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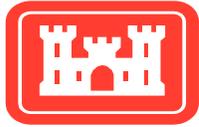
Columbia River Fish Mitigation Project (CRFM)



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Columbia River Fish Mitigation Project

- Purpose: Improve fish survival through the “passage” dams on the Columbia/Snake Rivers
- Initiated in 1991
- Funded through annual Congressional appropriations
- BPA repays Treasury for “power share” of costs
 - Payments begin when new facility goes into operation (costs transferred to “plant-in service”)
 - Amortized payments



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Columbia River Fish Mitigation Project

- Transfers to Plant-in-Service
 - Normally costs transfer when new facility goes into operation
 - Special Congressional guidance provided for study costs within the project (mitigation analysis)
 - Hold until mitigation analysis “completed”
 - Contemplated a 2001 completion
 - Guidance pre-dated BIOPs and subsequent scope of program
 - Currently approximately \$300M being held
 - Corps revisiting the issue



Columbia River Fish Mitigation Project

Annual Expenditures

| | |
|------|---------|
| 1997 | \$85.2M |
| 1998 | \$98.3 |
| 1999 | \$78.6 |
| 2000 | \$70.4 |
| 2001 | \$84.5 |
| 2002 | \$73.2 |
| 2003 | \$82.3 |
| 2004 | \$65.9 |

Transfers to Plant-in-Service (power share)

| | |
|------|---------|
| 1997 | \$ |
| 1998 | \$ |
| 1999 | \$14.1M |
| 2000 | \$47.0 |
| 2001 | \$6.2 |
| 2002 | \$8.8 |
| 2003 | \$68.4 |
| 2004 | \$60.6 |

Pacific Ocean

Seattle

Columbia R.

