

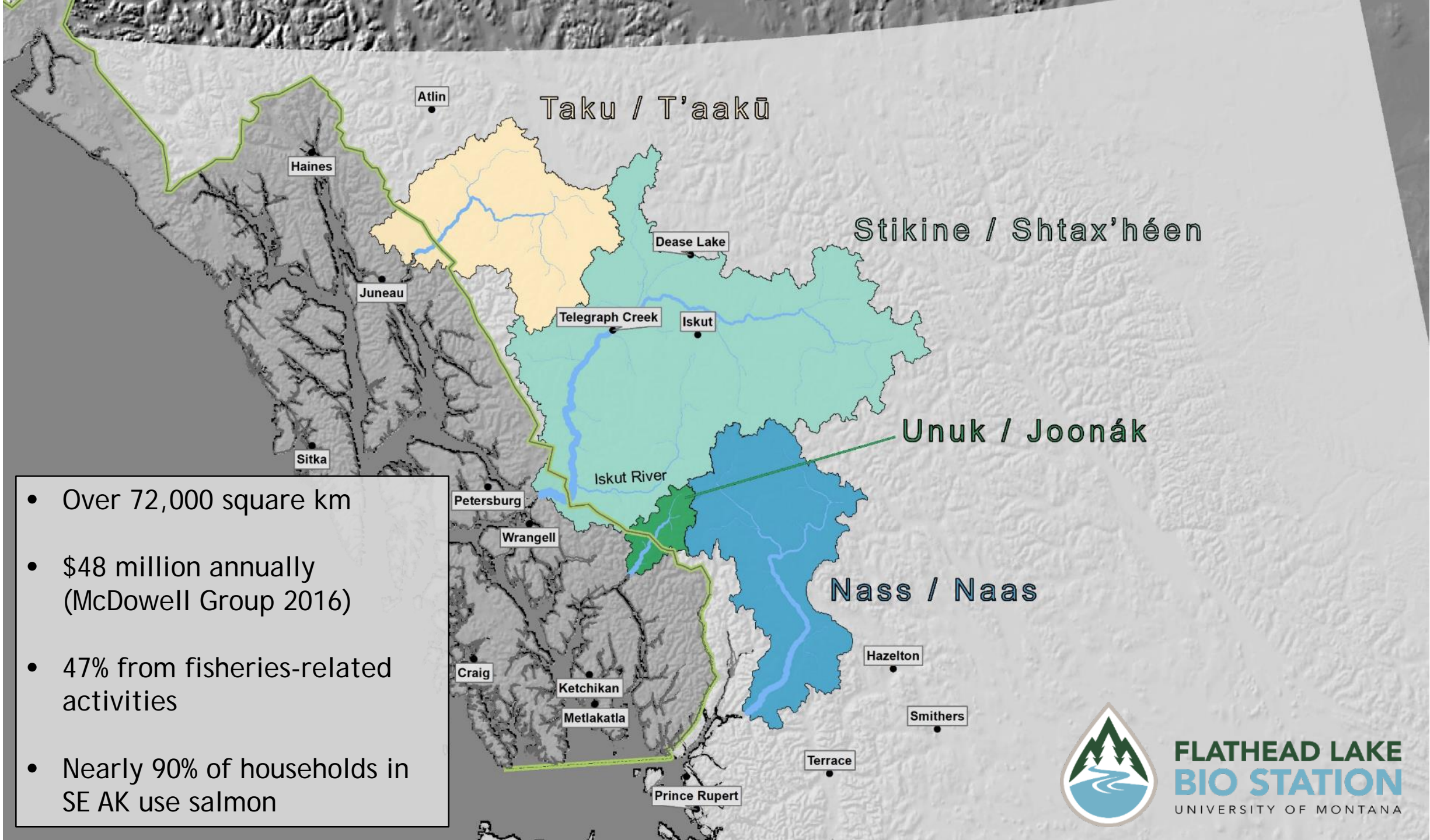
# Assessing mining impacts on our shared Alaska-British Columbia rivers



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**BIO STATION**  
UNIVERSITY OF MONTANA

