

Report to the Alaska Board of Fisheries



Review of Salmon Escapement Goals in the Bristol Bay Area, 2018

by

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RC 3

**Oral Report:
Tab 4**

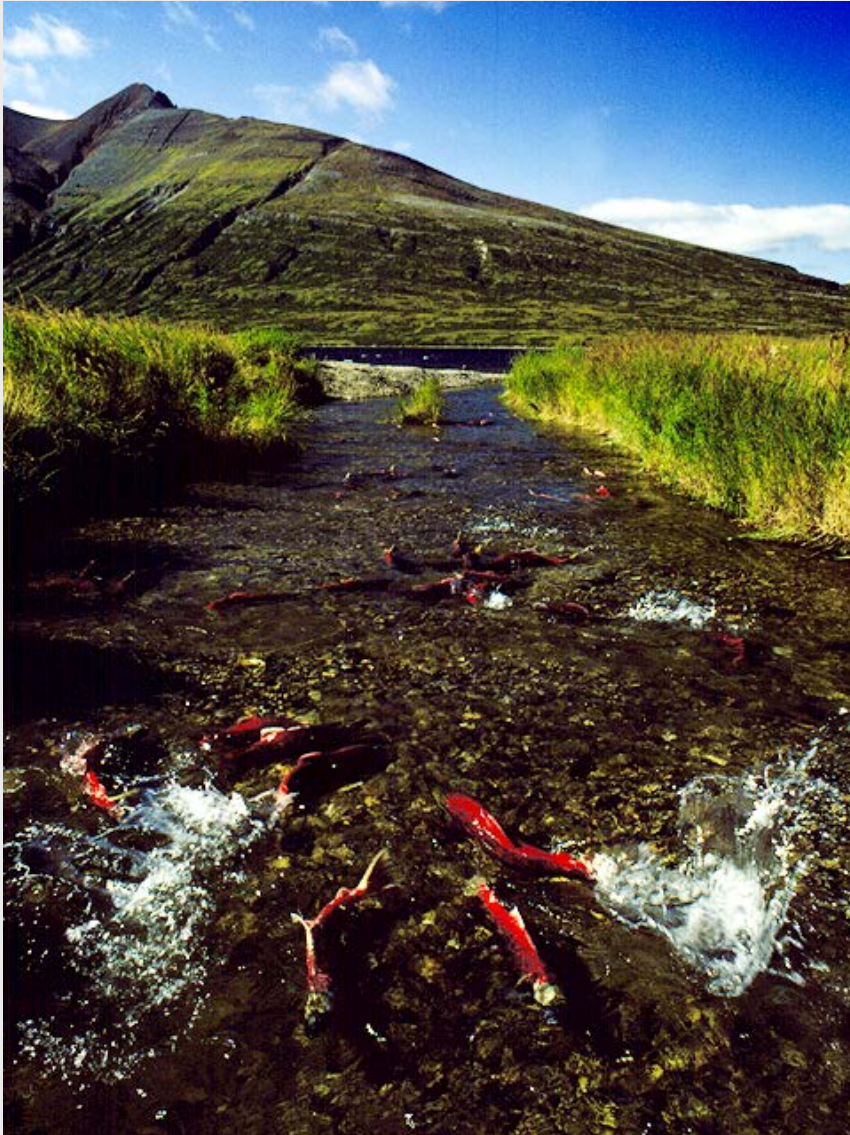
**Written Report:
Tab 1**



Presentation Objectives

- Introduce escapement goal policies
- Explain review process
- Summarize results and recommendations

Escapement Goal Policies



- Policy for the Management of Sustainable Salmon Fisheries (SSFP; 5 AAC 39.222)
- Policy for Statewide Salmon Escapement Goals (5 AAC 39.223)
- Goals are adopted to ensure salmon stocks are conserved, managed, and developed using the sustained yield principle

Escapement Goal Review Process

- 1) Establish escapement goal committee (CF, SF)
- 2) Evaluate existing goals
- 3) Consider new goals and those to be eliminated
- 4) Develop a memo to division directors for their approval of recommended escapement goals
- 5) Present preliminary findings at Work Session
- 6) Present a written and oral report to the board
- 7) Goals formally approved by directors

