

# **Reynolds Creek Hydroelectric Project**

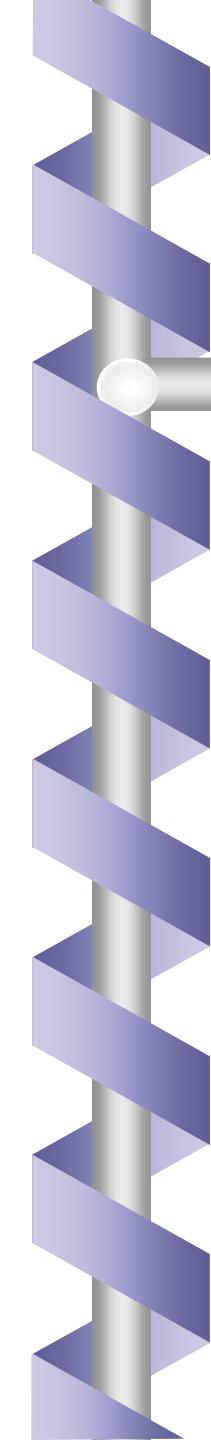
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## **Project Status**

### **November 17, 2009**

**By : Alvin Edenshaw, President  
Haida Corporation and Haida Energy, Inc.**

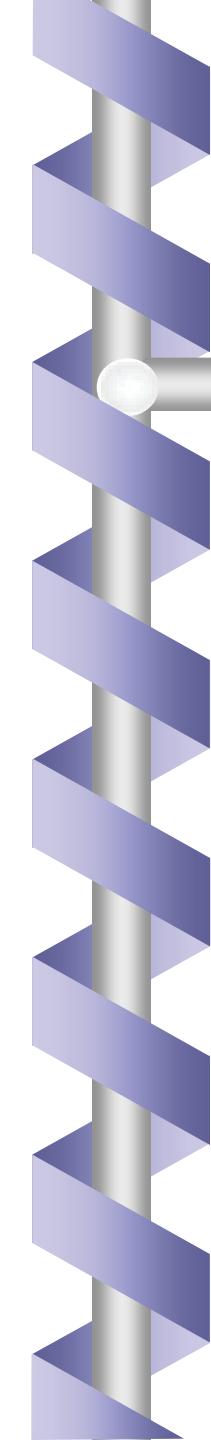
**Mike Stimac, P.E.  
Vice President, HDR Engineering, Inc.  
Project Manager**



# Haida Corporation

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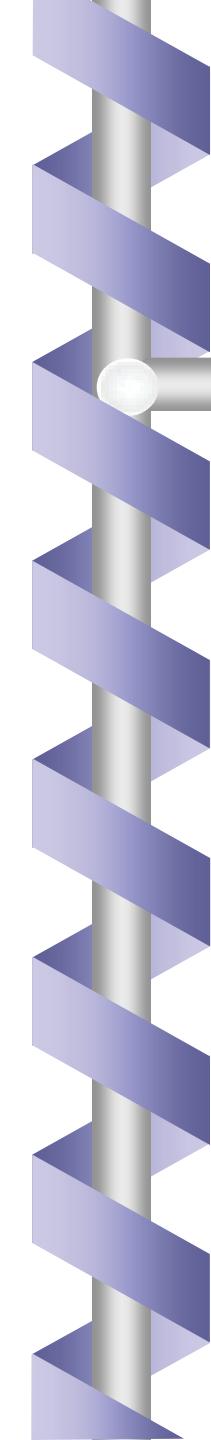
- ② Located in Hydaburg on Prince of Wales Island in SE Alaska
- ② Hydaburg population = 350 people (called Kaigani Haida)
- ② Hydaburg is largest Haida Village in Alaska
- ② Subsistence and Commercial Fishing Lifestyle
- ② Substantial Timber Holdings
- ② Hydaburg has Excellent School System



