

# Hupacasath First Nation and Green Energy

From Dream to Reality

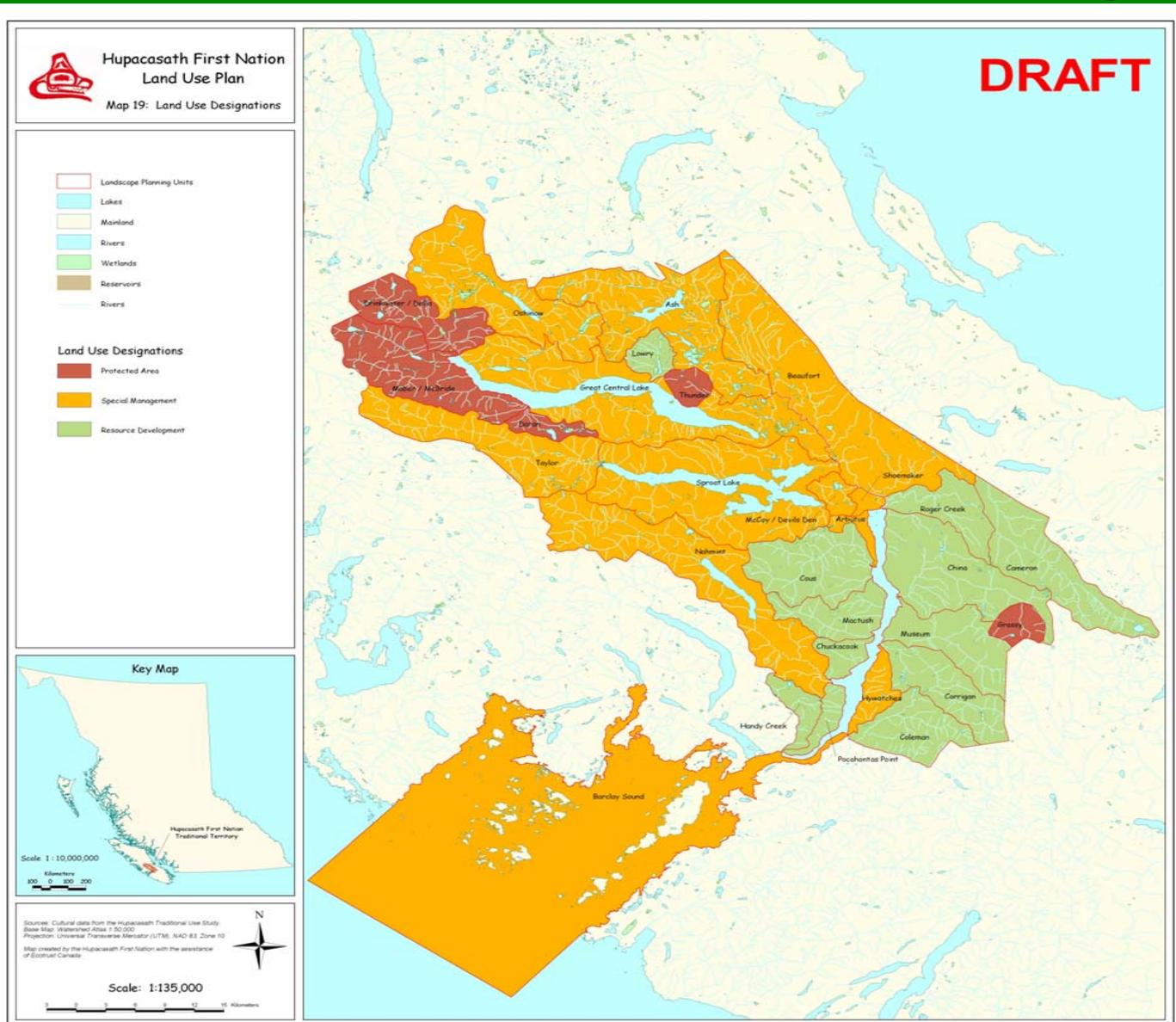
Transformation of a community

# Who are the Hupacasath?



- Have inhabited the Alberni Valley on Vancouver Island since time immemorial
- Territorial size: 232,000 hectares
- Reserve Land Base: 232 ha. or .001% of territory
- Current Population: 260 people
- Part of the Nuuchahnulth Nation

