Kuskokwim River Sockeye Salmon Abundance Estimation

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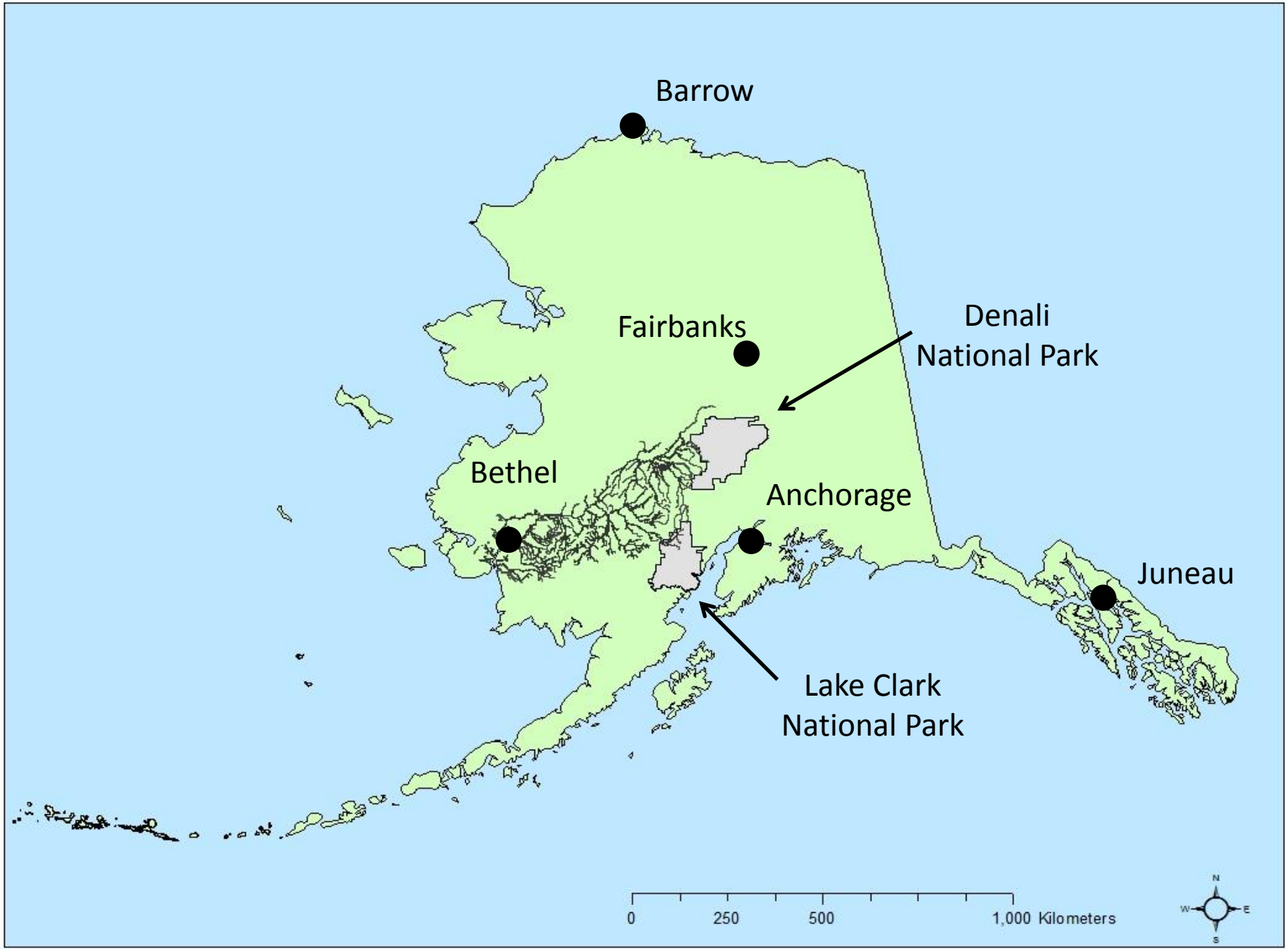
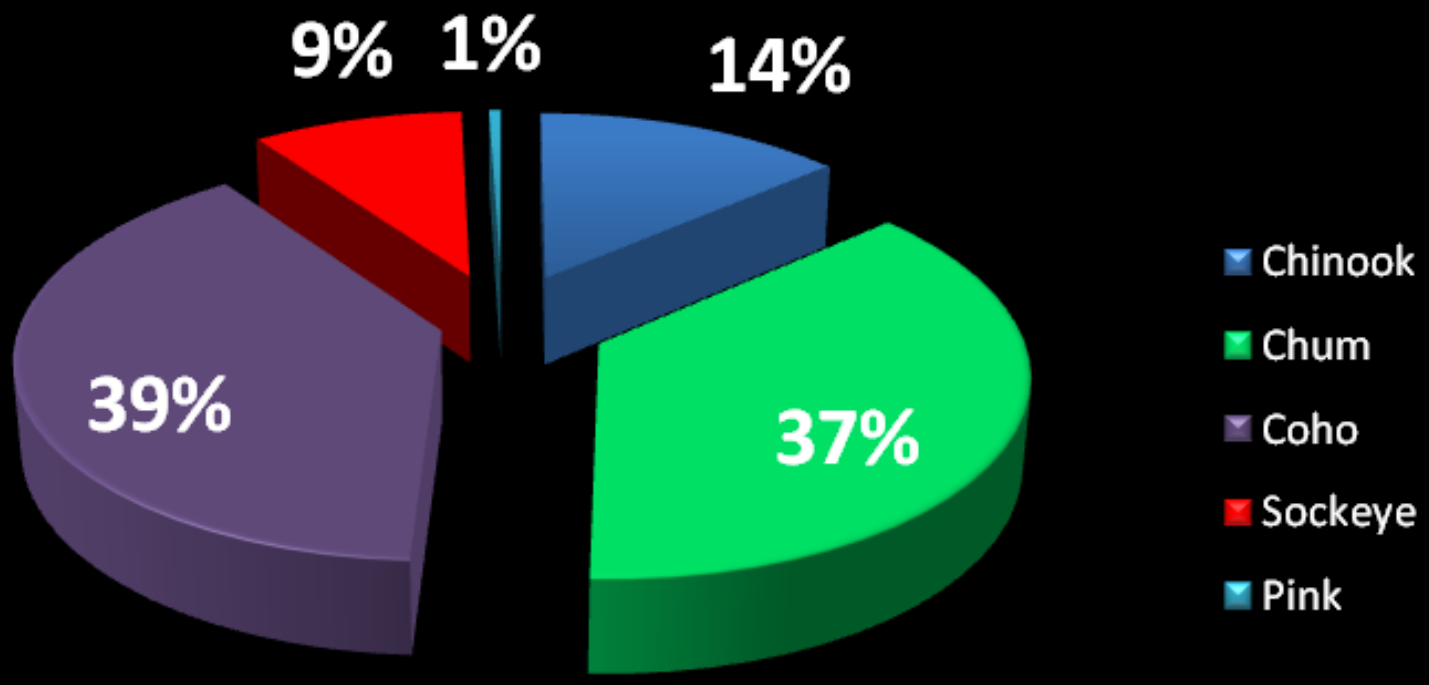
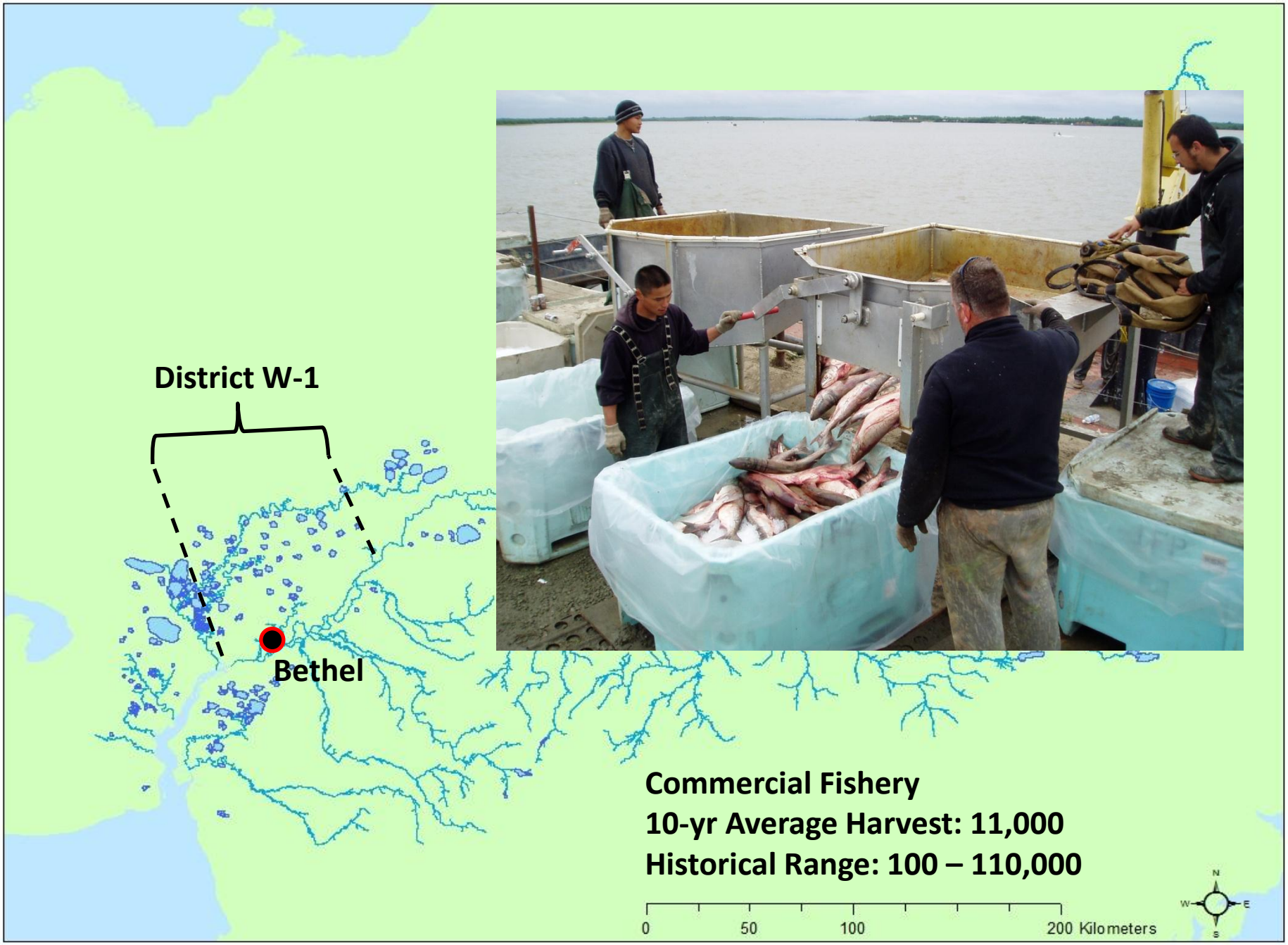

