

Inriver Abundance of Chinook Salmon Susitna River 2014

Pete Cleary
Alaska Department of Fish and Game
Division of Sport Fish, Palmer Alaska



2014

Most thorough Chinook drainage-wide estimate

Tagging conducted in May and June - 2014

Radio tags used for marks on the Susitna

Dart tags used for marks in the Yentna River

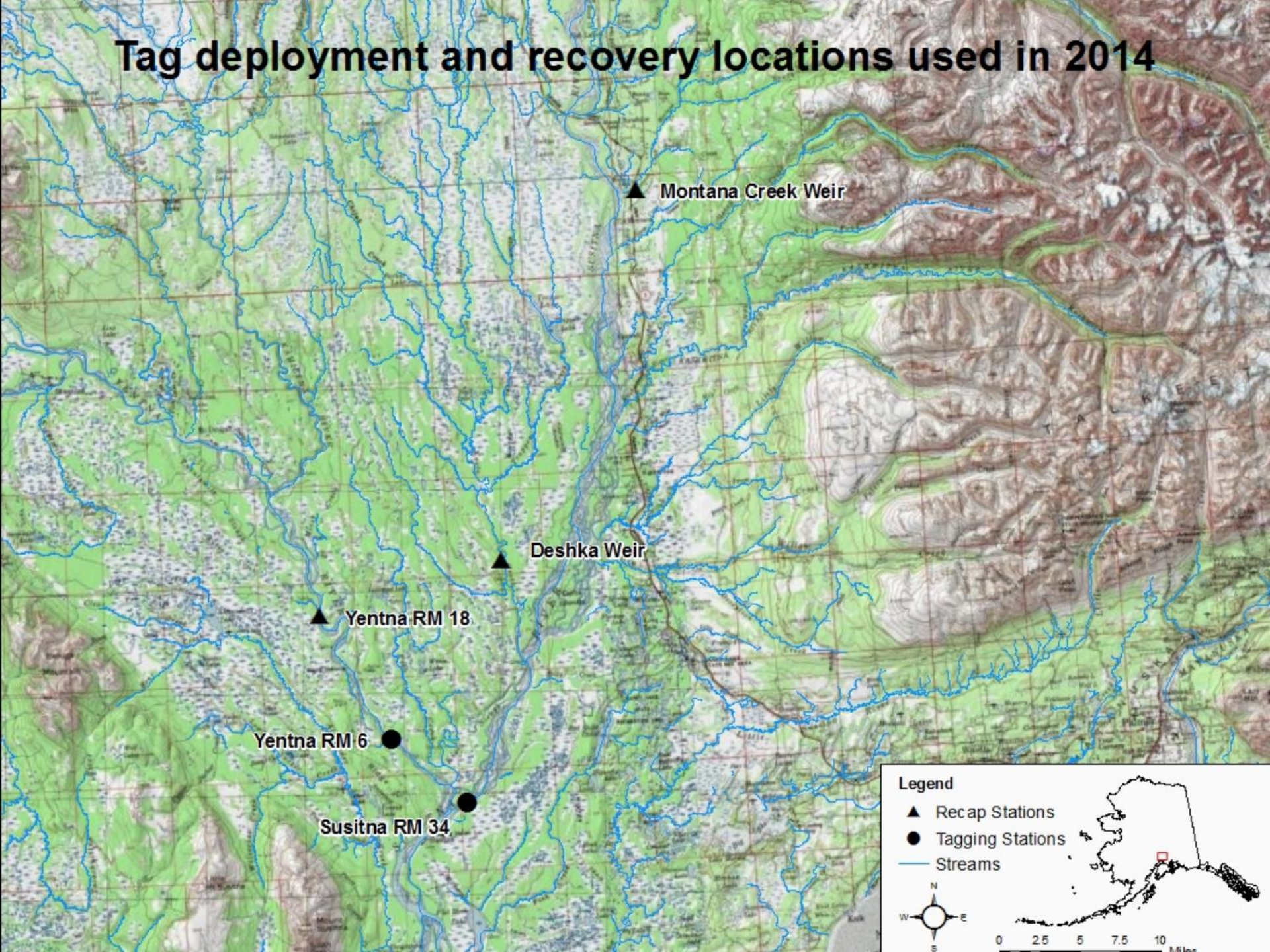
Radio tags used for distribution and drop out rates