Chris Sergeant, research scientist



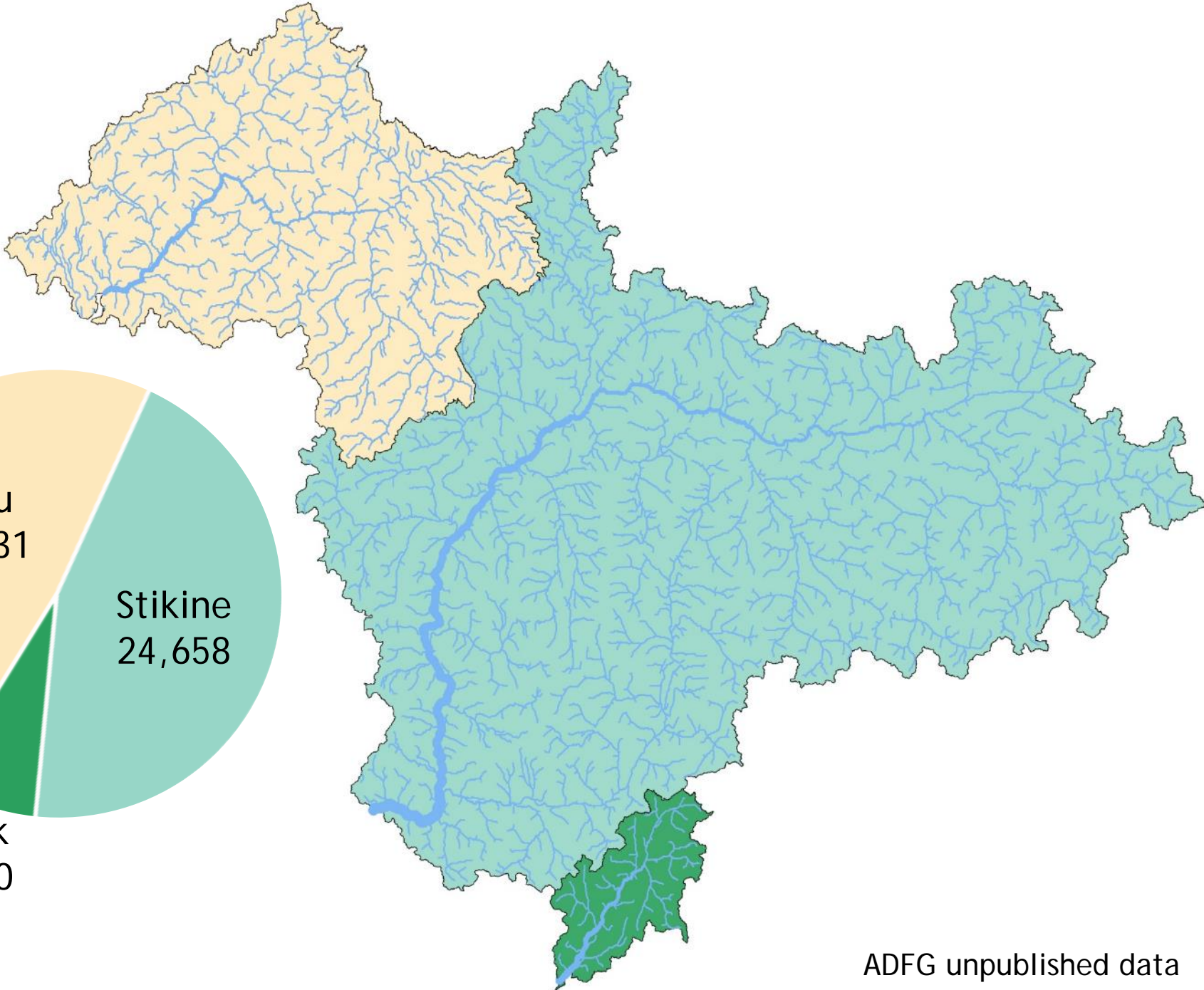
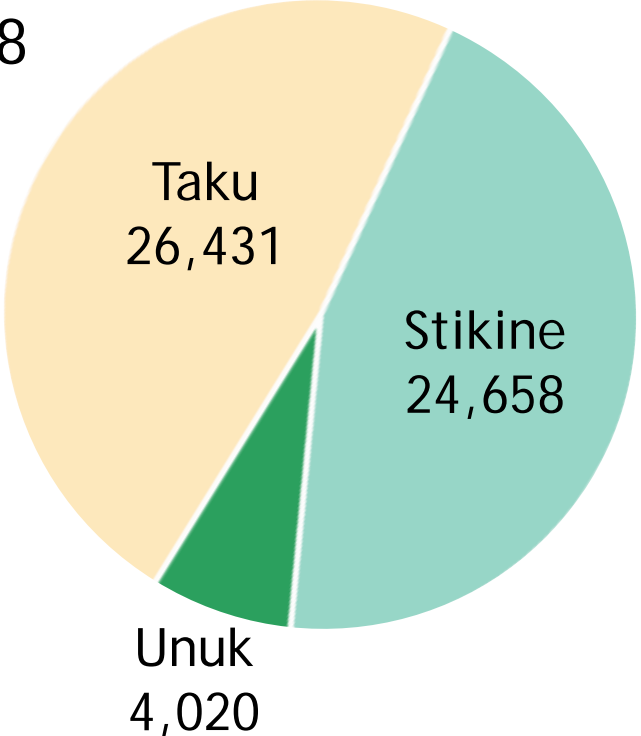