Barrow
Fairbanks
Denali
National Park
Bethel
Anchorage
Juneau
Lake Clark
National Park
0
250
500
1,000 Kilometers
N
W
E
S

Kuskokwim River Salmon
(Relative Abundance)



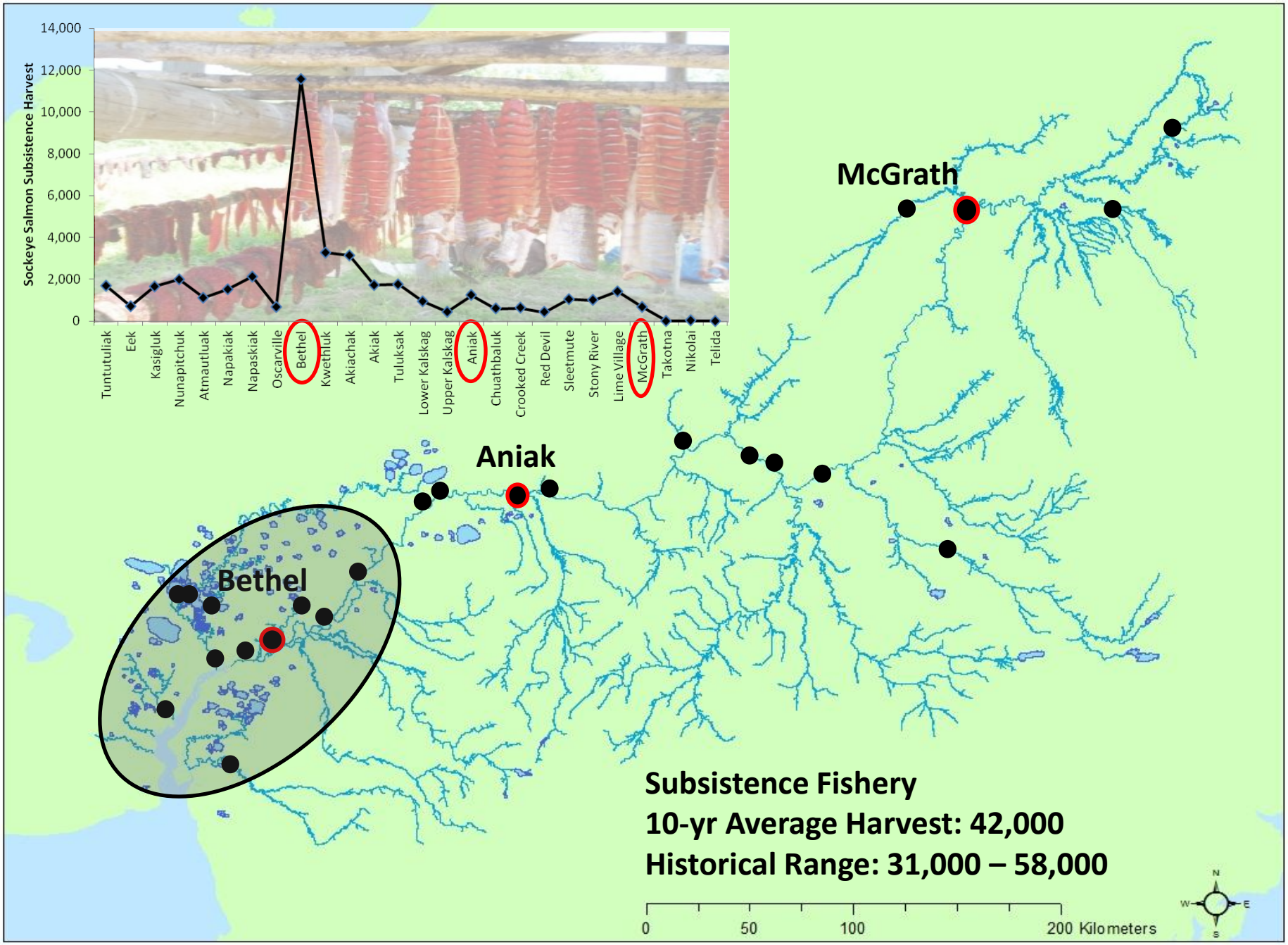
*Based on 10-yr average of weir-based escapement counts, commercial, subsistence, and test fish harvest


District W-1
Bethel
Commercial Fishery
10-yr Average Harvest: 11,000
Historical Range: 100 – 110,000
0
50
100
200 Kilometers
N
W
E
S

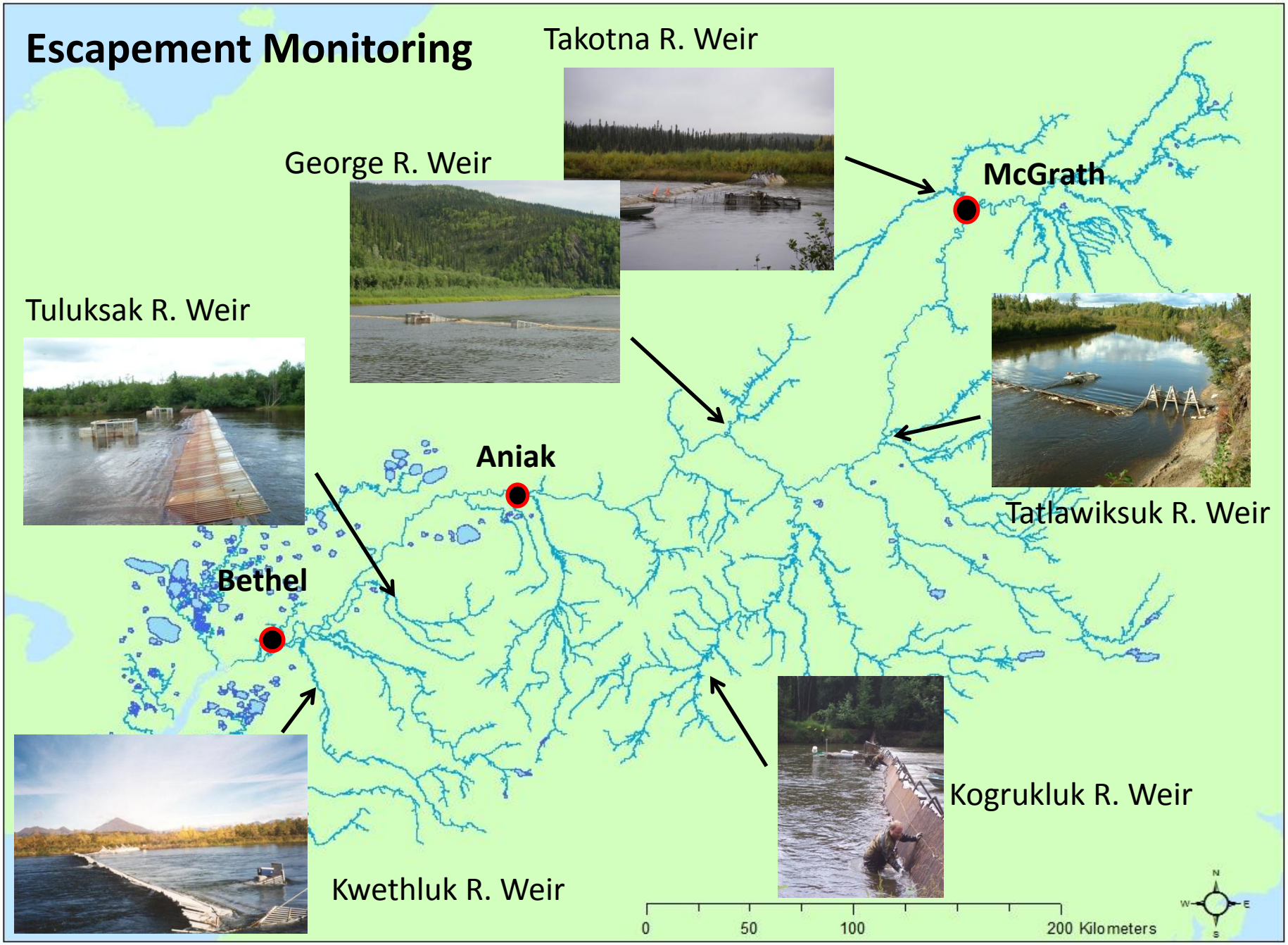
Commercial Test Fishery
Drift Gillnet 5-3/8”
June 1 – August 31

