Atlin-Taku Planning Area: **Ecological Land Units Model**

ELU

We predicted the occurrence and distribution of ecological communities through the development of an ecological landscape unit (ELU) model. Prior to the development of the ELU, there had not been an attempt to identify the diversity of ecosystems across the TRTFN Territory. This model uses existing BC government data to predict potentially unique ecological communities by combining data about environmental and vegetative characteristics that are likely drivers of ecological diversity. The data that were combined are:

- Biogeoclimatic classification (BEC) to capture elevation, climatic and coastal influences (see BEC map here at the workshop);
- Forest cover characteristics (using the 10 "forest types" identified in the BC Forest Cover that identifies the two leading forest species, and separating those further into 3 age classes: The forest groupings were further divided based on the projected forest age class into three projected age classes: young (≤80 years), mature (81-140 years old), and old (>140 years);
- Non-forest vegetation was identified as alpine and wetland areas, and grass and shrub early seral stages, all identified in the Forest Cover;
- Non-vegetated classes included a glacier/ice class and open water (lakes), again identified in the Forest Cover;
- Solar and micro-climate were predicted based on aspect, with warm southerly aspects (120°-240°) or cool, northerly aspects (240°-120°) distinguished.

The analyses have predicted potentially unique ecological communities, as represented by the unique combination of the above characteristics. We urge that these predictions must be interpreted with some caution, as the use of data of different resolutions creates potential errors in the ecological community definitions. For example, the BEC zone data is at a scale of 1:250,000, while the forest cover has a resolution of 1:20,000. Therefore, caution must be inherent when evaluating the predicted communities, particularly those that may be predicted to be rare, as these could be the result of regions of misaligned polygon boundaries.

Map Key

Broad Vegetation Zones:
Boreal Altai Fescue Alpine, Boreal White and Black Spruce, Coastal Mountain-heather Alpine, Coastal Western Hemlock, Engleman Spruce/Subalpine Fir, Mountain Hemlock, Spruce/Willow/Birch, Sub-boreal Spruce

Ecological Land Unit Model Classes:
(See description above for details related to the modeling process)

Example model classes (313 total):
- BAFA/Spruce-Mixed-Conifer/Mature/Cool
- BWBS/Aspen-Mixed-Conifer/Mature/Warm
- CMA/Nonforested/Cool
- CWH/Hemlock/Mature/Cool
- ESSF/Spruce-Mixed-Conifer/Old/Warm
- MH/Riparian-Forest-and-Shrubland/Old/Warm
- SBS/Aspen-Deciduous-Birch-Deciduous/Young/Cool
- SWB/Lodgepole-Mixed/Mature/Warm

Taku River Tlingit territory
Atlin-Taku planning area
Taku River drainage divide
Protected areas

Roads
Paved or main roads
Gravel or secondary roads
Unimproved roads
Rivers
Lakes

0 2.5 5 10 Kms

Projection: BC Albers equal area conic
Datum: North American Datum of 1983
Data sources: TRTFN, BC WLAP, GeoGratis

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