



Freshwater Fisheries
Society of BC

Presentation to the NEEF Management Committee
**Nechako White Sturgeon
Conservation Centre**

March 28, 2012

Don Peterson, President

Freshwater Fisheries Society of BC



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

Hillel Architecture Inc. February 15, 2012



- INTRODUCTION
 - FFBC
 - NECHAKO WHITE STURGEON RECOVERY INITIATIVE

- TOWARDS A STURGEON CONSERVATION CENTRE
 - ORGANIZATIONAL STRATEGY
 - FUNDING STRATEGY

- DISCUSSION



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



Freshwater Fisheries
Society of BC

The Freshwater Fisheries Society of BC

- Private, non-profit society (2003)
- Mandate: to conserve and enhance the freshwater fisheries of the province for the benefit of the public.
- Vision: “The Best Freshwater Fisheries in North America”
- Strategic Objectives:
 - To play a key role in conservation and restoration of BC’s wild fish.
 - To steadily increase the number of anglers.
 - To have thriving recreational fisheries in BC.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

Friday, March 30, 2012

Hillel Architecture Inc. February 13, 2012



Freshwater Fisheries
Society of BC

The Freshwater Fisheries Society of BC

Governance:

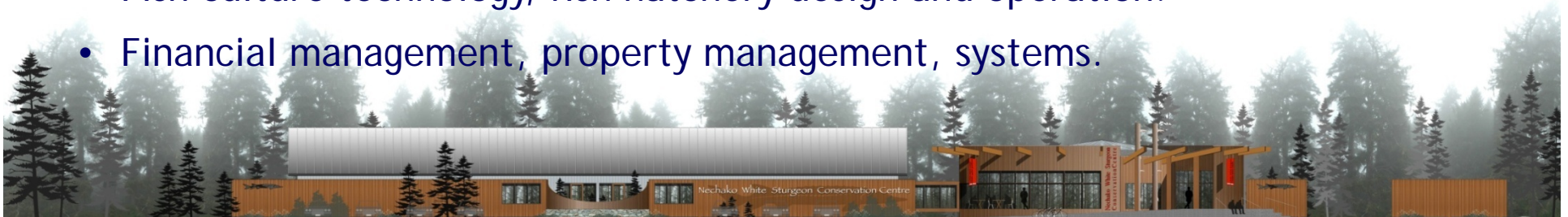
- 4 independent members, 2 appointed by government.

Funding:

- Sport fishing services funded by 53% license revenues (~\$7M).
- Contracts for conservation and other services with governments, crown corporations, First Nations, industry, and others (~\$4M).

Capacity/Expertise:

- Fish biology, culture of cold water fishes, fisheries research, and fisheries management.
- Fish culture technology, fish hatchery design and operation.
- Financial management, property management, systems.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



