

Escapement Goals for Lower Cook Inlet Salmon Stocks

**RC-3, Tab 5:
EG Oral Report**

**RC-3, Tab 1:
EG Written Report**

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Outline

- Overview of the EG review process and definition of key terms
- Description of the LCI Management Area
- Review of LCI escapement goals
- Review of escapement performance relative to the current goals
- Recommendations for 2013 goals
- Review of king salmon goals



Escapement Goal Review Process

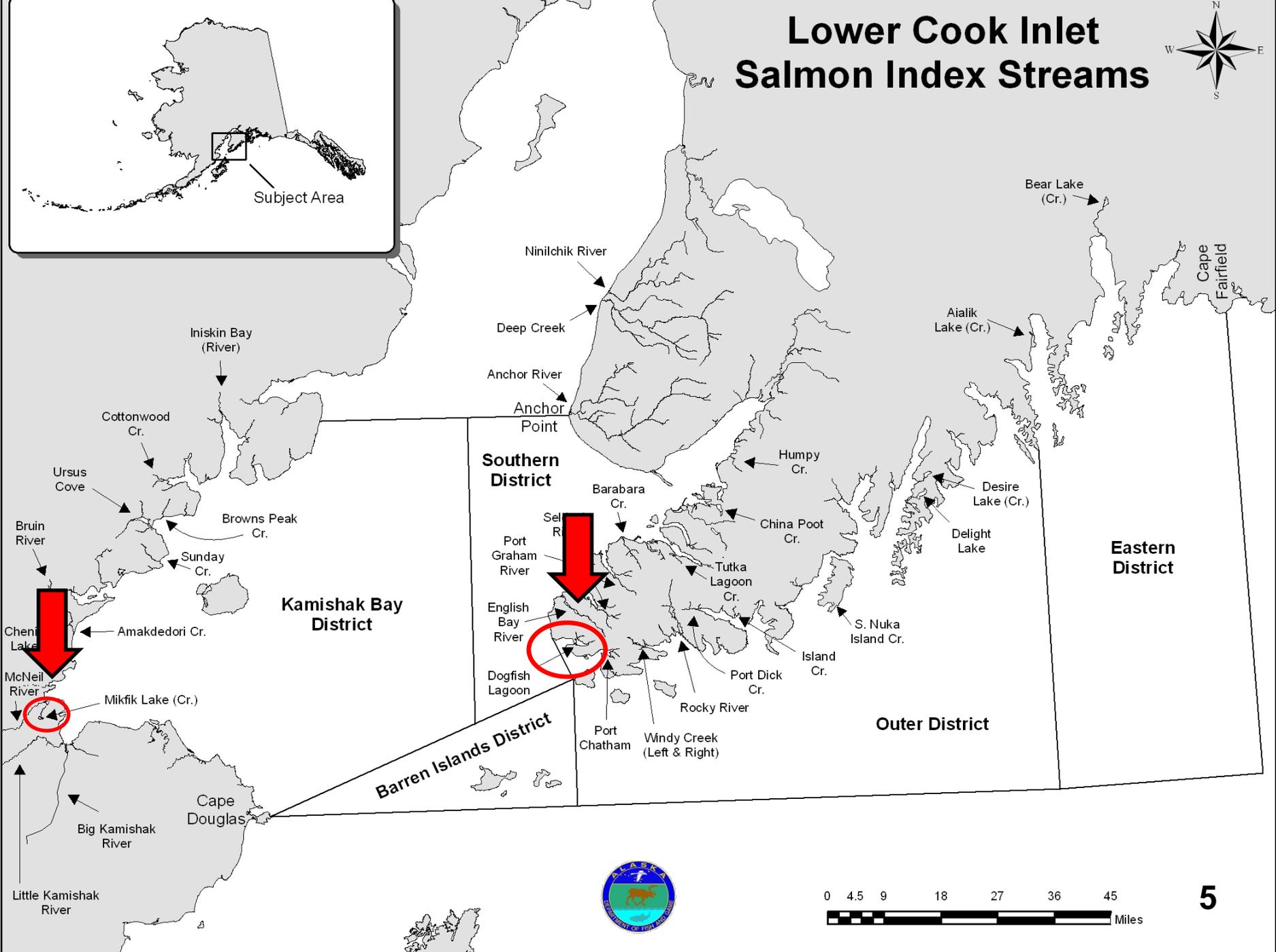
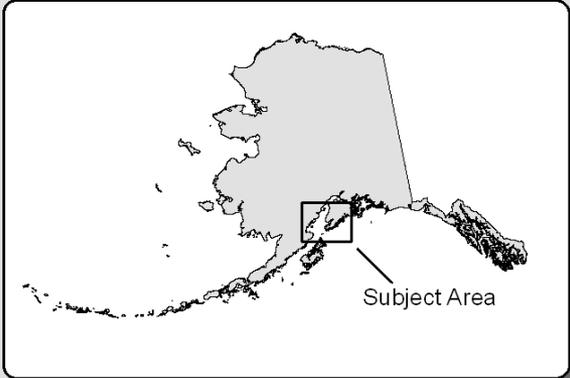
1. Establish a review committee (CF, SF)
2. Review and evaluate existing goals
3. Evaluate proposed new goals and goals to be eliminated
4. Provide written and oral reports to “board”
5. Memo to CF and SF division directors for approval of recommended changes