# **Haida Energy, Inc.**

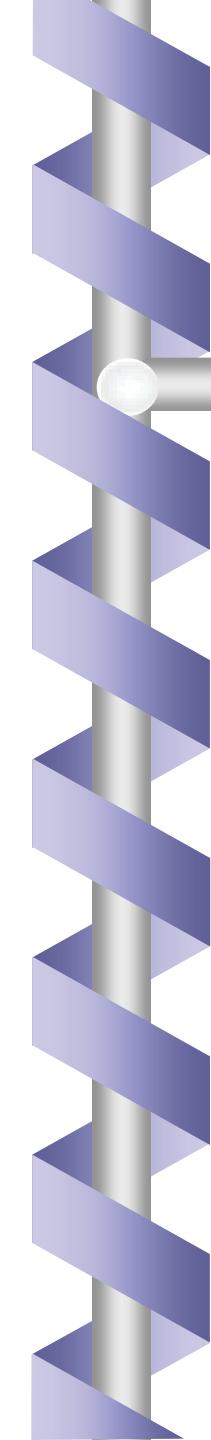
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- ❧ Joint Venture**
- ❧ Incorporated October 15, 2009, in Alaska**
- ❧ Ownership: 75% Haida Corporation, 25% Alaska Power & Telephone Company (local utility)**



# **Reynolds Creek Project Team**

- ❑ Lead Consultant – HDR Engineering, Inc.**
- ❑ Economic Feasibility/Financing – Financial Engineering Company**
- ❑ FERC Licensing – GKRSE Law Firm, Washington, D.C.**
- ❑ JV Agreements – Kemppel Huffman & Ellis law firm, Anchorage**
- ❑ Pentec – Fisheries**
- ❑ Sentec – Surveying**
- ❑ Shannon & Wilson – Geotechnical Studies**

