

# Whitman Lake Hydroelectric Project

Ketchikan Public Utilities



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**Ketchikan Public Utilities (KPU)**

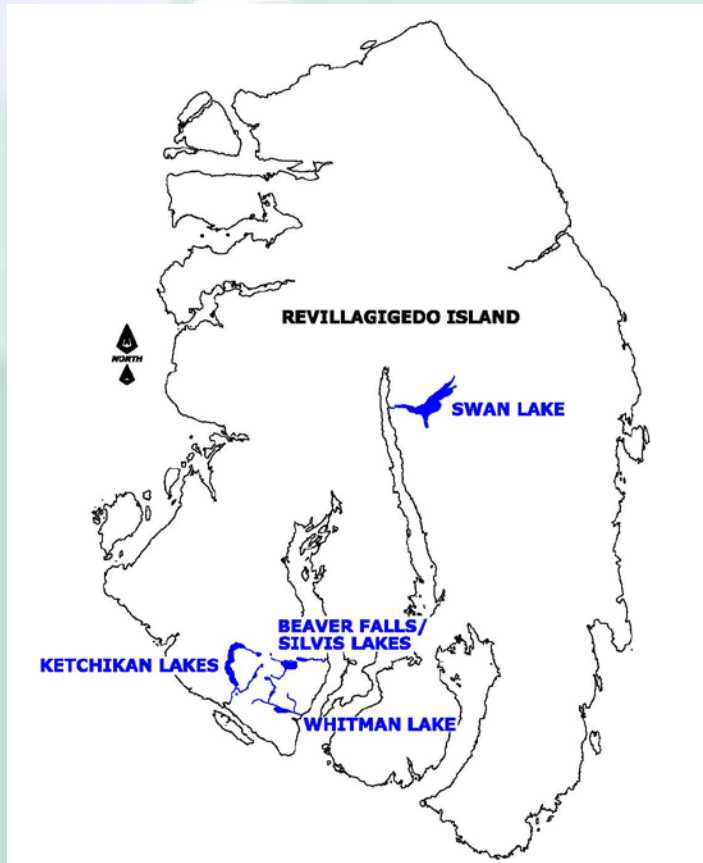
**The Need for Whitman**

**The Value of the Hatchery**

**The Win - Win**

# KPU Electrical System

## Generation Resources



### Hydroelectric Generation

Beaver Falls/ Silvis Project 8 MW

Ketchikan Lakes Project 5 MW

SEAPA (Swan Lake/Tyee) 24 MW

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Total 37 MW

**Diesel Generation 26 MW**

# Whitman – The Need

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## Capacity

	<i>Full Ponds</i>	<i>Low Water</i>
<i>KPU Hydro</i>	13 MW	8.3 MW
<i>SEAPA Hydro</i>	24 MW	24 MW
<i>Hydro Total</i>	37 MW	32.3 MW

Ketchikan experienced a peak load of **30.5** megawatts on December 14, 2009

# Whitman – The Need

<b>Date</b>	<b>HDD</b>	<b>24 Hr Energy Demand (KWH)</b>	<b>Peak (MW)</b>	<b>Energy/Peak % Change over 3/2/08</b>
Dec 15, 2009	39	611,346	29.7	16.3% / 14.7%
Dec 9, 2009	39	571,600	28.8	8.7% / 11.2%
Mar 25, 2009	39	546,100	26.1	3.9% / 0.8%
Mar 15, 2009	39	529,900	25.8	0.8% / -0.4%
Jan 24, 2009	39	546,600	26.9	4.0% / 3.9%
Mar 9, 2008	40	560,300	26.8	6.6% / 3.5%
Mar 2, 2008	40	525,700	25.9	--- / ---

# Southern Southeast Regional Aquaculture Association (SSRAA)

- SSRAA is a not-for-profit corporation whose mission is to enhance regional salmon fisheries.
- SSRAA's first hatchery was constructed in 1978 immediately below Whitman Lake.
- SSRAA now operates four regional hatcheries
- The Whitman Lake Hatchery remains an essential central incubation facility, annually producing 38 million juvenile salmon (chum, coho and chinook).



