Puget Sound Energy Baker Project Relicensing
Hydrology and Aquatic Resource Studies

Baker and Skagit Rivers, Washington

R2 provided aquatic resource services for Puget Sound Energy's Baker River Project relicensing team. Since 1999, R2 has been working with PSE's Baker team to implement a relicensing strategy and conduct required studies. The Baker River Hydroelectric Project consists of two dams and reservoirs with two powerhouses generating a total of 134 MW. The current license expires in 2006 and PSE submitted a Settlement Agreement signed by all stakeholders on November 30, 2004.

In concert with Alternative Licensing Procedures established by the FERC in 1997, R2 has been working collaboratively with resource agencies, tribes, non-governmental agencies, and PSE to identify, scope, and implement required studies. R2 staff participate in monthly meetings to inform all parties of study progress and solicit feedback to ensure broad stakeholder involvement.

R2 was responsible for study plan design, budgeting, and implementing 17 different aquatic studies. Issues addressed during relicensing included State and USFS versus FERC definitions of baseline conditions. Studies undertaken by R2 include analyzing project effects on geomorphic processes and developing a large woody debris budget to predict wood recruitment and transport. Habitat and biological surveys in the project subbasins were used to model potential fish production under future with- and without-project scenarios. R2 also conducted an instream flow study designed to provide guidance for developing a management regime for project reservoirs and downstream habitats. The instream flow study used steady state and unsteady hydraulic models to assess changes in habitat conditions associated with seasonal and hourly flow patterns.

Project Elements:

- Hydro Project Relicensing
- ESA Consultation: Pre- and Post-licensing
- Bull Trout and Chinook Salmon
- Reservoir Operations
- Skagit River Flow Management Plan
- Future Without-project Conditions

In addition to relicensing studies, R2 has worked with PSE, the FERC, and the Services to evaluate operational alternatives to protect bull trout and Chinook salmon during pre-licensing conditions. R2 analyzed project hydrology, flood control requirements, hydropower generation, structural and operational capabilities and species requirements, and prepared separate Biological Assessments to address interim (pre-licensing) and post-licensing activities.