Lower Monumental
Little Goose
Lower Granite

Tri Cities

Ice Harbor

Lewiston

Bonneville

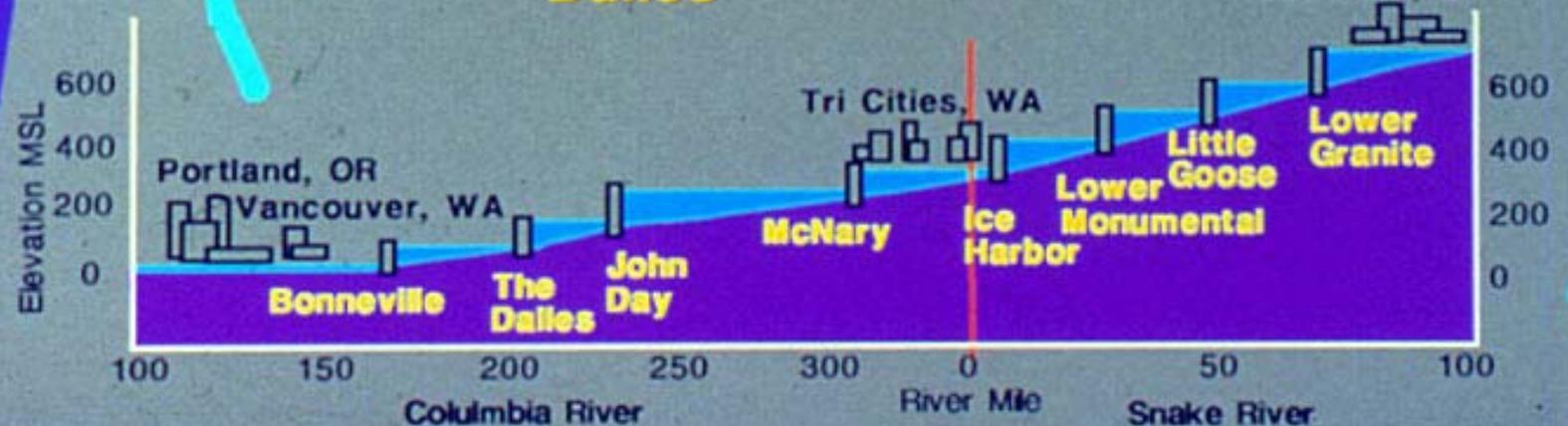
McNary

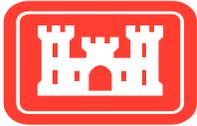
Portland

The Dalles

John Day

Lewiston, ID





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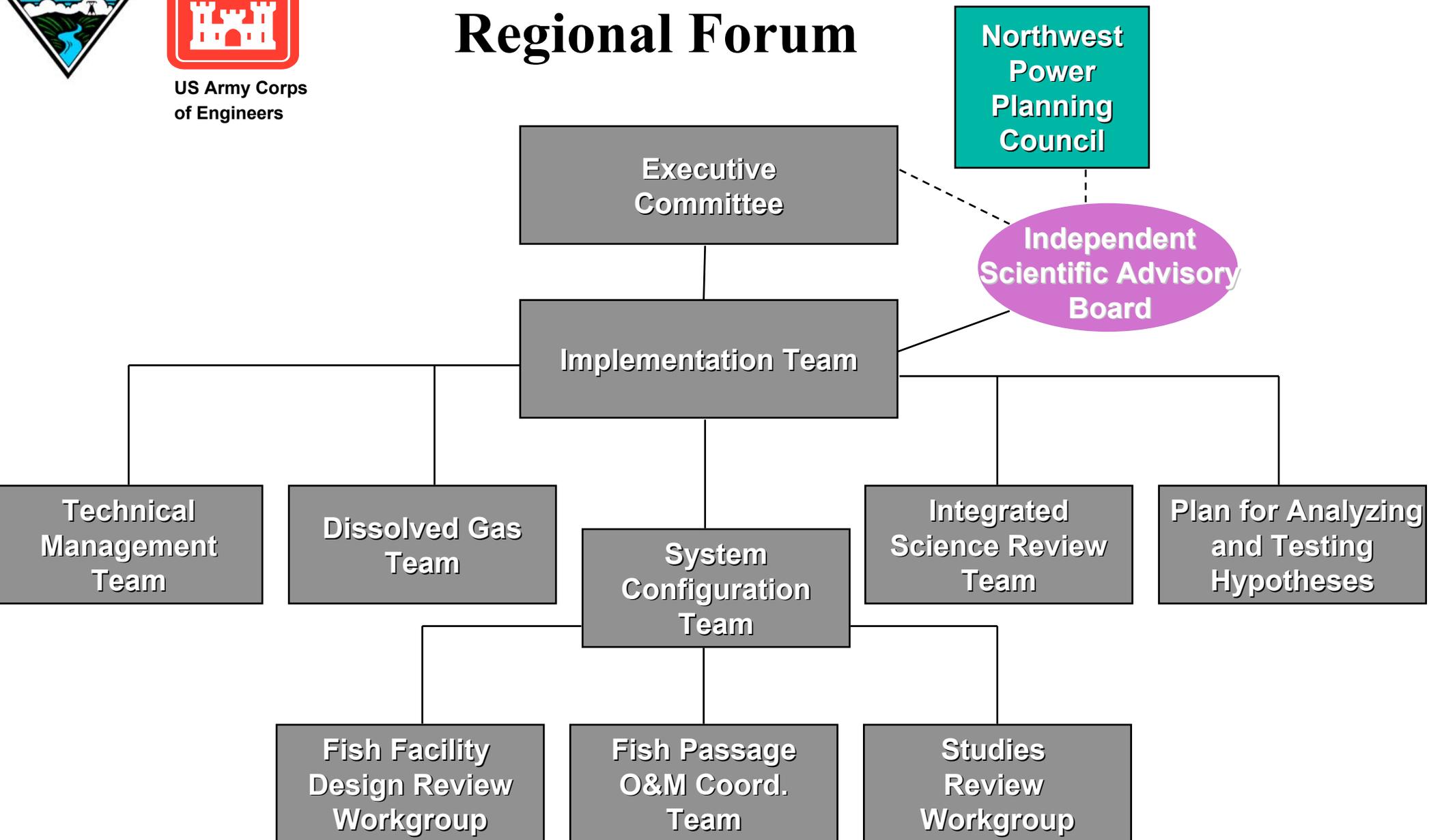
Columbia River Fish Mitigation Project

- Primary focus - passage facility configuration and operations at the dams
 - Evaluate project and system fish passage & survival
 - Identify/develop/construct passage improvements
 - Seek cost effective alternatives
 - Implement Biological Opinions
 - Regional coordination
 - Biological/technical review & input
 - Input on prioritization



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Regional Forum





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Columbia River Fish Mitigation Project

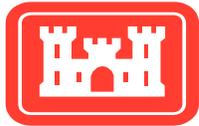
- 2005 program highlights
 - Passage research at all projects except John Day and in the estuary
 - Avian predation research and planning
 - RSW construction at Ice Harbor
 - RSW design for Lower Monumental
 - Surface bypass/configuration evaluations at The Dalles, John Day, McNary and Little Goose



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Columbia River Fish Mitigation Project