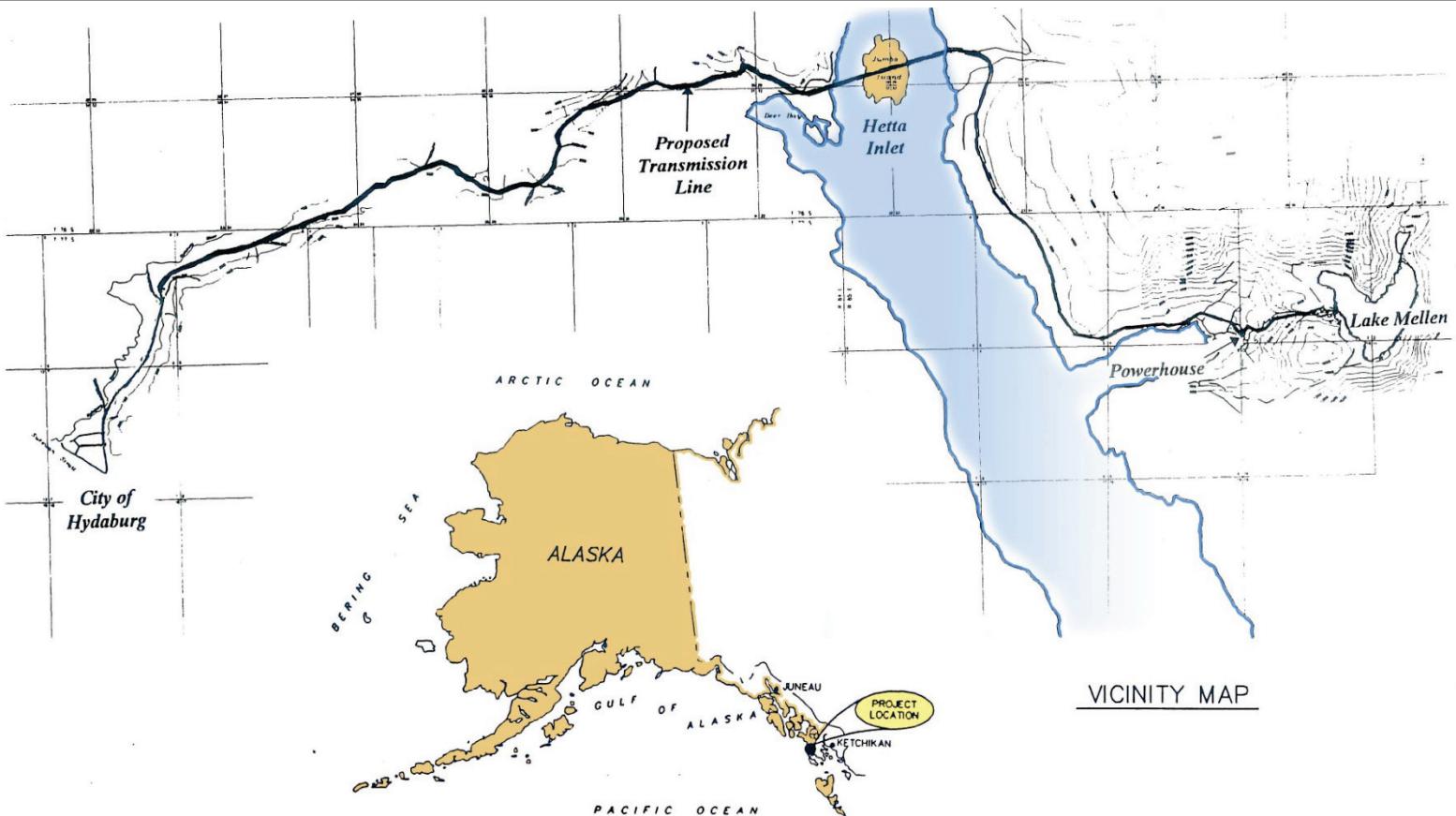


# **Prince of Wales Island**

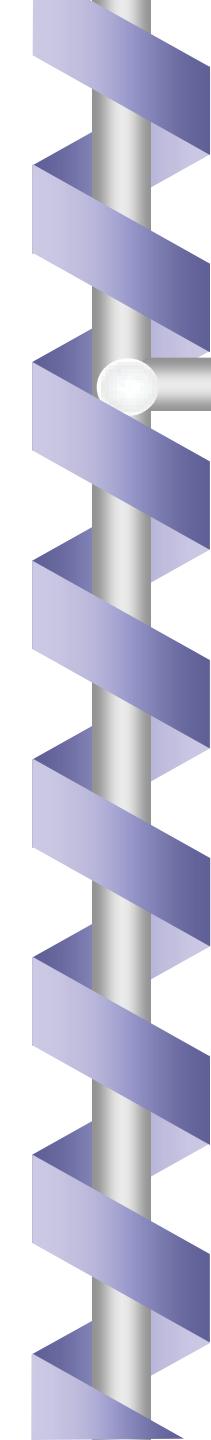
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- ❑ Third Largest Island in United States**
- ❑ 135 miles x 45 miles**
- ❑ Population = 6,000**
- ❑ Economy Centers on Fishing, Timber, & Tourism**
- ❑ 2008 Energy Consumption = 26,313 MWh**
- ❑ Two Existing Hydro Projects: Black Bear Lake (4.5 MW) and South Fork (2.3 MW)**
- ❑ Remainder of Generation is Diesel-fired**

# Project Location



November 17, 2009



# Principal Project Components

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- ❑ **28-ft-long, 6-ft-high Diversion Structure at Outlet of Rich's Pond**
- ❑ **Lake Mellen/Rich's Pond provide 600 acre-feet of storage**
- ❑ **42-inch diameter, 3200-ft-long Penstock**
- ❑ **Powerhouse (One 5 Megawatt Unit)**
- ❑ **34 kV, 10.9-mile-long Transmission Line**