Definition of Key Terms

- *Biological Escapement Goal (BEG):*
The escapement that provides the greatest potential for maximum sustained yield (MSY).
- *Sustainable Escapement Goal (SEG):*
The level of escapement, indicated by an index or estimate, that is known to provide for sustained yield over a 5-10 year period, used in situations where a BEG cannot be estimated or managed for.

Lower Cook Inlet Salmon Index Streams



Review of Current Goals

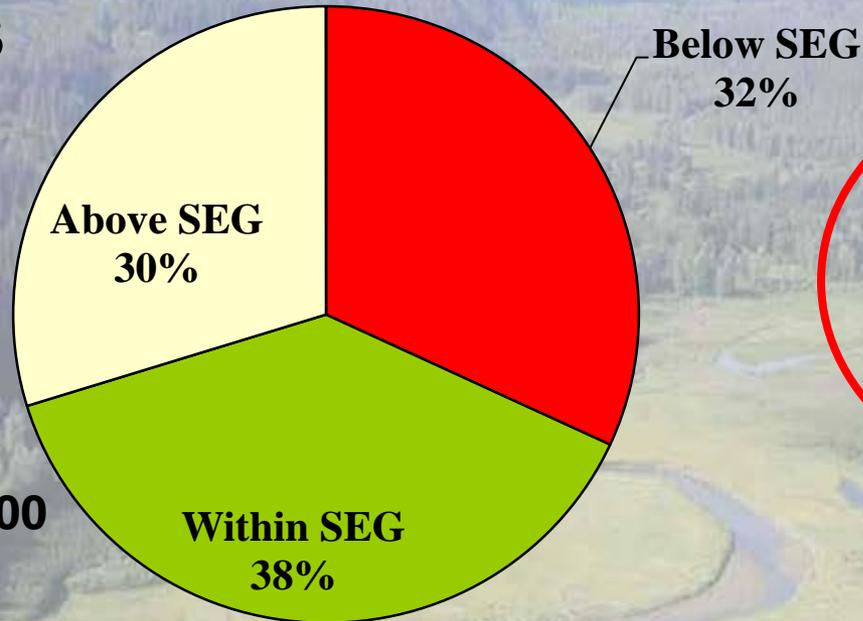
- 40 salmon stocks in LCI have escapement goals: 12 chum, 17 pink, 8 sockeye, and 3 king
- All goals were revised in 2001 in accordance with the Sustainable Salmon Fisheries (5 AAC 39.222) and statewide Salmon Escapement Goal policies (5 AAC 39.223)
- LCI goals are sustainable escapement goals (SEG) because we have insufficient data to calculate maximum sustained yield (MSY)



