Willamette Basin Alternative Futures

The Brownsville Dam and Sodom Dam (at Thompson's Mills) are two of the top fish passage priorities in the Willamette Basin due to the dams' mainstem locations, the listed fish species involved, and the dams no longer serving a compelling purpose.

T7. How does the project fit within the larger watershed context?

The Brownsville Dam removal is the highest priority project the Council will ever work on – with the exception of addressing fish passage at Thompson's Mills. Mainstem fish passage is the highest, best use of limited restoration funds for our watershed. Without unhindered access to the spawning and rearing habitat upstream, salmon recovery in the Calapooia Watershed will never reach its full potential. We could do tree plantings for the next 20 years, but if the salmon struggle to reach the only suitable spawning habitat in the basin, the impacts of these efforts is limited.

The project planning and design take into consideration the entire life cycle of all fish species present in the river that will benefit from dam removal. Potential future flood events are not impacted by removal of this structure. The Brownsville Dam does not impound water for flood storage – winter flows go right over the top surface of the dam and the dam is barely visible under very high flows.

The only other mainstem fish passage barrier in the watershed is at river mile 28, the Sodom Dam at the Thompson's Mill site. The Calapooia Watershed Council has been working closely with the manager of the dam, Oregon Parks and Recreation Department, and other public and private partners to develop a workable solution to the fish passage issues at this location as well. Both of these barriers must be resolved to restore fish passage to the Calapooia River and each one has its own unique set of physical, biological, economic and social circumstances. Once these two mainstem projects are completed, the mainstem Calapooia River will be a free-flowing river. **There are no other mainstem barriers.**

Potential fish passage barriers were assessed for the tributary streams in the middle Calapooia Watershed in spring 2003. Over 80 culverts and 30 bridges were inventoried on county, federal, and private lands. Criteria were developed to identify high priority opportunities for replacement. The Calapooia Watershed Council is working with partner Linn County to address culverts on tributary streams that are barriers to fish passage. We are concentrating our efforts on tributary streams with salmonid habitat on county roads and individual landowner properties. The County has received (January 2006) an Oregon Watershed Enhancement Board grant to replace three culverts on the Calapooia's most significant tributary, Brush Creek. Linn County plans to continue working to address County culverts and partnering with private landowners to improve fish passage in strategic locations in the watershed.

Tremendous work has been done in the upper Calapooia watershed by the watershed's largest single landowner, Weyerhaeuser Company. They have invested over $2 million in improving culverts, roads and riparian areas to benefit salmonids in the upper quarter of the Calapooia Watershed. They completed a watershed assessment in 1998 that prioritized the tributary streams on their property for culvert replacements and installed large wood to mitigate for the historic damage done by logging. *(See Figure 10)*

T8. Are there potential adverse impacts to other properties or resources as a result of this project? If yes, what are they and how have they been addressed in the project plans?

With a project of this size and scope, there is the potential for impacts to other property owners. The landowner adjacent to the dam site on both sides of the river downstream of the dam is John Holbrook, President of the Brownsville Canal Company (the organization that owns the dam). He is very supportive of this project and understands that there may be impacts to his property.

Linn County is responsible for the road that runs parallel to the Calapooia River less than 30 feet away from the top of the bank at the dam location. The County Road Department Engineer, Chuck Knoll, has expressed his support for this project.

T9. How will success be determined, i.e., what elements will be monitored/evaluated – by whom, how often, and for how long? How will project effectiveness be assessed? Be sure to link this to the objectives identified in T4 above. List:

Agency/Organization	Address	Activity and Frequency
OR Dept of Fish and Wildlife	7118 NE Vandenberg Ave, Adair Village, OR 97330	• Conduct snorkel surveys for determining salmonid populations. (1/yr for 10 years) • Conduct redd surveys (1/yr for 10 years)
Calapooia Watershed Council	P.O. Box 844, Brownsville, OR 97327	• Establish photo points at the benchmark channel cross-sections upstream of the dam and at eight of the downstream meanders. Take pre/post project photos 2 times annually for 5 years.

The Council will hire a contractor summer 2006 to begin the monitoring program outlined below and collect one season of pre-implementation monitoring. If the timing and funding permits, another season of pre-implementation monitoring will be conducted in May-June 2007 prior to dam removal. This dam removal is the first one of this size to take place in the Willamette Valley. This monitoring approach documents the changes that will occur in the Calapooia River following the dam's removal and will provide valuable lessons learned for future Willamette Valley dam removals *(links to Objective 5: Document changes that occur in the Calapooia River)*.

Baseline pre-implementation and post-implementation monitoring parameters:

1. Complete longitudinal channel profile survey from crest of dam structure to upstream limit of deposited sediment wedge. (1-year pre-implementation)

2. Establish at least three permanent benchmark channel cross sections at selected locations across upstream sediment wedge. (1-year pre-implementation, annually for 5-years post-implementation)

3. Complete longitudinal channel profile from toe of dam downstream to a point that ends at the pool tailout below the 8th downstream meander. (1-year pre-implementation)

4. Complete longitudinal profile survey from upstream end of sediment wedge downstream to the eighth meander pool tailout. (Annually for 5-years post-implementation)

5. Establish three permanent benchmark channel cross sections at each of the eight downstream meander lengths, one at the head of each meander, one at the apex of each meander and one at the tailout of each meander. (1-year pre-implementation, annually for 5-years post-implementation)

6. Conduct particle size distribution data collection at the three upstream channel cross section transects and at each of the eight downstream meander pool tailout cross section transect locations.
(1-year pre-implementation, annually for 5-years post-implementation)

7. Collect macro invertebrate samples at the three upstream benchmark channel cross section transects and at each of the eight downstream meander pool tailout cross section channel transect locations. (1-year pre-implementation, annually for 5-years post-implementation)

8. Using longitudinal survey and channel cross section survey data, calculate residual pool volumes for all eight of the downstream meander pools. (1-year pre-implementation, annually for 5-years post-implementation)

9. Conduct habitat quality survey data, using ODFW protocols from upstream end of sediment wedge downstream to the eighth meander pool tailout. (1-year pre-implementation, years 1, 3 and 5 post-implementation)

T10. Who will inspect and sign off on the completed work? Who will submit required project reports? Please provide contact information.

Name/Agency/Organization	Address	Activity and Frequency
Calapooia Watershed Council	P.O. Box 844, Brownsville, OR 97327	Council Chair is responsible for inspection of contractor work and sign-off of payment requests. Payments to contractors will be based on the deliverables and schedule in the contract and work plan for the various contractors.
Project Manager for the Grant	Not determined at this time.	Project manager will be the point of contact for everyone involved with the project as well as the clearing house for permits, payment requests, grant reports, etc. Project Manager will work closely with the Council Chair to insure the project is on schedule, that work is completed in a timely fashion and that contractors are following the agreed upon work plan prior to payments being issued. Project Manager and Council Chair will inspect all completed work and consult with agency partners as necessary. Project Manager is responsible for required project reports.
NMFS, ODFW, WRD, City of Brownsville, Brownsville Canal Company	*See attached letters of support*	All agency and local government partners have pledged to be involved with the project in their letters of support. Services to be provided include: design review and comment, attend site field trips, and provide background information to project contractors.
Cascade Pacific RC & D	305 SW "C" Street,	CPRCD is the Council's fiscal agent and prepares and