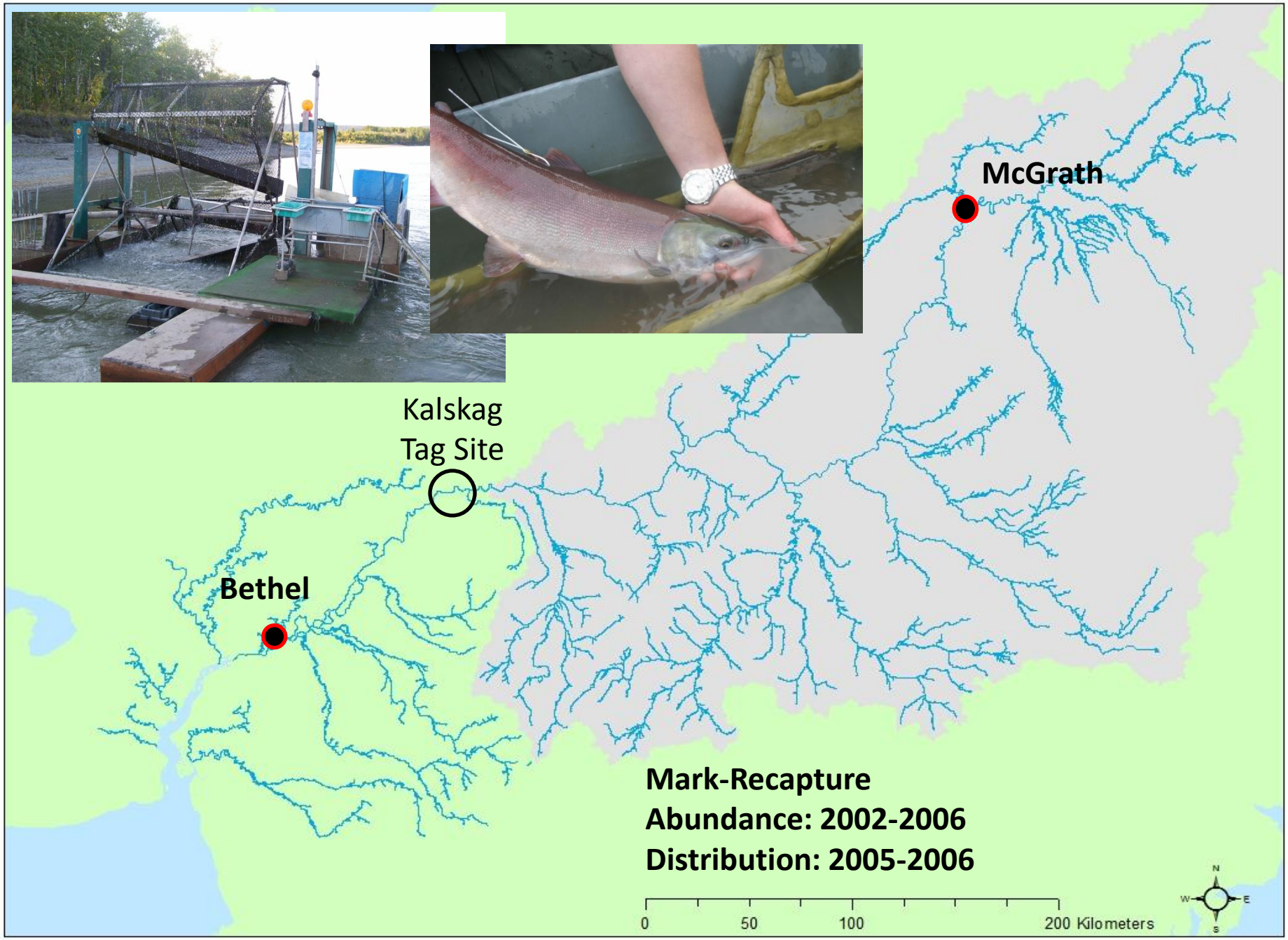
0 50 100 200 Kilometers

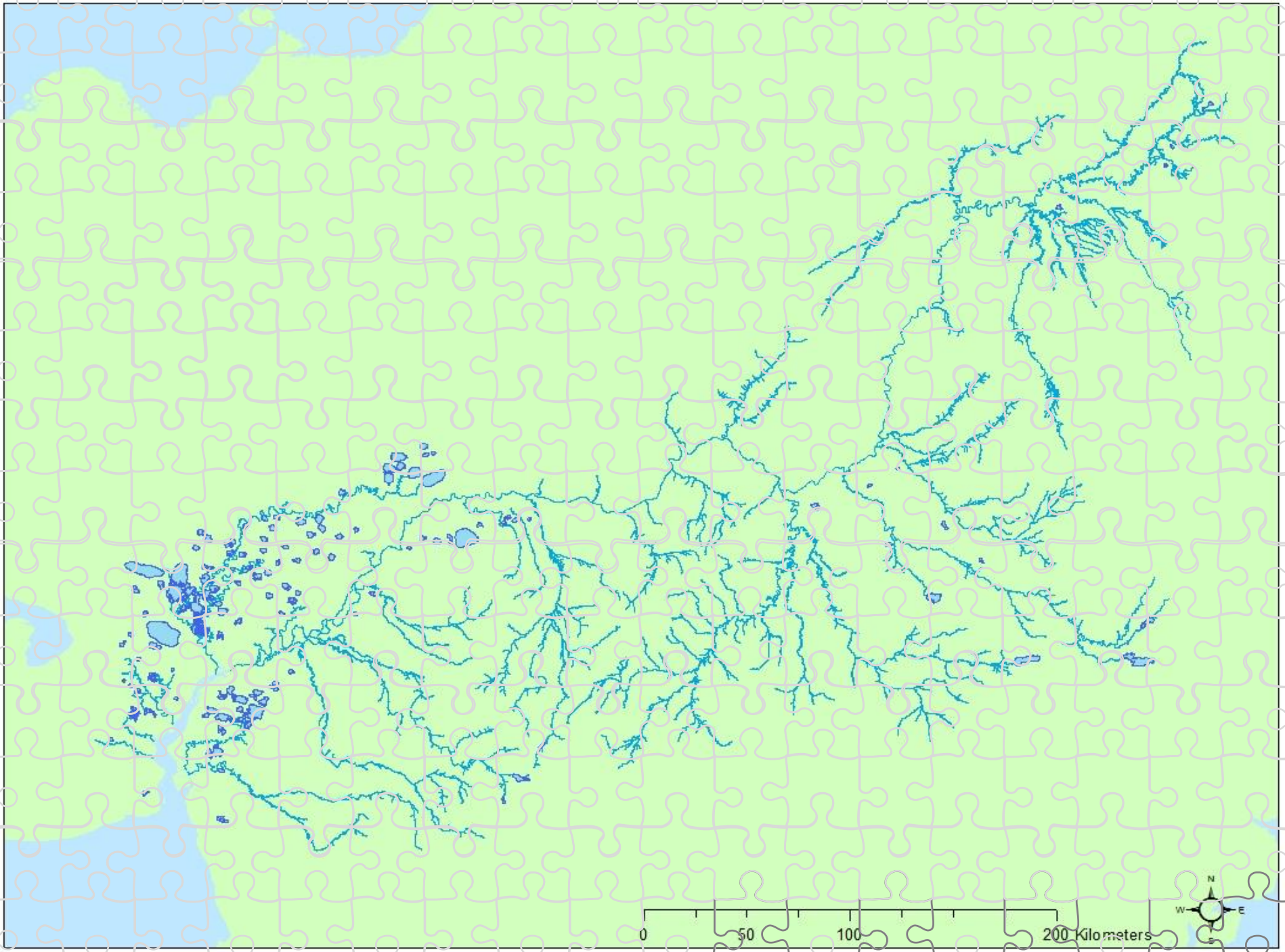
N W E S


Sockeye Salmon Subsistence Harvest
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Tuntutuliak
Eek
Kasigluk
Nunapitchuk
Atmautluak
Napakiak
Napaskiak
Oscarville
Bethel
Kwethluk
Akiachak
Akiak
Tuluksak
Lower Kalskag
Upper Kalskag
Aniak
Chuathbaluk
Crooked Creek
Red Devil
Sleetmute
Stony River
Lime Village
McGrath
Takotna
Nikolai
Telida
McGrath
Aniak
Bethel
Subsistence Fishery
10-yr Average Harvest: 42,000
Historical Range: 31,000 – 58,000
0
50
100
200 Kilometers
N
W
E
S