Friday, March 30, 2012

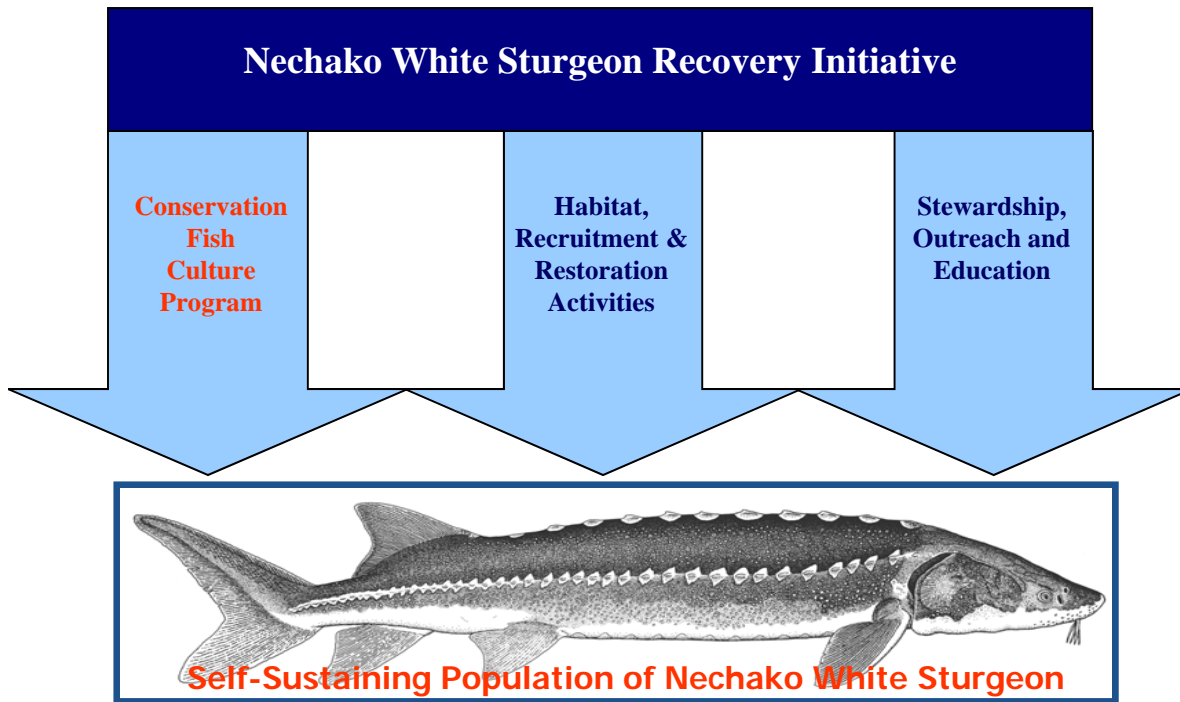
Hill Architecture Inc. February 13, 2012



Freshwater Fisheries
Society of BC

The Nechako White Sturgeon Recovery Initiative

THREE PRONGED APPROACH



Key Dates

- 1995-1999 - Field Studies
 - 2000 - Start of Recovery Planning
 - 2003 - Recommendation for SARA listing
 - 2004 - Recovery Plan Completed
 - 2006 - Nechako White Sturgeon Listed "Endangered" under SARA
 - 2006 - 2009- Pilot Conservation Fish Culture Programs
-
- 2011/12 - Facility Design
 - 2012/13 - Construction, first year operation?
 - 2014 - First juvenile fish released?



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

Friday, March 30, 2012

Hillel Architecture Inc. February 13, 2012



Freshwater Fisheries
Society of BC

Conservation fish culture - pilot projects



- FFSSBC and partners operated pilot hatchery programs 2006 - 2009.
- Adults captured and successfully spawned.
- Tagged fish released into the river in the fall of each year ~ 5,000/year.
- Demonstrated conservation culture could be successful for Nechako sturgeon.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

Friday, March 30, 2012

Hillel Architecture Inc. February 13, 2012



Freshwater Fisheries
Society of BC

Nechako White Sturgeon Conservation Centre

Qualities of a permanent sturgeon conservation centre:

- close proximity to river (adults, water).
- meet NSWRI production goals.
- sustain captured wild adults.
- labour and energy efficiency.
- low capital cost.
- support by partners.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

Friday, March 30, 2012

Hillier Architecture Inc. February 13, 2012



Freshwater Fisheries
Society of BC

Nechako White Sturgeon Conservation Centre

- Design well underway and will be complete in May 2012.
- Production plan:
 - 12 maternal families;
 - 12,000 - 300 gram juveniles each year;
 - all fish tagged and marked for evaluation;
 - Eggs and larvae produced for habitat research.
- River water supply – imprinting.
- Water recirculation technology to limit energy consumption.
- “Phased” design to allow addition of public features.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



