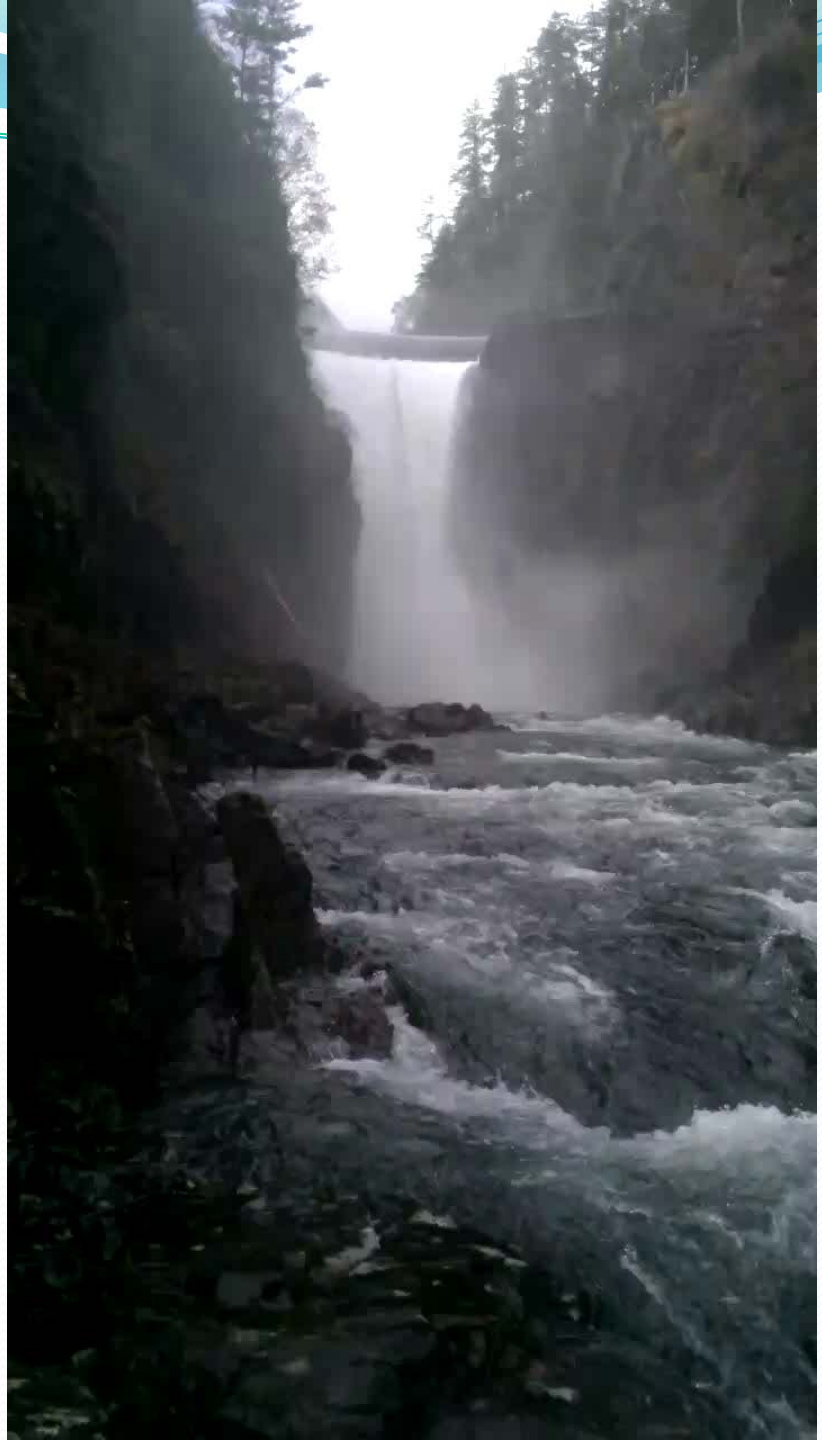
Sitka's Hydro History Repeats Itself

10/20/2012

Lessons Learned from History

Hydro is, without a doubt, the best resource for power generation available to Sitka.