- Over 72,000 square km
- \$48 million annually (McDowell Group 2016)
- 47% from fisheries-related activities
- Nearly 90% of households in SE AK use salmon



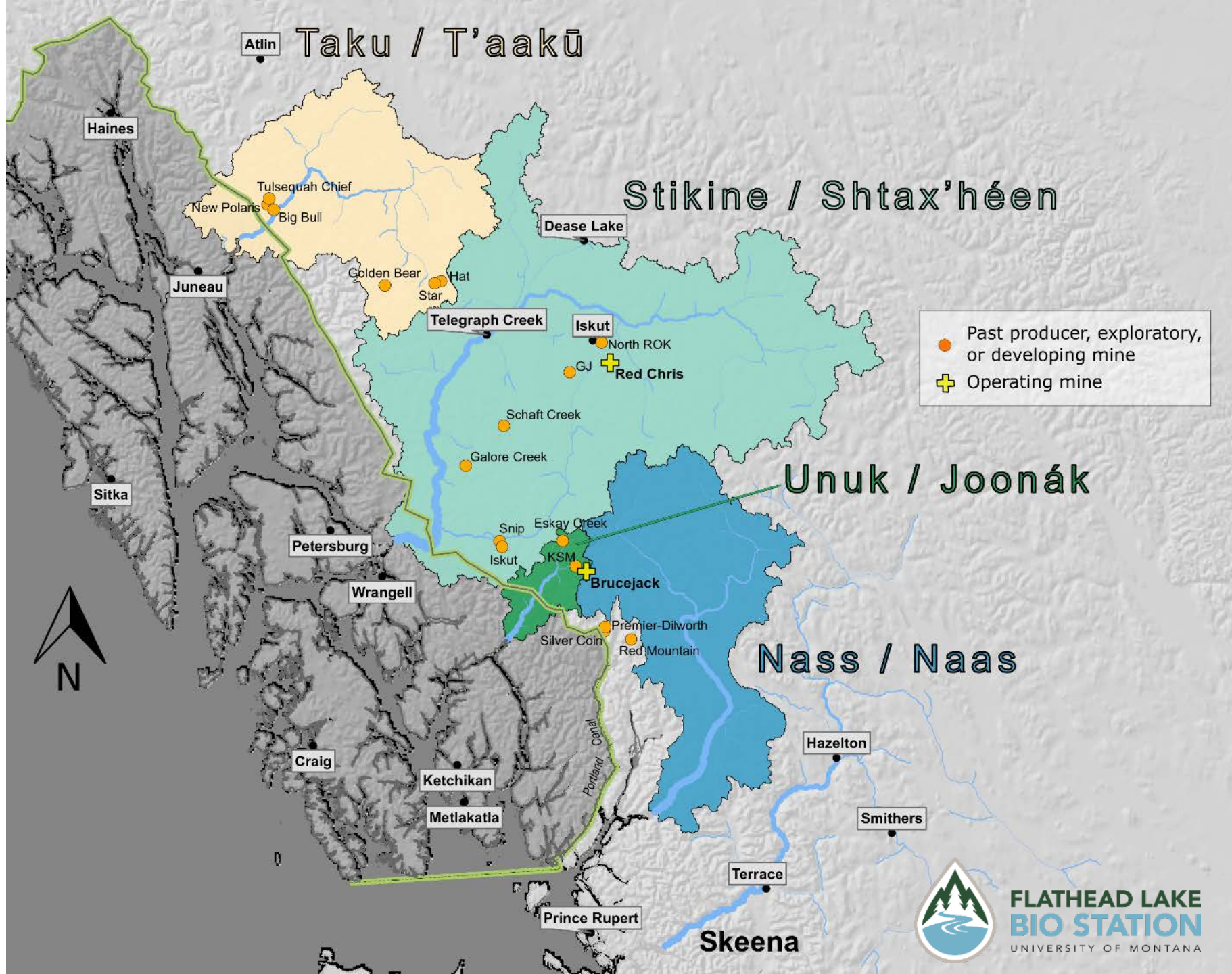
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Average annual  
Chinook salmon run  
2007-2018