# Hupacasath Territory

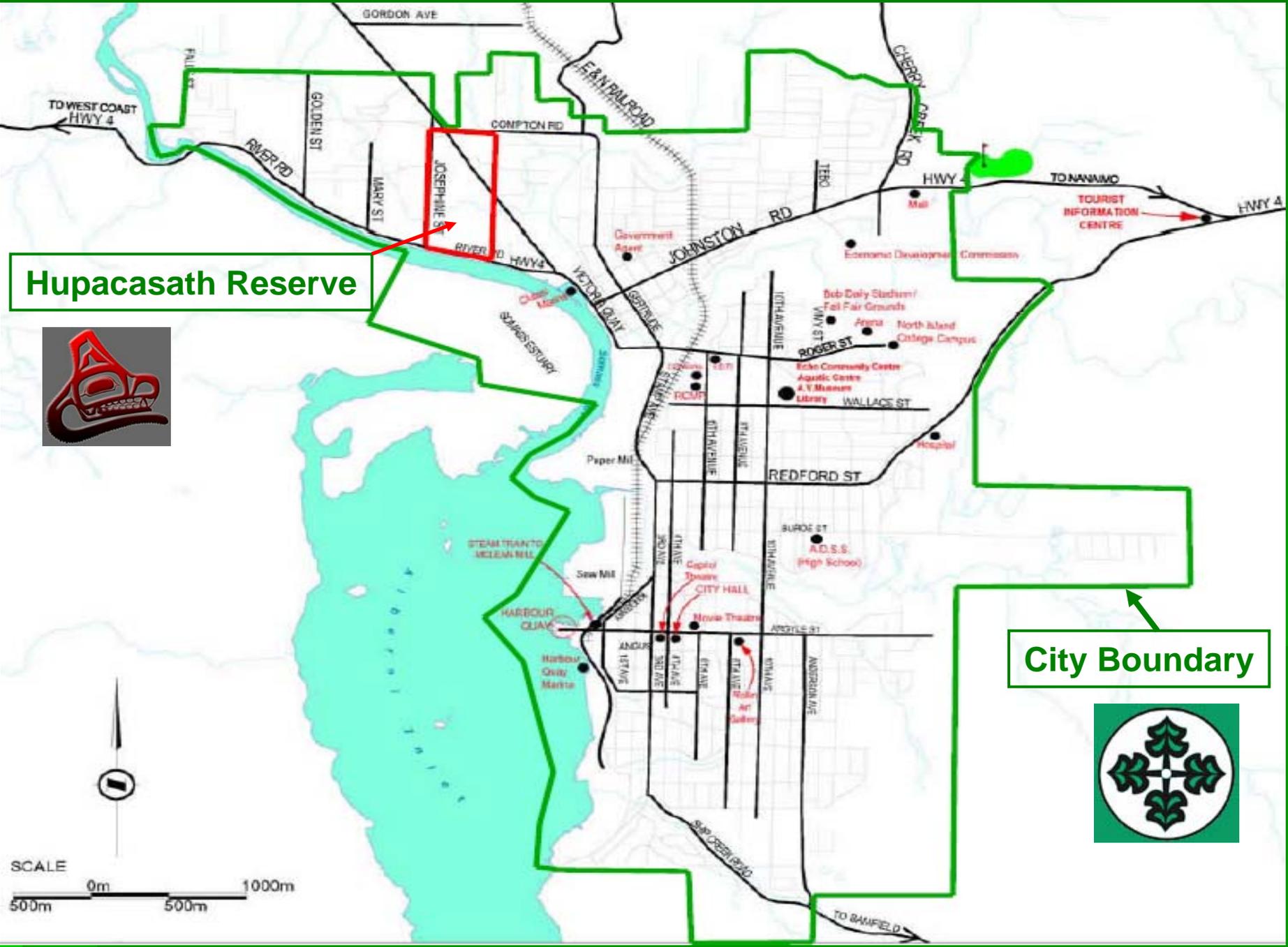




Hupacasath Reserve



City Boundary



# Why Run of the River ?



- Complies with FN values
- Need for Power on Vancouver Island
- Have resources for alternative energy
- Part of the solution to decrease GHG
- Opportunities for partnerships and community benefits
- No storage reservoir
- Non consumptive
- Minimal environmental impacts



# How Hupacasath Did It



- Researched alternative energy
- Identified resources- Pembina Institute, ABC, NRCan, INAC, WED, GMEF
- Looked at natural capital and did assessments for wind and water
- Prioritized 10 watersheds

# China Creek Micro Hydro



- HFN inspired green energy project
- Run of the river, 6.5 MW low impact project
- Powers up to 6,000 homes
- China Creek is Port Alberni's main water source since 1910
- 20 year power purchase agreement signed with B.C. Hydro
- City involved and cooperated at all stages of planning, financing and development