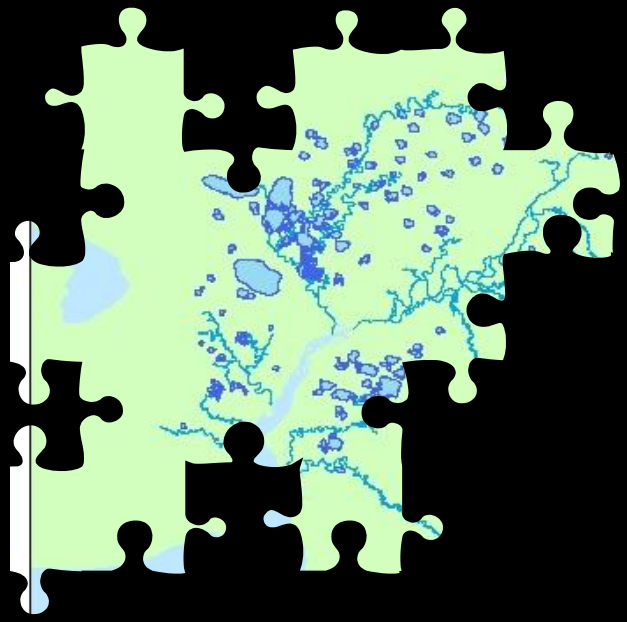
Escapement Monitoring



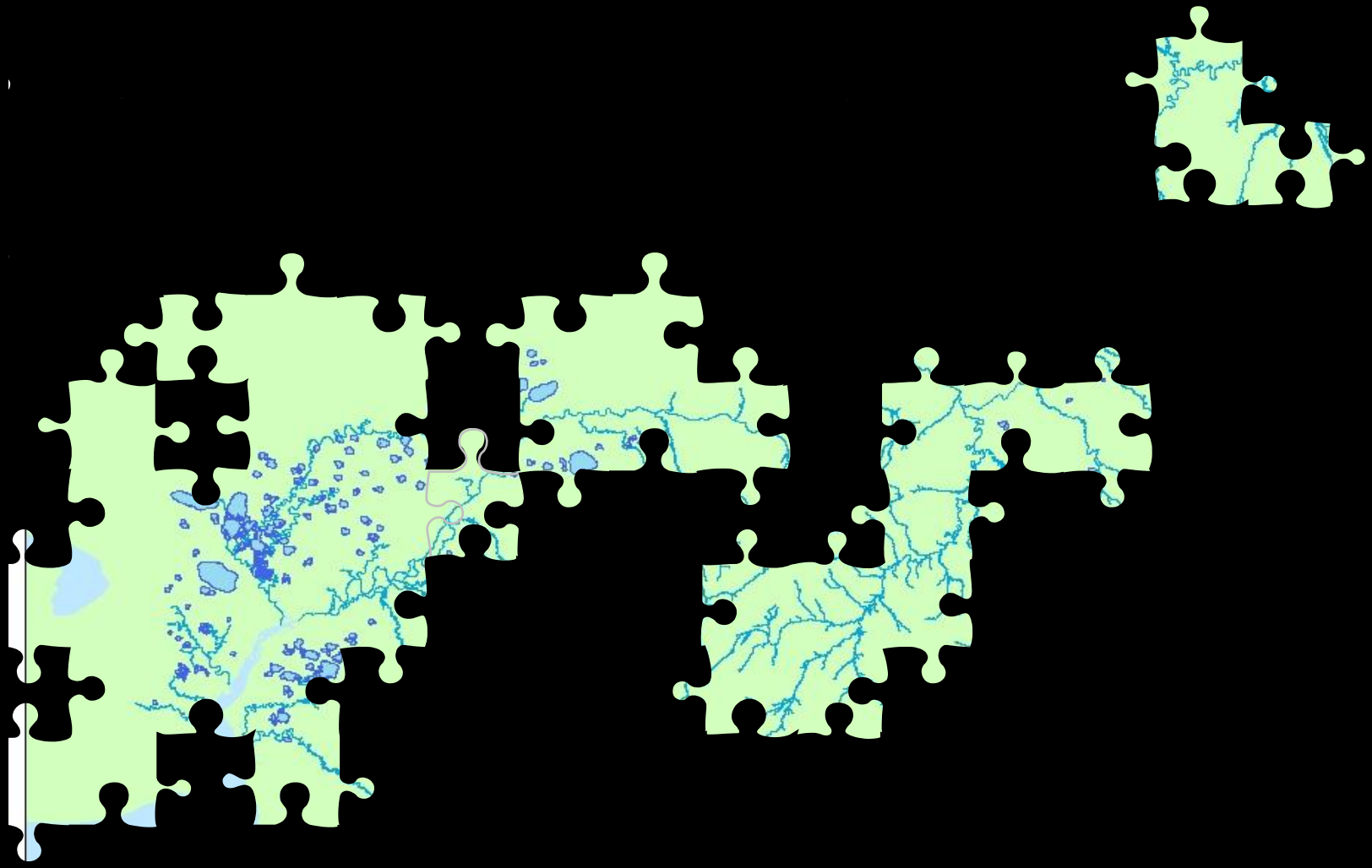

McGrath
Kalskag
Tag Site
Bethel
Mark-Recapture
Abundance: 2002-2006
Distribution: 2005-2006
0
50
100
200 Kilometers
N
W
E
S


0
50
100
200 Kilometers
N
W
E
S

View of the River
(1960 – 1980)