Existing Bristol Bay Escapement Goals

king salmon: 2 stocks

Alagnak, and Nushagak rivers

chum salmon: 1 stock

Nushagak River

coho salmon: 1 stock

Nushagak River

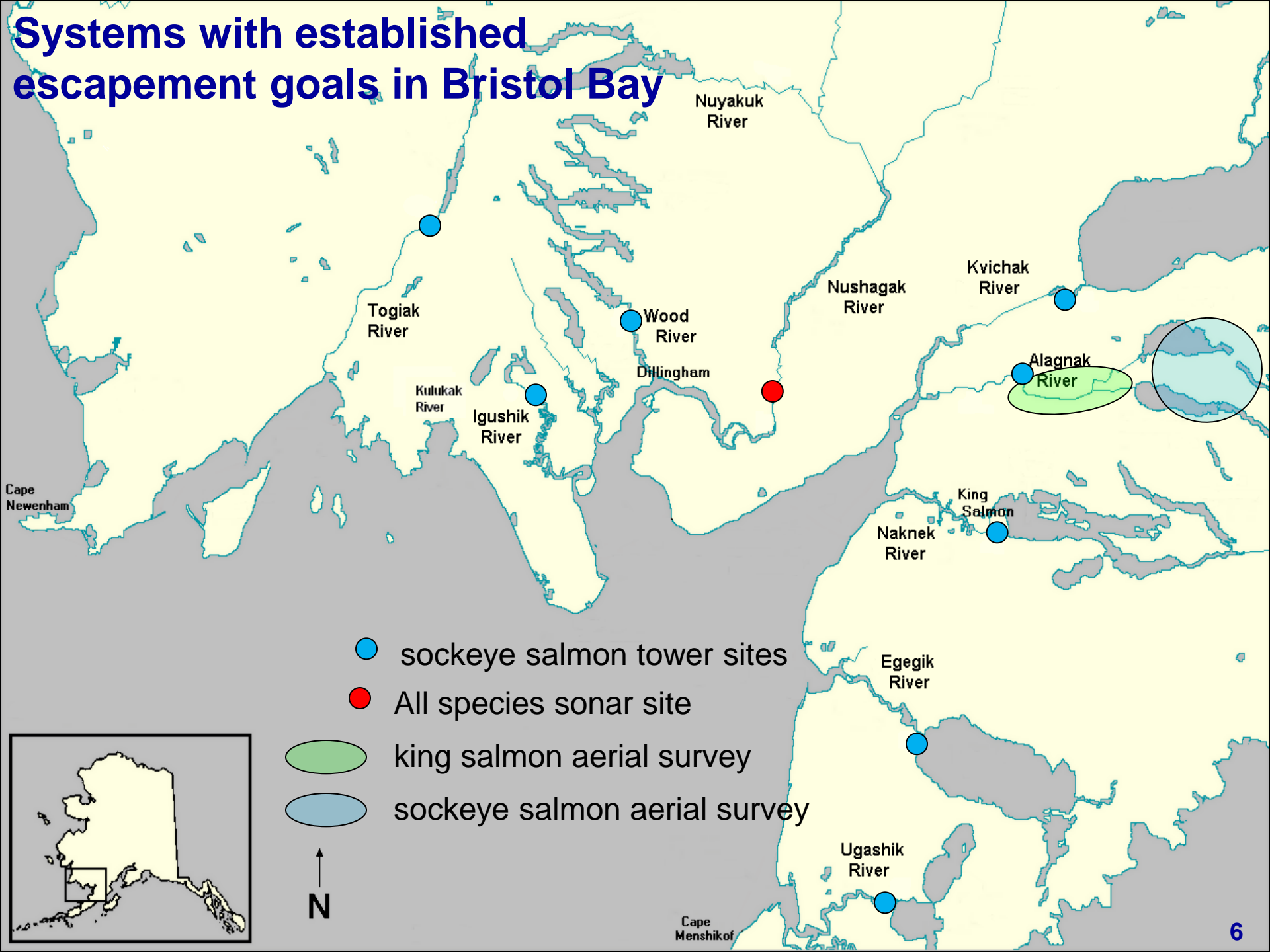
pink salmon (even years): 1 stock

Nushagak River

Sockeye salmon: 9 stocks (10 goals)

Alagnak (2 goals), Egegik, Igushik, Kvichak, Naknek, Nushagak, Togiak, Ugashik, and Wood rivers