Friday, March 30, 2012

Hill Architecture Inc. February 13, 2012



Freshwater Fisheries
Society of BC

Nechako White Sturgeon Conservation Centre



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

Hillel Architecture Inc. February 13, 2012



Friday, March 30, 2012



Freshwater Fisheries
Society of BC

Location



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

Friday, March 30, 2012

Hillel Architecture Inc. February 13, 2012



Freshwater Fisheries
Society of BC

Location



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

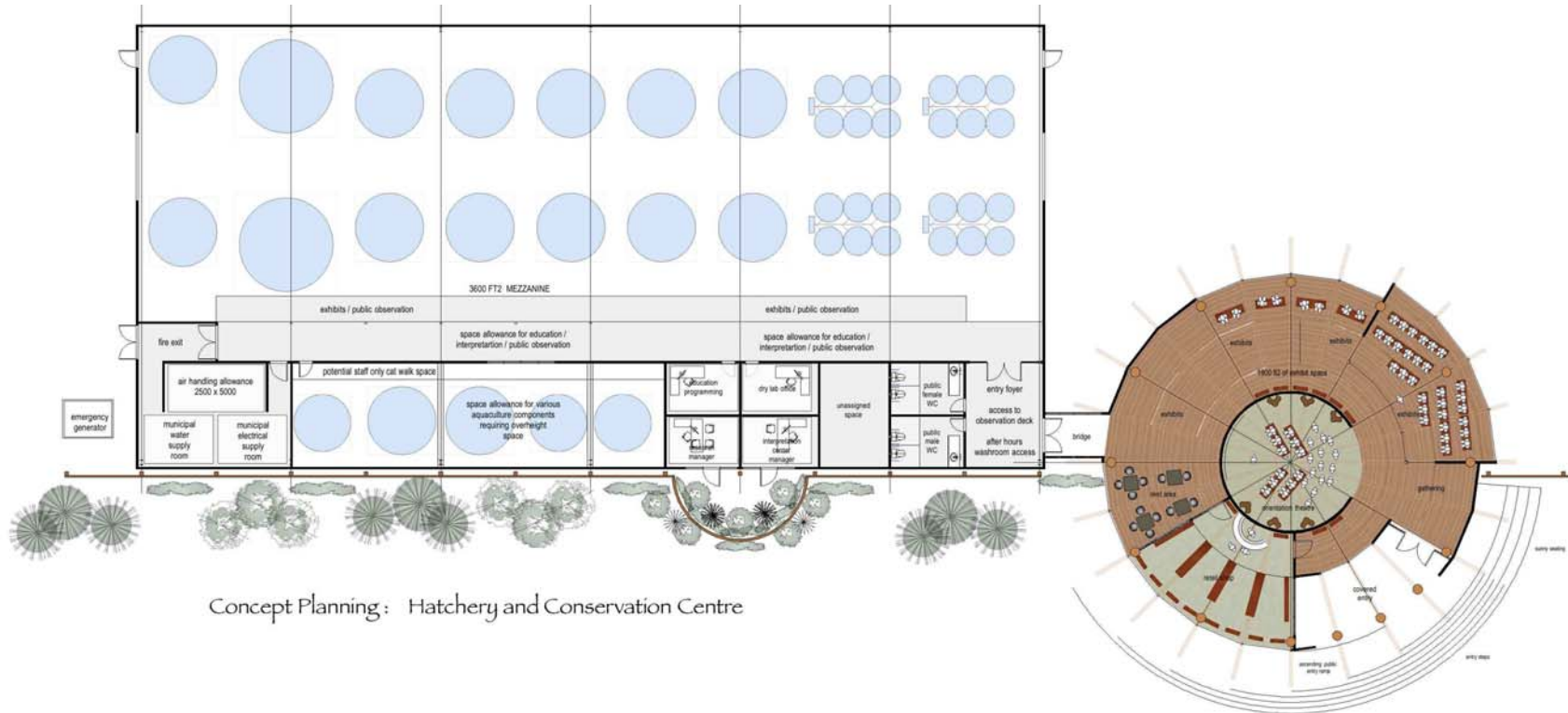
Friday, March 30, 2012

Hillel Architecture Inc. February 15, 2012



Freshwater Fisheries
Society of BC

Layout



Concept Planning: Hatchery and Conservation Centre



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

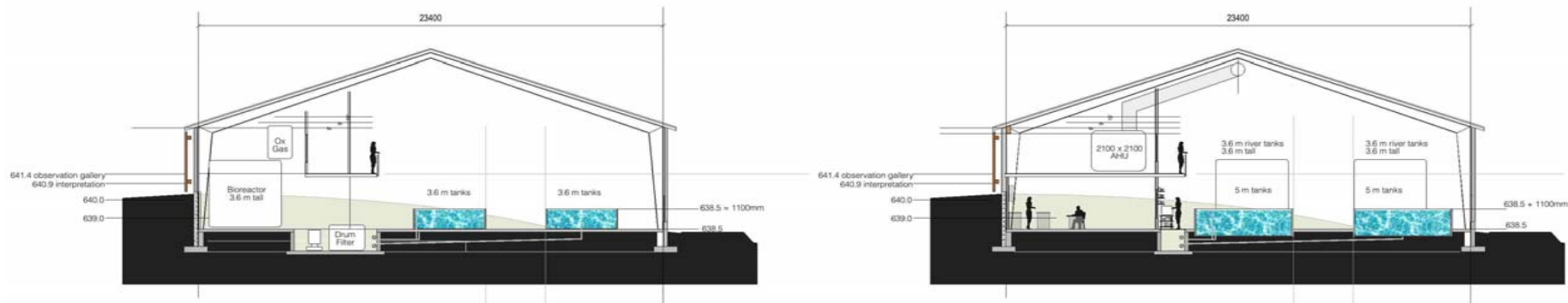
Friday, March 30, 2012

Hillel Architecture Inc. February 15, 2012



Freshwater Fisheries
Society of BC

Layout



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

Friday, March 30, 2012

Hillel Architecture Inc. February 15, 2012



Freshwater Fisheries
Society of BC

ORGANIZATIONAL APPROACH – PARTNERSHIPS!

Governments

BC Ministry of Environment

*BC Ministry of Forests, Lands and Natural Resource
Operations*

Fisheries and Oceans Canada

First Nations

Carrier Sekani Tribal Council

Saik'uz First Nation

Local Communities

District of Vanderhoof

School District 57

Industry

Rio Tinto Alcan

NGOs

Nechako White Sturgeon Recovery Initiative

Nechako Watershed Council

*Nechako Environment and Watershed
Stewardship Society*

Academia

College of New Caledonia

University of Northern British Columbia

University of British Columbia



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



Friday, March 30, 2012

Hillel Architecture Inc. February 13, 2012



ORGANISATIONAL APPROACH - Operations

- The FFSBC will:
 - Own and operate the physical plant and all associated assets;
 - Deliver the goals as determined by the Technical Working Group (TWG)
 - Operate on a contractual basis with funding partner (s).
 - Delivery of Habitat, Recruitment and Restoration Activities could also be coordinated from the conservation centre – TBD

- Also, FFSBC will support the NWSRI objectives to:
 - Enhance the capacity of First Nations and other local groups
 - Report to partners and the public on progress, challenges and successes.
 - Inform and educate the public about the program.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



ORGANISATIONAL APPROACH – Educational Centre (if built)

In regard to a future interpretive/education centre:

- FFBC will also own and operate the building if located on the property.
- Delivery of the Stewardship, Outreach and Education programming TBD.
- NEEF could consider including facilities for other programs funded by NEEF in the centre – a focal point for environmental enhancement work.

(FFBC will work closely with the District of Vanderhoof, local First Nations, RTA and community interests to design, develop, and operate the education centre and its programs.)