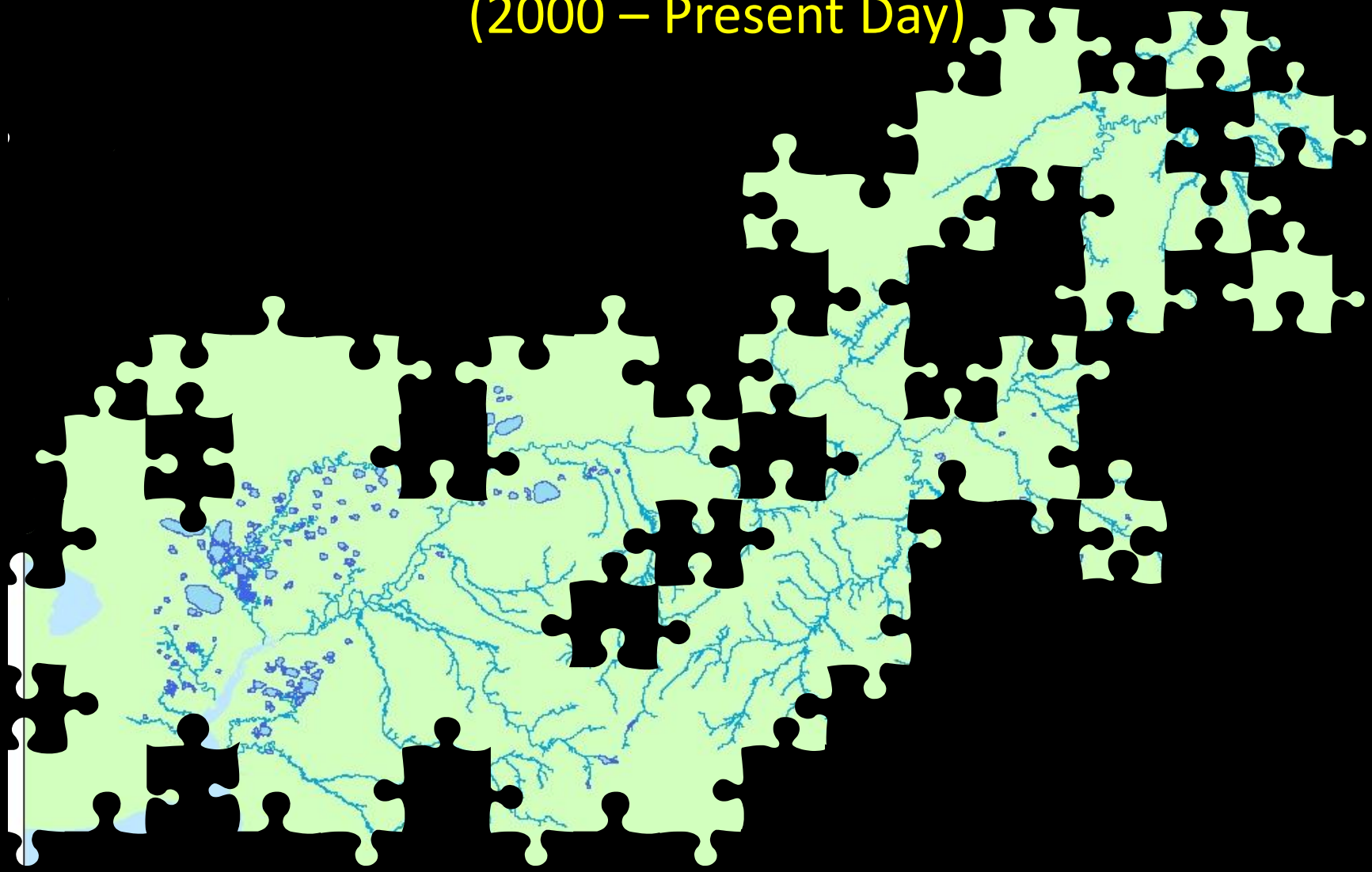


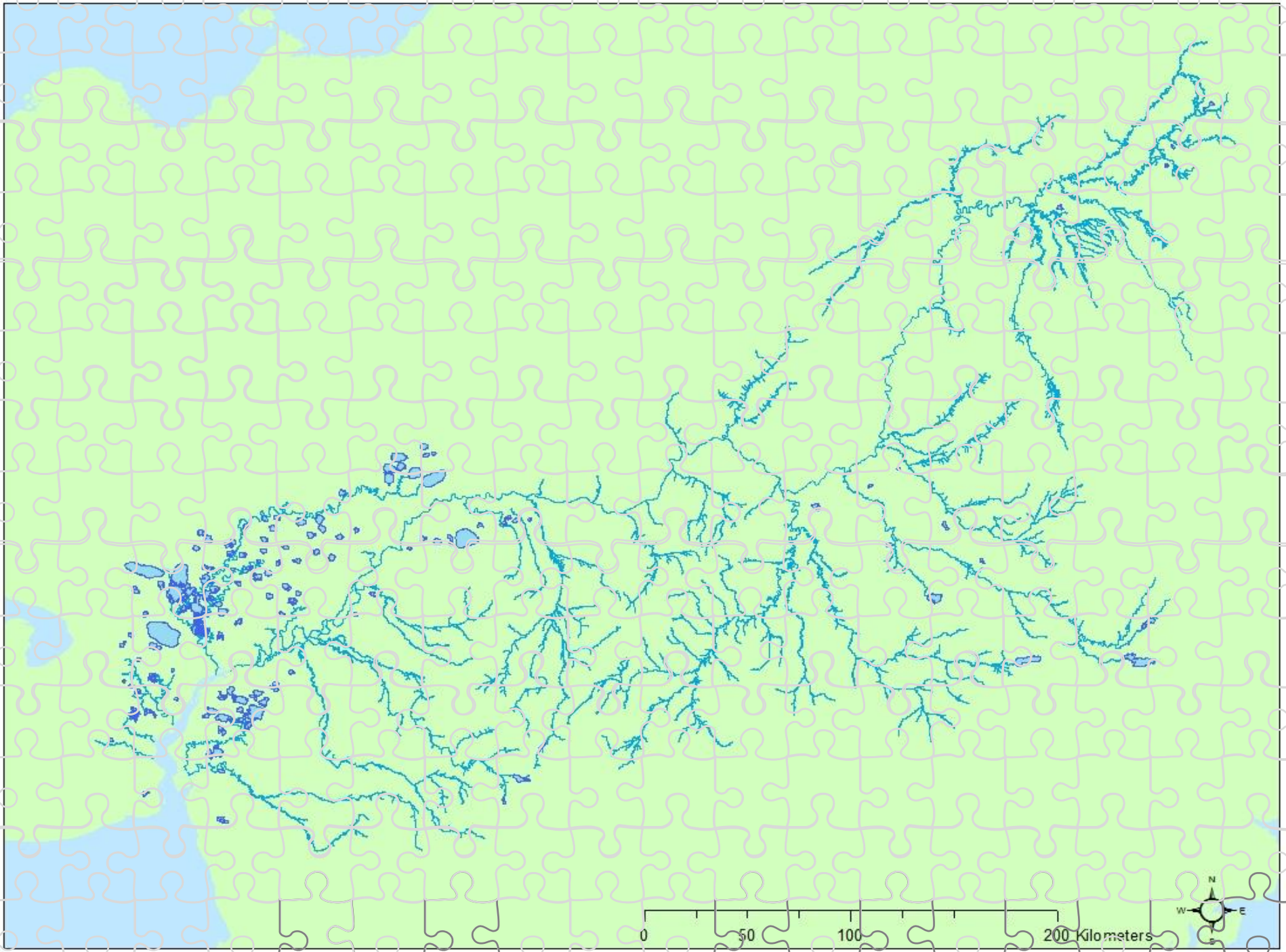
View of the River
(1980 – 2000)