- Cost Effectiveness
 - Develop alternatives for each project or group of projects
 - Consider all costs, including opportunity costs
 - “Decision documents”
 - Coordinate with Regional Forum partners
 - Key issues
 - Biological outputs
 - Uncertainties wrt the science (such as transport vs. in-river)



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Columbia River Fish Mitigation Project

- Project execution
 - Follow guidelines of Corps' Project Management Business Process
 - Project Manager and Project Delivery Team assigned
 - Project Management Plan developed
 - Monthly management reviews (cost and schedule performance & issues)
 - Independent Technical Reviews



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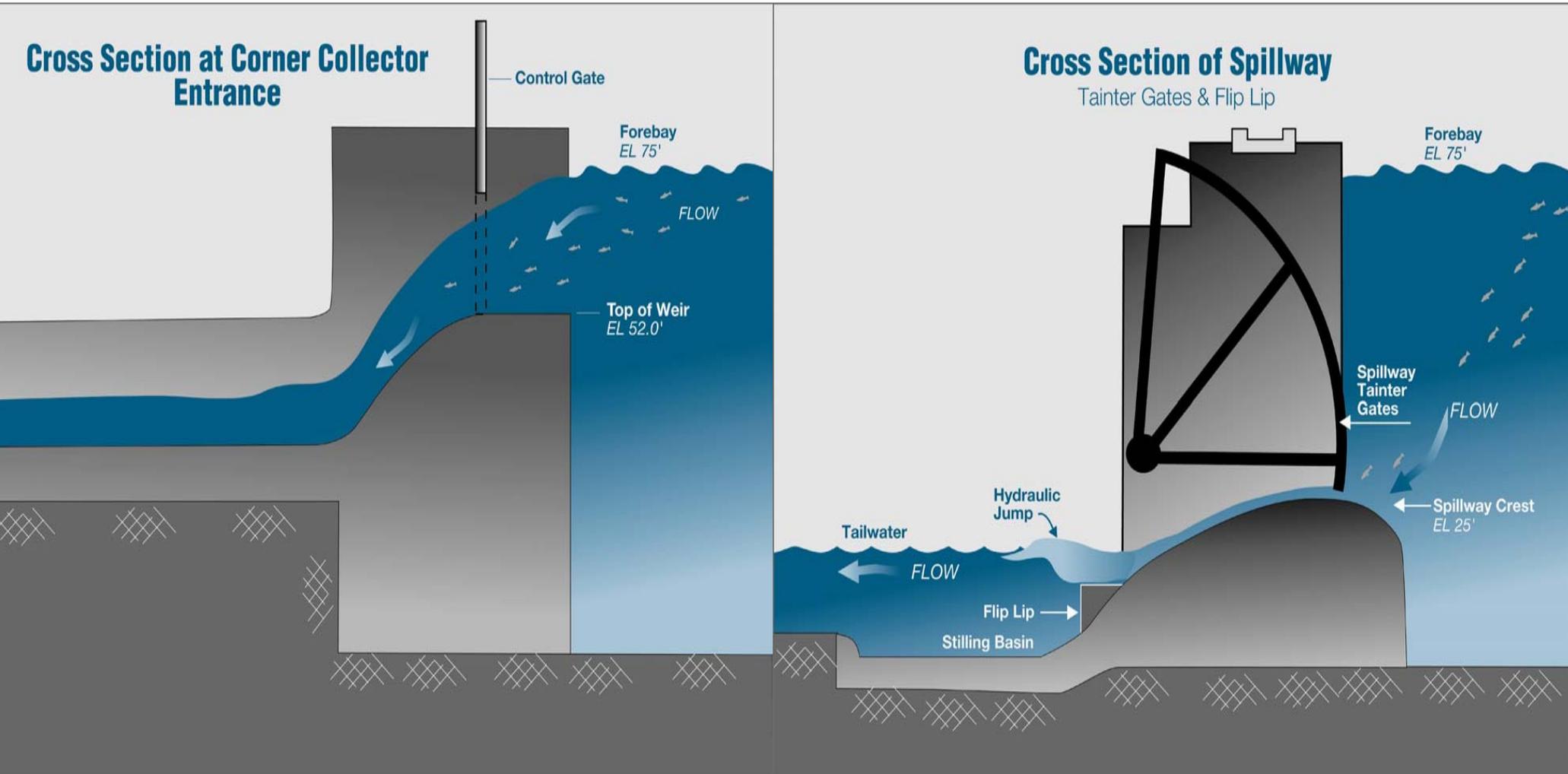
Columbia River Fish Mitigation Project