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



Freshwater Fisheries
Society of BC

FUNDING APPROACH

Sturgeon Conservation Centre

1. Capital

- Land and Site Preparation
- Design and Construction

2. Operations

- Conservation Culture
- Habitat, Recruitment and Restoration
- Stewardship

Interpretative Centre

- Capital
- Programming



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

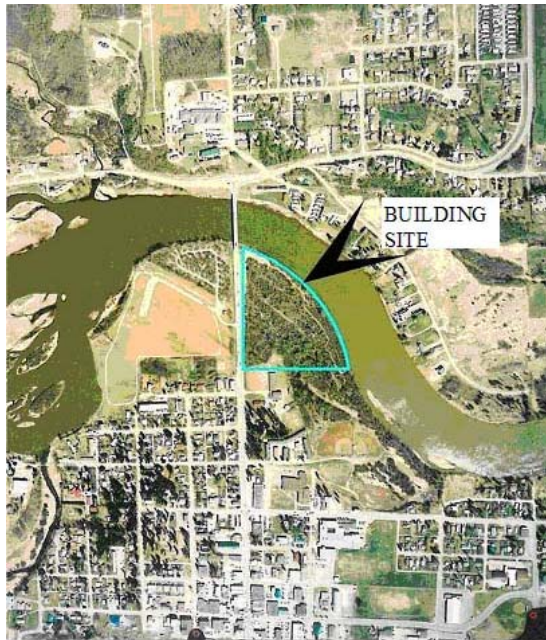
Friday, March 30, 2012

Hillel Architecture Inc. February 15, 2012



FUNDING APPROACH – Conservation Centre

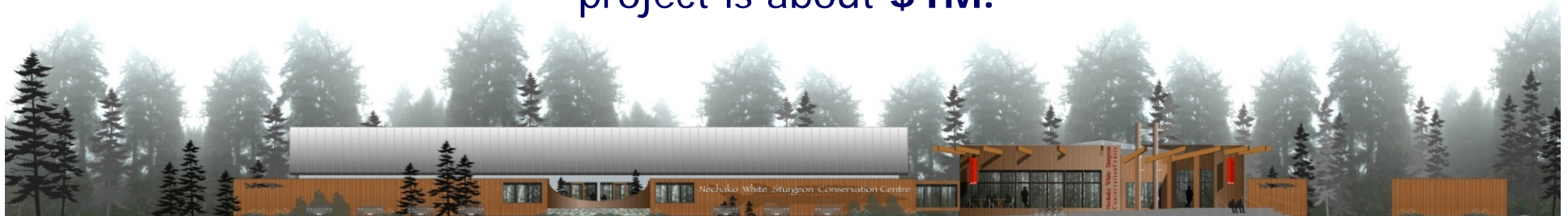
Capital: Land and site preparation – budget notes.



The District of Vanderhoof has committed to:

- providing land adjacent to the river for the project.
- will subdivide, clear, fill and prepare for construction 1 acre of land.
- will transfer ownership of the land to the Freshwater Fisheries Society of BC at no cost.

The value of Vanderhoof's contribution to the project is about **\$1M**.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia

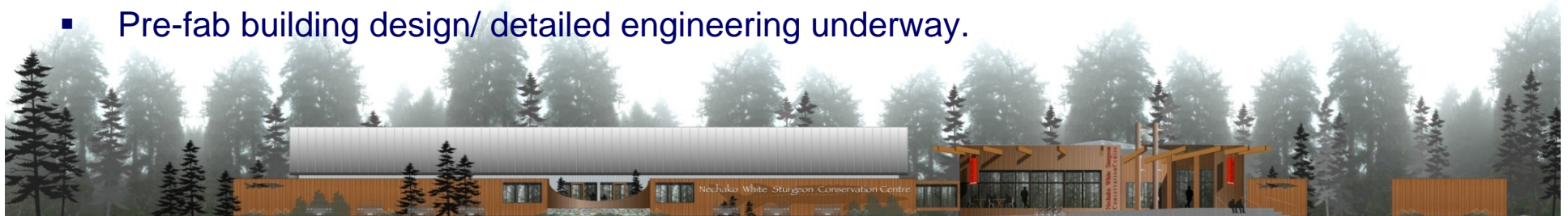


FUNDING APPROACH - Conservation Centre

Capital: Design and Construction – budget notes

FFSBC has:

- Refined production goals with Technical Working Group.
- Established water requirements for incubation, juvenile rearing and adult holding (short and long term).
- Established rearing container layout, operational requirements in the facility.
- River water intake, treatment and discharge treatment being defined.
- Key consultants on board.
- Consulted with key partners including Saik'uz.
- Recirculation Aquaculture System (RAS) design contract is in place.
- Geo-technical survey completed.
- River water supply and discharge system design TBD.
- Pre-fab building design/ detailed engineering underway.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



FUNDING APPROACH – Conservation Centre

2. Operations – Conservation Fish Culture - budget notes:

- A commitment to a minimum of 10 years of operating funding is needed before construction can begin (Vanderhoof Council, FFSBC Board).
- A conservation fish culture operation can not be operated on the basis of year to year proposals for funding.
- We are designing the facility to minimize on-going operational costs.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



FUNDING APPROACH – Conservation Centre

2. Operations: Habitat, Recruitment and Restoration - budget notes:

- At this time, long-term costs for habitat restoration are unknown and are therefore not considered in this strategy.
- What is required are resources for the coordination of habitat assessment, mitigation activities aimed at restoring the recruitment of sturgeon in river.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



FUNDING APPROACH – Conservation Centre

2. Operations: Stewardship, Outreach and Education - budget notes

The conservation centre and property is being designed with the potential for an education centre in mind.

- Resources are needed to coordinate:
 - NWSRI technical and community working groups,
 - Coordinate stewardship and outreach
 - Liaison with schools and First Nations
 - Harm reduction activities,
 - Liaison with other NGO's as well as leveraging opportunities to fund these activities



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



FUNDING APPROACH - SUMMARY

Nechako White Sturgeon Conservation Centre – budget summary

Capital Costs

Conservation fish culture	~\$3.2M (have/committed)
Land preparation and servicing costs	~\$1.0M (have/committed)
Interpretive and resource centre	<u>TBD</u>
Total Capital	~\$4.2M +

Operations (per year)

Fish culture operations	\$0.50M (need)
Brood capture, juvenile assessment	\$0.10M (need)
Habitat research and assessment base	\$0.15M (need)
Stewardship	<u>\$0.05M</u> (need)
Total Operations	\$0.80M



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



NEEF Operational Funding Options

Option 1. Fund the Sturgeon Conservation Centre Directly

- a. Lump sum equivalent to 100% of 10 years of operating costs = ~ \$8M
- b. Lump sum to FFSBC equivalent to 50% of 10 years of operating costs = ~ \$4M
- c. Commitment that NEEF fund 100% of operating costs = ~ \$800k per year.
- d. Commitment that NEEF fund 50% of operating costs = ~ \$400k per year.

Option 2. Fund the Sturgeon Conservation Centre indirectly through a “single, in perpetuity fund” concept, (see separate presentation).



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



NEEF Funding Options

Summary

- Nechako sturgeon have been directly impacted by changes to the river environment.
- Sturgeon are endangered and are the only SARA listed species.
- A comprehensive, approved recovery plan is in place for this species.
- The FFBC has a proven track record in conservation fish culture, facility design and operation, working with partners.
- The sturgeon conservation centre is strongly supported by a wide range of partners
- The sturgeon conservation centre can become the focal point for environmental enhancement activities in the basin.
- A sturgeon recovery program fits squarely within the NEEF objectives.



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



Freshwater Fisheries
Society of BC

THANK YOU!

Discussion?



Nechako White Sturgeon Conservation Centre
Vanderhoof, the geographical center of British Columbia



Friday, March 30, 2012

Hillel Architecture Inc. February 13, 2012

26