Indigenous Knowledge Systems: An Overview

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Artist: Darlene Gait

Is it really a matter of integrating ATK/TEK *into science?*

Or rather, is it blending both at points of complement?

TR

Presentation Outline

- What is Indigenous/Aboriginal/traditional knowledge?
- Language and transmission
- Differences with other knowledge
- Sources of I-A-T-K
- Examples in Pacific Northwest
- Arctic Studies
- Cultural Indicators

Aboriginal/Indigenous/Traditional Knowledge

Traditional/Aboriginal

- temporal attributes, time, unchanging, identity

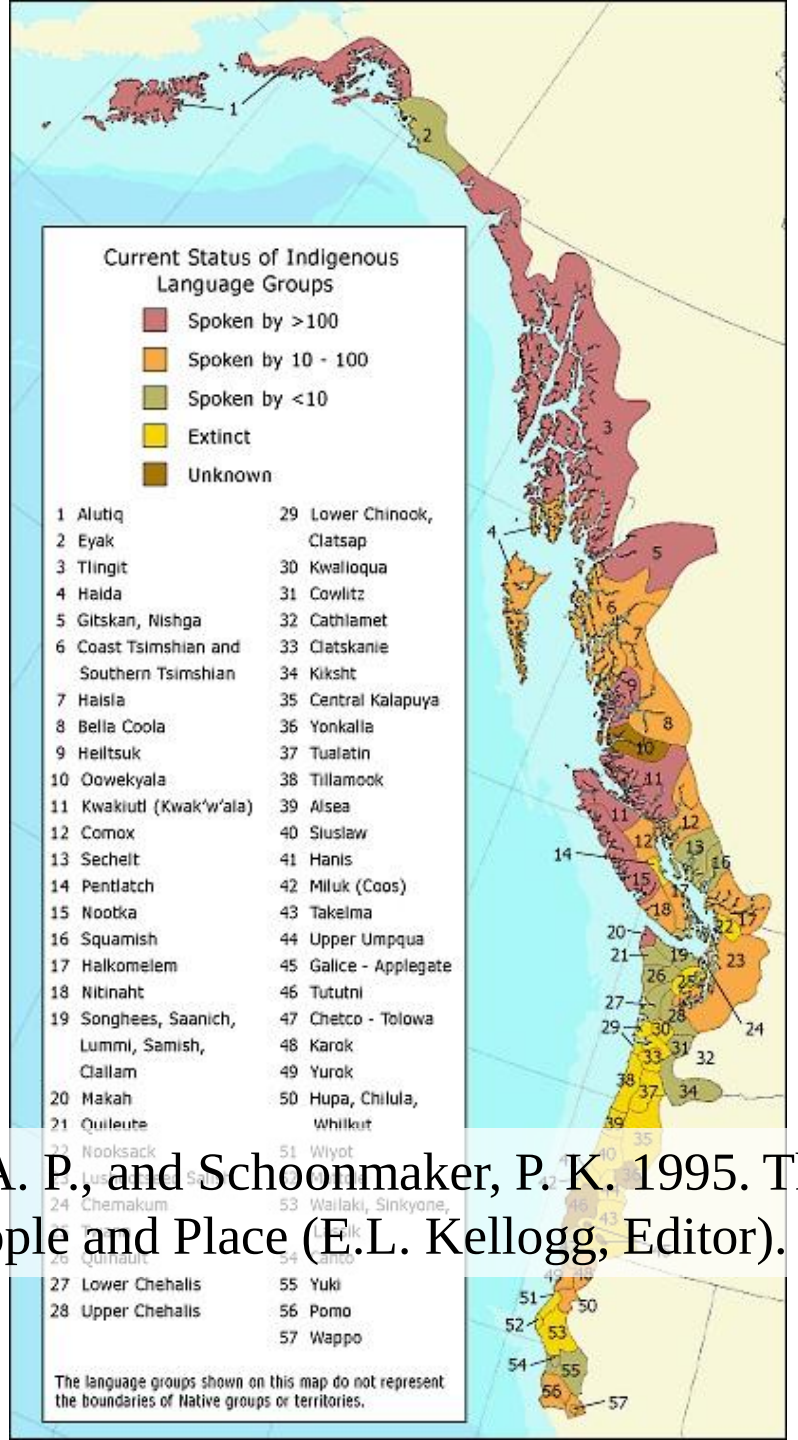
Ecological

- multi-trophic scales, relationships, reciprocity

Knowledge

- systemic observations and transmission, awareness of limits

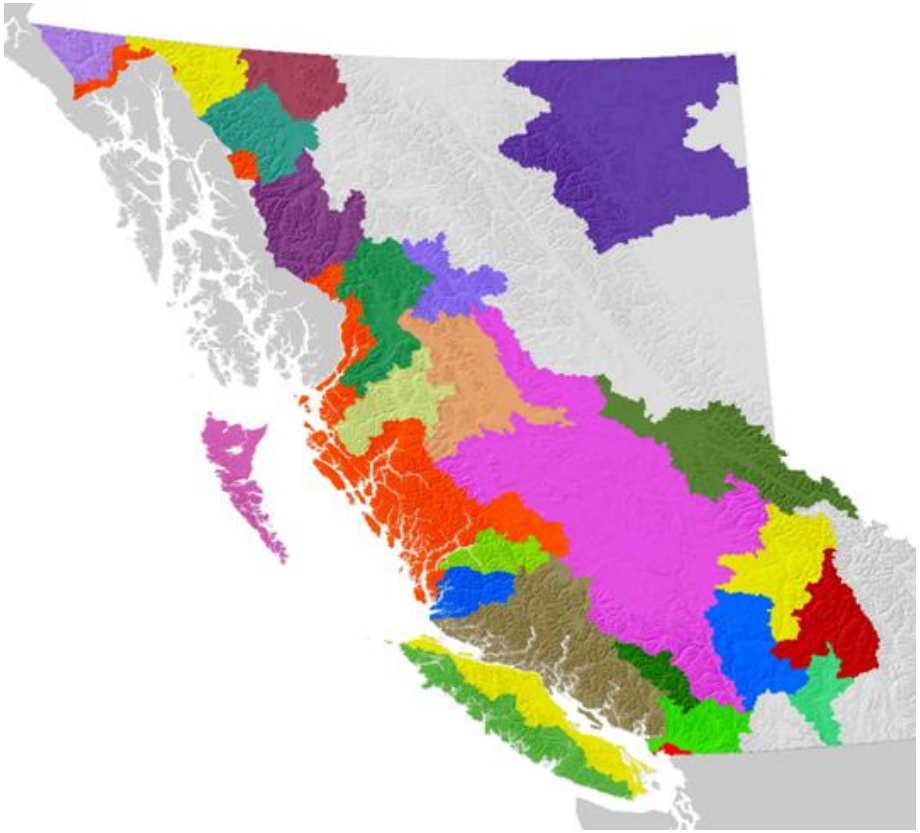
Language

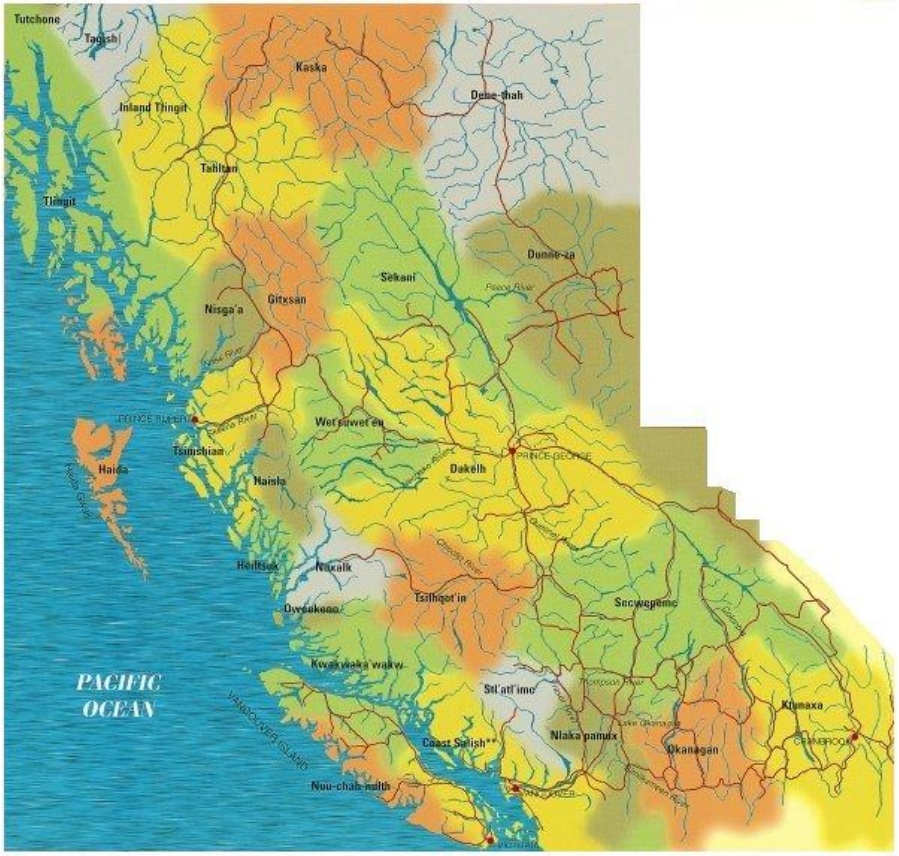