Chum Salmon

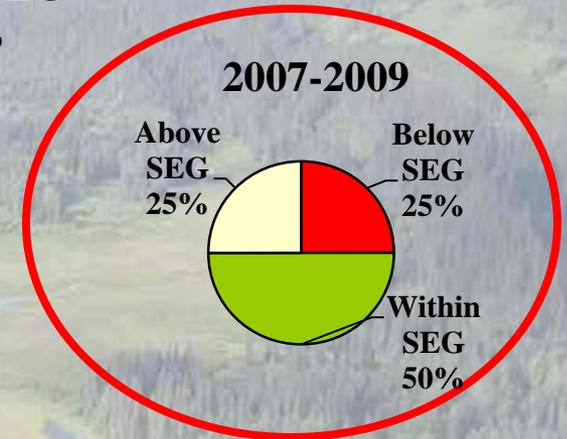
Chum Salmon Escapement Performance

2010-2013



Avg. Annual Harvest: >59,000 chum salmon

2007-2009



Avg. Annual Harvest: 87,000 chums

n = 47 chum salmon escapement observations* (12 stocks over 4 years)

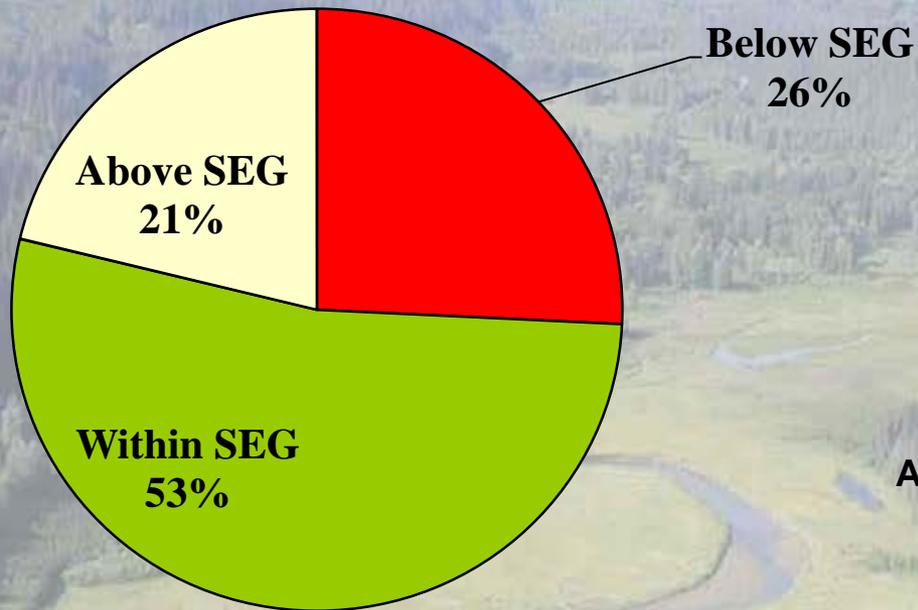
**Insufficient data to estimate escapement one year for one stock*

Pink Salmon

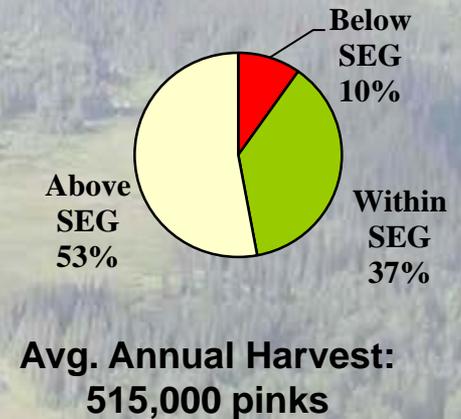
Pink Salmon Escapement Performance

2010-2013

**Avg. Annual
Harvest: 779,000
pink salmon**



2007-2009



n = 66 pink salmon escapement observations* (~17 stocks over 4 years)

