

SEAPA

KETCHIKAN - PETERSBURG - WRANGELL  
Your Low - Cost Wholesale Power Provider

# The Southeast Alaska Power Agency

*Alaska Power Association, Annual Meeting*

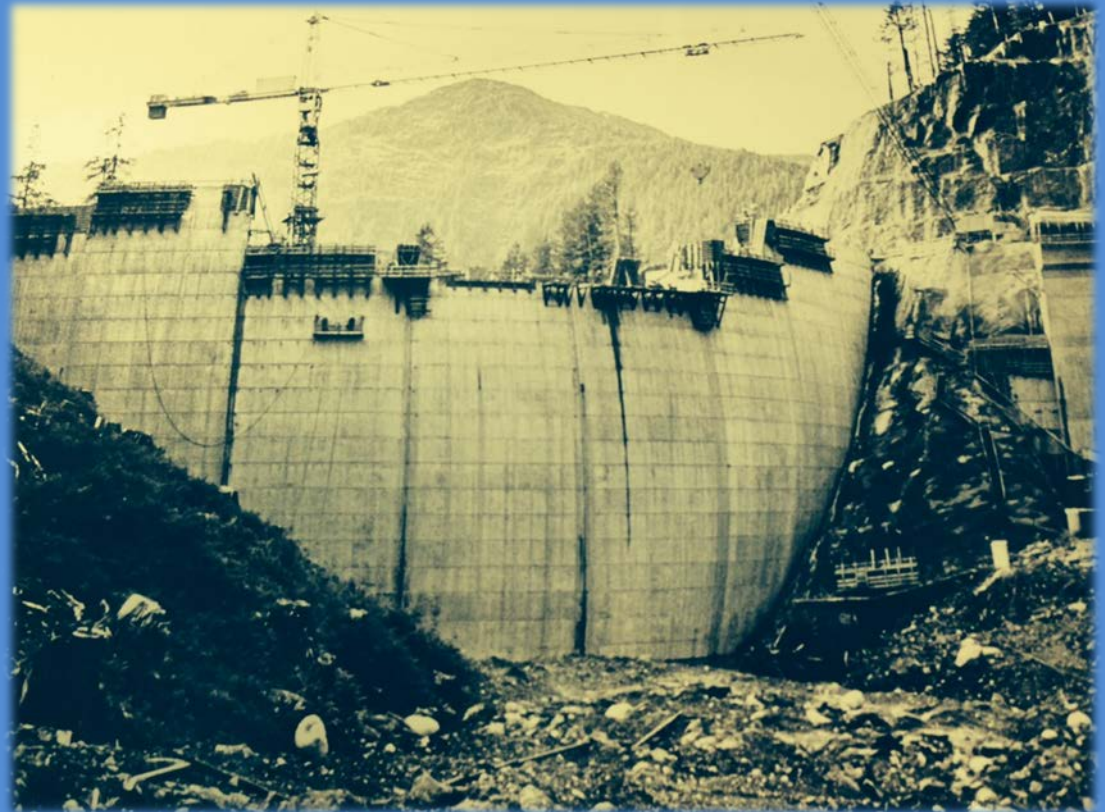
*Ketchikan - August 27, 2015*

**PAST**

**PRESENT**

**FUTURE**

**Trey Acteson, CEO**



SEAPA's Mission: To provide the lowest wholesale power rate consistent with sound utility planning and business practices. We exist for the long-term benefit of our member utilities and the rate payers, providing unified regional leadership for project development and prudent management of our interconnected power system.