Systems with established escapement goals in Bristol Bay



● sockeye salmon tower sites

● All species sonar site

○ king salmon aerial survey

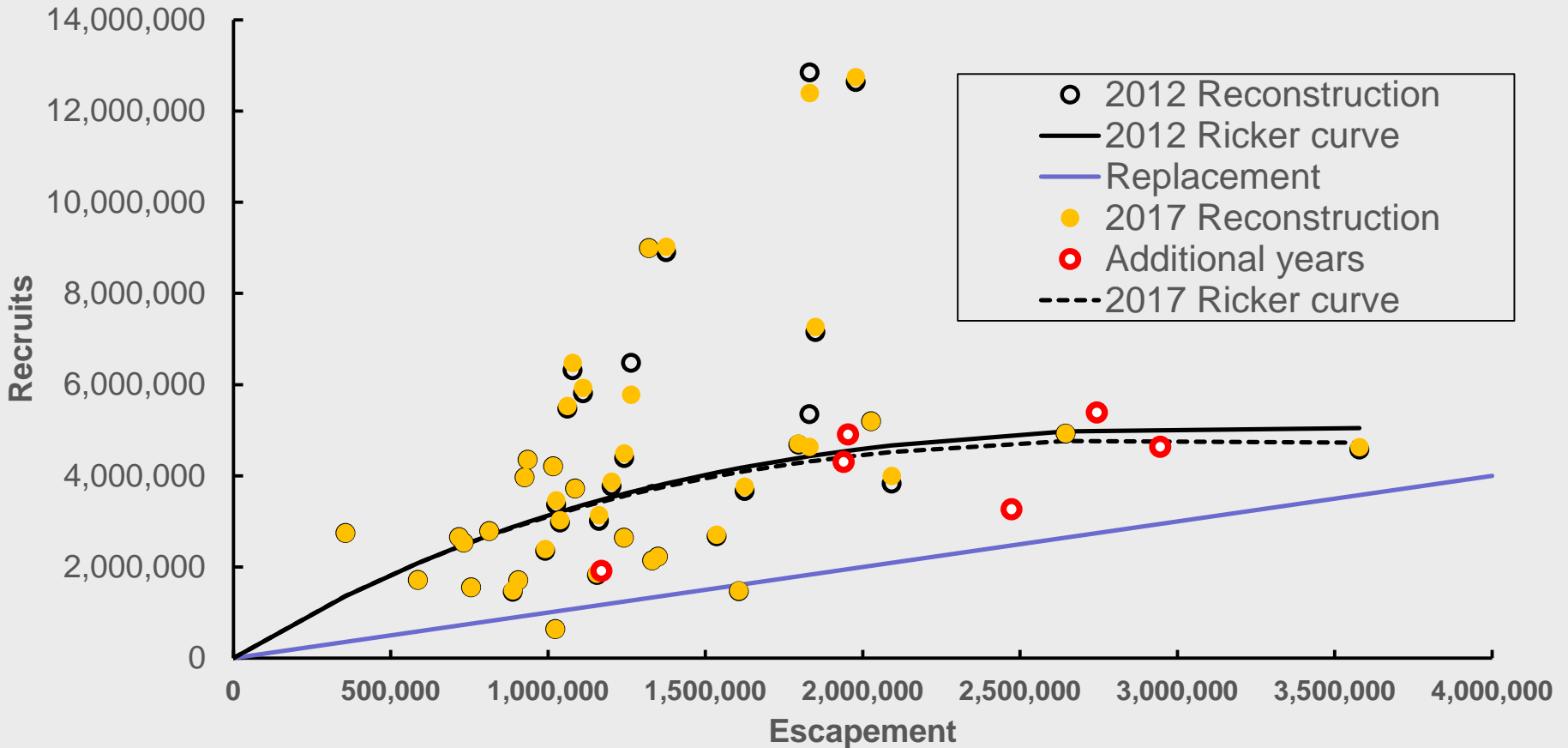
○ sockeye salmon aerial survey



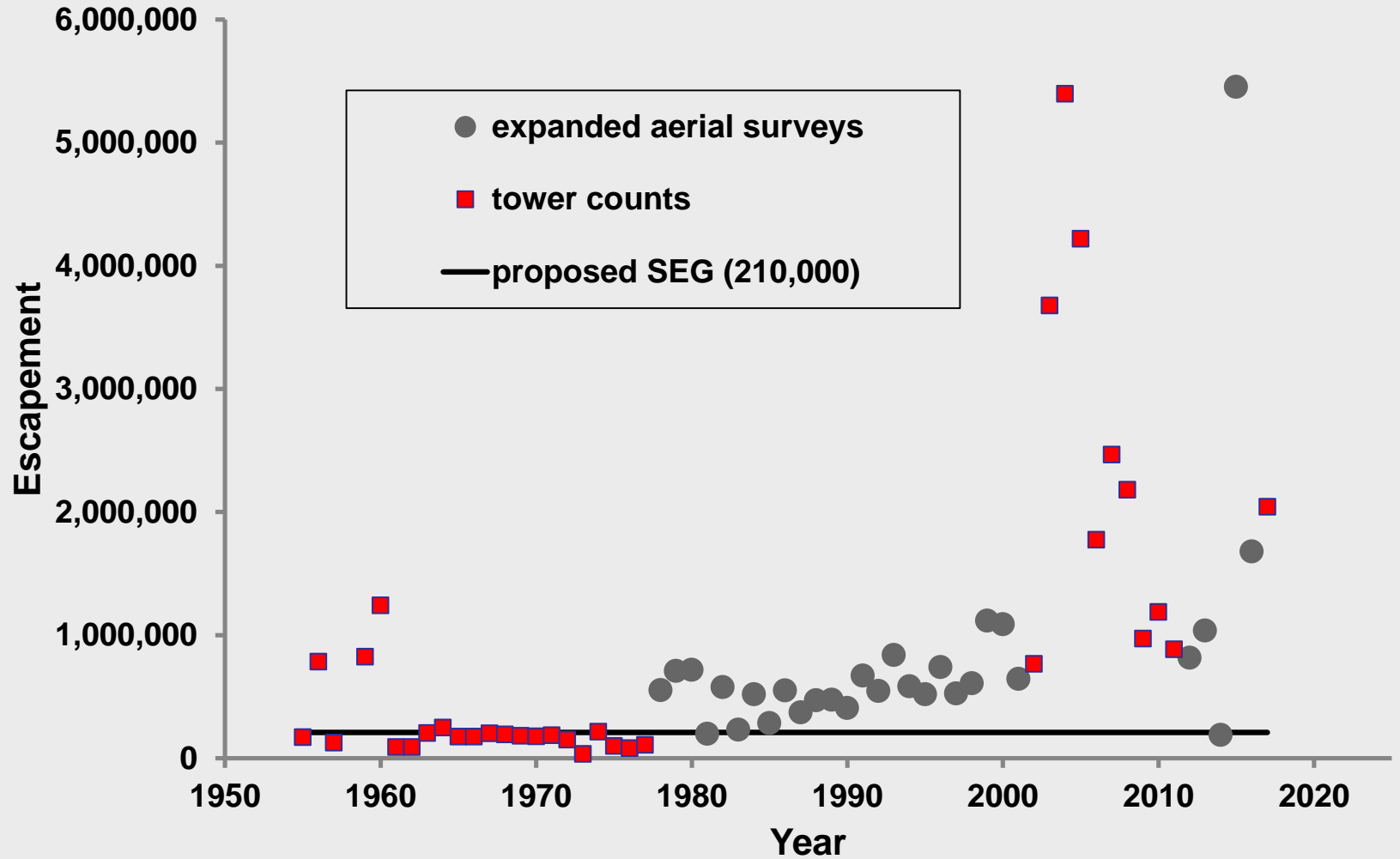
2018 Review of sockeye salmon escapement goals

- Goals implemented in 2015 were developed from a run reconstruction in 2012.
- Improved genetic baseline
 - 45 markers in 2012; currently **96** markers
 - 96 populations in 2012; currently **146** populations
- Updated time series for returns through 2017