# Lake Mellen Outlet



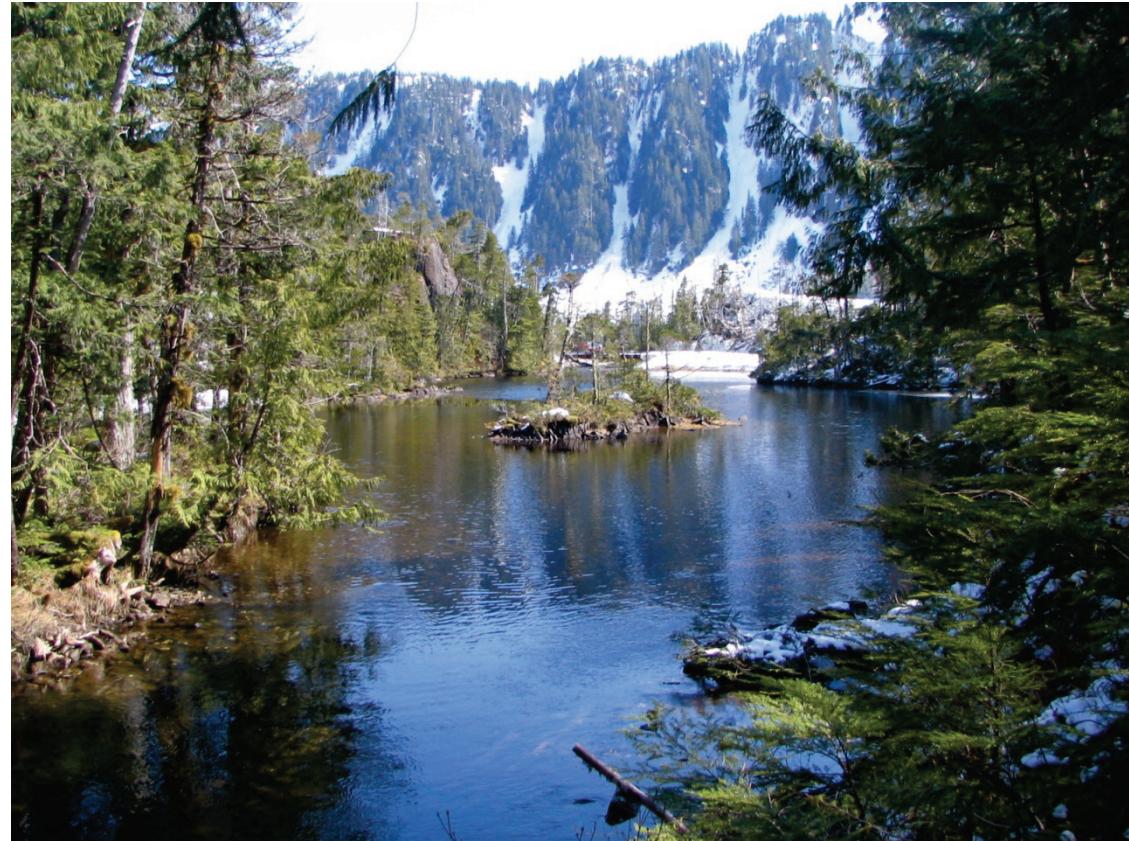
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# Rich's Pond Inlet



