

# Aboriginal Community Land & Resources Management: Data Needs Assessment

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# Overview

- ▶ Project Partners
- ▶ Context for Aboriginal land use planning & plan selection
- ▶ Methodology
- ▶ Results
- ▶ Data

# Project Partners



# Planning

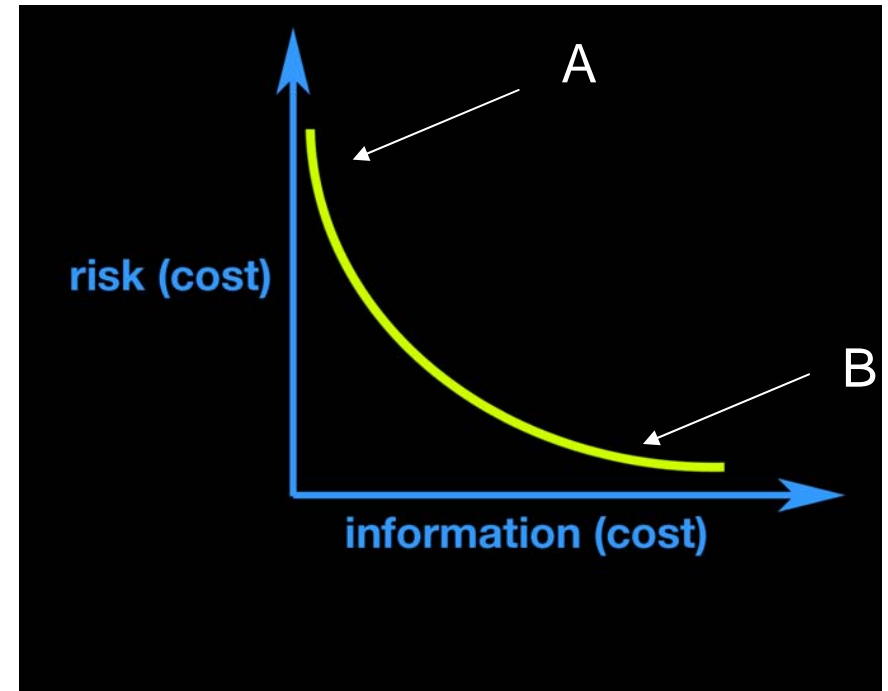
- ▶ Focus on Aboriginal land and resource management plans
  - Currently available or mandate to create one
- ▶ A Land use plan is a tool used in planning
  - Land use plan
  - Land management plan
  - Comprehensive resource management plan
  - Integrated management plan
- ▶ Try to reconcile and balance multiple values for how lands and resources are protected and developed

# Land use Plans

- ▶ Land use plans are characterized by:
  - The spatial weighting of conservation, cultural and economic values, with specific management recommendations made for areas of similar ranking
  - Areas that share similar ranking are often termed “management zones” and are given special management status

# Risk & Information Curve

- **Point A** - Decisions made with no available information, operating negligently with high risk (and cost) in making wrong decisions
- **Point B** - Decisions made with all available information, certainly lowering our risk (and cost), but not efficient in our decision making; increased information cost



planning is risk management  
planning involves information management  
Source: D. Carruthers, PlanLab Ltd. (adapted from Dr. Doug Elias)