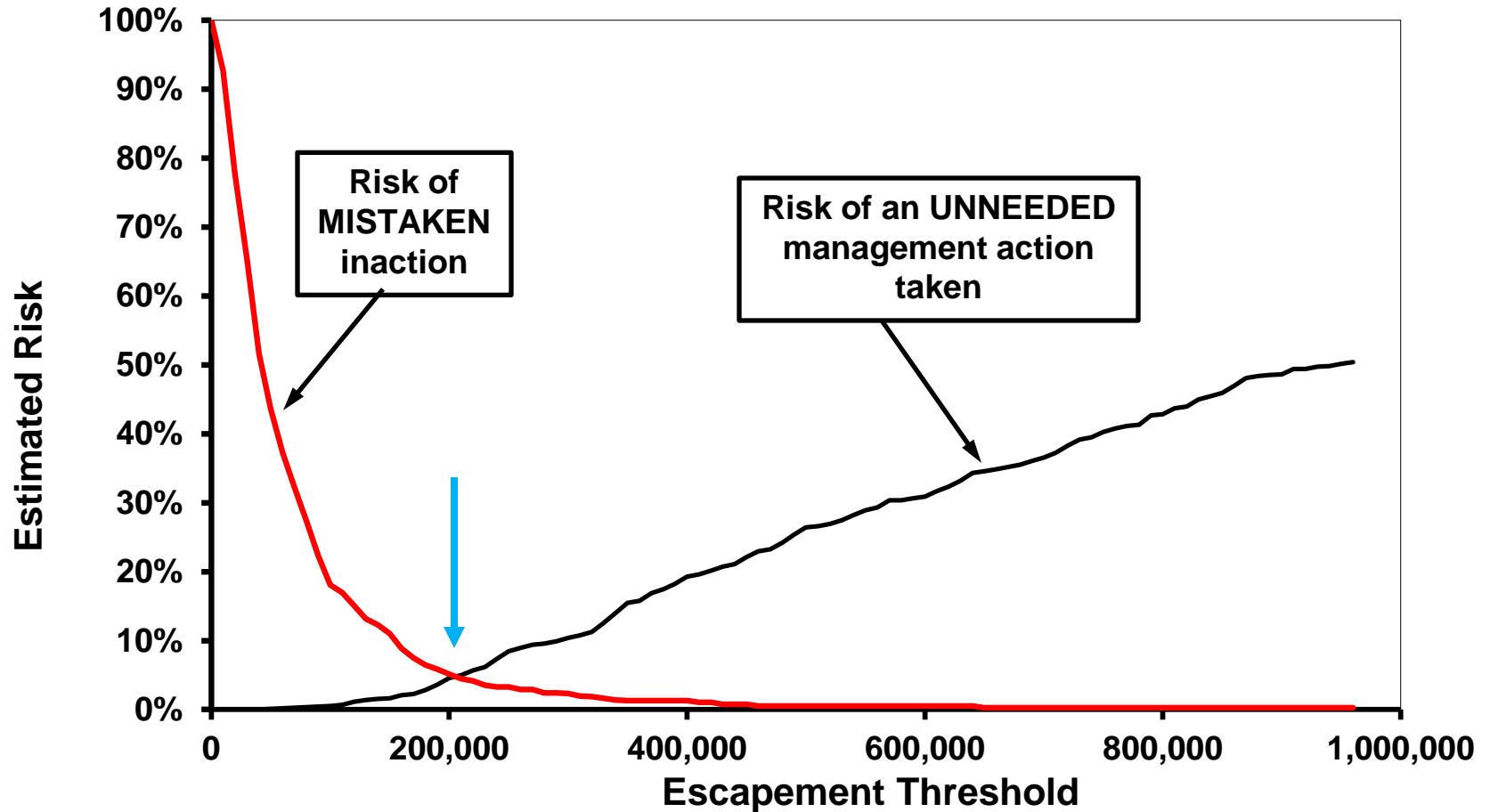
Naknek River sockeye salmon stock-recruit (an example)