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# Rich's Pond



*November 17, 2009*

# Rich's Pond Outlet



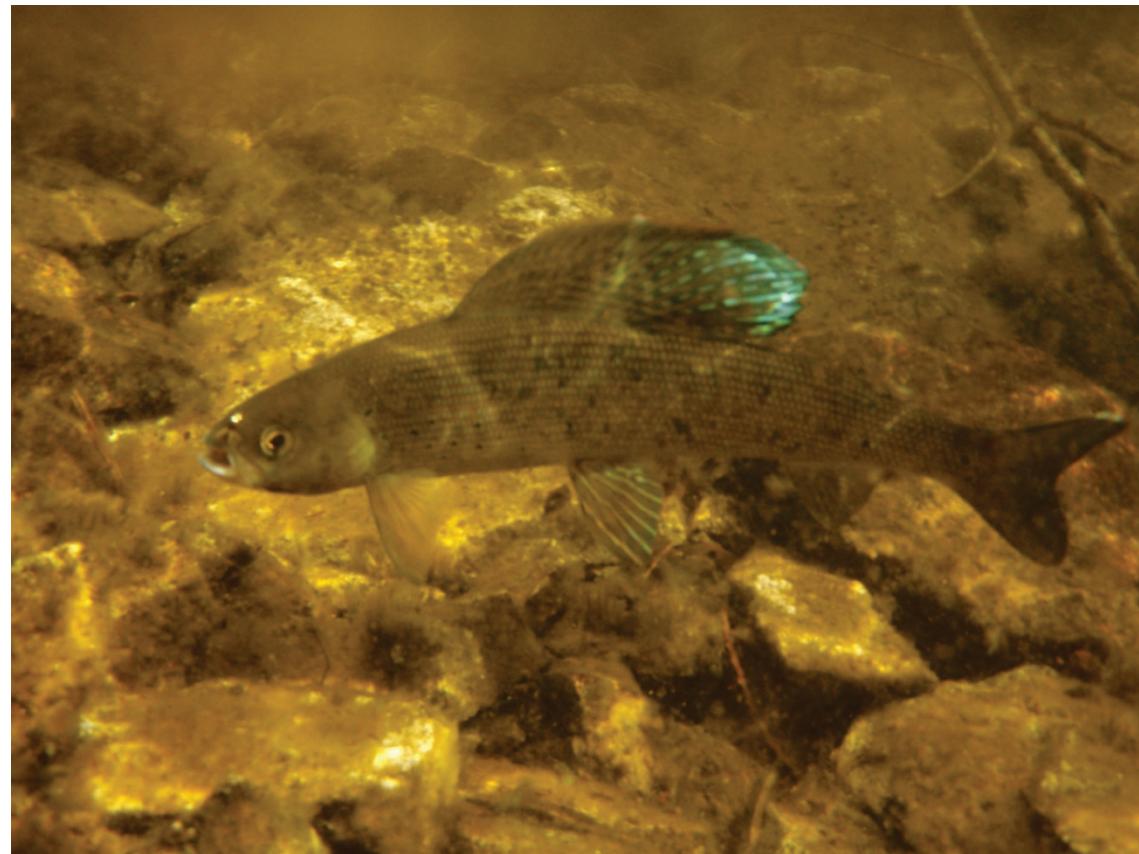
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# Snorkeling



