

**Prioritized Instream Flow Needs for  
Yakima River Basin Study/Integrated Water Resource Management Plan**

*Background: The Instream Flow Needs Subcommittee of the YRBWEP Workgroup recommended in June 2010 the following flow priority needs be addressed in the Integrated Water Resource Management Plan (Integrated Plan).*

*This approach is a partial departure from previous Reclamation studies, where a specific block of water was identified for instream flow enhancement. New water supply from projects in the Integrated Plan will be dedicated to instream flow enhancement, but not a discrete block(s) of water. The new supply is used conjunctively for in and out of stream needs, applied on a reach-specific basis. The approach is focused on how to improve habitat conditions within each reach as specified by the objectives below, and provides for flow management flexibility and adaptive management.*

*Flow is one of several components necessary to achieve desired salmonid habitat improvements, and should be implemented in concert with other habitat improvements such as side channel connectivity, improved passage, and other habitat improvements identified in the Habitat Enhancement Program<sup>1</sup> of the Preliminary Integrated Plan.*

***Action: The Workgroup accepts the flow objectives and the associated prioritization framework identified in Table 1 as rough approximations for instream flow needs to be met through the combination of actions in the Integrated Plan. These flow needs will be refined through use of the RiverWare model. The Workgroup will have the opportunity to formally approve the final instream flow needs met through the Integrated Plan at a future meeting.***

<b>Table 1 – Yakima River Basin Instream Flow Needs By Reach</b>		
<b>River Reach</b>	<b>Flow Objective</b>	<b>Priority</b>
Keechelus Dam to Lake Easton	Improve summer rearing by reducing flows down to 450-550 cfs. Increase winter flow to 120 cfs (connection to side channels at that flow). Provide pulses in winter.	High
Kachess River	No change proposed – lesser priority for improving river flow because of other objectives	
Easton Reach	Provide spring pulse of 1000 cfs for 48 hours during dry years, augment spring Q for channel maintenance occasionally (5-yr for riparian recruitment – bank full during wet years)	Medium
	Currently 180 cfs, start spawning flow at 220 cfs, increase to 250-300 cfs in winter, 250 cfs provides connection to side channels. Spawning flows at 220 cfs.	High

<sup>1</sup> This program description is currently being updated by the Habitat Subcommittee

<b>Table 1 – Yakima River Basin Instream Flow Needs By Reach</b>		
<b>River Reach</b>	<b>Flow Objective</b>	<b>Priority</b>
Cle Elum River	Reduce flow, modify flip flop to give more gentle change in hydrograph. In wet years, spill earlier but hold water back in August to reduce flow (reduce by 1000 cfs). Also desire to bridge peaks between spring and summer to improve cottonwood establishment.	High
Cle Elum River continued	Increase to 500 cfs September through March. Side channels are thought to be activated around 500 cfs, and one was recently modified to activate at 200 cfs, provide pulse flows.	High
Cle Elum to Teanaway River	Reduce flows from 4000 cfs to 1000 cfs by late August. Ok to have high flow in July, as mimics unregulated hydrograph.	High
	Provide channel shaping flows every 5 years or so.	Medium
	Provide flow variability, see Cle Elum River.	Medium
Teanaway to Roza Dam	Reduce summer flows	High
	Provide channel shaping flows every 5 years or so	Medium
	Provide flow variability, time pulses to match natural events.	Medium
Roza-Naches	Increase flow to about 1400 cfs for high and average water years from March through May <sup>2</sup> .	High
	Increase to 1000-1400 cfs (use IFTAG flows). Link flows to habitat needs. Compare to 2-D habitat model for reach above Roza Dam.	High
	Provide flow variability	Low to medium
Bumping Dam—Lower Naches	Reduce flows by 70-100 cfs from August through October	Medium
Tieton River	Maintain minimum 125 cfs flow during winter months	High
	Reduce September flows as much as possible.	Medium
Lower Naches River	Change ramping rate from spring to summer. Increase summer low flow. Check habitat needs vs flow.	High
	Reduce September flows as much as possible. Look at releasing more in summer and reducing flip flop.	High
Yakima River Naches River to Parker	Reduce high summer flows as much as possible	Low
Yakima River from Parker to Toppenish Creek (Wapato reach)	15,000 – 20,000 acre-feet to use specifically for smolt outmigration in dry years. See SOAC recommendations for pulse flows. Evaluate early and late pulse and opportunities to improve Sockeye passage also. Change ramping rate at end of high flows that occur in June-July in average-wet years.	High
	link to habitat needs	No priority assigned <sup>3</sup>

<sup>2</sup> Yakima Joint Board of Control is planning to conduct a study below Roza to improve the biological basis for flow enhancements in this reach. Results are expected in 12 -18 months.

Table 1 – Yakima River Basin Instream Flow Needs By Reach		
River Reach	Flow Objective	Priority
Yakima River: Toppenish Creek to Prosser Dam	See Wapato Reach	See Wapato Reach
Yakima River— Chandler Reach	Need greater than 1000 cfs in September	Low
	Although some subordination occurs to provide 1000 cfs, need more flow	Low
Lower Yakima River (Chandler Powerplant to mouth)	see Wapato Reach	Low
	link to habitat needs	Low
Tributaries		
Manastash, Taneum, Cowiche	Increase summer and early fall flows.	High
Big, Little	Increase summer and early fall flows.	Medium
Ahtanum	Increase summer and early fall flows.	High
Wenas	Increase summer and early fall flows.	Lower
North Side Kittitas Valley Tributaries	Improve passage	

<sup>3</sup> This reach needs to better understanding of existing conditions. Design and implement research, monitoring and evaluation (RM&E) program to better understand improvements needed. Develop flow objectives from RM&E results.