Alagnak River sockeye salmon escapement estimates and goals



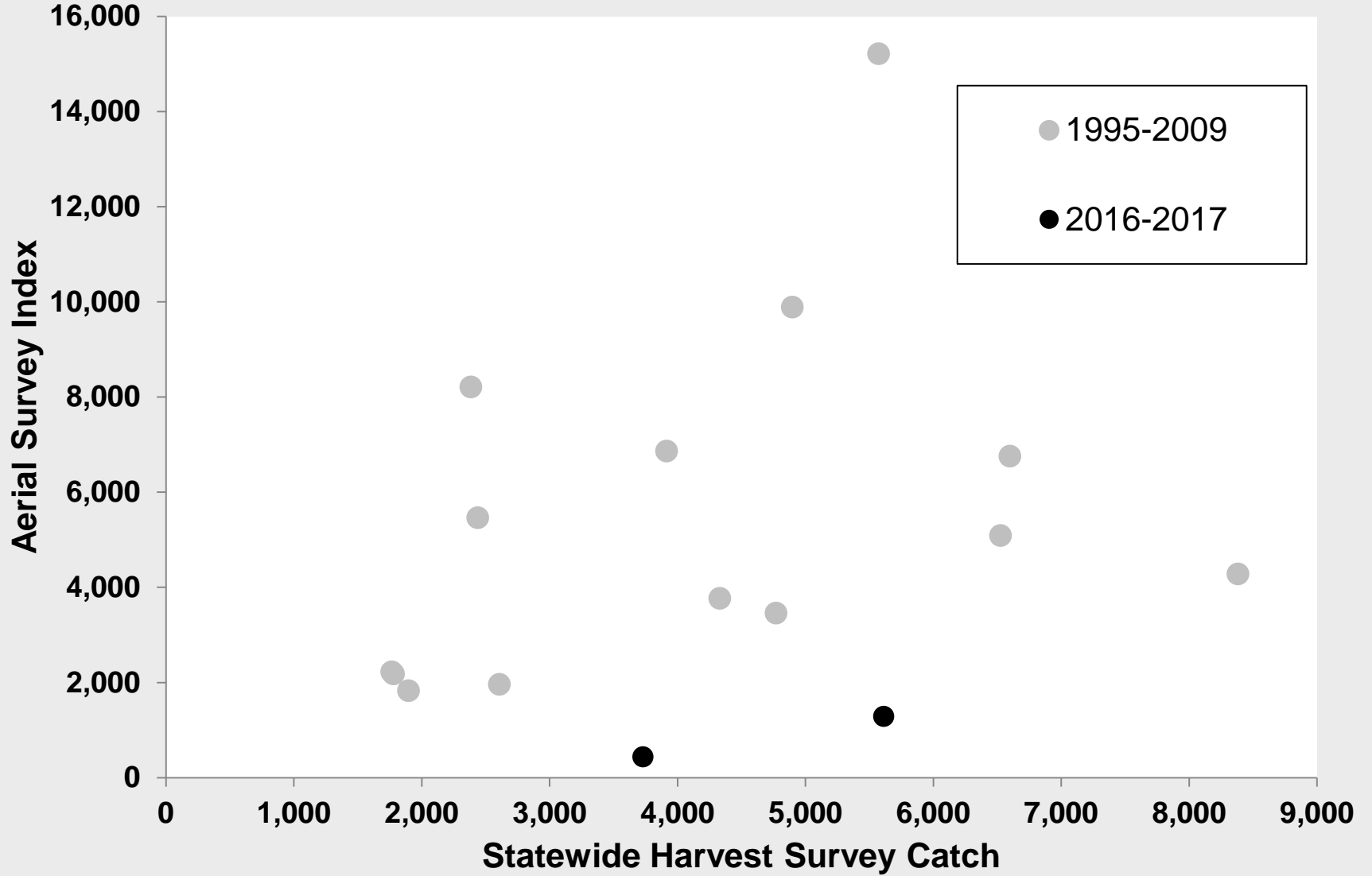
**Alagnak River sockeye salmon
with serial correlation (tower count or expanded aerial (2.41))**



Discontinuing king salmon goal for Alagnak River

- **Index counts by aerial survey were used to establish the lower bound SEG of 2,700.**
- **Historical counts (prior to 2010) were conducted differently than recent counts (2016-on).**
- **Recent counts may not index escapement the same as, or similar to, previous surveys used to develop the escapement goal.**
- **Recommended discontinuing this goal in 2015 but was continued as part of a new management plan for Alagnak River sockeye salmon.**