Smalgyax

Wolf, E. E., Mitchell, A. P., and Schoonmaker, P. K. 1995. The Rain Forests of Home: An Atlas of People and Place (E.L. Kellogg, Editor). www.inforain.org/

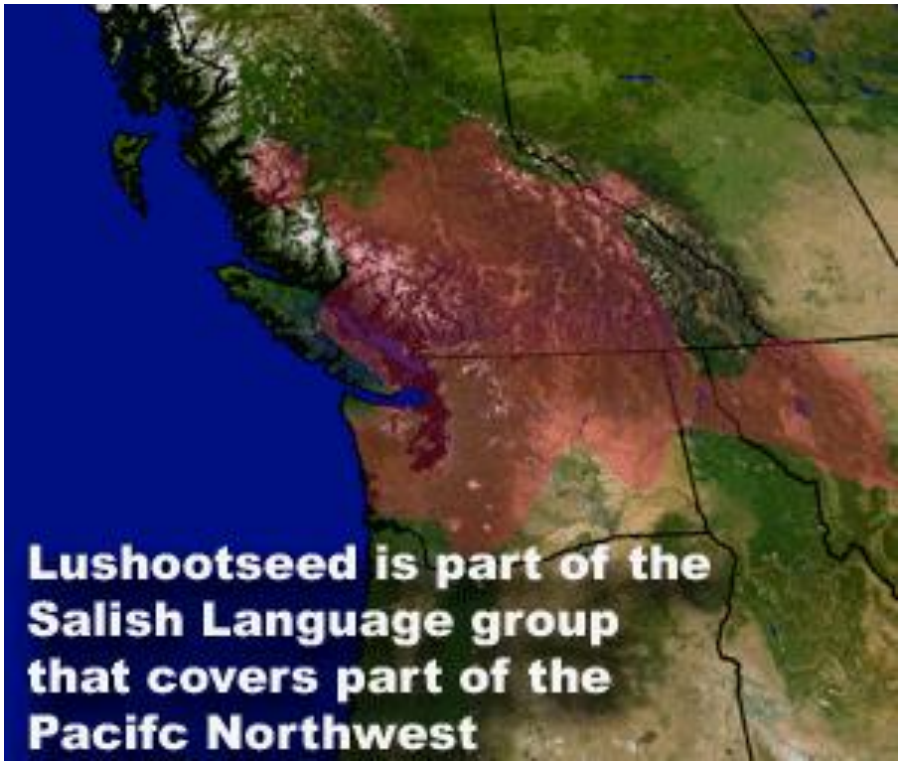
Language Groups & CUs





WSP Ecosystem values workshop (2006), suggested to overlay First Nations language map with proposed CUs to provide a starting point for knowledge exchange on salmon.