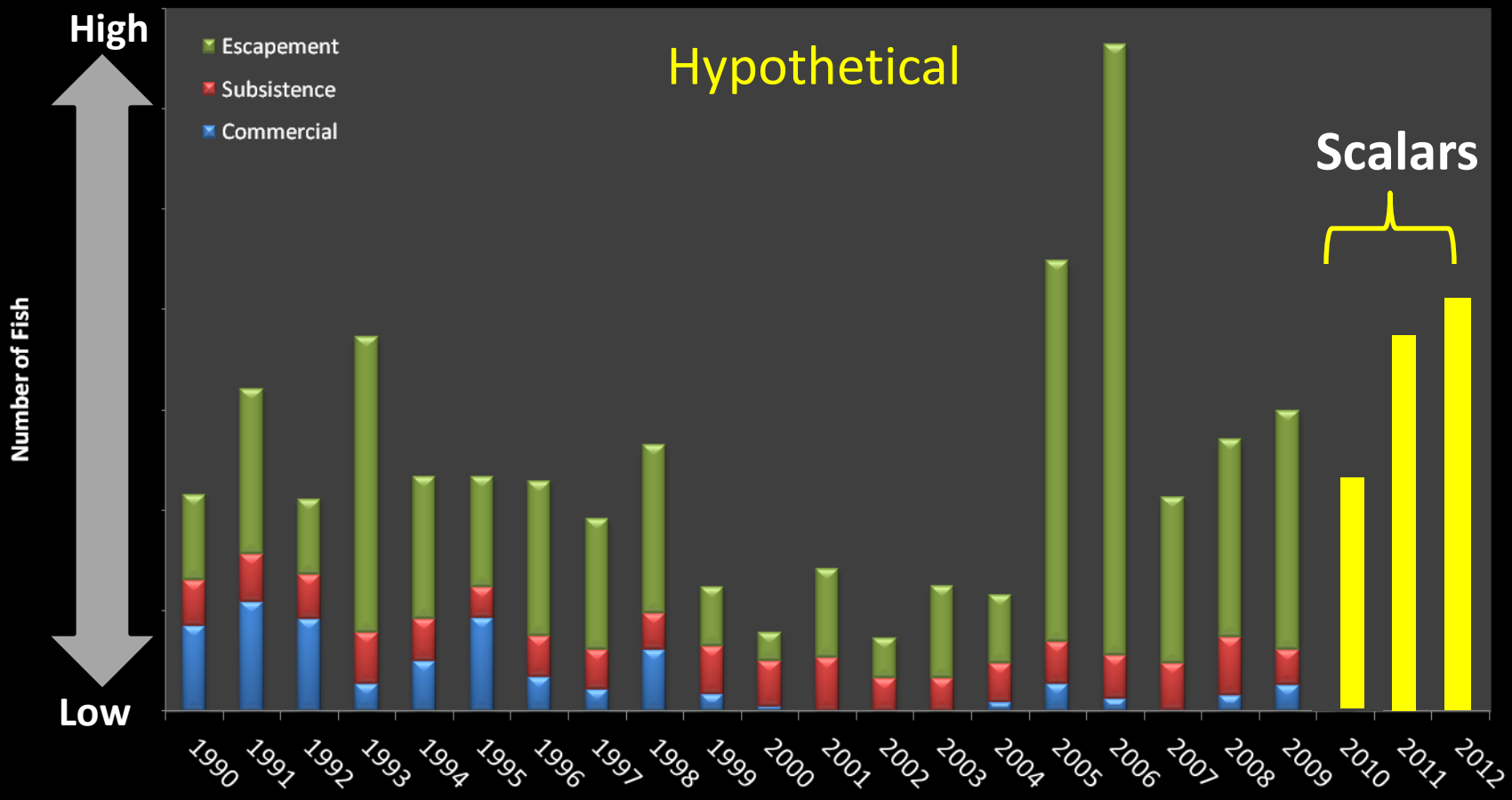
View of the River

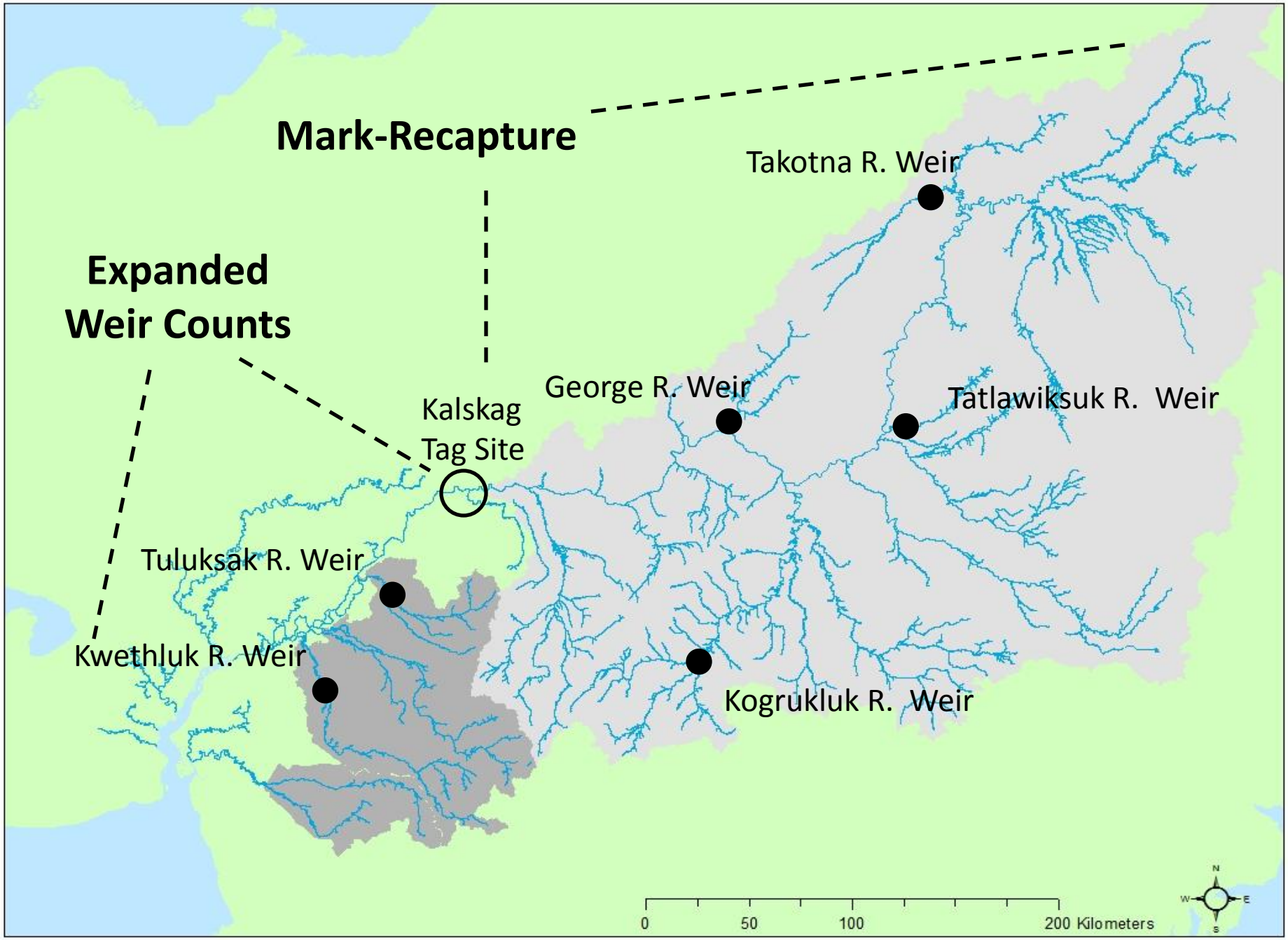
(2000 – Present Day)

