Lower Tolt River Floodplain Reconnection Project

River restoration and some of its challenges

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Chinook, steelhead, coho, pink and chum salmon in the Tolt River

These fish are most challenged by:

1. Migratory conditions in the lower Snohomish
2. Rearing & Refuge conditions in lower Tolt/Snoqualmie area
3. Spawning conditions in the lower Tolt

The Basins and the Fishes
Project Goals:

- Restore floodplain connectivity and natural channel-formation processes
- Maintain existing Tolt River flood protection
- Enhance County park amenities at project site
“Social” Challenges

- Chronic severe flooding, especially from Snoqualmie River
- Project in public park where tubing on river is very popular summertime activity
- Prehistoric cultural resources prevalent at project site
Major Project Components

- New LWD bank revetment
- Initial Outlet Channel
- Engineered Log Jams
- Historic Levee Removal
- New Setback Levee
- Inlet Tributary Pilot Channels

City of Carnation

Tolt River
Concept of future Floodplain Restoration

Potential Future Channel Configuration
Lower Tolt River Floodplain Reconnection Project
Engineered Log Jams (ELJ’s)
Pilot Outlet Channel
Old Levee Removal
First minor flood event 10/26/09
New Setback Levee
Create a communications plan at the outset of the project and diligently respect it—it keeps you current with stakeholders and it will save you years of money.

DON’T wait for formal communications opportunities—create them.

Be TRANSPARENT and ask the same of partners and stakeholders.
Project Lessons—Talking to the public:

Example:

Community concern that Tolt River hydraulically holds the Snoqualmie River against the west side of the valley by “pushing” the water over. “Won’t removing Tolt levee just cause the Snoqualmie to meander through downtown Carnation?!”
Two ways of giving the same answer...

1. The alluvial fan deposition at the confluence is prohibitive to lateral channel avulsion, and not hydraulic interaction between the two rivers...

2. The sand and gravel that is settled out at the mouth of the Tolt where it slows down, causes the Snoqualmie to go around that mound, more than the force of the water hitting the Snoqualmie river as it naturally seems like.

People get alienated and frustrated by technical jargon. When they don’t understand something, insecurities are heightened—trust and listening DISAPPEAR!
Use the right people for the project—don’t be afraid to mix the experts from agencies and consultants.

Allow data & science to inform decisions, BUT not make THEM—every major decision about how to design a project or policy expresses a priority within (usually) a very complex balance of objectives.

⇒ The January 2009 logjam story...
Pick Up Sticks…
Other Valuable Lessons Learned

- Do needed modeling to assure design certainty.
- Value-engineer the heck out of your project before final design (give yourself enough time to run the constructability evaluation methodically).
- Stay persistent—complex habitat projects (especially those near communities) take longer than you think they should.
- Ask hard questions about your project’s technical and fiscal merit—this can assure eventual public support.
- Learn from doing! Get monitoring data that will answer the key questions that improve future work.