Susitna River – fish wheel/gill net to weir
recapture

Yentna River – fishwheel/gill net to fishwheel/gill
recapture



Tag deployment and recovery locations used in 2014



▲ Montana Creek Weir

▲ Deshka Weir

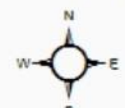
▲ Yentna RM 18

● Yentna RM 6

● Susitna RM 34

Legend

- ▲ Recap Stations
- Tagging Stations
- Streams



0 2.5 5 7.5 10 Miles





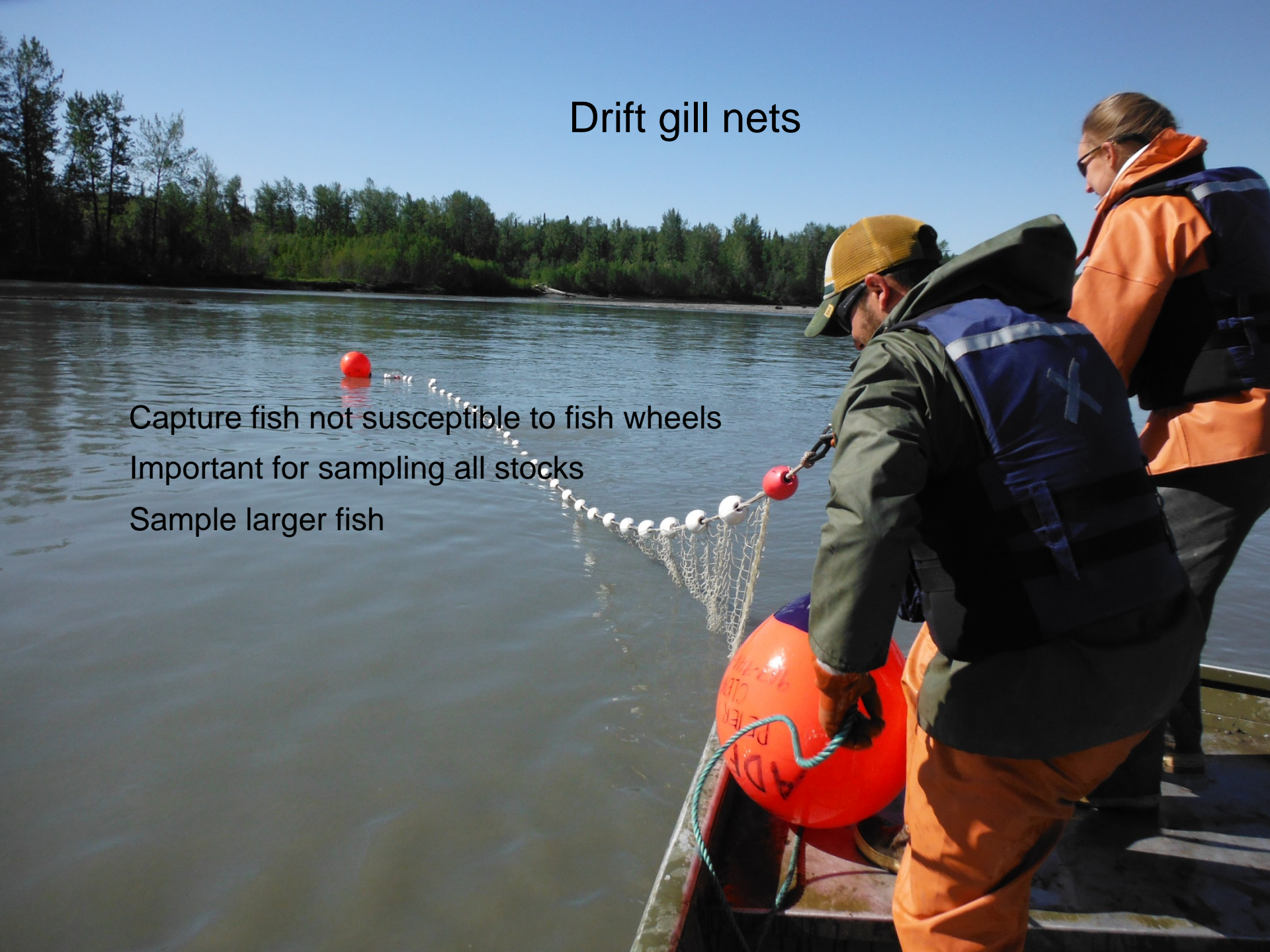
DATA COLLECTION



Fish wheels

Drift gill nets

Capture fish not susceptible to fish wheels
Important for sampling all stocks
Sample larger fish