# SEAPA - Overview

## Joint Action Agency (JAA) - Regional Wholesale Power Provider

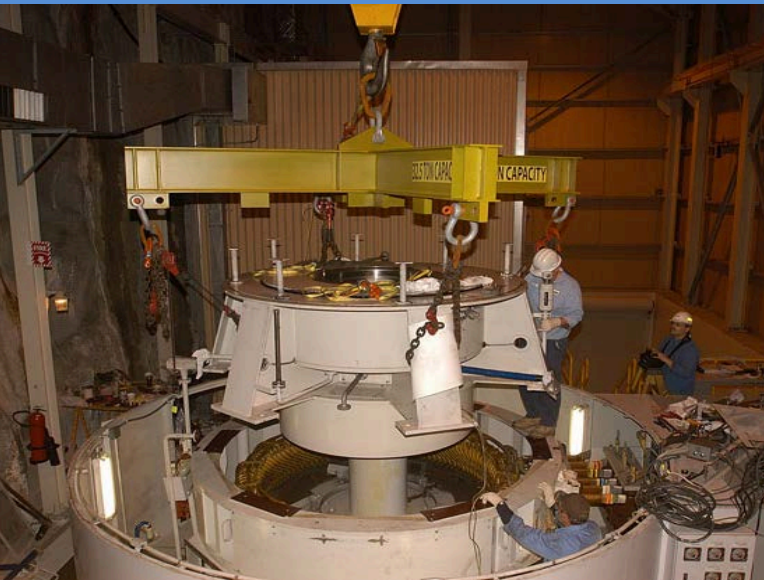
- SEAPA is a not-for-profit, evolved from the FDPPA
- Governed by municipal appointed directors (WRG, PBG, KTN)

## SEAPA Owned Facilities

- 2 Hydro Projects (Swan & Tye built in early 80's)
- 175 miles transmission, 14 miles submarine cable, substations, switchyards

## JAA Bundled Regional Services - Postage Stamp Rate

Power Scheduling, Water Resource Mgmt., Planning & Engineering, O&M, Risk Mgmt., Project Mgmt., Policy Advocacy, etc.





# JAA Region

SEAPA provides approximately 60% of power consumed in the region

KTN



SEAPA Generation

Swan Lake



Tye Lake

25 MVA  
77,000 MWh

25 MVA  
130,000 MWh

PSG

WRG



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# A Glimpse of the Past...