# Strategic Location

- China Creek has an impassable falls from Alberni Inlet so no salmon spawning issues
- Powerhouse placed in an industrial gravel pit so little environmental disturbance
- BCH interconnect right there -2 poles needed
- No public access issues



# The Upnit Power Ltd. Partnership



- Partnership formed in 2004 to run China Creek micro hydro project
- “Upnit” is the Hupacasath place name for China Creek
- Board: 4 HFN , others 1 each
- Shareholders of company are
  1. Hupacasath 72.5%
  2. Synex Energy 12.5%
  3. Ucluelet F.N. 10%
  4. Port Alberni 5%

# Intake Construction















# Intake



# Environmental Design Features -

A photograph of a concrete weir structure in a river. The weir is a low concrete wall with a rubber dam on top, creating a small waterfall. The water is flowing over the weir. The banks are covered in snow, and there are trees in the background. The sky is overcast.

- Intake above anadromous barrier
- Small head weir ( 2 m)
- Rubber dam for self flushing weir
- Flow releases to maintain fish habitat
- Ramping rate protocols



# Penstock









16 08 2005



# Powerhouse









# Turbines and Generators



# Project Completion



- Within a few weeks of being on schedule
- Brought in on budget
- Generating power and revenue now !
- Reduces GHG, 30,000 tonnes equivalents/yr.
- Now planning for the next project.

# Lessons Learned

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- Take the lead in the sustainable development of traditional territory
- Share the benefits- Strategic Partnerships
- Involve the community
- Attempt to address all concerns as project evolves
- Celebrate your successes
- Repeat what works.....
- Don't give up.....
- Being Green isn't always easy but it lets you sleep at night.....
- The shareholders really appreciate the quick return.

# Project and Partnership Development

## Current Tiicken Power Development Portfolio

### China Creek- 6.5 MW- \$13 million

- EPA July 2003- COD December 2005
- Partners – HFN 72.5%, City of Port Alberni 5%, Ucluelet First Nation 10%, Synex Energy 12.5%

### Corrigan Creek- 6.5 MW- \$14 million

- EPA- 2006 COD- November 2009- In final design

### Tsable River- 6.25 MW- \$15 million

- EPA- Standing Offer COD Winter 2009

# Corrigan Creek Hydroelectric Project



# Corrigan Creek- 6.5 MW

- Natural barrier to anadromous fish
- Close to BCH interconnect
- Easy Access
- Partnerships possible with First Nations, City and Private Co.



# Study Components -

- Aquatic and Riparian Habitat
- Fish Population Assessment
- Snorkel Surveys
- Invertebrate Sampling
- Water Quality Monitoring
- Instream Flow Monitoring
- Discharge Monitoring
- Wildlife and Wildlife Habitat





**Disclaimer:**  
 1. The following map was constructed from 1:20,000 GEOTIFF base layers.  
 2. Drawn from 1:20,000 basemaps 092F007.  
 3. Distances are approximate.  
 4. All data collected by EDS was collected using a recreational grade GPS with a differential correction antenna, and is not to be considered as accurate as survey grade GPS equipment.