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# Grayling in Rich's Pond



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# Upper Reynolds Creek

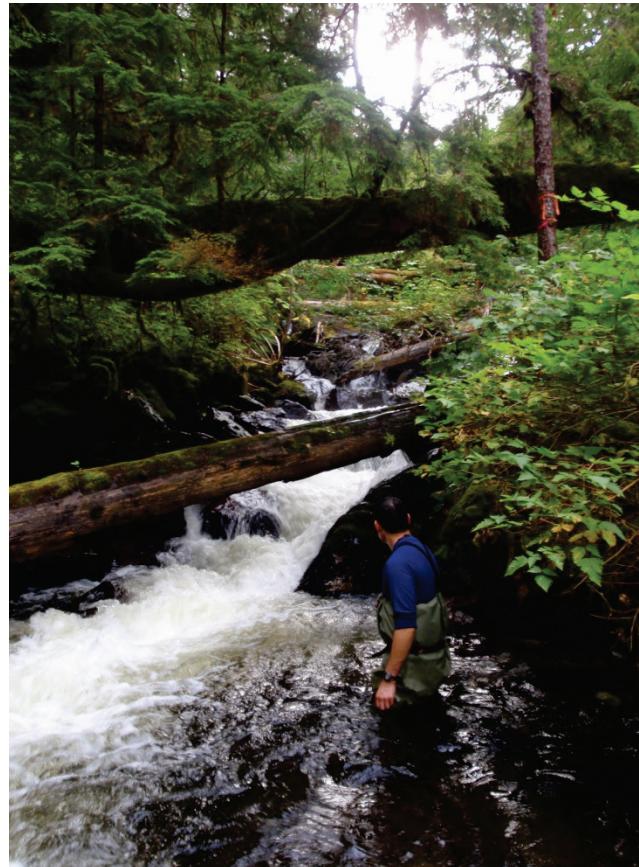


# Bypass Reach



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# Anadromous Barrier



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# Lower Reynolds Creek

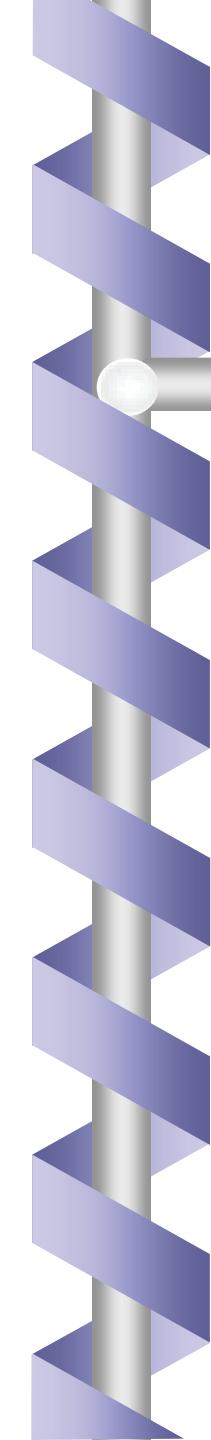


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# Copper Harbor

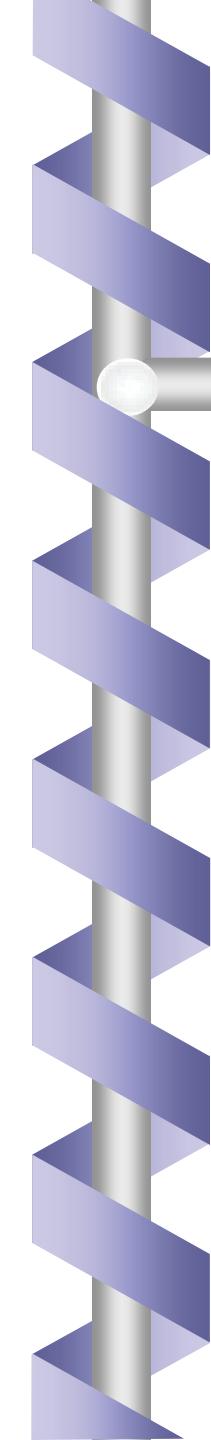


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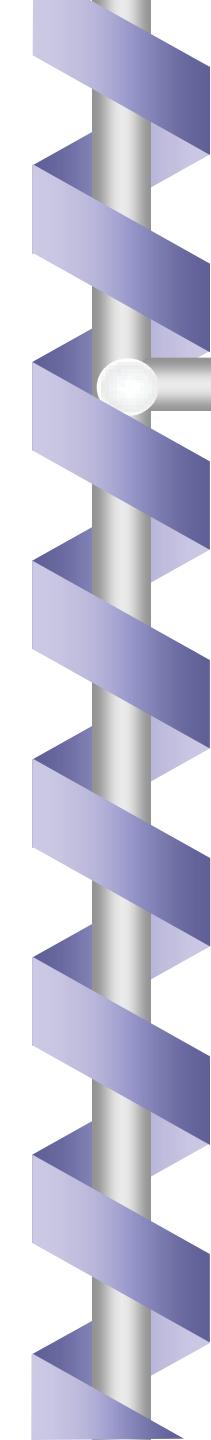
# Project Characteristics

- ❑ **Approximately 750 feet of Head**
- ❑ **Average Annual Energy Production =  
19.3 million kilowatt-hours**
- ❑ **Land Owned by Haida Corporation and Sealaska –  
both Alaska Native Corporations**
- ❑ **Alaska Power Company will Construct, Operate,  
and Purchase Power**
- ❑ **Will Allow All Interconnected Portions of Prince of  
Wales Island to be Supplied by Hydropower**