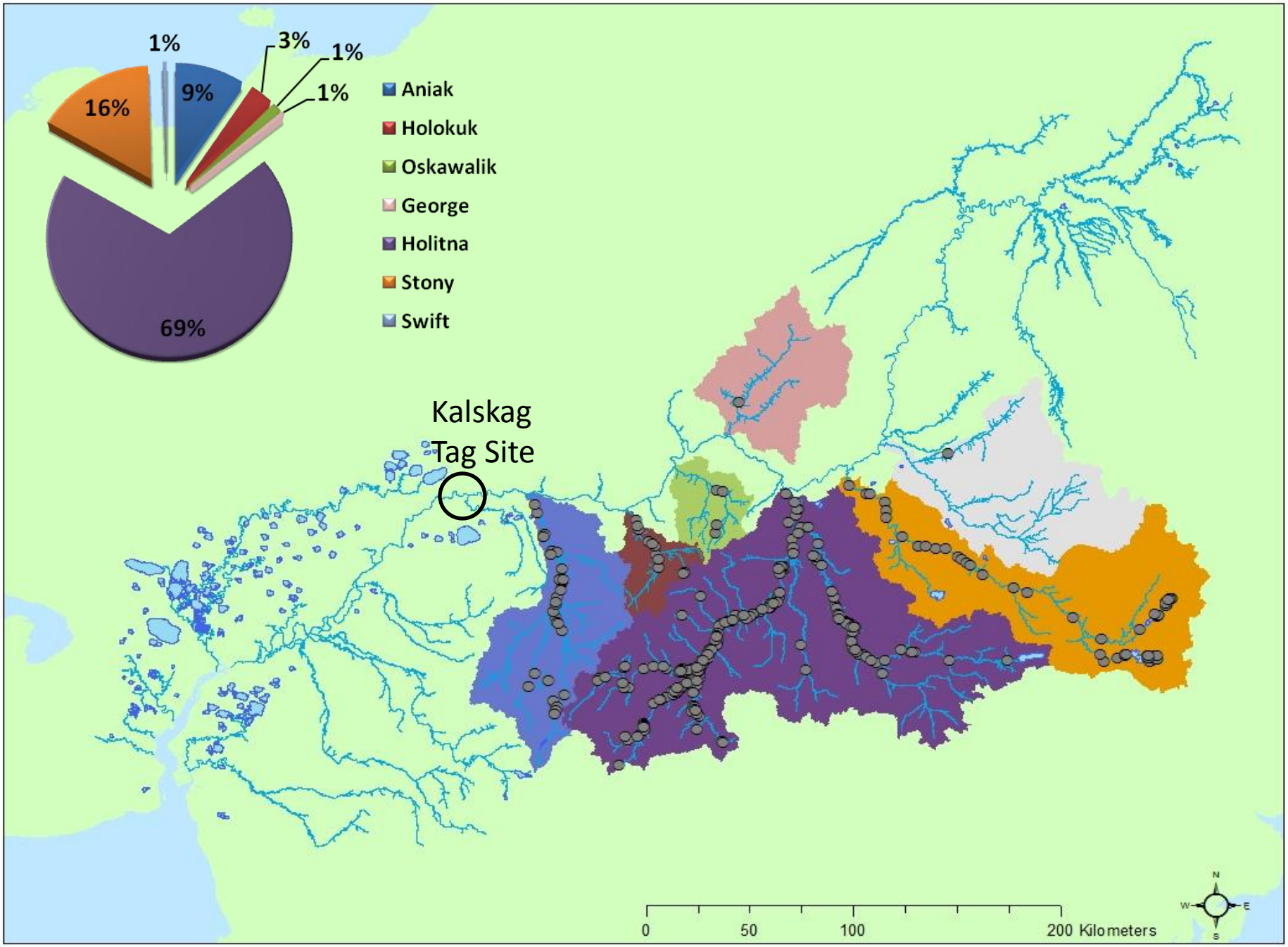


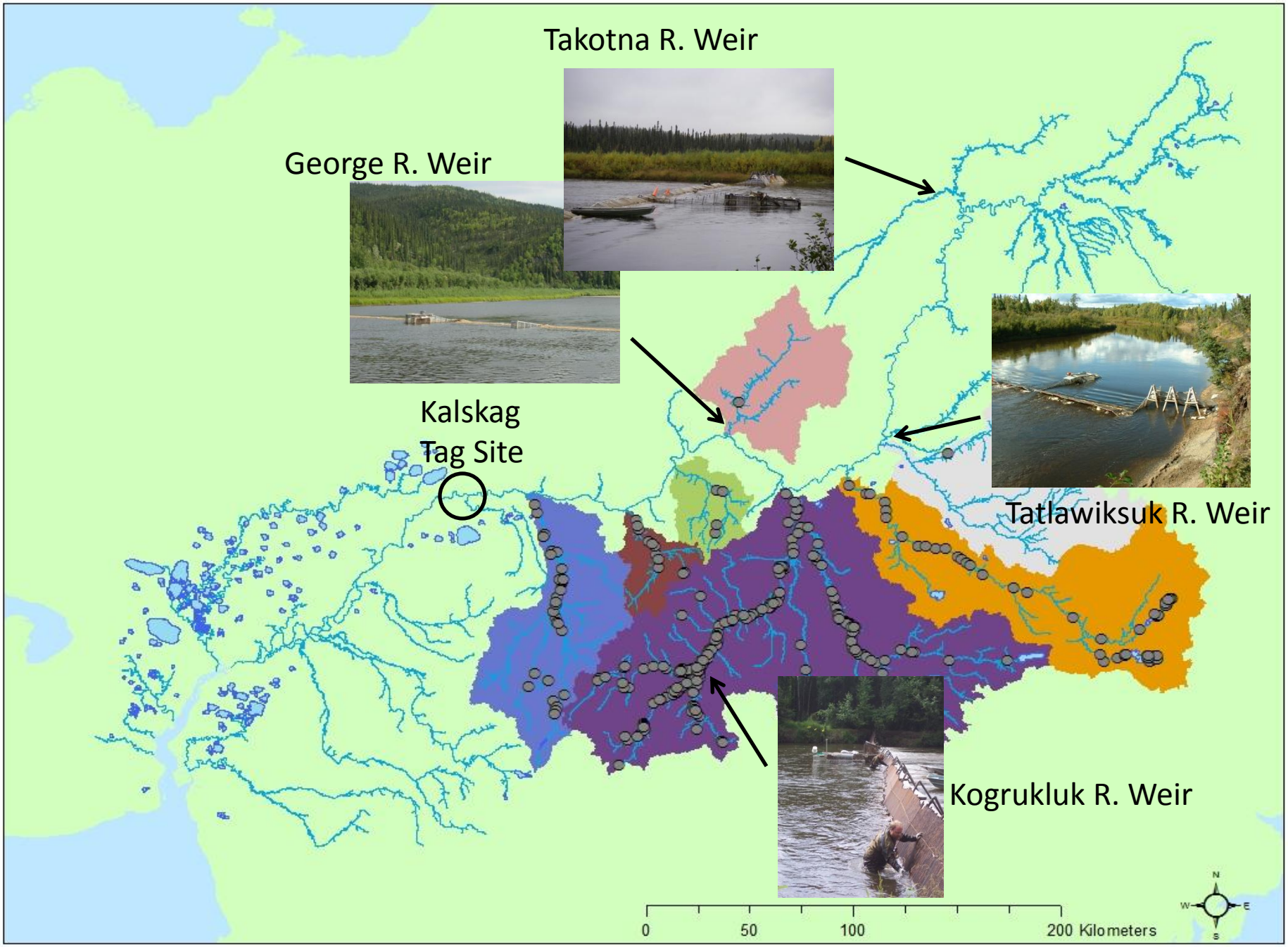

0
50
100
200 Kilometers
N
W
E
S

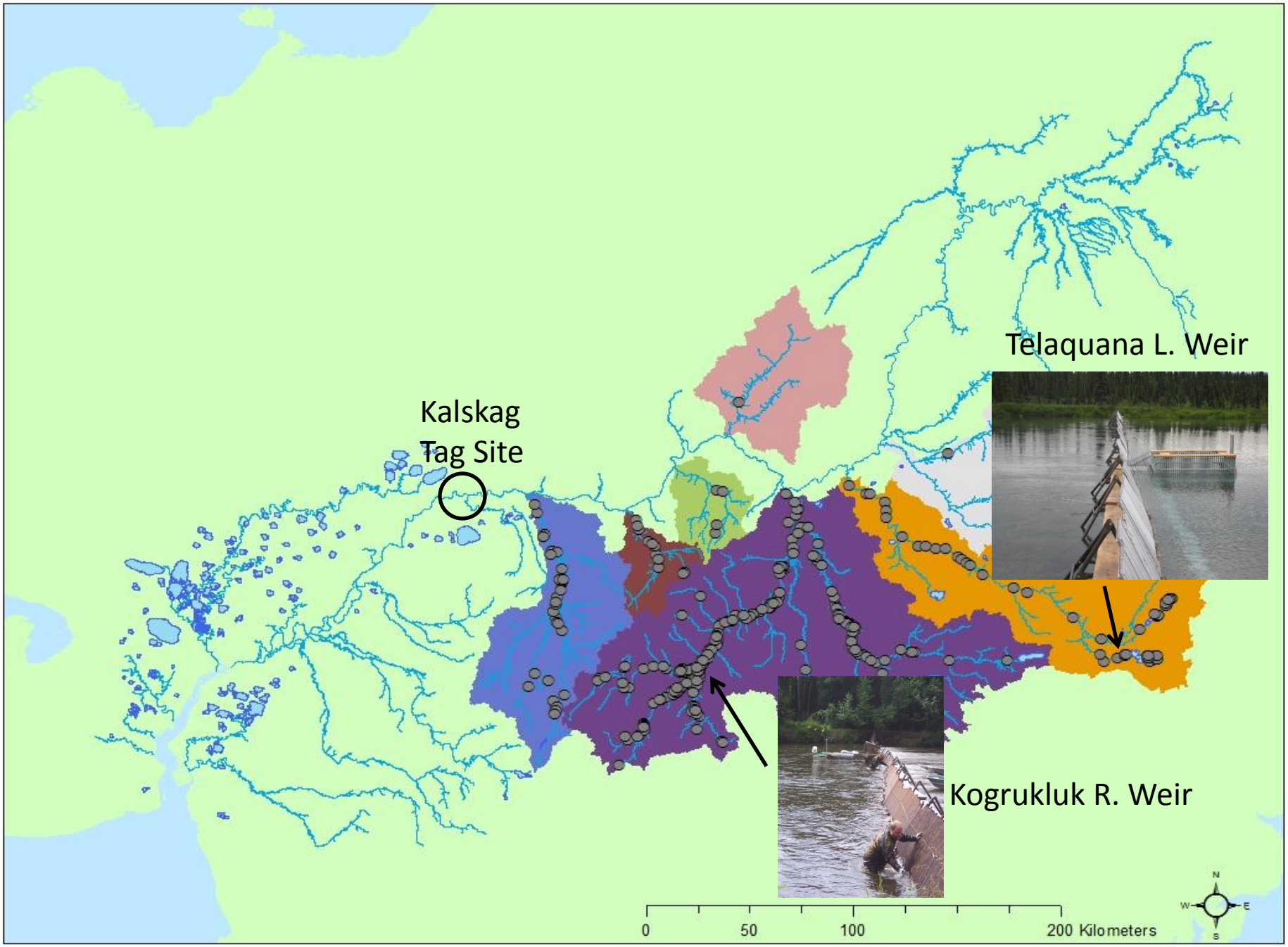
Retrospective Run Reconstruction




Mark-Recapture
Expanded
Weir Counts
Takotna R. Weir
George R. Weir
Tatlawiksuk R. Weir
Kalskag
Tag Site
Tuluksak R. Weir
Kwethluk R. Weir
Kogrukluk R. Weir
0
50
100
200 Kilometers
N
W
E
S


1%
3%
1%
1%
9%
16%
69%
Aniak
Holokuk
Oskawalik
George
Holitna
Stony
Swift
Kalskag
Tag Site
0
50
100
200 Kilometers
N
W
E
S


Takotna R. Weir
George R. Weir
Kalskag
Tag Site
Tatlawiksuk R. Weir
Kogrukluk R. Weir
0
50
100
200 Kilometers
N
W
E
S


Telaquana L. Weir
Kalskag
Tag Site
Kogrukluk R. Weir
0
50
100
200 Kilometers
N
W
E
S

Telaquana Lake

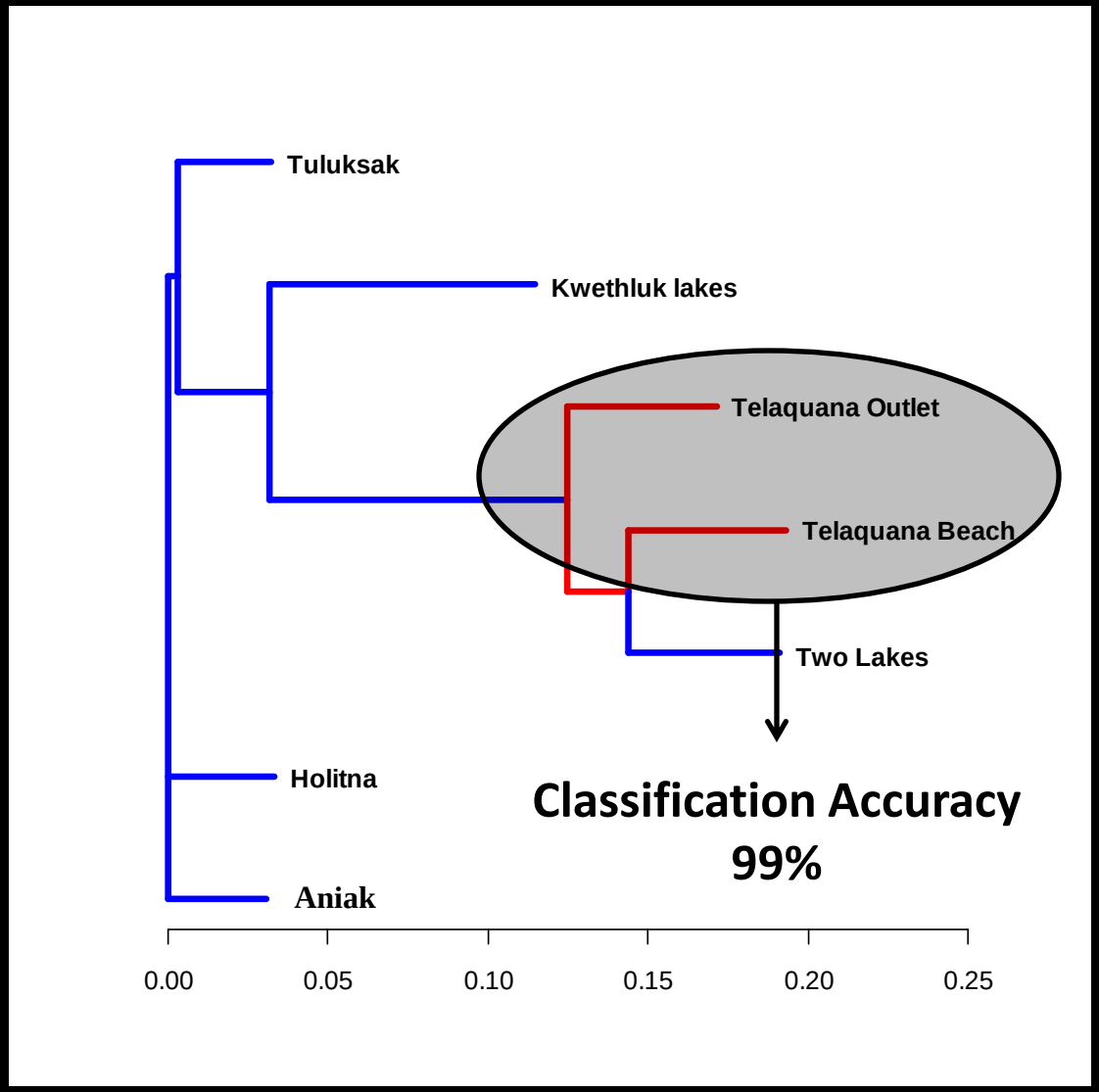
Lake Clark National Park

EVERTS AIR CARGO
ALASKA
N7848B

Tag Recovery

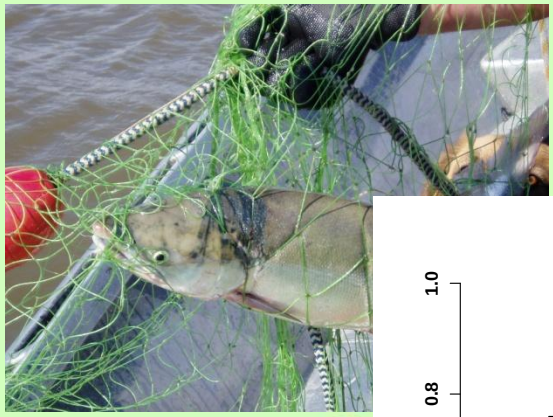
Year	Location	Sample Size	Total Tagged	% Tagged
2010	Telaquana Lake Weir	72,017	72	0.10%
	Kogrukluk River Weir	9,443	25	0.26%
2011	Telaquana Lake Weir	34,968	45	0.13%
	Kogrukluk River Weir	7,608	59	0.78%