Tag Deployment Susitna
River mile 34

Total catch 2,048

Radio tags - 659

Tag Deployment
Yentna River Mile 6

Total catch 3,071

Dart tags 1,281

Radio tags 296



Tag Recovery Data – Susitna River

Deshka River weir

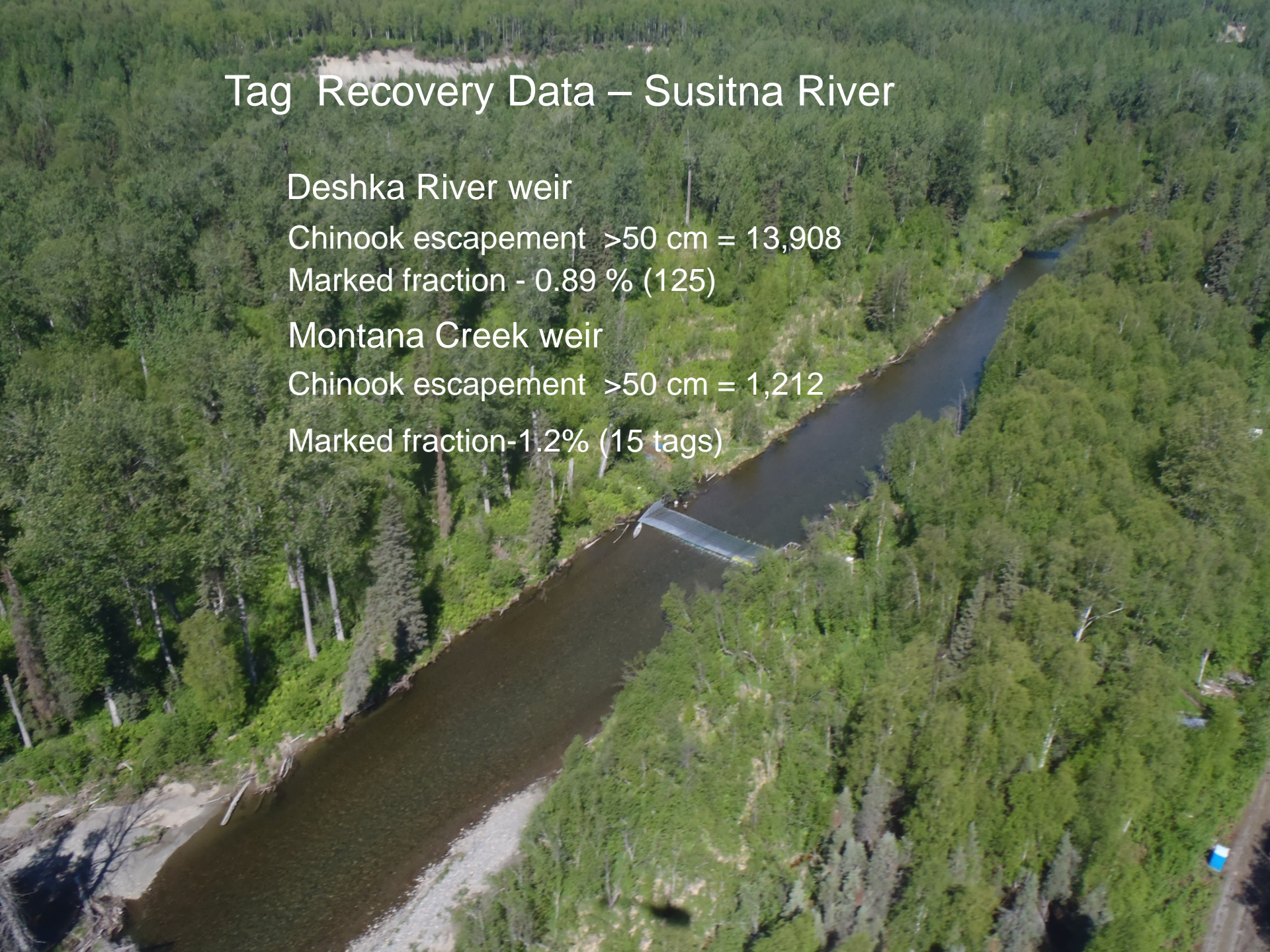
Chinook escapement >50 cm = 13,908

Marked fraction - 0.89 % (125)

Montana Creek weir

Chinook escapement >50 cm = 1,212

Marked fraction-1.2% (15 tags)



Tag Recovery - Yentna River

Chinook Catch > 50 cm = 1,371

Marked Fraction 4.3% (59)



Primary Diagnostic Tests

Size bias sampling at tag deployment and recovery sites

Compare lengths of marked, recaptured and unmarked fish

Size bias on the Susitna - 2014 – tagged Chinook smaller

Equal proportion (marked fractions at recovery sites)

Complete mixing – (compares recovery rates of marked fish over tagging strata)

Use Peterson estimator if either test passes

If they both fail will have to stratify data for abundance estimates

Chinook Abundance – 2014 (Chinook >50cm)