# Tyee Lake



Tunnel Construction 1983



# Tyee is a Lake Tap

8,300' unlined power tunnel  
1,350' long steel penstock  
2 Pelton Turbines





# Swan Lake



Swan Lake Dam Construction 1983

# Swan Lake



Swan Lake Dam Construction 1983



# Swan Lake



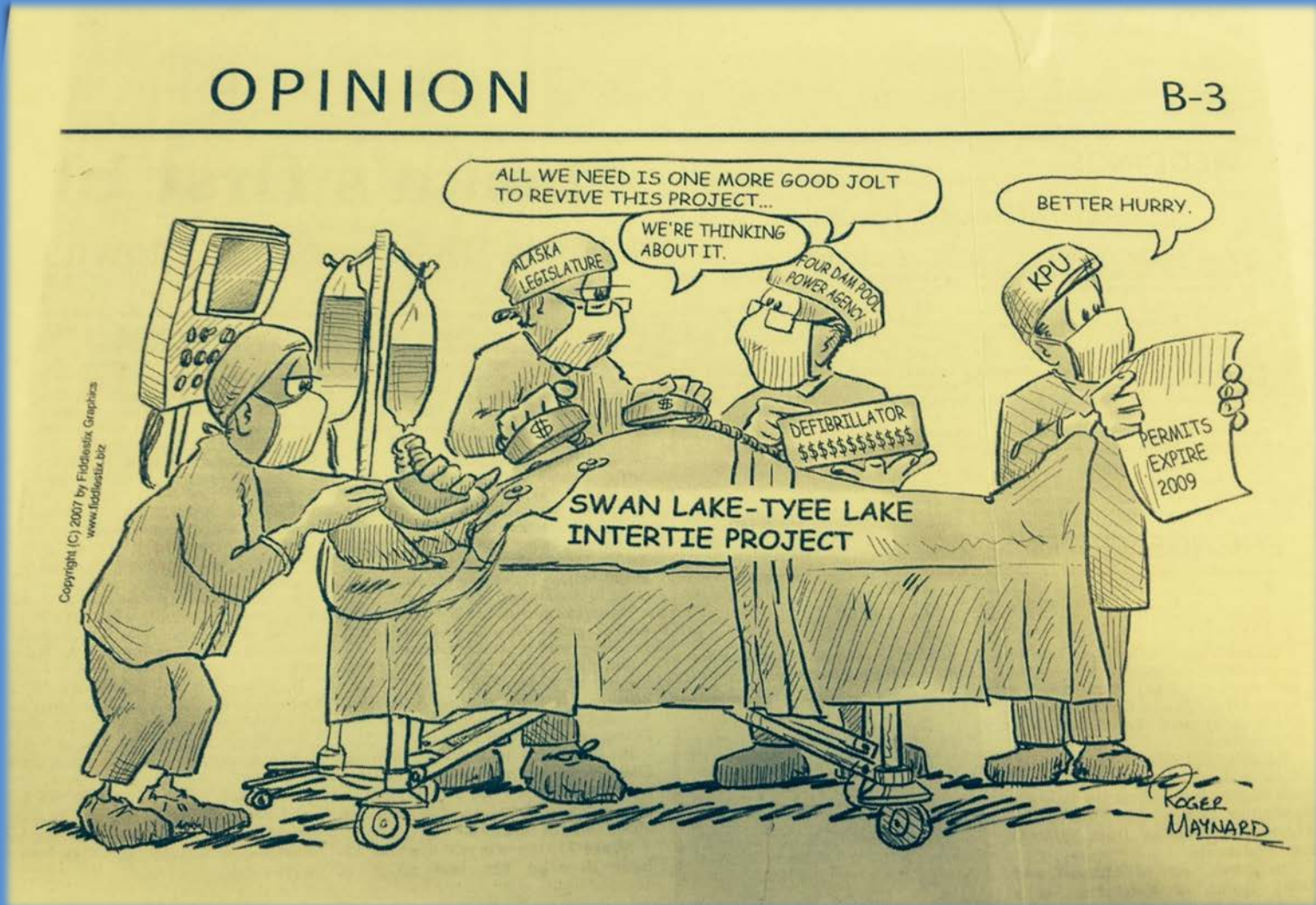
Commercial Operation, June 1984

# Interconnection North & South





# Swan – Tye Intertie (STI)



Swan and Tye Plants Interconnected in 2009

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# STI Video



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# Present

# Significant Reinvestment

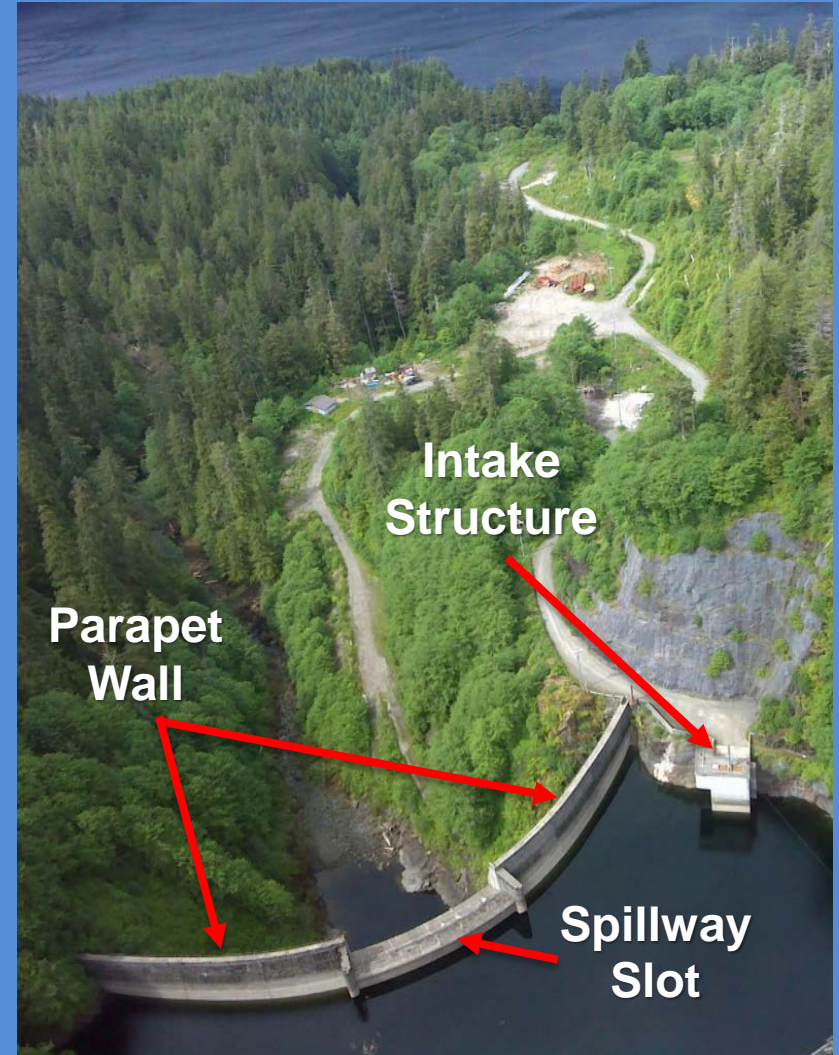
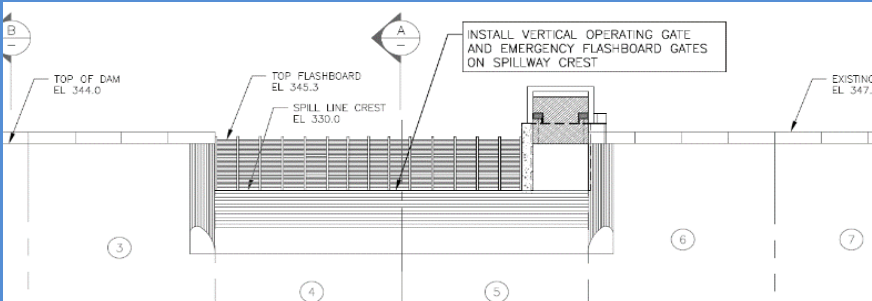
- Projects are 30 years old and now interconnected
- New SCADA system
- Communications upgrades
- Exciter and Switchgear upgrades
- 105 helipads on the STI
- New reactor in Wrangell
- Maximizing existing infrastructure