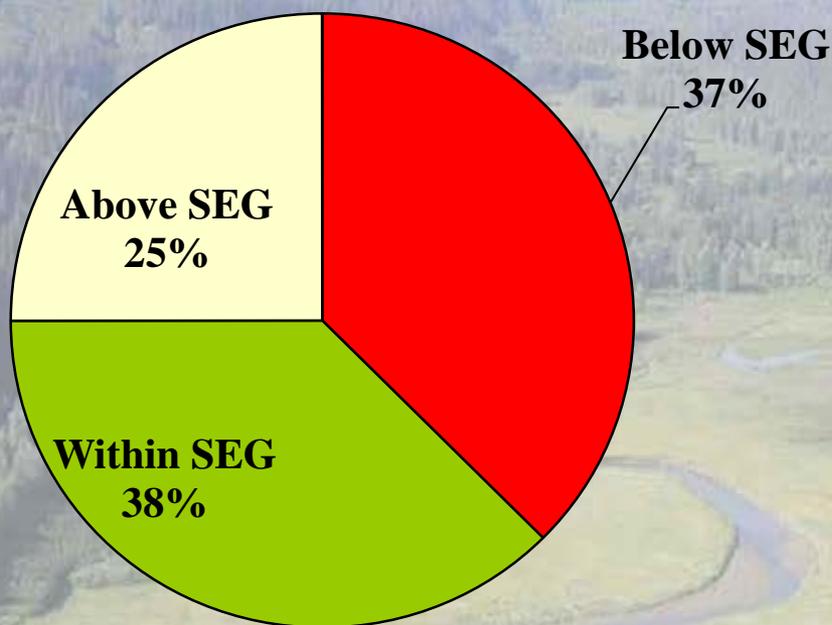
**Insufficient data to estimate escapement two years for one stock*

