U.S. FISH AND WILDLIFE SERVICE-SPOTLIGHT SPECIES ACTION PLAN
ACTION AND SURNAME SHEET

Common Name: Kootenai River White Sturgeon

Scientific Name: *Acipenser transmontanus*

Field Office: Idaho Fish and Wildlife Office, Boise, Idaho

Date Completed: 5/13/2010

Surname Routing: **Date**

FO Biologist (Author) Jason Flory

FO Assistant Field Supervisor Stephen D. Duke 5/13/2010

FO Field Supervisor Gary L Burton 5/17/2010

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Common Name: Kootenai River White Sturgeon

Scientific Name: *Acipenser transmontanus*

Lead Region: Region 1, Portland, Oregon

Lead Field Office: Idaho Fish and Wildlife Office, Boise, Idaho

Species Information:

Background: The endangered Kootenai River white sturgeon occurs in the Kootenai River from Kootenai Falls, Montana downstream to Corra Linn Dam in British Columbia. Approximately 45 percent of the species' range is located within British Columbia. The Kootenai River white sturgeon was listed as endangered under the U.S. Endangered Species Act on September 6, 1994. Fewer than 500 adults remain and it has been estimated that there may be fewer than 50 remaining by 2030 due to low recruitment since Libby Dam began operating in 1974 (Paragamian et al. 2005). Altered river flows resulting from dam operation constitute the primary threat to the species' continued existence (USFWS 2008). The Kootenai/Kootenay population of white sturgeon was listed as endangered under the Canadian Species at Risk Act (SARA) in 2006.

Status: Endangered (September 6, 1994: 59 FR 45989)

Recovery Priority Number: 3C

Recovery Plan: September 30, 1999

Most Recent 5-year Review: Initiated in FY 2010

Primary Threats: Modification of the Kootenai sturgeon's habitat by human activities that has contributed to a general lack of recruitment in the Kootenai sturgeon population since the mid-1960's.

These factors include:

- Altered hydrograph and thermograph from operations of Libby Dam;
- Loss of riparian habitats and the natural floodplain due to extensive dikes along the Kootenai River for flood control.

TARGET: *Prevent species extinction.* If the current rate of loss of wild Kootenai sturgeon continues, the wild portion of the population may become functionally extinct (i.e. fewer than 50 adults) by 2030. Hatchery-reared fish will likely not begin to reach

sexual maturity and start recruiting into the breeding population until approximately 2020.

MEASURE: *Improve habitat conditions in the Kootenai River that will allow for increased natural recruitment; and demonstrate increased juvenile recruitment to the population.* This can be accomplished through implementing various habitat restoration and recovery actions, including improving migratory conditions in the straight (RM 151.8 (RKM 244.5) downstream to RM 142.7 (RKM 245.9)) and braided (RM 159.7 (RKM 257.0) downstream to RM 151.8 (RKM 244.5)) reaches and improving substrates in current spawning locations in the braided reach.

ACTIONS: (2010-2014)

Action	Threat(s) Addressed	Responsible Party	Estimated Cost ($) (Over 5 years)
Implement habitat restoration actions that improve conditions in the braided and straight reaches that allow Kootenai sturgeon to migrate to, and spawn over, existing suitable substrate in the braided and/or canyon reaches, as well as restore floodplain connectivity, riparian corridors, and side channel habitats in braided reach	Loss of access to suitable spawning, incubation, and juvenile rearing habitat Loss of nutrient input into Kootenai River, and loss of general ecosystem function	KTOI, BPA, USACE, USFWS, private landowners	$20,000,000. (Long term funding has not been secured to implement the Kootenai River Habitat Restoration Plan; estimated to cost $67,050,126 to $142,629,000 over the life of the project, which will extend well beyond 2014).
Implement habitat restoration actions that improve substrate conditions in the current Kootenai sturgeon spawning locations	Recruitment failure due to suffocation of fertilized eggs from sand and silt	KTOI, USACE, USFWS	$7,938,000 (source: USACE)

in the meander reach.			
Continue annual Libby Dam flow planning to optimize hydrograph and thermograph characteristics that will maximize the ability of Kootenai sturgeon to take advantage of restored and created habitat.	Alteration of historic hydrograph and thermograph	USACE, USFWS, BPA, KTOI, MFWP, IDFG	$3,000 per planning team participant per year
Continue ongoing interagency cooperation and coordination via the Kootenai River White Sturgeon Recovery Team.	All	All	$5,000 per Recovery Team member, per year; $10,000 for facilitation per year; $6,000 per year for Service Lead
Conduct 5-year review and revise existing Kootenai Sturgeon Recovery Plan	All	USFWS, with others TBD	$140,000
Continue Kootenai sturgeon aquaculture program	Recruitment failure	KTOI, BPA, IDFG, USFWS	$1,700,000 per year (existing cost)
OUTREACH AND EDUCATION			
Coordinate habitat restoration activities with landowners, infrastructure interests, and local communities	All	KTOI, IDFG, USFWS, BPA, USACE, MFWP	$40,000 per year
Continue ongoing outreach efforts, e.g. KVRI, IKERT, public meetings	All	All	$10,000 per year
Research, Monitoring, and Information Needs			
Continue research into early life history stage	Recruitment failure	USGS, BPA, KTOI, USFWS	$300,000 per year