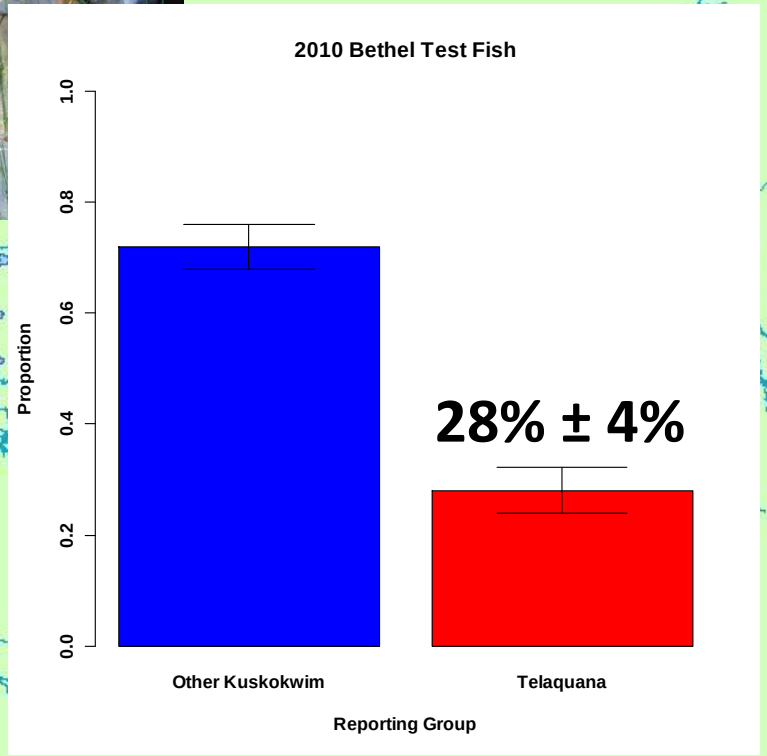
Sockeye Salmon Genetics

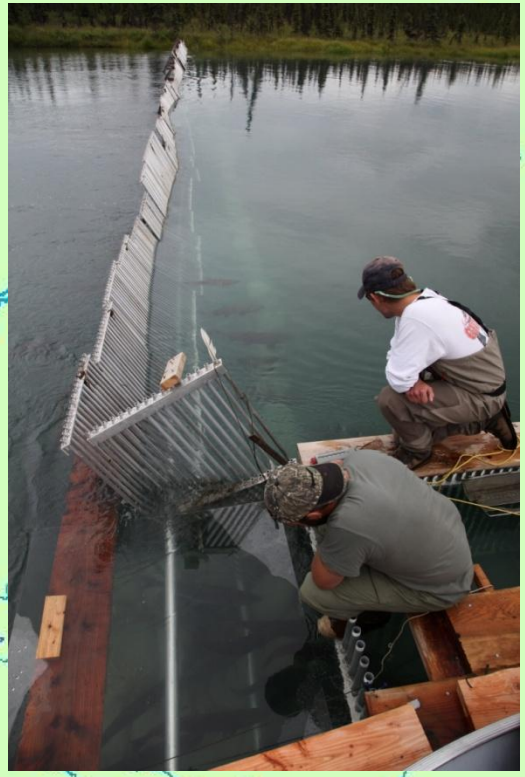


22 Collections
14 Populations

Genetic Mark-Recapture







Bethel Test Fishery

Telaquana Weir

0 50 100 200 Kilometers

N W E S

2010 Abundance Estimate
(Genetic Mark–Recapture)

28% of Test Fish Harvest = Telaquana

$$\frac{72{,}021}{0.28} = 257{,}218$$ **(225,065 – 300,087)**

Proposed Plans

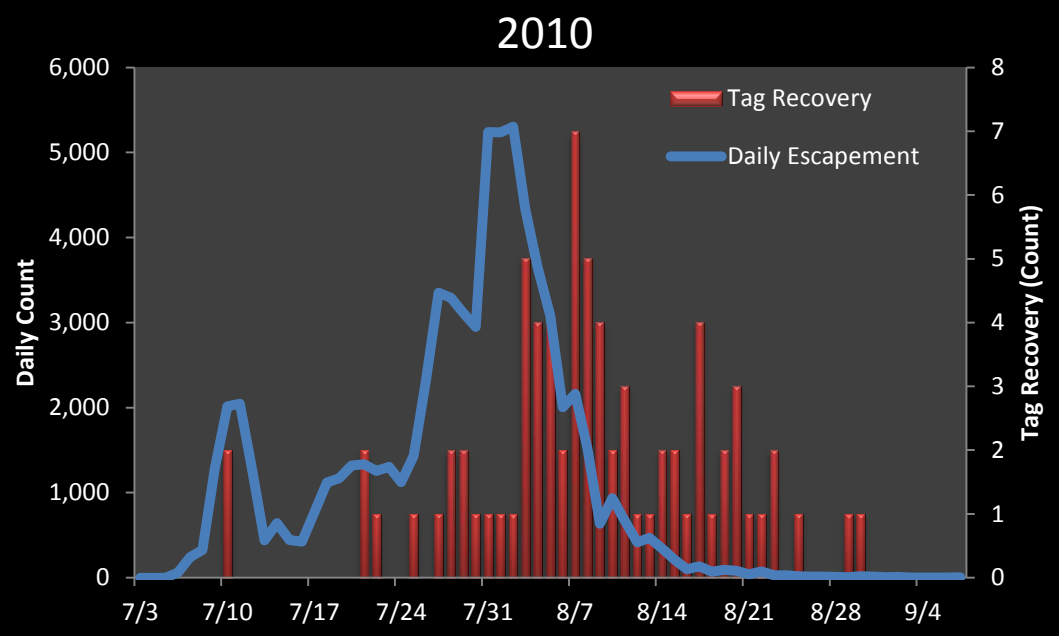
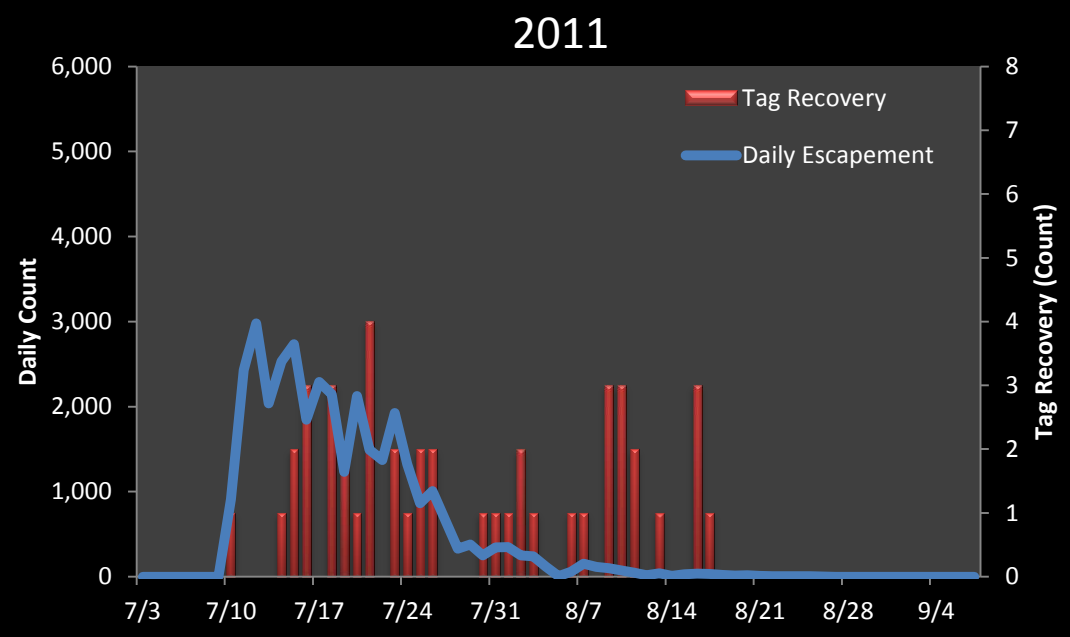
Continue operation of Telaquana Weir until 2014

Investigate potential for using BTF harvest for estimating proportion of Telaquana Fish

Funding By:

Alaska Sustainable Salmon Fund
Coastal Villages Region Fund
State of Alaska
National Park Service
USFWS Office of Subsistence Management

Thanks To:

Jerry and Jeanette Mills (NPS volunteers)
Telaquana Weir Crew
Kalskag Fish Wheel Tagging Crew

Telaquana Weir Passage