Sockeye Salmon

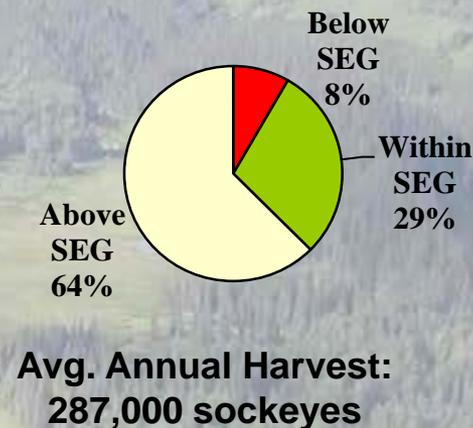
Sockeye Salmon Escapement Performance

2010-2013

**Avg. Annual
Harvest: 214,000
sockeye salmon**



2007-2009



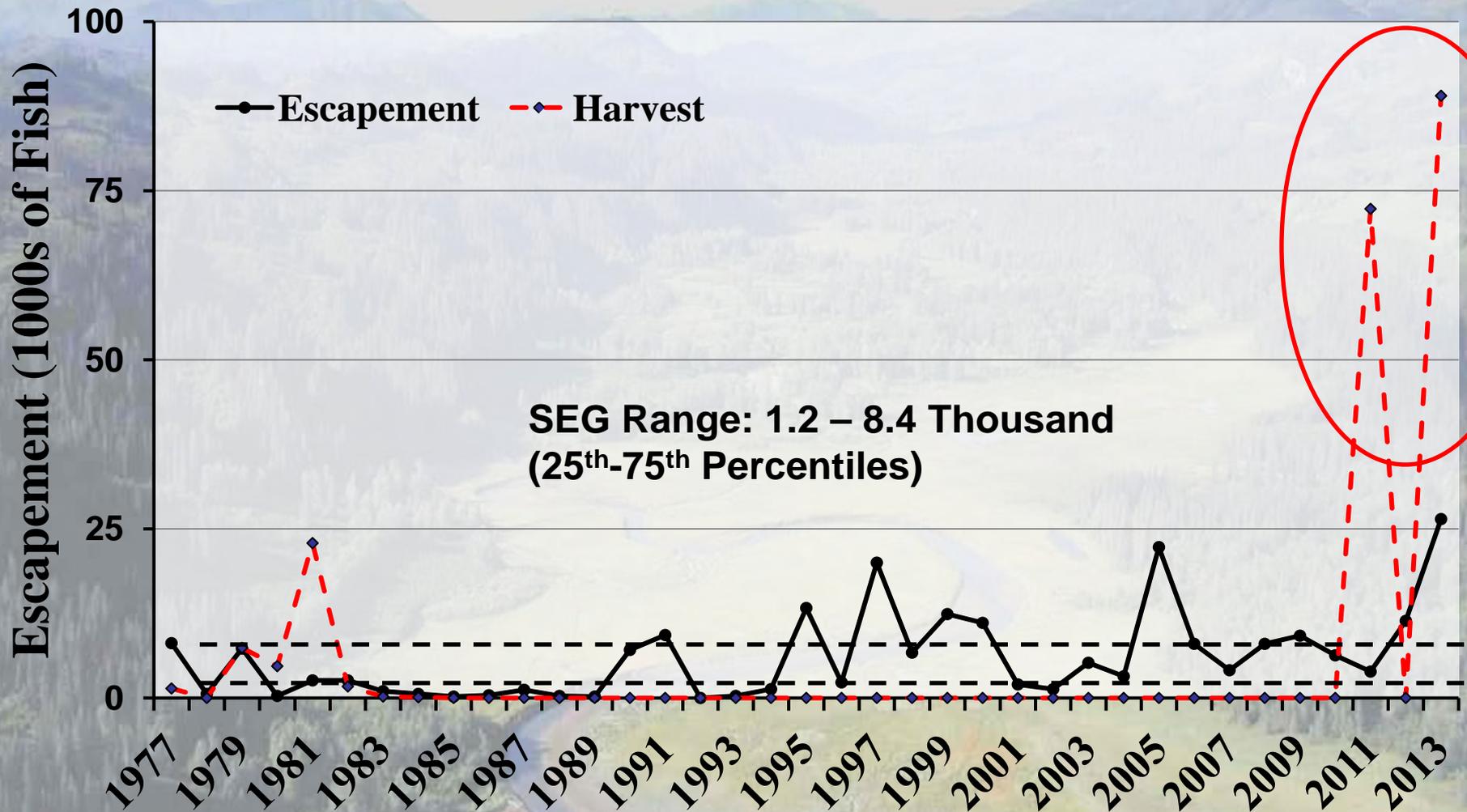
RC-3, Tab 1

n = 32 sockeye salmon escapement observations (8 stocks over 4 years)

Recommendations

- No change in SEG for most stocks
- Establish SEG for Dogfish Lagoon creeks pink salmon stock.
- Modify SEG range for Mikfik Lake sockeye salmon so the goal is derived from the same method currently used to manage the fishery in season.

Dogfish Lagoon Pink Salmon



Sockeye Salmon EGs

- **Most derived from aerial survey indices**
 - **Efficient way to monitor remote streams in season**
 - **Provides timely escapement information**