behavior and requirements			
Continue development of genetic markers	Recruitment failure	BPA, UC Davis, USGS, KTOI, IDFG, USFWS, BC MoE	$64,000 per year
Continue mapping and characterization of Kootenai River morphology and characteristics	All	USGS, BPA, KTOI	$500,000 per year
Continue monitoring of Kootenai sturgeon movements via telemetry	All	IDFG, BC MoE, BPA, KTOI	$25,000 per year
Continue juvenile and adult monitoring	Recruitment failure	IDFG, BC MoE, BPA, KTOI, MFWP	$75,000 per year

Role of other agencies

Kootenai Tribe of Idaho (KTOI):

- Lead on Kootenai River Ecosystem Restoration Project and Kootenai sturgeon aquaculture program

Bonneville Power Administration (BPA):

- Primary funding source for habitat restoration, research, and aquaculture actions

Idaho Department of Fish and Game (IDFG):

- Field monitoring, technical assistance

BC Ministry of Environment (BCMoE):

- Field monitoring, technical assistance

Montana Fish Wildlife and Parks (MFWP):

- Field monitoring, Technical Assistance

U.S. Geological Survey (USGS):

- Conducts research and monitoring, technical assistance

U.S. Army Corps of Engineers (USACE):

- Operates Libby Dam, coordinates annual flow planning, funds and implements habitat restoration actions

U.S. Fish and Wildlife Service (USFWS):

- Recovery Team Lead/Liaison, coordinates permitting, provides recovery funding, technical assistance

Other Cooperators: BC Hydro, consultants, private landowners, local politicians, universities, Kootenai Valley Restoration Initiative (KVRI), International Kootenai Ecosystem Restoration Team (IKERT)

Role of other FWS programs:

Fisheries:
- Attend and participate in recovery team meetings, coordinate on flow operations

Refuges:
- Coordinate on habitat restoration activities

Partners for Fish and Wildlife:
- Assist with working with private landowners adjacent to, and including the Kootenai sturgeon habitat.

Literature Cited

Paragamian, V.L., R.C. Beamesderfer, and S.C. Ireland. 2005. Status, population dynamics, and future prospects of the endangered Kootenai River white sturgeon population with and without hatchery intervention. Transactions of the American Fisheries Society 134:518-532.

U.S. Fish and Wildlife Service. 2008. Endangered and Threatened Wildlife and Plants; Critical Habitat Revised Designation for the Kootenai River Population of the White Sturgeon (*Acipenser transmontanus*); Final Rule Federal Register, July 9, 2008, Vol. 73, No. 132, pp. 39505-39523.

Conservation Actions - Estimated Costs - 5 Year Outlook												
Action	**2010**		**2011**		**2012**		**2013**		**2014**		**Totals**	
	USFWS	**TOTAL**	**USFWS**	**TOTAL**	**USFWS**	**TOTAL**	**USFWS**	**TOTAL**	**USFWS**	**TOTAL**	**USFWS**	**TOTAL**
1. Plan and implement habitat restoration actions	$30,000	$500,000	$35,000	$500,000	$40,000	$6 M	$45,000	$6 M	$50,000	$7 M	**$200,000**	**$20 M**
1. Operate Libby Dam to provide normative flows that achieve BiOp attributes	$50,000	$250,000	$55,000	$300,000	$60,000	$350,000	$65,000	$400,000	$70,000	$450,000	**$300,000**	**$1.75 M**
3. Conduct 5-year review and revise Recovery Plan in cooperation with Recovery Team	$50,000	$70,000	$50,000	$70,000	n/a	n/a	n/a	n/a	n/a	n/a	**$100,000**	**$140,000**
4. Operate conservation aquaculture program	$2,000	$1.7 M	$2,500	$1.71 M	$3,000	$1.72 M	$3,500	$1.73 M	$4,000	$1.74 M	**$15,000**	**$8.6 M**
5. Conduct outreach	$15,000	$45,000	$20,000	$55,000	$25,000	$65,000	$30,000	$75,000	$35,000	$85,000	**$125,000**	**$325,000**
6. Conduct research and field monitoring	$0	$950,000	$0	$975,000	$0	$1 M	$0	$1.025 M	$0	$1.05 M	**$0**	**$5 M**
Totals	**$147,000**	**$3.515 M**	**$125,500**	**$3.61 M**	**$128,000**	**$9.135 M**	**$143,500**	**$9.23 M**	**$159,000**	**$10.325 M**		