Lessons Learned from History

Hydro is expensive when constructed but, in the long run, Sitka consumers are happy because Sitka experiences some of the least expensive power in the state

Green Lake

City increased electric rates 25% then an additional 20% the following year

Blue Lake Expansion

City is applying for bond sales that will result in electric rate Increases between 27%-56% depending upon grants.

Lessons Learned from History

It is always helpful to have a partner to save the day

Blue Lake

AL&P agreed to build a portion of the tunnel

AL&P agreed to purchase $2.2 million bonds

Public Health Service signed a power sales agreement

Green Lake

AL&P signed a surplus power sales agreement

Blue Lake Expansion

The City Requested and received grants from State of Alaska

Lessons Learned from History

Sitka voters support hydro

Sawmill Creek

City voted 67-21 to purchase the project but could not finance the purchase

City voted 104-22 for a bond issue for $200,000 to purchase project

Blue Lake

City voted 241-6 for a bond issue for $5 million then $6 million to fund the project

Green Lake

City voted 1540-89 to move forward with the project

Blue Lake Expansion

City voted 2593-373 to sell $50 million bonds to fund the project

Lessons Learned

We are optimists and things cost more than expected

Blue Lake

Costs went from $4.9 million to $6 million

Green Lake

Costs went from $21 million to $42 million to $76 million

Small Hydros

Costs went from $3 .9 million to $4.7 million

Blue Lake Expansion

Costs went from $50 million to $100 million to $150 million to a final cost of ???

Sawmill Creek aerial photo

Sawmill Creek

Built by Sitka Wharf and Power	1913
City voted 67-21 to purchase the project but could not finance the purchase	1935
Project was damaged by flood	1936
Project was rebuilt and the replacement value was $125,000	1937
City voted 104-22 for a bond issue of $200,000 to purchase project	1940
Sitka Public Utilities took ownership	1941
Flood wiped the project out for a final time	1947

Blue Lake 1950's reservoir aerial photo

Blue Lake

Initial planning of Blue Lake Hydro began	1944
Preliminary design had the powerhouse located at Herring Cove	1948
Engineers Carey and Kramer began the design incorporating the concept of a pulp mill	1956
City voted 241-6 for a bond issue for $5 million then $6 million to fund the project	1956
City could not find a buyer for the bonds.	
FERC license application submitted with an estimated cost of $4.9 million	1957
AL&P needed water for the pulp mill and agreed to build a portion of the tunnel	1957
City could not sell bonds AL&P needed water and agreed to purchase $2.2 million bonds	1957

