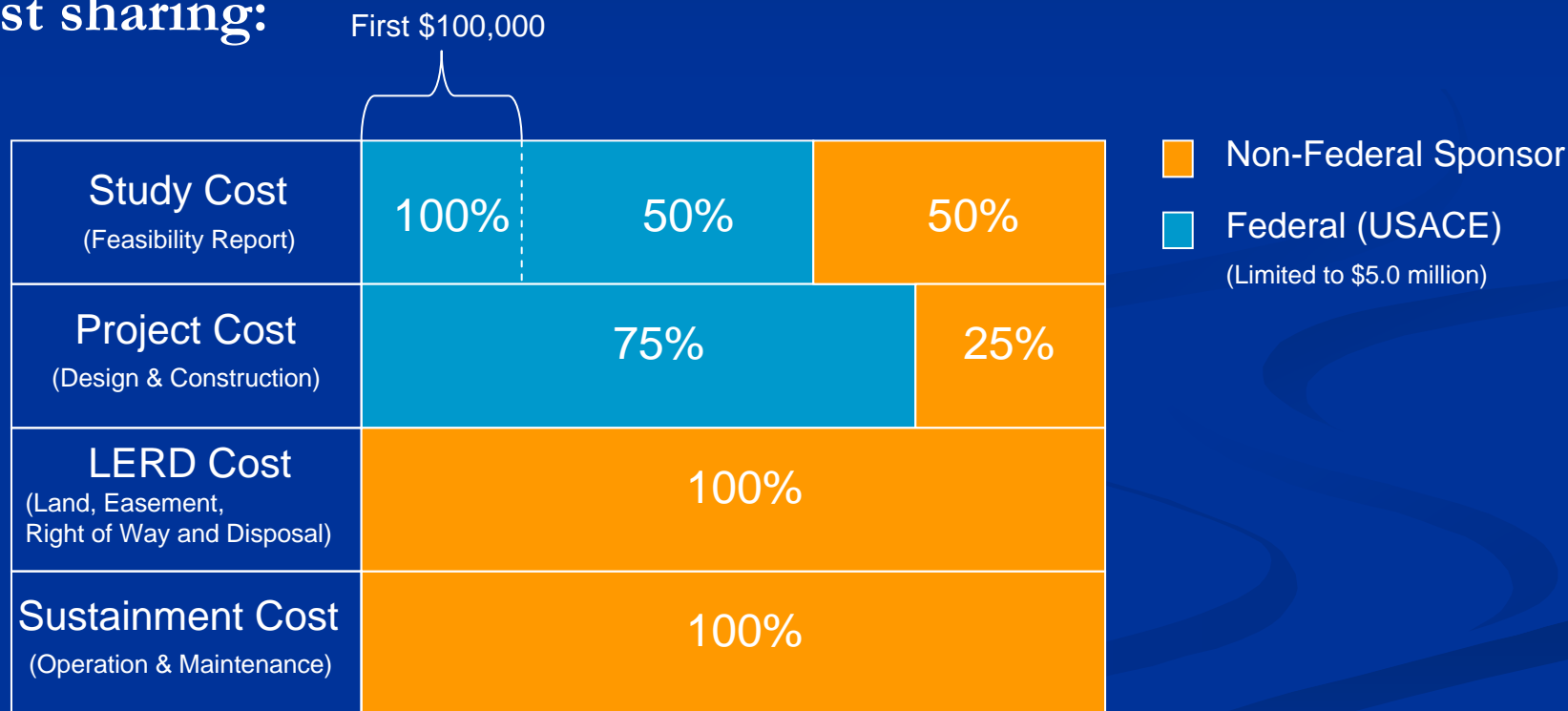
- Under authority provided by Section 1135 of the Water Resources Development Act of 1986, the Corps may review and modify structures and operations of water resources projects constructed by the Corps for the purpose of improving the quality of the environment when it is determined such modifications are feasible.

## FY 2010 Budget:

- \$24.2 million is appropriated for Section 1135 in FY10.
- The Corps currently has 119 active projects in the program
- Of the 119 projects Braided Reach is ranked 4<sup>th</sup> and Shorty's
- Island is ranked 5<sup>th</sup>

# Corps of Engineers Section 1135 Authorities for Environmental Restoration Projects

## Cost sharing:



# 1135 Example Schedule & Budget \*

## Shorty's Island / Meander Reach

	Shorty's Island / Meander Reach				
	Start Date	Completion Date	Total Cost	Federal Cost	Non-Federal Cost
Feasibility Report	10/09	1/12	\$1,500,000	\$800,000	\$700,000
• Environmental Compliance	3/10	2/11	-	-	-
• Design	9/11	4/12	\$388,000	\$370,000	\$18,000
Construction	4/12	3/13	\$6,050,000	\$3,830,000	\$2,220,000
		<b>TOTAL</b>	<b>\$7,938,000</b>	<b>\$5,000,000</b>	<b>\$2,938,000</b>

\* Pre-feasibility study estimates to maximize federal contribution, may change as a result of feasibility studies and design

# Final ISRP Comments

## Project 200200200 (August 31, 2006)

- “...generally well-prepared proposal for a multitude of simultaneous on-the-ground habitat restoration work, research, modeling, and data assessment in the Kootenai River...”
- “...ISRP initially recommended that the habitat modifications be funded in stages, with periodic independent reviews of syntheses of the work to date and identification of major findings, before committing to modest scale engineered habitat modification. The sponsors provided a very thorough and persuasive response.”
- “The response was fully adequate, persuasive, and commendable. It is an expensive project but not out of line with the tenuous state of the sturgeon population in the Kootenai.”
- ISRP Final Recommendation (August 31, 2006): Fundable

# Consistency with ESA, Settlement Agreement, NW Power Act, and Tribal values

- Supports Sturgeon BiOp requirements as clarified in 2008
- Complies with terms of sturgeon litigation settlement agreement
- Supports NW Power and Conservation Council's vision in Fish and Wildlife Program
- Supports Tribal vision of restored ecosystem
- Supported and guided by the Kootenai Habitat Policy Team which includes: Kootenai Tribe BPA, USFWS, Corps, States of Idaho and Montana, CSKT, and BC Ministry of Environment