Language – Lushootseed
- Orca - qal’qaləx̌ič̌



Traditional stories are used to teach people about their history, culture, origins, and values.

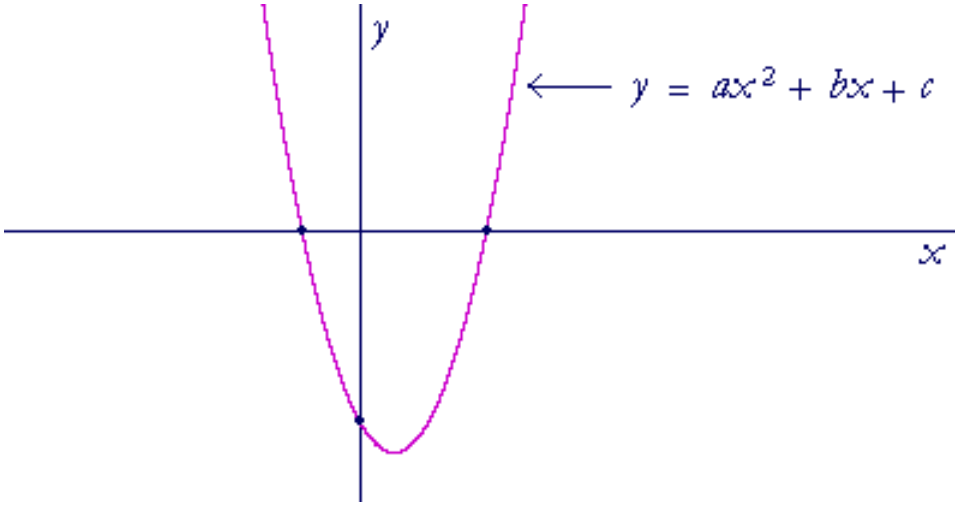
Taxonomy, classification

- wah (eulachon), halimootk, hanigoox, laa’na, k’awoo; smk’awtsii
- Bilhaa (abalone)
- Hoon (salmon), misoo, yee, üüx, gayniis, sti’moon, gadooł; łgum’yee, xoots’iks, ts’iwaas
- (groundfish) hadanii, k’a’wts, ha’noo, wat’ukw, ts’mhoon, txaw
- tskah (herring); xs’waanx
- ts’a’ax (clams), ts’ax, sa’mx, loon

Science Research

If $ax^2 + bx + c = 0$, then

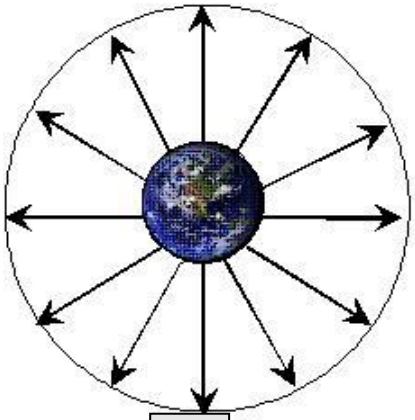
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

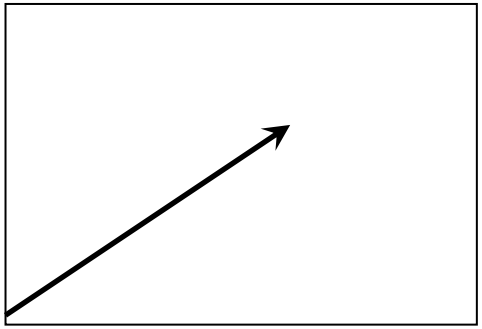


Engaging Exchange

Aboriginal knowledge

Science knowledge





Information exchange, Data Management

Discussion, negotiation, comparisons, direction, etc.

