

# Goat Lake Hydro (PP01)

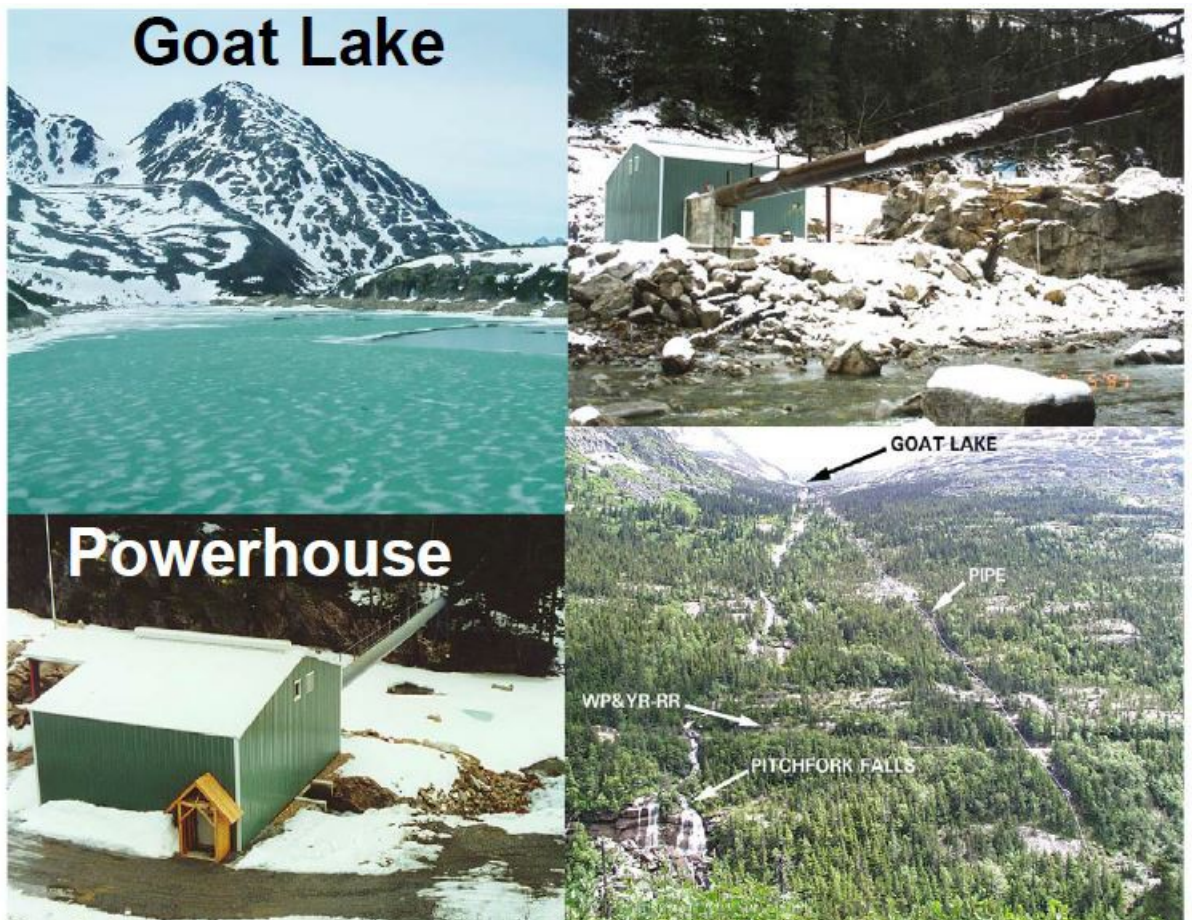
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The Upper Lynn Canal's cornerstone is the Goat Lake Project, a 4.0-megawatt hydroelectric facility located seven miles north of Skagway. The 204-acre glacially fed lake has the winter storage necessary to sustain year-round hydro generation. Goat Lake Hydro became operational in December 1997, and was interconnected with Haines via a 15-mile submarine cable in September 1998. The submarine cable was laid in Taiya Inlet, a fjord with depths up to 1,500 feet. This project allowed diesel-powered generators at both the Skagway and Haines plants to be quiet for the first time in nearly 80 years.

The lake is used as a reservoir without any dam. The lake continues to have an uncontrolled spillway using the original outlet. A siphon intake extends into the lake a horizontal distance of 369-feet to obtain 185-feet of submergence, or an elevation of 2740, potentially drawing the lake down to the approximate elevation 2885 at peak use, during the winter.

Lake El. 2925, Surface Acres: 204, 30 Foot Maximum Drawdown(soon to be 40), 5640 Acre Feet of Storage.

Features: Intake, Siphon, Catchbasin & Pumpback House, Valve House and Bypass, Penstock, Powerhouse, Switchyard, Transmission Line has generated 118,000,000kWh, has Been On-Line 44,000 Hrs, has Off-Set 230,000 Barrels Of Diesel Since start-up



➤ **Goat Lake Hydro. – 4.0 MW**

- Located 6.5 Miles NE of Skagway
- Constructed in 1996-1997; Storage Project – Alpine Lake
- Has FERC License No. 11077
- 2<sup>ND</sup> Low Impact Hydro Institute Certified Project in Alaska
- 5.5 Years to Permit and License
- \$18 Million to Permit and Construct (including Sub Cable
- Cable – 35 kV, 3- Phase Submarine
  - Skagway To Haines; laid in 1998
- No Recreation Mitigation for this Non-Recreation Site
- Maintain 8.5 cfs in Falls during summers for tourism
- Has generated .257,465,478 kWh (June 2012)
- Has off-set 18,724,762 Gallons of Diesel since start-up worth about \$74 million at today's price.