# Swan Lake Reservoir Expansion

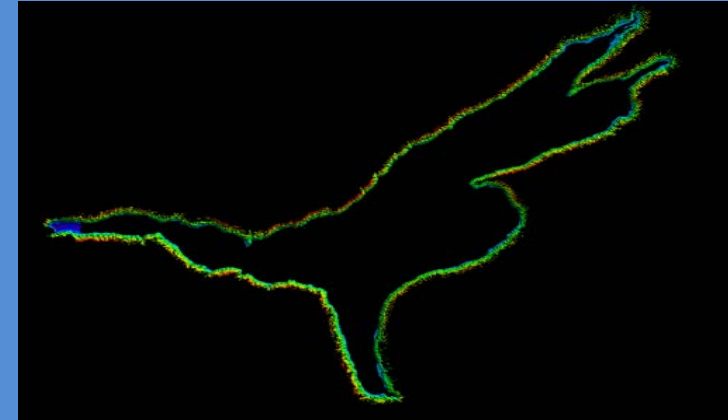
Cost Estimate \$10M  
License Amendment Approved!



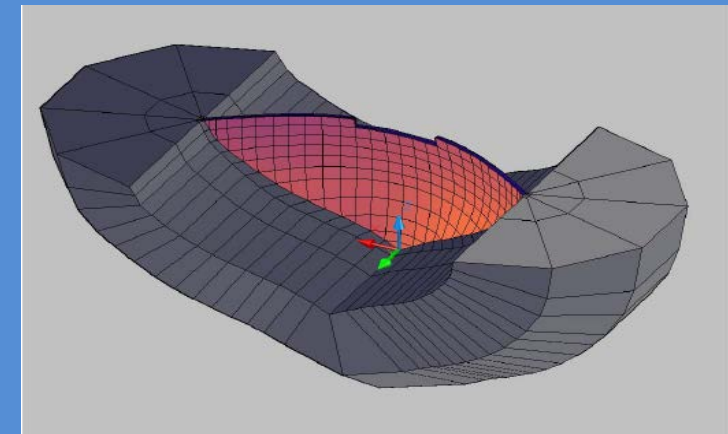
Dam 174' high x 430' wide  
Spillway 15' high x 100' wide

# Project Benefits

- More energy
  - Up to 12,000 MWhrs (7,500 avg.)
  - Displaces up to 800,000 gal/diesel  
= 7,904,000 lbs/CO<sub>2</sub>
- 25% more active storage
- Safely increases reservoir height for greater efficiency
- Supports integration of non-dispatchable renewables (wind, run-of-river hydro)
- No rate increase required