# Methods

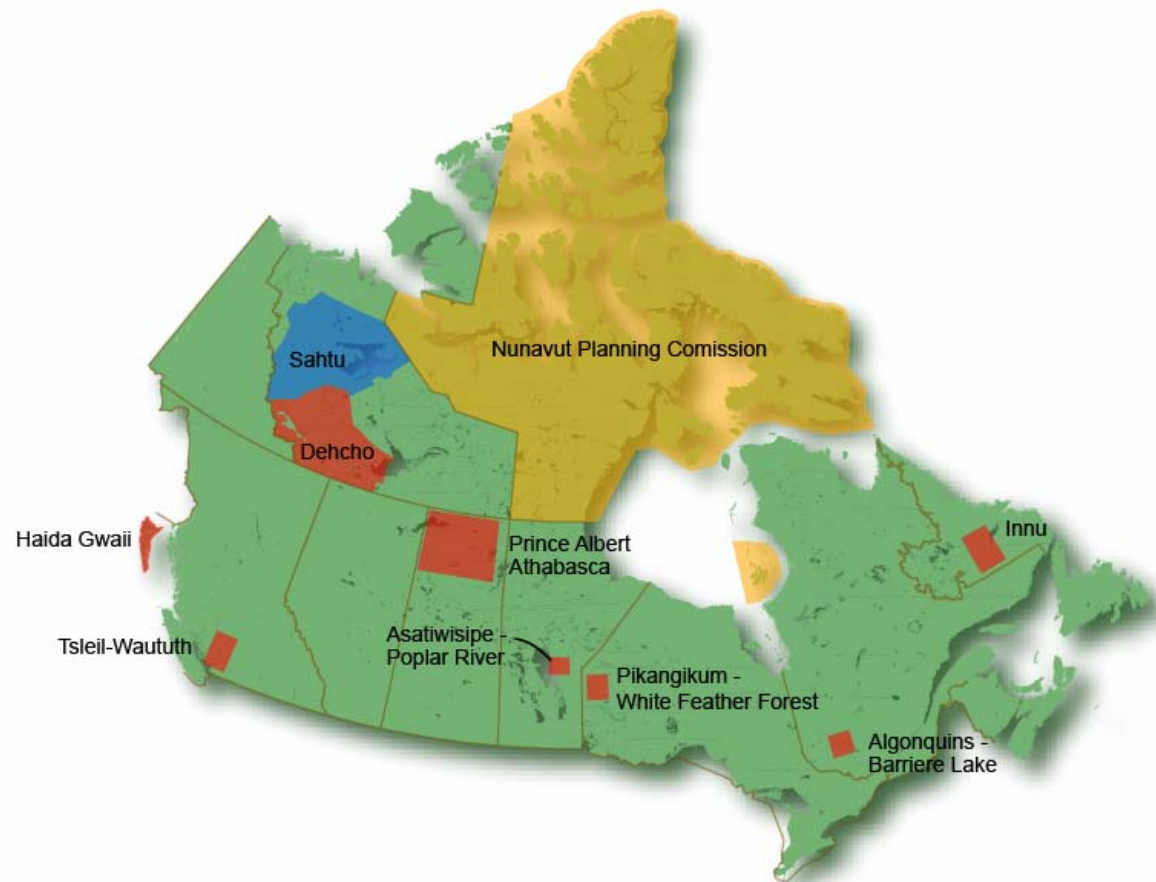
- ▶ Phase 1
  - Review of 10 plans across Canada
  - Geographic and cultural criteria and not necessarily based on quality
  - Summarize the plans, contact the Aboriginal groups, and hold community meetings to discuss geospatial data needs
- ▶ Phase 2
  - Develop a Canadian wide classification
  - Identify the closest to authoritative source data providers
  - Analyze data supply networks
  - Identify impediments and/or barriers to access or use of datasets

# Plan Selection

- ▶ GeoConnections provided a list of 5 plans
- ▶ Project team initially reviewed 17 plans prior to shortlist
- ▶ Diversity to include coastal/inland and urban-based plans
- ▶ Cultural criteria: First nations, Inuit, Metis
- ▶ Geographic criteria:
  - Atlantic Canada (1)
  - Eastern Canada (2)
  - Central Canada (2)
  - Western Canada (2)
  - Northern Canada (3)



# Geographic / Cultural Coverage



# Atlantic Canada (1)

- ▶ Forest Ecosystem Strategy Plan for District 19 Labrador / Nitassinan (Innu Nation)
  - Incorporates Silva Forest Foundation's (Herb Hammond's) ecosystem-based modeling, a special methodology which is unique in Canada
  - Often applied to conservation planning, unique to a forest management plan

# Eastern Canada (2)

- ▶ Algonquins of Barriere Lake Comprehensive Land Use Plan
  - One of Canada's most comprehensive land use plans
  - Data collected from the last 20 years
  - Comprised of 7 draft forest plans / 5 draft wildlife plans
- ▶ Whitefeather Forest Land Use Strategy (Pikangikum First Nation)
  - Ontario's only boreal land use plan
  - Maps won National Cartography Award in 2005

# Central Canada (2)

- ▶ Asatiwisipe Land Management Plan (Poplar River)
  - Largely a park management plan
  - Serves as a supporting document in an application by the community for protection as a UNESCO Heritage Conservation area
- ▶ The Prince Albert Grand Council's plan for the Athabaska region
  - Comprehensive plan that fully integrated Saskatchewan's largest cultural land use and occupancy study (1100 map overlays with over 65,000 mapped sites)
  - Rich array of biophysical and resource data
  - Stage 1 (of 3) which will have an impact on 1/3 of the Province of Saskatchewan

# Western Canada (2)

- ▶ Haida Gwaii Land Use Plan

- A result from a co-chaired land use planning process between the First Nation and the Crown
- Incorporated millions of dollars of research from the environmental sector, including research from the Coast Information Team

- ▶ Tsleil Waututh Plan in Southern BC

- From an urban environment (North Vancouver)
- Regarded as Aboriginal leaders in Canada in their use of mapping for land use planning

