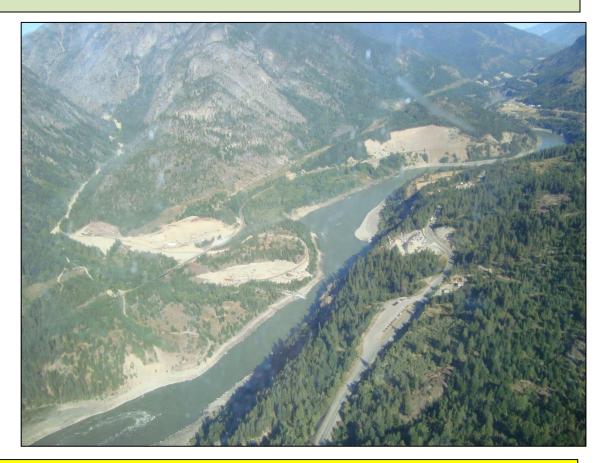
#### **KWOIEK CREEK HYDRO PROJECT: A Shared Success**

Environmental Managers Association of British Columbia





Renewable Energy.
Sustainable Development.



**Development, Construction & Operations** 

## **Kwoiek Creek Hydro Project**

50MW run of river project located 14 kilometers south of Lytton BC (on Both sides of the Fraser River).

A project website is available at: <a href="http://www.kwoiekcreekhydro.com/">http://www.kwoiekcreekhydro.com/</a>

1990: Water license application filed.

2000: First EAO review

2008: Second EAO review

2009: Environmental

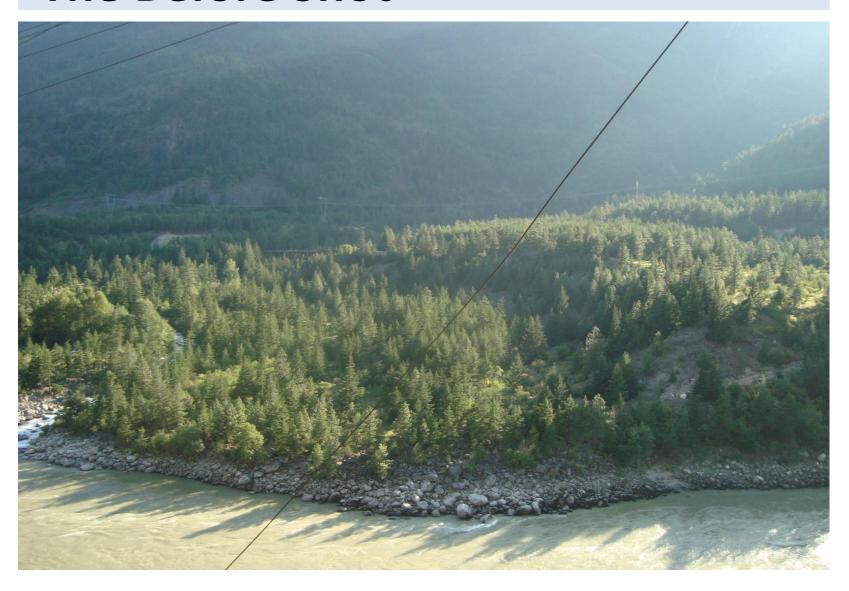
Certificates Issued

**2011: Construction Starts** 

2013: Project up & Running

2014: Certified Operational

## **The Before Shot**



### **Ground Breaking Ceremony 2011**

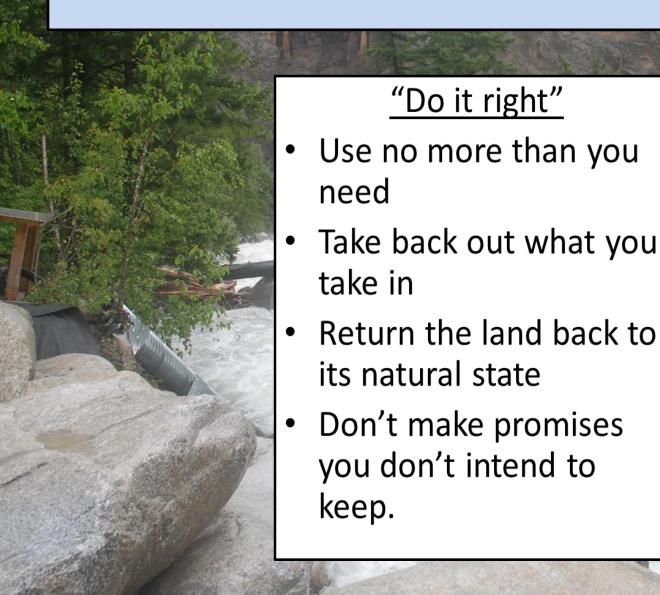


### **Getting the Keys- December 15, 2013**





## **Doing Things Right**



#### Construction Phase: We all had a vested interest.



#### Fish Habitat Enhancement

The project has a unique fishway at the intake structure that allows fish to migrate easily, and 980m long Fish Habitat Enhancement Area.