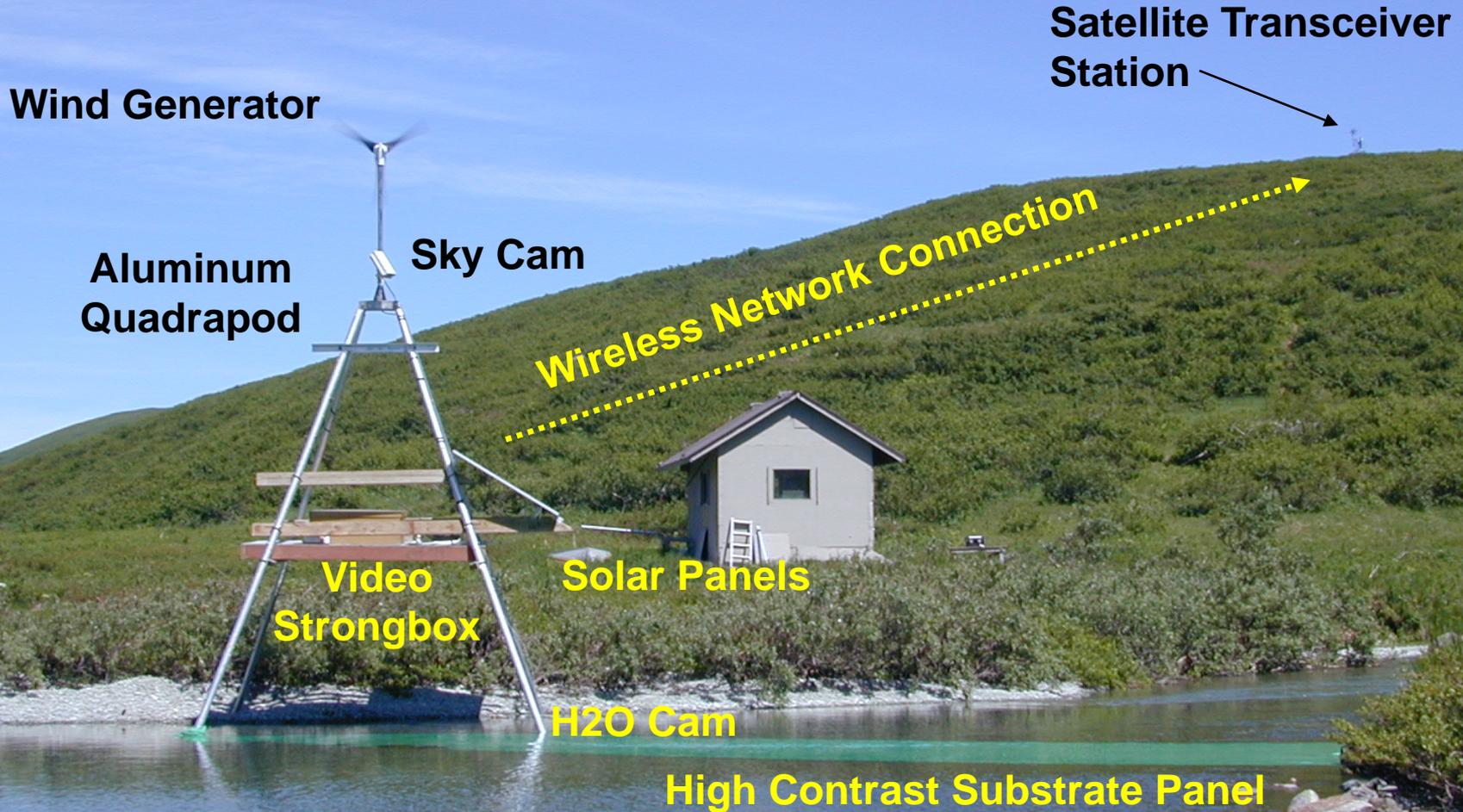
Variables Affecting Aerial Survey Results

- **Observer efficiency (experience)**
- **Stream residency of target species**
- **Weather conditions and water clarity**
- **Stream morphology and habitat type**
- **Timing and periodicity of survey flights**