# SSRAA Economic Impact (2007 Data)

	Total Output	Employment	Labor Income
Commercial harvest of SSRAA salmon	\$8 million	110	\$3.6 million
Seafood processing of SSRAA salmon	30 million	215	4.9 million
Sport harvest of SSRAA salmon	3 million	45	1.0 million
SSRAA operations	5 million	50	1.9 million
<b>Total economic output from SSRAA</b>	<b>\$46 million</b>	<b>420</b>	<b>\$11.5 million</b>



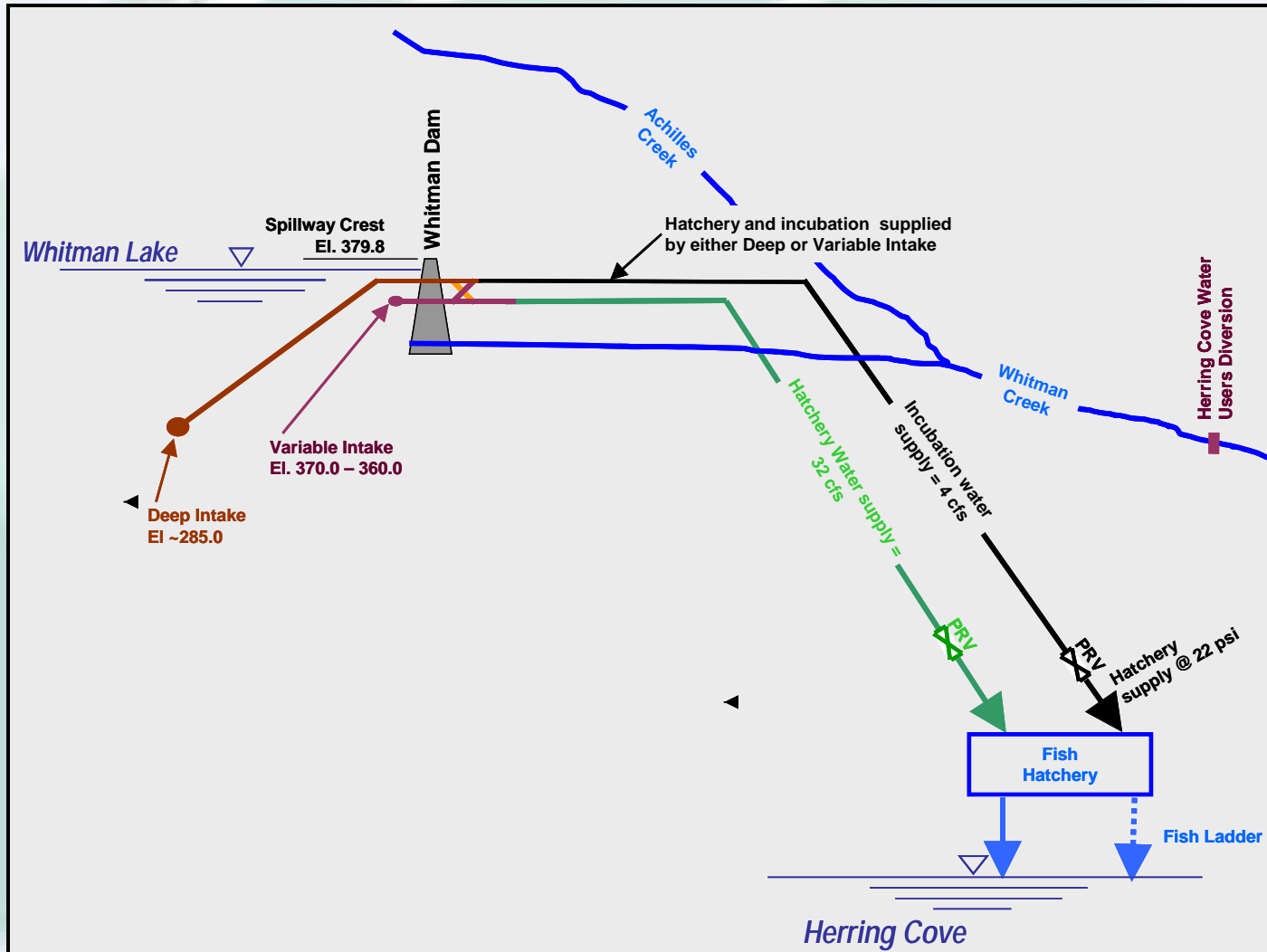
# Whitman Lake Hydro Project

SSRAA Hatchery