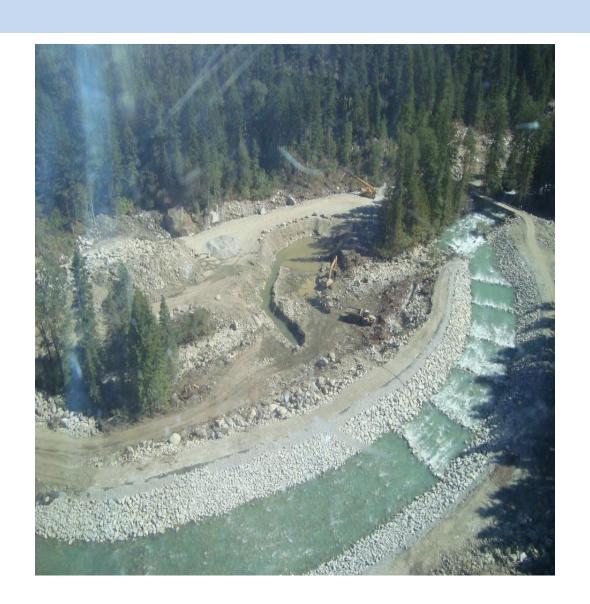
#### The Intake

Digging down and then building back up the physical structure to divert allowed water and a head pond for flow certainty.





## **The Diversion Channel**



### Intake & the Fish

<u>Coanda Screen:</u> to eliminate entrainment (mortality)

Fish Channel: allows fish to go back up past the intake





#### The Penstock

Using the existing road (ROW)

**CPR Railroad Crossing** 





# The 4 Creek Crossings



Penstock is green to acknowledge sight concerns and new steel bridges have replaced the old timber bridges.

### **The Gravel Pit**

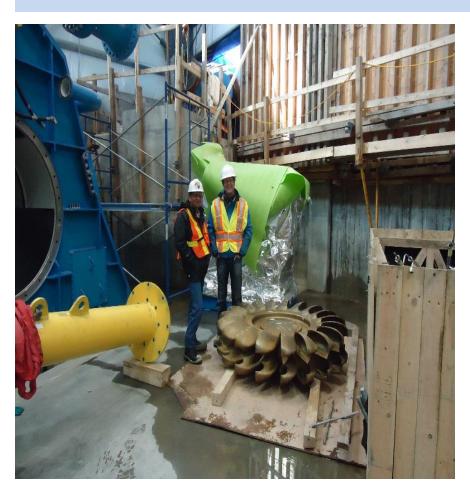
Digging, crushing & sorting

Making the concrete onsite



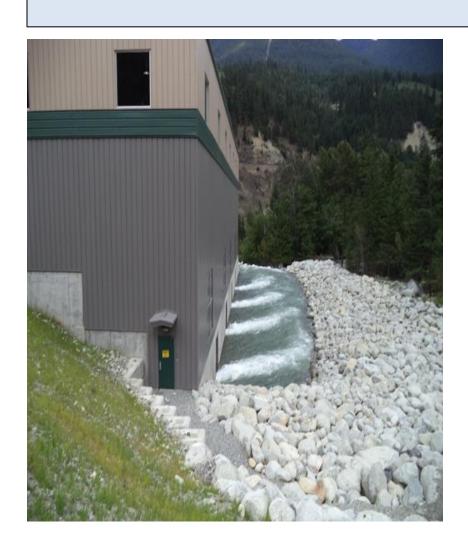


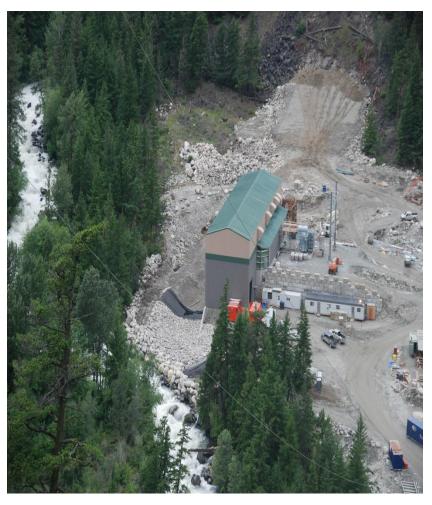
## The Powerhouse: Inside





## **Powerhouse: Outside**





### **The Cable Crane**

**Fuel** Penstock





## **Cable Crane II**

#### **The Vehicles**

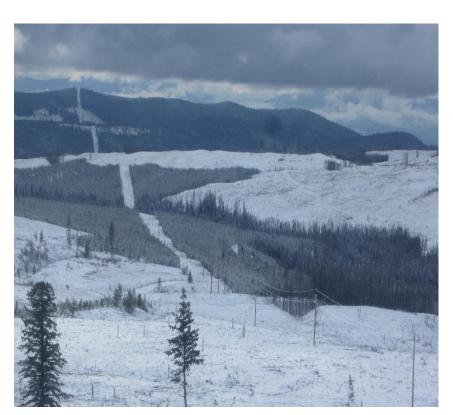


#### **The People**



### The Transmission Line

#### 71 kilometres of 138kV line



#### Kanaka Mountain & Hwy. 1



# **Operations Phase**





# **Unique Challenges**

- Highway 1
- Local employment
- Tailed Frogs
- Instream fish populations
- Avalanche/Slides
  - Erosion/Sediment Controls
- Canada's hotspot
- Arch Sites and heavy Traditional Use area

- Spotted Owl
- Mountain Beaver
- Site specific weather conditions

## **How We Addressed Challenges**

- Identifying impacts
- Transparency
- Communication
- Long-term Monitoring
- Continually working to keep our commitments

The boots are still on the ground.

## **The After Shot**



## The After Shot II



Red: The Nlaka'pamux

White: The explorers, the colonisers, the subsequent governments and BC's industry.

Black: The history between all

Yellow: The future

Blue: A new relationship for all brought together by Clean Energy.



Thank you, any questions?