Improving Escapement Monitoring

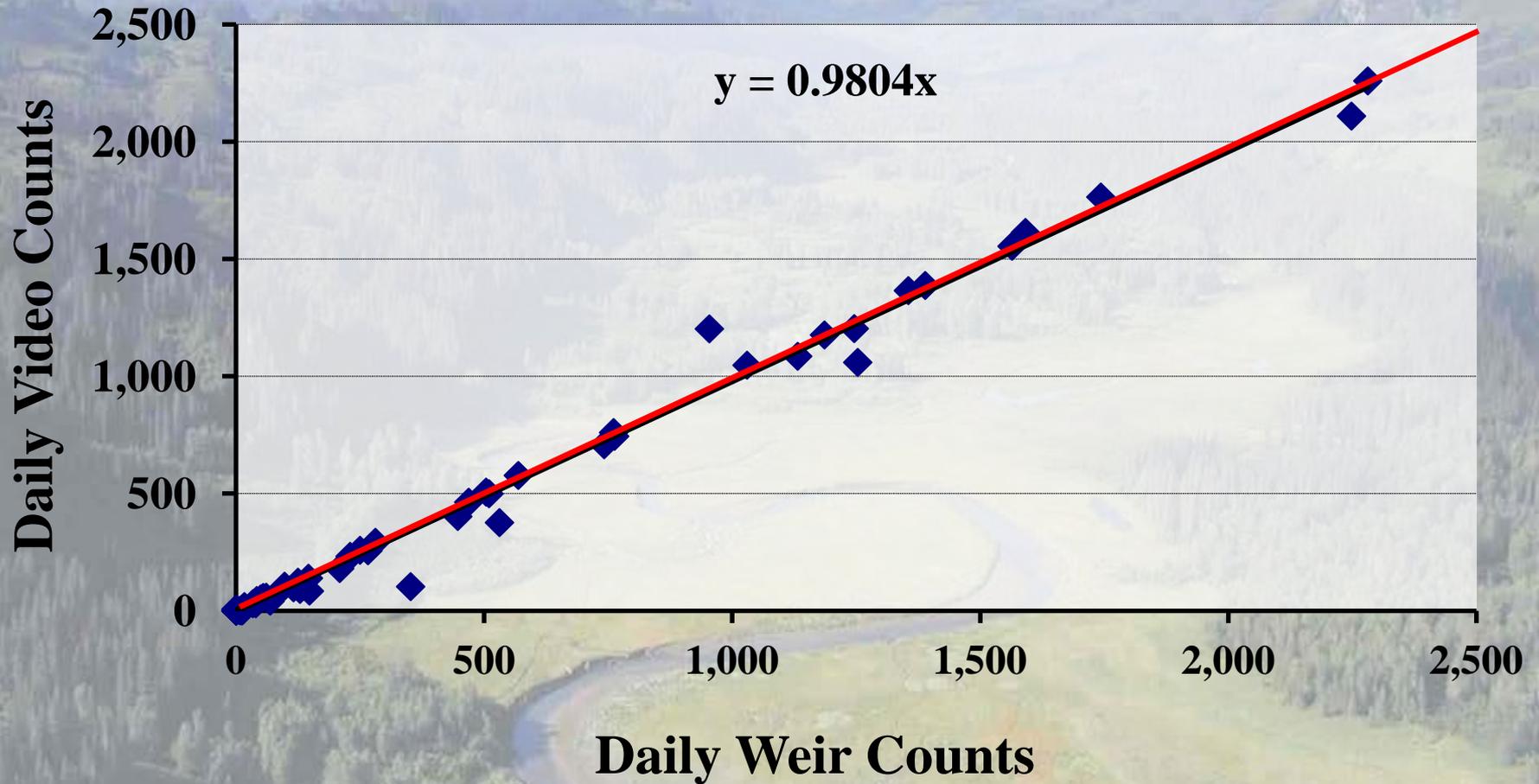