Agreement, decisions, etc.

T. Ryan 2006

For Example...

ATK

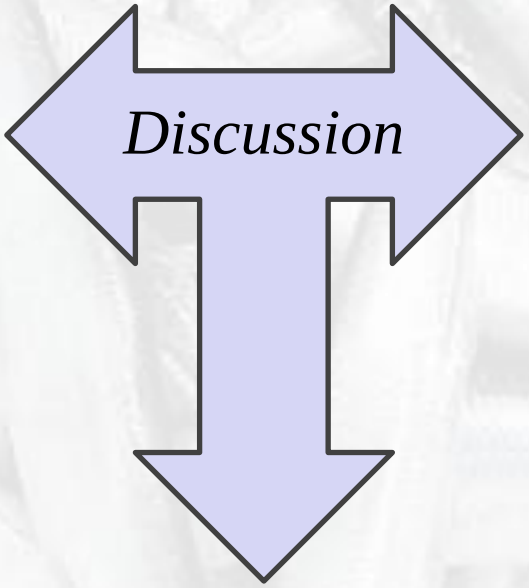
wah (eulachon)

halimootk

hanigoox

laa’na

k’awoo



Science

Life history

-Sex

-Timing

-Adult returns

-Spawning pairs

OUTCOME: eulachon adult return migration enters Skeena River in ‘pulses’ of 4 different groups

Sources

- Aboriginal people
- Aboriginal language
- Ethnographic records
- Research surveys
- Workshops

Killer whale specific topic:

Arctic – Inuit

Pacific – Not yet....

Northern Northwest Coast

Tsimshian

- *Gisbutwada* clan and crest, lineage names, matrilineal society

Ne•’xl = blackfish

artist: Bill Helin, Tsimshian

Artist: Odin Lonning

Tlingit

– crest symbols, names, and matrilineal society

’sit - Blackfish
(Globicephala macrorhynchus)

kit - killer whale, three varieties:

kīt yīyagu’ - largest “heraldic,” hole through high dorsal

kīt wu- white killer whale

kīt wus’ānî – red killer whale, leader

Many stories with killer whale

de Laguna, F. 1972. Under Mt. St. Elias: The history and culture of the Yukatat Tlingit: Part One. Washington, DC: Smithsonian Institution Press.

Central Northwest Coast

Artist: Andy Everson

Coast Salish

Artist: Joe Jack

Karl Solomon

Joe Wilson

Nuu Chah Nulth

Luna – *Tsuxit*
A reminder of the continuing legacy

Makah Petroglyphs

Arctic Research

Ferguson et al 2012 – Prey items and predation behavior of killer whales (*Orcinus orca*) in Nunavut, Canada based on Inuit hunter interviews. *Aquatic Biosystems*, 8:3

Ferguson et al 2010 –The Rise of Killer Whales as a Major Arctic Predator. In S.H. Ferguson et al. (eds.), *A Little Less Arctic: Top Predators in the World's Largest Northern Inland Sea, Hudson Bay* (p. 117-136).

Inuit - *Quajimajatuqangit*

-Presence of Killer Whales increasing exponentially by decade

-Hunt in packs, aggressive

-Prey on ‘just about anything’

-Concern for other whales, narwahl, beluga

Summary Key Points

- Knowledge is developed from respective world views
- Sources of Indigenous Knowledge - diverse and span through time
- Accessing Indigenous Knowledge requires an engaging Indigenous people
- Cultural indicators may be developed according to Indigenous Knowledge content
- Points of convergence blend between knowledge forms

Artist: Susan Point

Conclusion

Cultural Indicators

-exploring the Tlingit use of three words
-investigate the timing of behavior (e.g., Skeena, BY, etc.)
- Is Robson Bight a playground or dermatology clinic?

Points of Convergence

- observations of feeding behavior over time
- differences in populations (e.g., residents, transients…)
- ecosystem balance

N’doyax’n. Thank you.

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