**Project:** Corrigan Creek Hydro-Project  
**Figure 1:** Discharge Transect and Water Level  
 Logger Location Map.

**Client:** Tiikin Power Limited Partnership  
**Location:** Corrigan Creek  
**Drawn by:** TRS & IWM

**Scale:** approximate  
**Sheet:** 1 of 1  
**Date:** 04-Jul-07



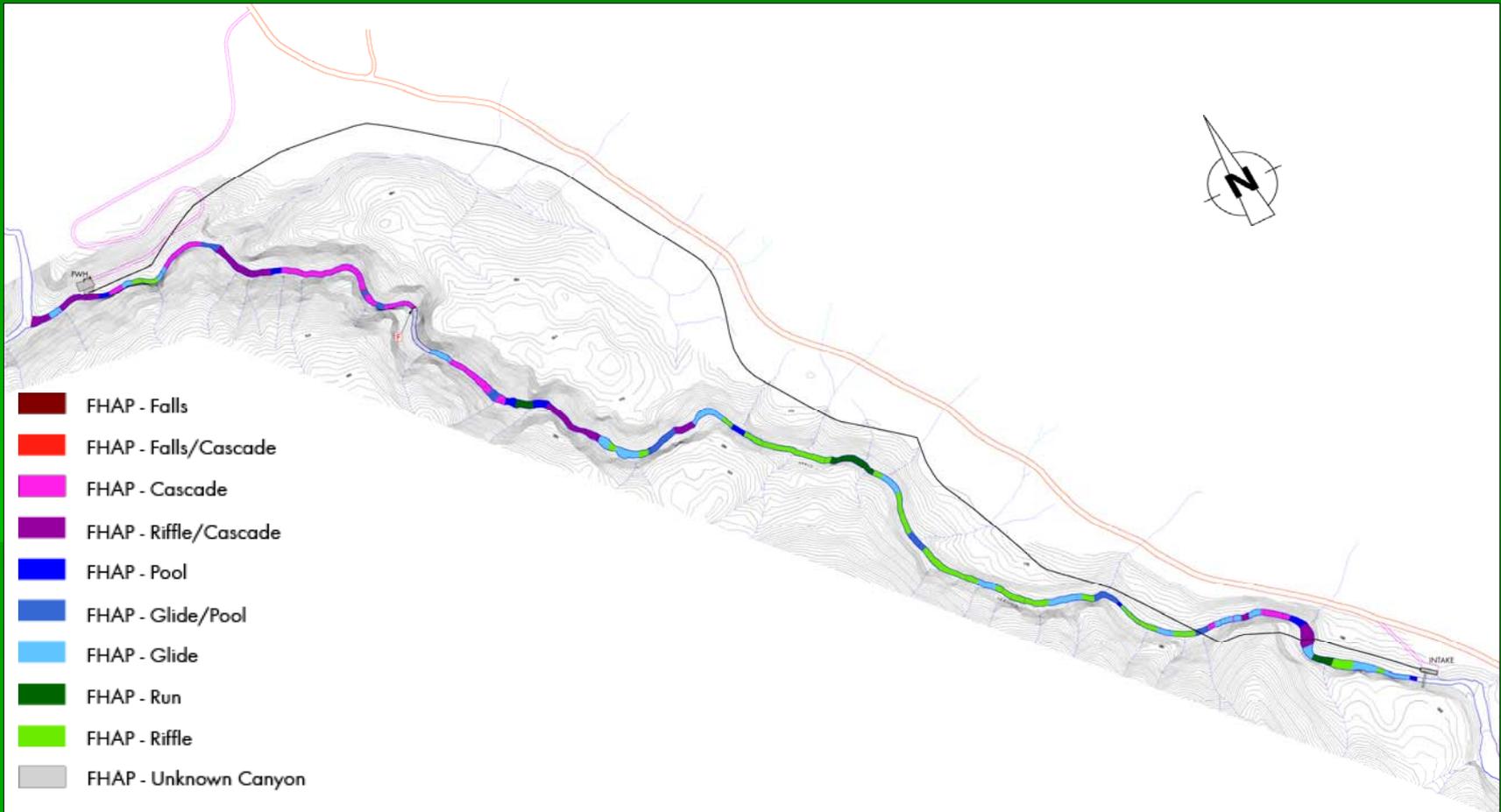
# Samples Collected -

- Fish Distribution – electrofishing, minnow trapping  
12 Sites – 3 DS, 5 DV, 4 US



# Samples Collected -

- Fish Habitat Assessment Procedure (FHAP)



# Tsable River

## HFN/Comox First Nation Partnership

- 6.5 MW project
- Existing water license with a 67% capacity factor.
- Very good revenue generator that creates jobs and stimulates other economic development



# Sustainable Economic Development Brings Community Benefits and Healing

## House of Gathering



# Carving Pavilion

- HFN constructed carving shed to house carvers undertaking welcoming figure project
- Won Canadian Wood Council- Wood Design Award for 2005



# A resurgence of culture and well being



# Welcoming Figures



Traditional HFN Welcoming Figures, welcome visitors to their Traditional Territory by Land and by Sea.

Carvers: Cecil Dawson and  
Rod Sayers



# Choo Kwa Canoe Tours



- HFN sponsored Cultural Tourism Business run from Site
- 2003 Vancouver Island Business Excellence Awards- Runner Up Tourism Hospitality
- Annual Choo Kwa Challenge Canoe Races Community event sponsored by HFN on waterfront



# PADDLING ROCKS!

2005 Chookwa Challenge Coverage



Promoting Stronger Community Ties through  
Culture



**City Team in Choo Kwa Challenge Canoe Race**

# Waterfront Walkway

Constructed fronting Victoria Quay Park,  
Tsu-ma-as Site to Clutesi Haven Marina



03/03/2006

# Funding Partners HFN, City, Western Economic Diversification and Port Authority





**Waterfront Walkway Unveiling Ceremony**

# WELCOME TO THE NUU-CHAH-NULTH WHALING MONUMENT



03/03/2006



Created by Vancouver artist Lionel Thomas and carved in yellow cedar by First Nations artists Godfrey Hunt and Douglas Cramner



Questions?

Comments?