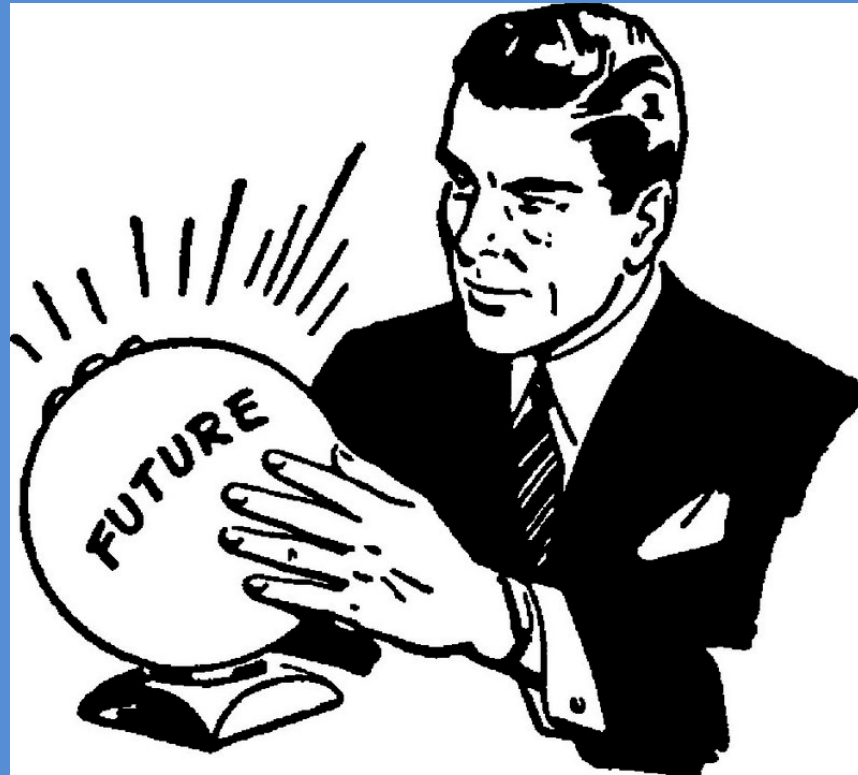
*Swan Lake preliminary LIDAR returns, Overview of 310'-350'*



*Seismic Modeling*



# Planning for the Future



## Key Initiatives

- Load forecasting
- Geothermal investigation
- Wind resource investigation
- Hydrosite investigation



Bell Island Geothermal



# Regional Hydrosite Investigation



**Objective:** Build an electronic library for federal and state agencies, utility power planners, and independent power developers