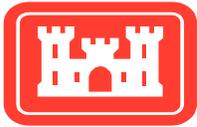
- Anticipated future actions
 - Continue development of surface bypass
 - Spillway weirs
 - Sluiceway modifications
 - Forebay guidance devices
 - System analysis for Snake River Dams and McNary (transport projects)
 - Decision documents for John Day & The Dalles, update Bonneville's
 - Continue to address biological performance issues



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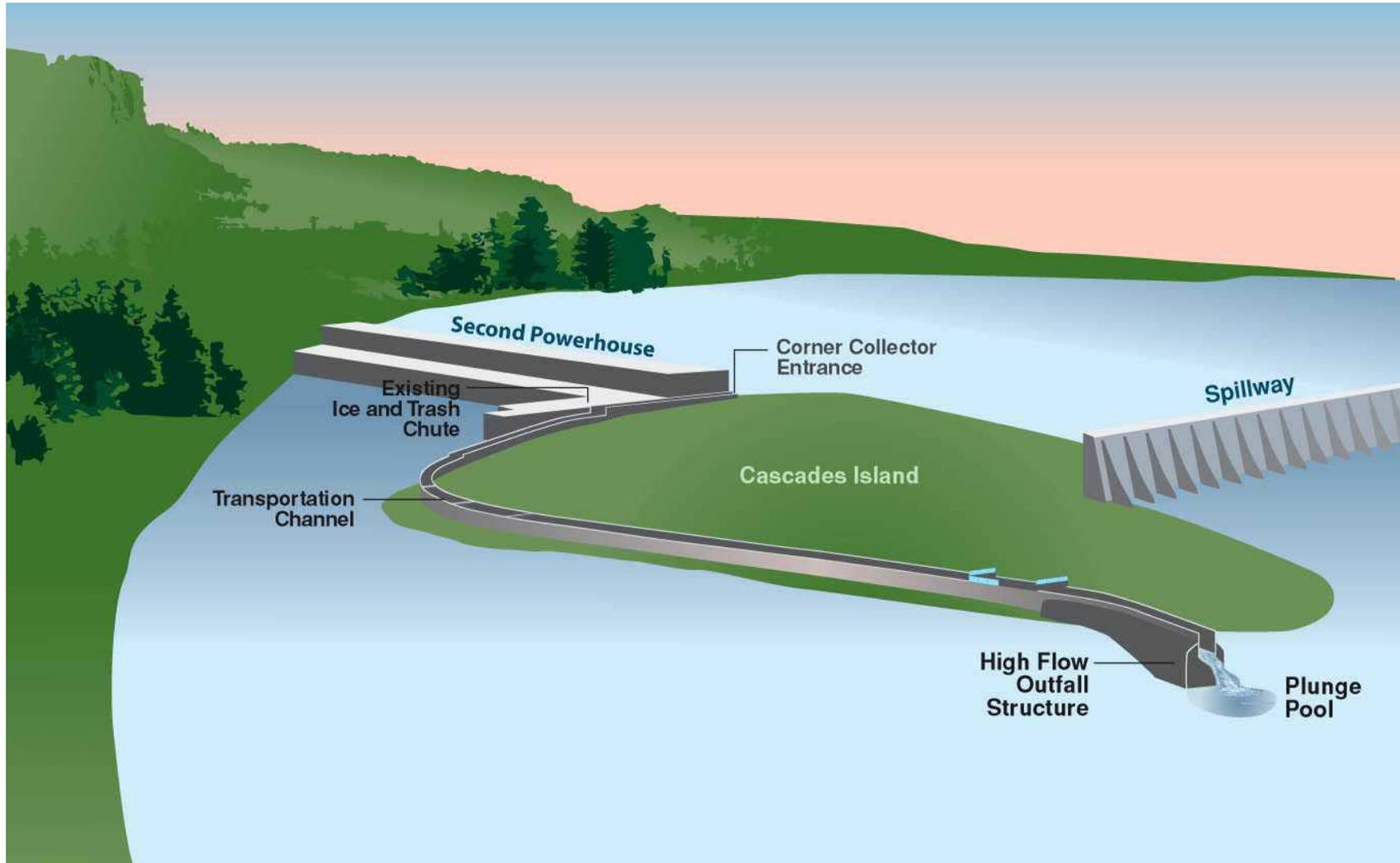
Surface Bypass vs. Spillway Bypass

