



Biological Opinion on the Effects of Libby Dam Operations on the Kootenai River White Sturgeon, Bull Trout, and Kootenai Sturgeon Critical Habitat

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Conclusion, Libby Dam operations:

- would jeopardize endangered Kootenai sturgeon and adversely modify its critical habitat. Included reasonable and prudent alternatives to avoid jeopardy and adverse modification.
- would not jeopardize threatened bull trout. Included terms and conditions to minimize potential "take" of bull trout resulting from Libby Dam operations



Performance based approach to implementing actions to avoid jeopardy to Kootenai sturgeon.

Focuses on habitat attributes needed for successful spawning and early life stage survival



Habitat attributes in the BiOp include:

- proper water depth,
- water temperature,
- water velocity, and suitable rocky spawning substrate

during the sturgeon spawning period of May and June.



This approach provides Corps and BPA:

- flexibility in the actions they take to meet these habitat attributes.
- guidance on how to meet the habitat attributes in the near term.



Focus of meeting the sturgeon habitat needs is two-fold:

- Take the habitat to the spawners
(Meander Reach)
- Take the spawners to the habitat
(Braided Reach)



Meander Reach: depth and temperature occur - but with low velocity water, and sandy substrate, so the eggs do not often survive into larval fish.

Braided Reach: good substrate, proper water temperatures and velocity occur - but the water depths are inadequate.



Two ways to create water depth in the Braided Reach. Add more water, or excavate and make deeper holes in the area.



BiOp recommends:

- Corps provide 25,000 cfs plus an additional 10,000 cfs over the spillway (May- June)
- 3 out of the next 10 years (2006-2016) when conditions allow
- occurring as often as possible in the next four years (2006-2010).
- Corps and BPA pursue efforts to implement habitat improvement projects in both the Shorty's Island area (Meander Reach) and the Braided Reach as soon as possible, with a goal of having those habitat projects in place by 2010.



Higher flows (25,000 plus 10,000 cfs) are needed in the short term (until 2010), with suitable water temperatures, to attract more sturgeon to the habitat in the Braided Reach where they could have successful spawning and egg incubation.



"Kitchen sink" approach

BiOp recognizes the importance of concurrently implementing as many actions as possible, as quickly as possible, in an effort to stabilize this sturgeon population.

The Service supports an ecosystem approach to stabilize the Kootenai sturgeon population, including continuation of the conservation aquaculture program, and fertilization of Kootenay Lake.



The Corps has already mentioned the operations at Libby Dam they implemented in 2006 to meet the BiOp requirements, and will discuss them further in other presentations.