# Northern Canada (3)

- ▶ Dehcho Interim Measures & Plan
  - Combines a rich variety of community based and external data
  - Considered one of the most comprehensive Aboriginal plans in Canada
  - High profile plan attracting International attention
- ▶ Sahtu Dene & Métis Comprehensive land use plan
  - Métis component
- ▶ Nunavut Planning Commission
  - Originally chose the Keewatin Land Use Plan
  - Largest planning region, multiple sub-regions with land use plans now being re-worked to a Nunavut wide plan
  - Identification of multiple data sources through 3 RFPs issued in December 2007

# Methodology

- ▶ We looked into 3 main areas of Research:
  1. Project teams and geographic scope
  2. Policy opening – motivations for planning
  3. General methods: (a) approach; (b) data; (c) assessment; (d) zoning; and (e) management

# 1. Project Teams

- ▶ Partnerships with provincial and territorial governments
- ▶ Partnerships with environmental and non-governmental organizations
- ▶ Partnerships with external consultants



## 2. Policy Opening

- ▶ Motivations for planning
  - Aboriginal Rights, Title and Treaty Recognition
  - Consultation and Accommodation
    - ▶ Duty to consult
  - Settlements to conflict
    - ▶ Conflict over the use and allocation of resources, all parties agree to collaborate on a LUP
  - Joint ventures and co-management
    - ▶ Government have mandated the drafting of regional LUP and to meet their fiduciary duties to consult, partnered with local Aboriginal entities to co-author plans and co-management

## 3a. General Methods: Approach

- ▶ Different Approaches
  - Issue based
  - Ecosystem based
  - Conservation area design
- ▶ Large community engagement component; 3+ year projects
- ▶ Extensive use of mapping to inventory and catalogue natural, cultural and biophysical resources
- ▶ Capacity remains an ongoing theme

## 3b. General Methods: Data

- ▶ Principle Categories
  - Framework & thematic
- ▶ Thematic Categories
  - Cultural data (use and occupancy, harvest, traditional knowledge, etc.)
  - Natural heritage data (plants, animals, habitats, etc.)
  - Biophysical data (geology, slope, elevation, watersheds, etc.)
  - Administrative / development data (park boundaries, forest and mining tenures, dispositions, etc.)
- ▶ Numerous information was captured for each geospatial data set (source, scale, date, format, confidentiality, contacts, etc)

## 3c. General Methods: Assessment & Ranking

- ▶ Most plans overlaid common values
- ▶ Evaluation of data through *scientific assessment and community validation*
  - To prioritize areas of similar values
- ▶ Summary maps representing priority areas

## 3d. General Methods: Zoning

- ▶ Areas of similar values / ranking organized into “management zones”
- ▶ Zoning common to all plans
- ▶ Commonly used zoning includes:
  - Special management zones
  - General use zones
  - Conservation zones
  - Multiple use areas

## 3e. General Methods: Management

- ▶ Each plan made specific management recommendations for each management area (or zone)
- ▶ Many plans identified policies and strategies for implementation and monitoring

# General Consensus – Data Related

- ▶ Existing & currently available data
  - Does not meet current needs
  - Meets the most basic needs
- ▶ Geospatial data needed but not yet available
  - Availability / cost / capacity issues
- ▶ Data sharing
  - Reluctance of groups to share data
- ▶ Data delivery
  - Internet based digital delivery
- ▶ Data Gaps

# General Consensus – Software Related

- ▶ ESRI suite of software
  - ArcGIS 9.0+
- ▶ Software is expensive
  - License, maintenance, Extensions
  - Extensions to allow further analysis and data derivatives are extra
- ▶ Issues with other formats
  - Difficult to use data in other formats
- ▶ Difficult to keep up with the software
  - Patches, versions, etc.
  - Hard to keep current and maintain daily duties



# Common Issues

- ▶ Geomatics capacity
- ▶ Standardized data
- ▶ Confidentiality issues surrounding TEK
- ▶ Data sharing from Developers & Government
- ▶ Locating data, delivery methods and ease of delivery
- ▶ High cost of quality data
- ▶ Update rate
- ▶ Data format
- ▶ “Ambulance Chasing”

# Common Themes

- ▶ 1:50,000 scale or better
- ▶ Vector based
- ▶ Standard base – lakes, rivers, contours
- ▶ DEM
- ▶ Important species (distribution, range)
- ▶ Cultural significance / archeology
- ▶ General interest in forest cover, geology & mining tenure, oil & gas potential, climate change & prediction, other permit & claim information

# Common Sources

- ▶ Aboriginal Groups
- ▶ Various Provincial / Territorial Government Departments
- ▶ Other Organizations / Consultants
- ▶ GeoConnections

# Questions?



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