Alagnak River king salmon



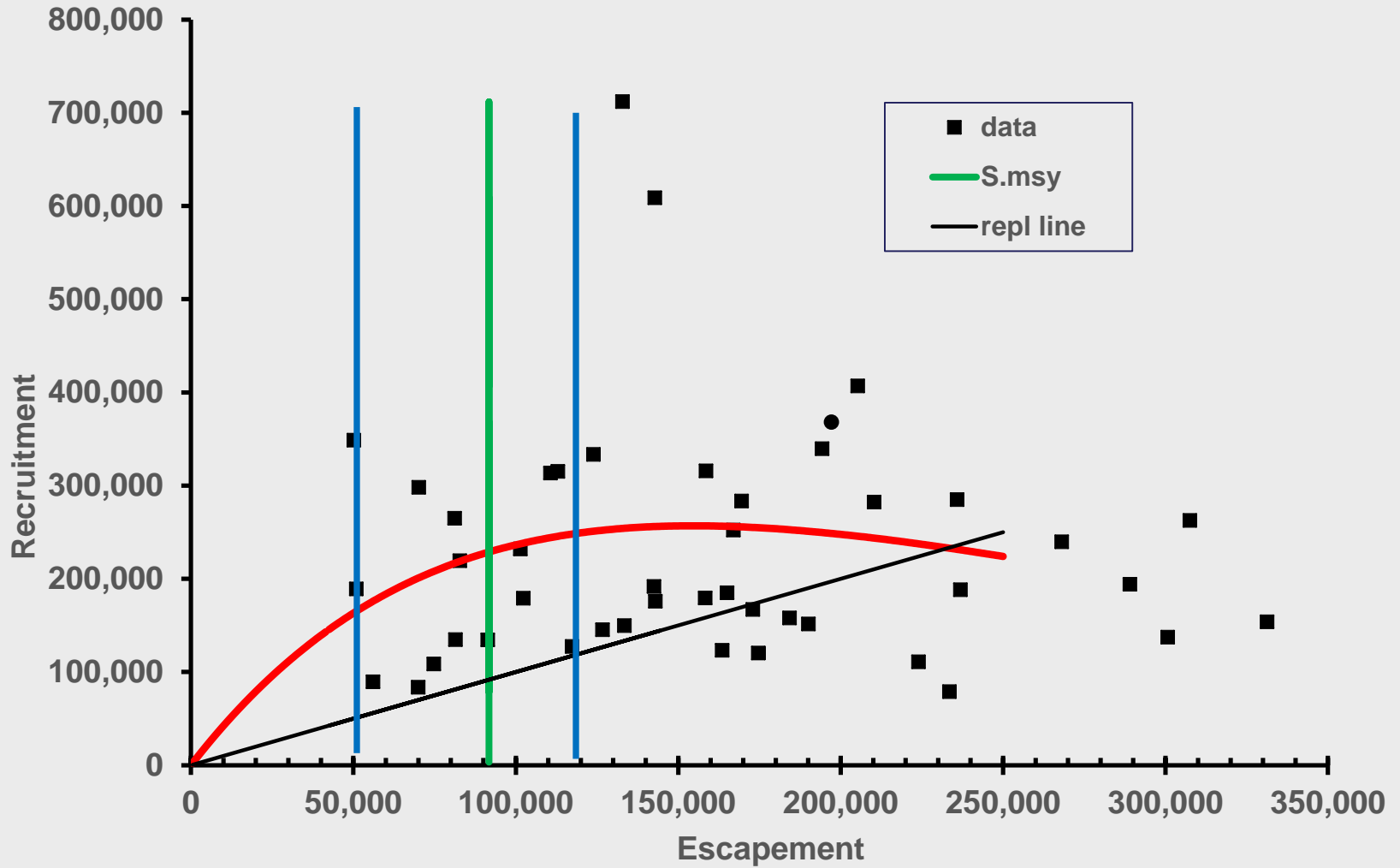
Discontinuing king salmon goal for Alagnak River

- **EO authority has been used (in 2010), without the aerial surveys.**
- **Typically this stock is passively managed.**
- ***Alagnak River Sockeye Salmon Special Harvest Area Management Plan* will need updating.**

Nushagak River king salmon

- **Current SEG is 55,000 – 120,000**
- ***Updated Ricker spawner-recruit analysis to include 3 additional years of data***
- **Correction made to historic harvest estimates**

Nushagak River king salmon



Recommended goal changes to Directors:

Alagnak River king salmon

- **Discontinue Alagnak River escapement goal**

Alagnak River sockeye salmon

- **Decrease lower bound SEG assessed with tower counts surveys from 320,000 to 210,000**
- **Discontinue lower bound SEG assessed with single aerial surveys**

ACKNOWLEDGEMENTS

Key Contributors

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