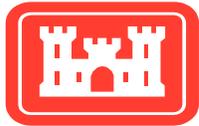




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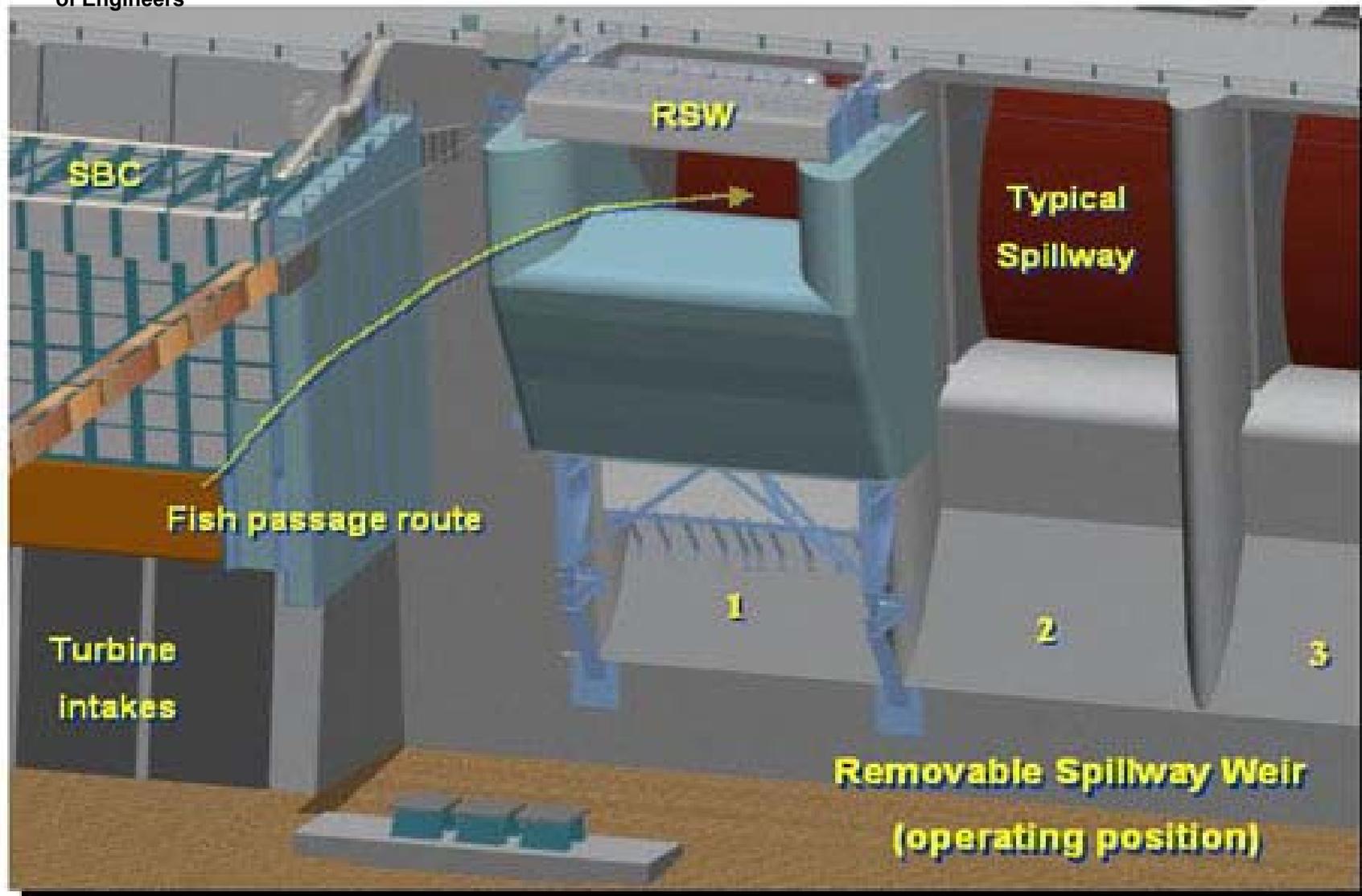
Bonneville 2ndPH Corner Collector

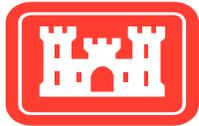




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Removable Spillway Weir





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Columbia River Fish Mitigation Project

- Costs
 - Thru FY 2004 (expended) \$ 930 million
 - FY 2005 (appropriated) \$ 75
 - FY 2006 (request) TBD
 - Annual estimates (2007-2014) \$70-90M /year
 - Estimated total project cost \$ 1,550-1,650 million
- Schedule
 - Complete by 2014 (to meet Biological Opinion goals)
 - Additional work to ????