CASE STUDY

Puget Sound Energy Upper Baker Lake

CONCRETE, WASHINGTON

FULL EXCLUSION GUIDE NETS

Pacific Netting Products designed a full-depth barrier net to guide downstream migrating smolts to a floating collector system at the Puget Sound Energy (PSE) Upper Baker Lake. In 1985, the Skagit River annual adult sockeye returns had plunged to a low of just 99 fish, imperiling the stock. For the next twenty years, PSE invested in habitat, hatchery, and other methods to support the watershed's fish populations and to improve downstream fish passage.

PNP worked with PSE engineers and their engineering firm, as well as fish biologists, regulators, contractors, and others, helping them understand the benefits of advanced material and the technology of net fabrication in meeting their goals, concerns, and downstream migration objectives.

Working under tight schedules with multiple stakeholder interests, PNP custom-designed flexible exclusion and guidance screens that were built of high molecular weight polyethylene fiber (Dyneema®). These screens had structural features to allow strength, shape, and fish passage service during periods of high pool fluctuations. It went into service in 2012, in time for the outbound spring migration.

KEY FEATURES

- Full exclusion guide nets
- 2,000 ft long x 300 ft deep, about 500,000 sq ft
- Built with 1/8" x 1/8" and 1/4" x 1/4" Dyneema® netting
- Designed for extreme pool fluctuations (50 to 70 ft)
- Helped PSE improve downstream fish passage
- Designed for single direction water flow velocities 0.1–0.5 fps
- Secured by shore-side embedment anchors
- Deployed year-round

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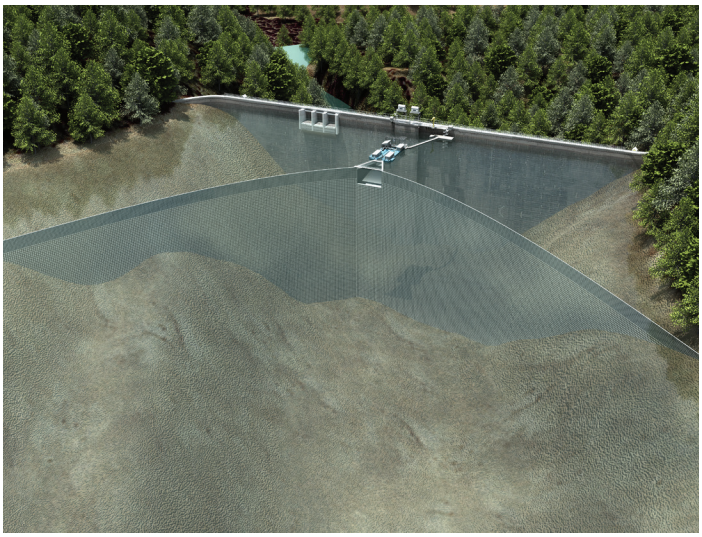
PNP
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