ADFG unpublished data





Atlin Taku / T'aakū

Haines

Tulsequah Chief  
New Polans  
Big Bull

Stikine / Shtax'héen

Dease Lake

Juneau

Golden Bear  
Hat  
Star

Telegraph Creek

Iskut

● Past producer, exploratory,  
or developing mine  
+ Operating mine

North ROK  
GJ + Red Chris

Schaft Creek

Unuk / Joonák

Sitka

Petersburg

Snip Eskay Creek

Nass / Naas

Iskut

KSM

Brucejack

Wrangell

Premier-Dilworth

Silver Coin

Red Mountain



Craig

Ketchikan

Metlakatla

Prince Rupert

Skeena

Hazelton

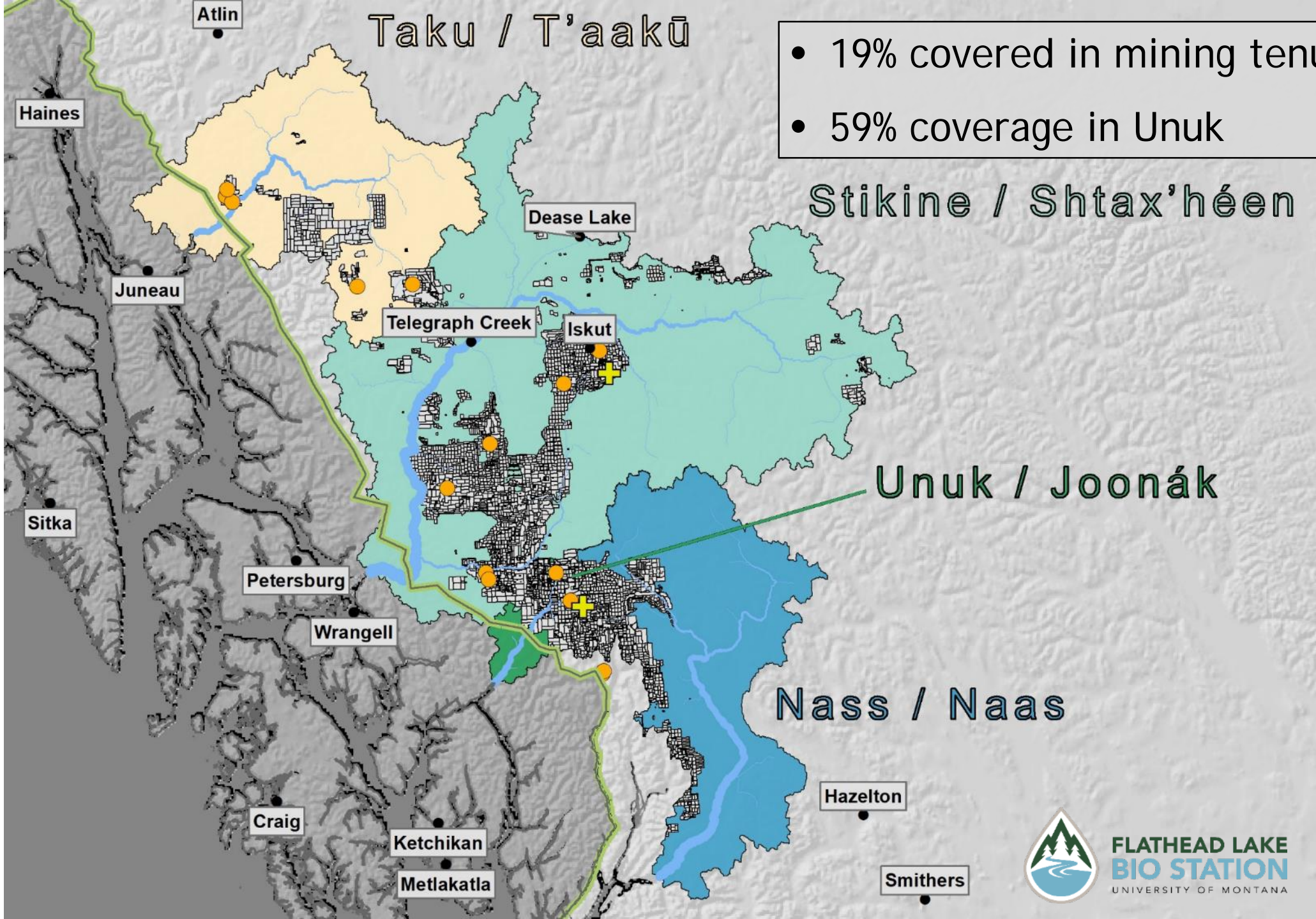
Smithers

Terrace



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- 19% covered in mining tenures
- 59% coverage in Unuk



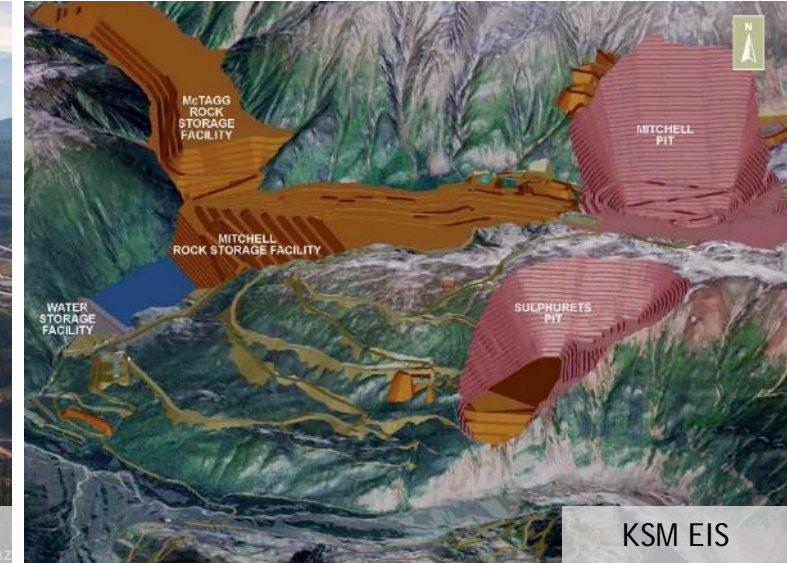
Tulsequah Chief Mine (Taku)



Red Chris Mine (Stikine)