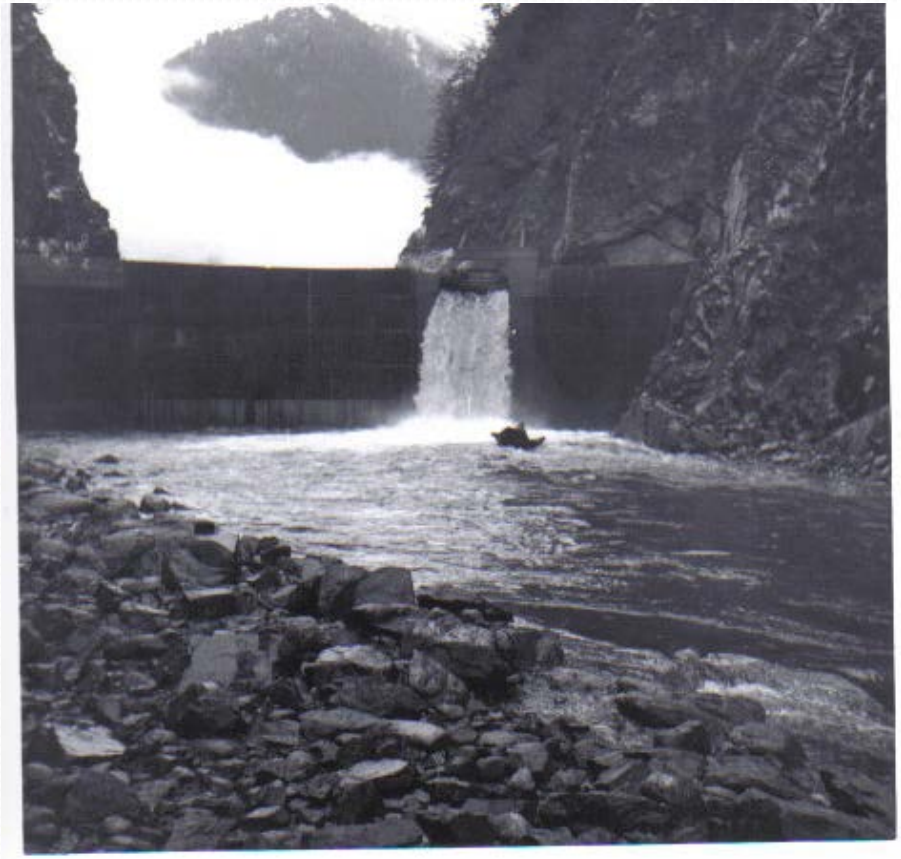
Blue Lake

FERC permit was issued based on 3 phase construction plan 1958

Phase 1 low dam 35’ and tunnel (photo to the right)

Phase 2 high dam 120’ and powerhouse

Phase 3 higher dam 23’ and additional turbine



Blue Lake

Sitka Pulp Mill Builders began Phase 1 construction	1958
Phase 1 was completed at a cost of $2.2 million. AL&P was able to make pulp	1959

The City could not sell the remaining $3.8 million bonds.

The federal government through Housing & Home Financing offered financing if Sitka could arrange a power sales agreement with the US Public Health Service.

Morrison & Knudsen was awarded phase 2 construction at $2.4 million	1959
Construction was completed at a cost of $4 million	1961

The Capacity of the project was 44,000 MWh. This was 3 times the annual load of 17,000 MWh at the time of construction.

The final project cost $6 million


Green Lake aerial photo

Green Lake

Initial planning began when the annual load was 60,000 MWh 1974

The generation capacity of Green Lake would be 60,000 MWh

The estimated cost was $21 million.

City voted 1540-89 to move forward with the project 1977

The FERC license Order issued at an estimated cost of $42 million 1979

In addition

City increased electric rates 25% 1979

City increased electric rates 20% 1980

City would have had to increase electric rates by 65% except AL&P signed a surplus power sales agreement because they once again needed the water from Blue Lake and the Green Lake project would indirectly provide that water.

The city increased the electric rate increases simply because Hydro was the least expensive power alternative.

Project was put in service and the final cost was $76 million 1982

Blue Lake Small Hydros

Preliminary design cost estimate was $3 .9 million	1990
FERC license applied for	1990
The Small Hydros were built at a cost of $4.7 million	1992
Fish Valve Unit was flooded out by Sawmill Creek	1994

Blue Lake Expansion aerial photo

BLUE LAKE EXPANSION INUNDATION AREA
1646 ACRES, 362 ADDITIONAL ACRES

Blue Lake Expansion Project Features

Blue Lake Expansion

Preliminary engineering estimated the cost to be $50 million	2007
Licensing and Design Development began	2008
Design Development was completed and estimated the cost at $100 million	
City requested and received grants from State of Alaska	2009-present
The goal is to fund 50% of the project with grants	
City voted 2595-373 to sell $50 million in bonds for the Project	2010
Received License Order	2012
Bid general construction resulting in an estimated cost of $145 million	2012
City is applying for additional bond sales that will result in electric rate	
Increases between 27%-56% depending upon grants	2012
Final Cost ????	2015