Mainstem Susitna river

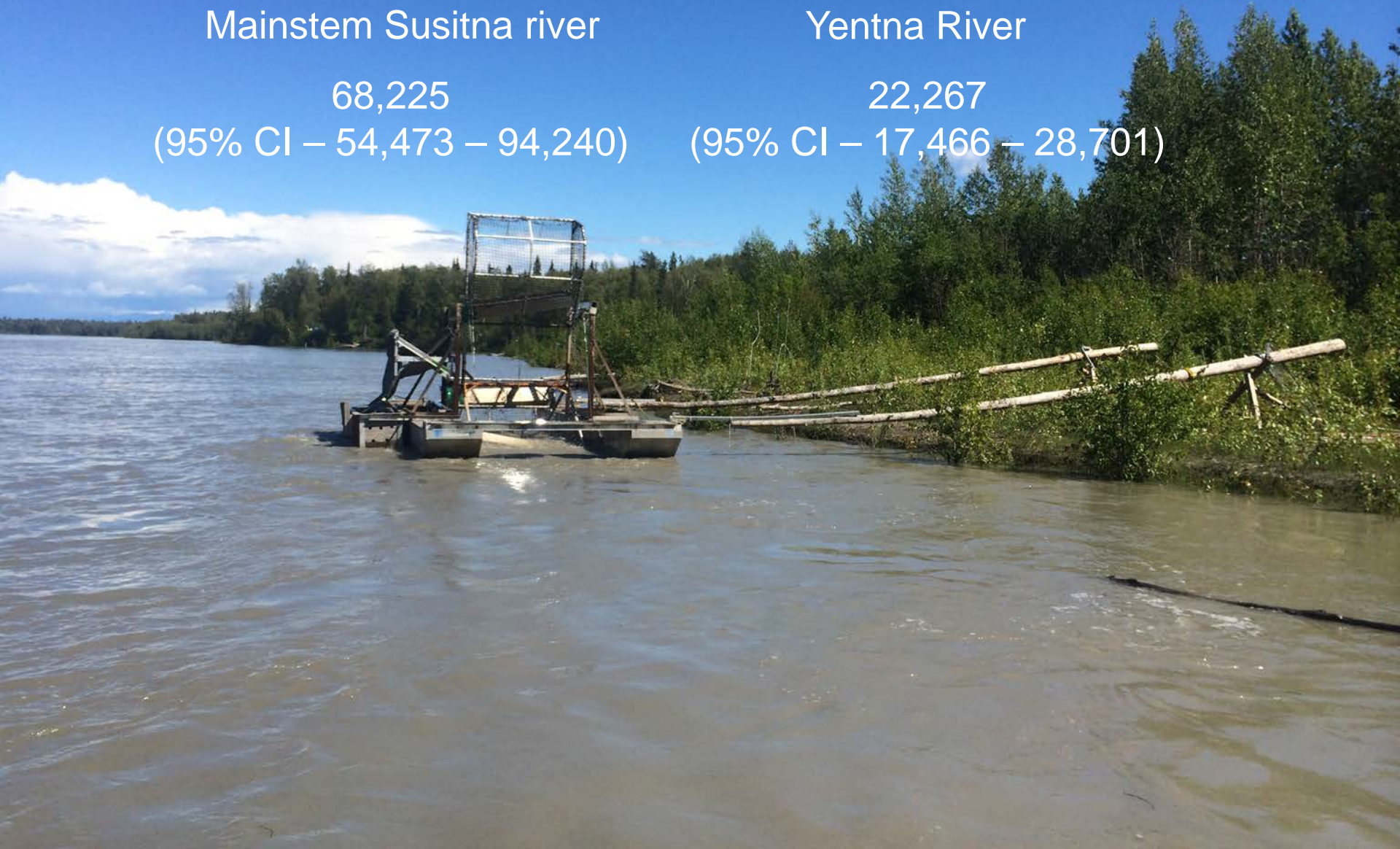
68,225

(95% CI – 54,473 – 94,240)

Yentna River

22,267

(95% CI – 17,466 – 28,701)



FUTURE:

2016 funding - Susitna Salmon Research and Enhancement Initiative (SSREI)

No funding secured for 2017



Acknowledgments

Richard Yanusz, John Campbell, Steve Dotomain and
Taylor Hendricks, ADF&G
Division of Sport Fish, Palmer
Gayle Horner-Neufeld
ADF&G, Division of Sport Fish, Anchorage

Alaska Energy Authority

Susitna Salmon Research and Enhancement Initiative

Bill Glick
Alaska Department of Fish and Game
Division of Commercial Fisheries,
Soldotna