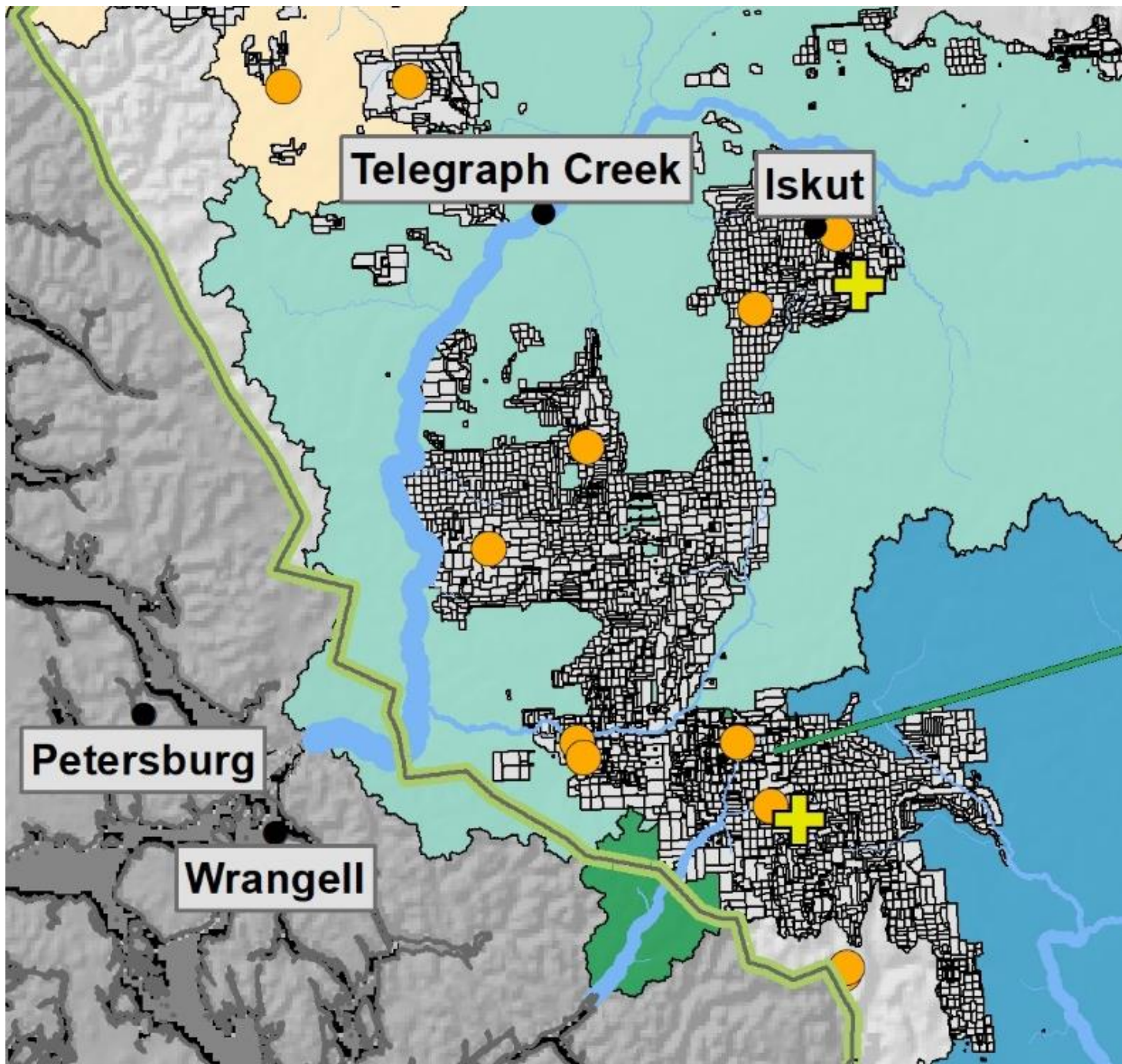
KSM (Unuk)



How can science be improved to better aid decision makers?

- 1) Better monitoring
- 2) Improve data quality and transparency
- 3) Consider cumulative impacts, not single projects





Cumulative  
impact analysis

# Visualizing low-grade ore mining at KSM



2,200 pounds of mined rock yields 0.02 ounces of gold





23,520 pounds = my wedding ring