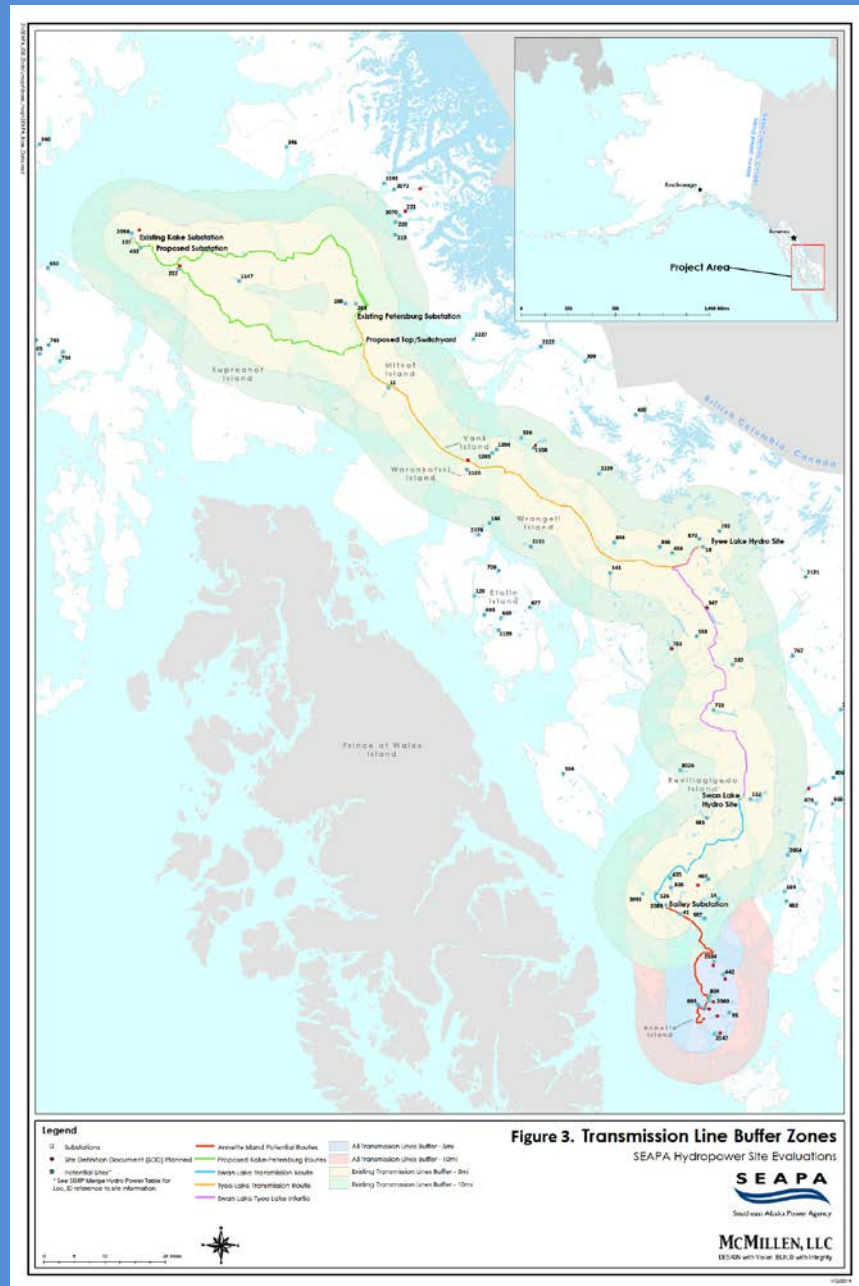
- 5 year process 2012-2017
- >\$1.7 M effort
- Library available to public once data and analysis complete





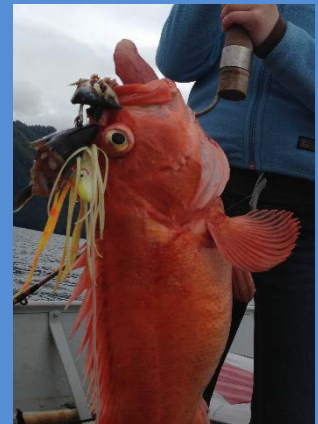
# Area of Investigation

- 20 mile corridor along existing transmission path
- Includes proposed transmission extensions
  - Kake to the north
  - Annette Island to the south



# Building for the next Generation

- Currently 100% hydro (- maintenance diesel)
- Operate within a large band of weather volatility
- Immediate offset of fossil fuels is not guaranteed
- Project funding must be back loaded to match growth
- Delay too long and risk significant diesel exposure and miss economic growth opportunities
- New development will likely require a combination of funding sources

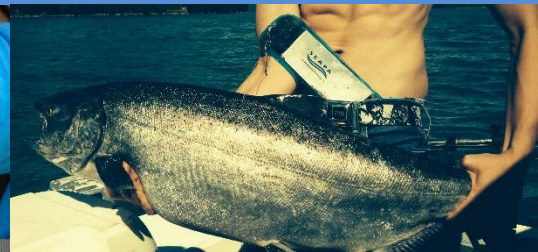
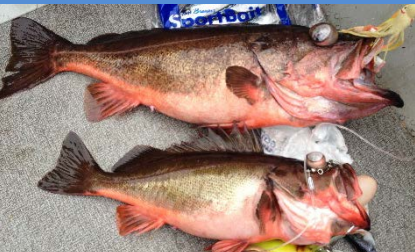




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# Vision Resolve Can-do Attitude



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# Abundant Affordable Energy *“The Cornerstone of Economic Development”*

## Thank you

Please visit our website:  
[seapahydro.org](http://seapahydro.org)

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