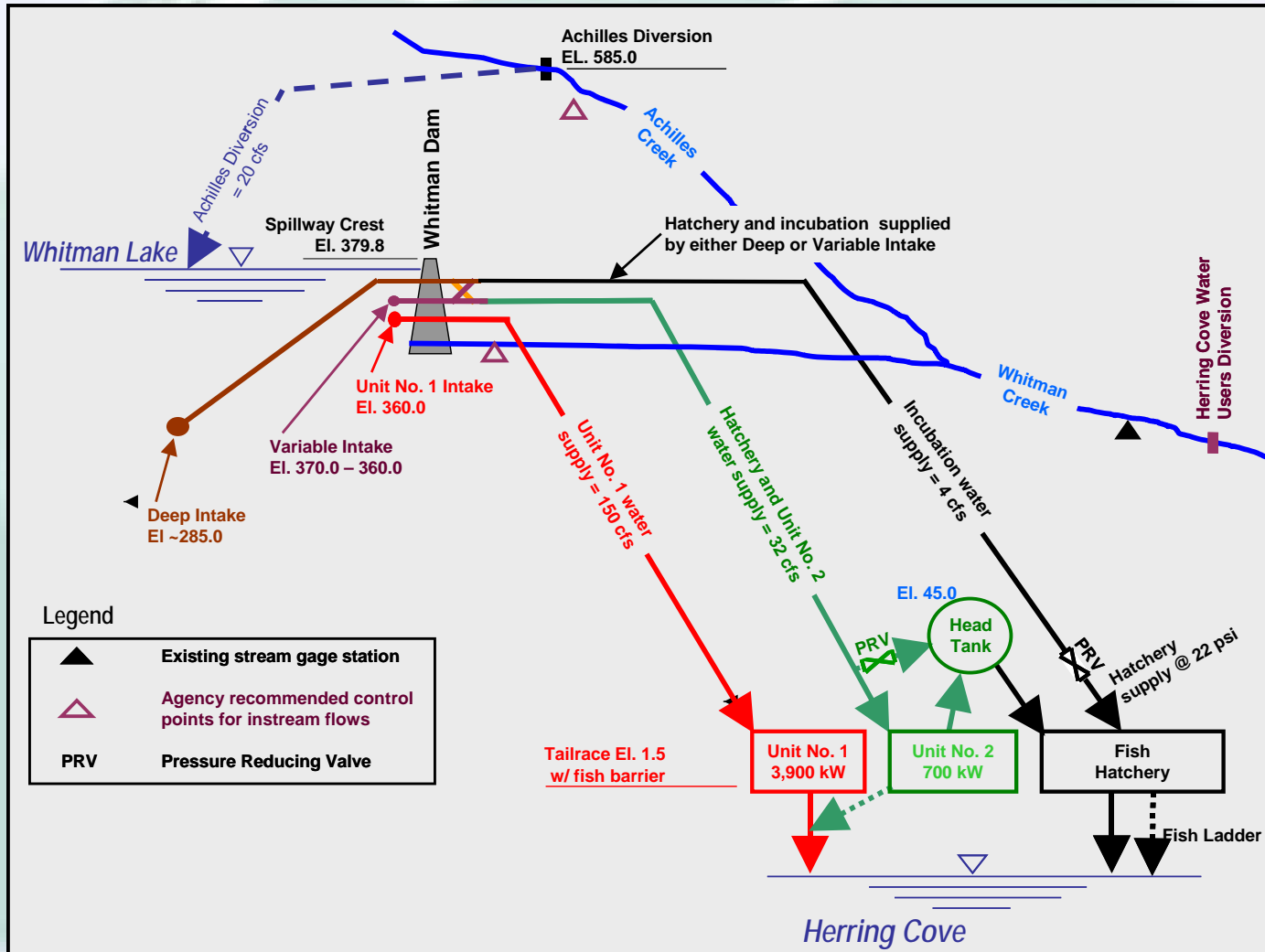
# Whitman Lake Hydro Project

## Existing Configuration



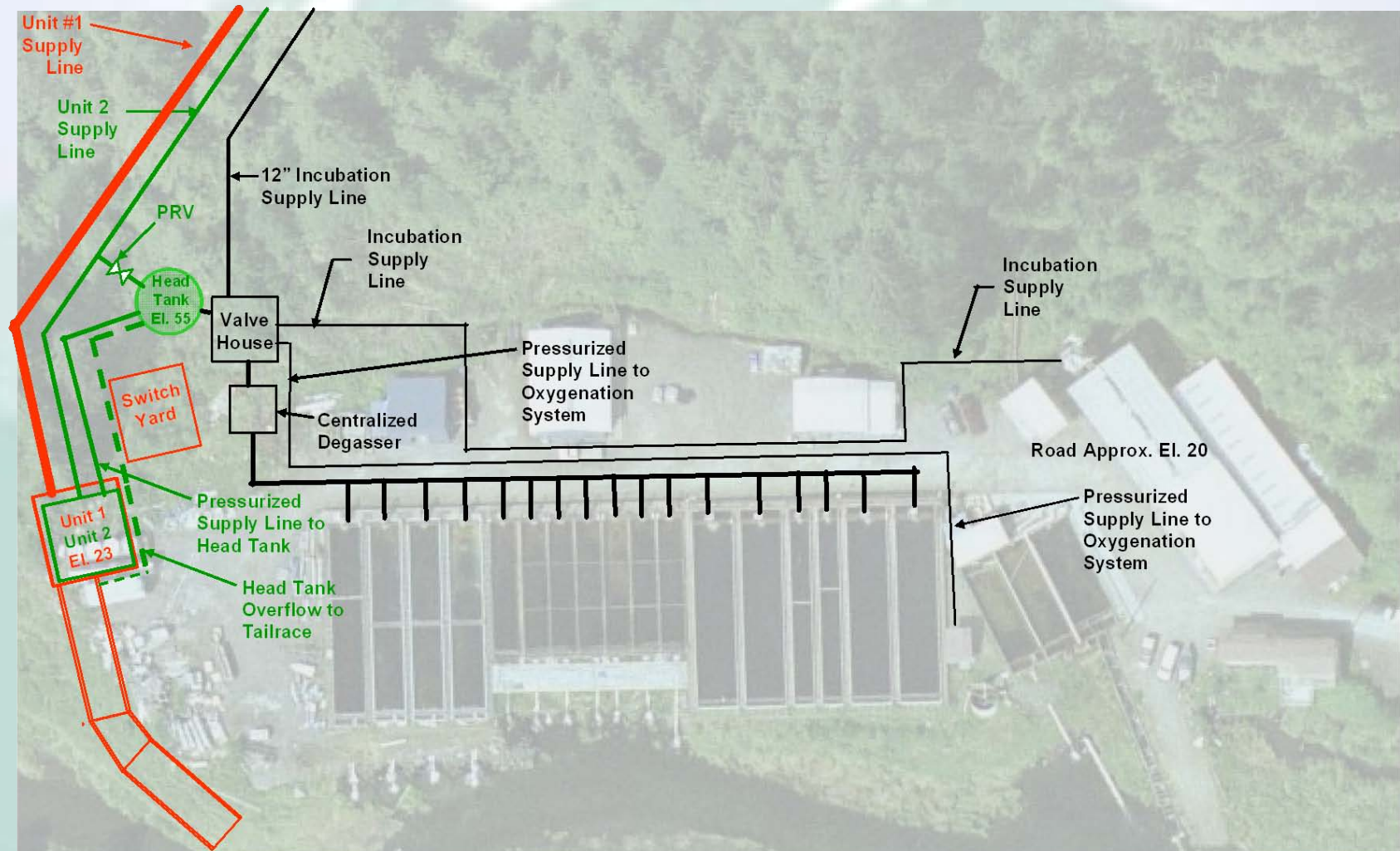
# Whitman Lake Hydro Project

## Proposed Configuration



# Whitman Lake Hydro Project

## Hatchery modifications



# Whitman Lake Hydro Project

## Benefits to SSRAA (The Win – Win)

- Replaces aging infrastructure (\$1.5 million)
- Higher degree of reliability and longevity for the hatchery
- Water supply system redundancy decreases risk and allows maintenance
- Whitman dam will be maintained under FERC dam safety program
- Improved working environment for hatchery personnel
- Improved operational control

# Whitman Lake Hydro Project

## Benefits to KPU (The Win – Win)

- Peaking when needed
  - Hydrology matches winter peaking need
- 16 gwh annually
  - Approximately a 10% increase over KPU annual load of 160 gwh
- Cost \$19 million
  - First year cost of power approx. \$0.11/kwh
  - Minimal upward pressure on rates



Questions?