# **Project Characteristics (Continued)**

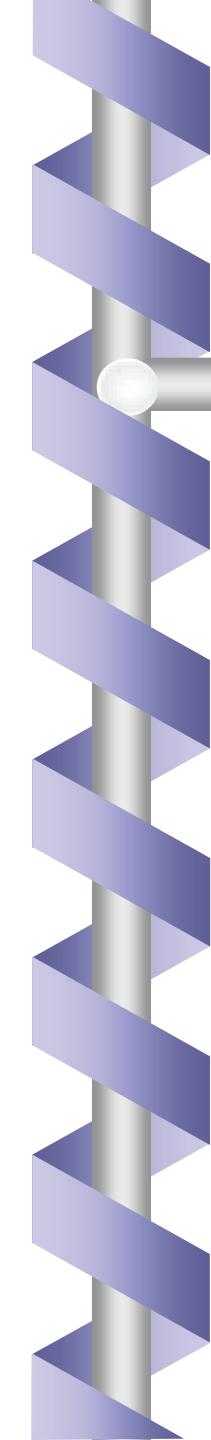
- ❧ Minimal Environmental Impact**
- ❧ Will Utilize Existing Logging Roads for Access**
- ❧ Fish in Reynolds Creek drainage = artic grayling, Dolly Varden, cutthroat trout, pink and chum salmon, and steelhead**
- ❧ Terrestrial species include Sitka black-tailed deer and black bear**



# **Major Approvals Received**

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- ❑ **FERC License (Project No. 11480)**
- ❑ **Corps of Engineers Permit**
- ❑ **Fish Habitat Permit**
- ❑ **Coastal Zone Consistency Determination**



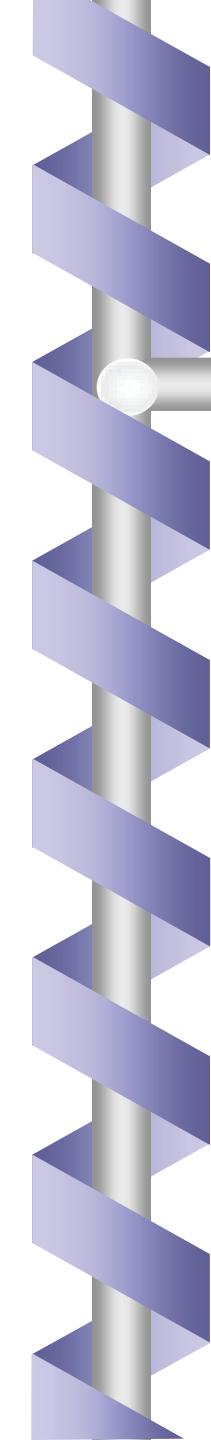
# **Current Activities**

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- ❑ Completing Final Design**
- ❑ Construction Planning**
- ❑ Transferring FERC License and Permits to Haida Energy**
- ❑ Completing Remaining Submittals Required by FERC License**
- ❑ Completing Land Lease Agreements**
- ❑ Applying for Easements from Alaska Department of Natural Resources**
- ❑ Completing Project Financing**

# Project Cost Estimate

❑ <b>Prepare for Construction</b>	<b>\$ 4,145,000</b>
❑ <b>Construction Management</b>	<b>\$ 500,000</b>
❑ <b>Mobilization</b>	<b>\$ 700,000</b>
❑ <b>Access Facilities</b>	<b>\$ 1,000,000</b>
❑ <b>Diversion Structure</b>	<b>\$ 1,000,000</b>
❑ <b>Penstock</b>	<b>\$ 3,000,000</b>
❑ <b>Powerhouse</b>	<b>\$ 4,000,000</b>
❑ <b>Transmission Facilities</b>	<b>\$ 2,500,000</b>
❑ <b>Completion</b>	<b>\$ 300,000</b>
❑ <b>TOTAL COST</b>	<b>\$ 17,145,000</b>



# **Major Future Milestones**

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- ❑ Complete Final Design - December 2009**
- ❑ Order Turbine/Generator – January 2010**
- ❑ Begin Construction – April 2010**
- ❑ Begin Operation – Late 2011/Early 2012**