System Components

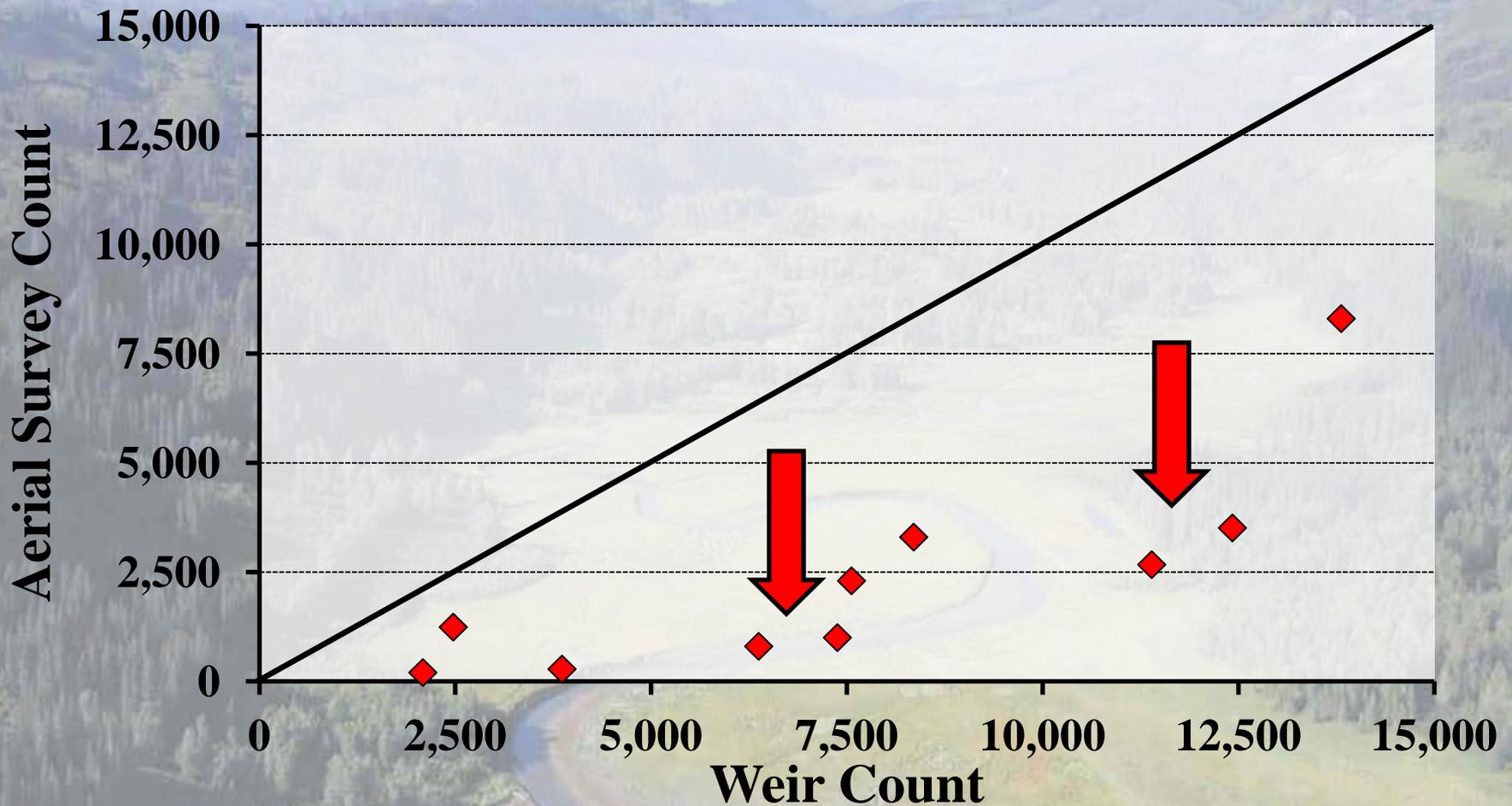


Comparison of Weir vs. Video

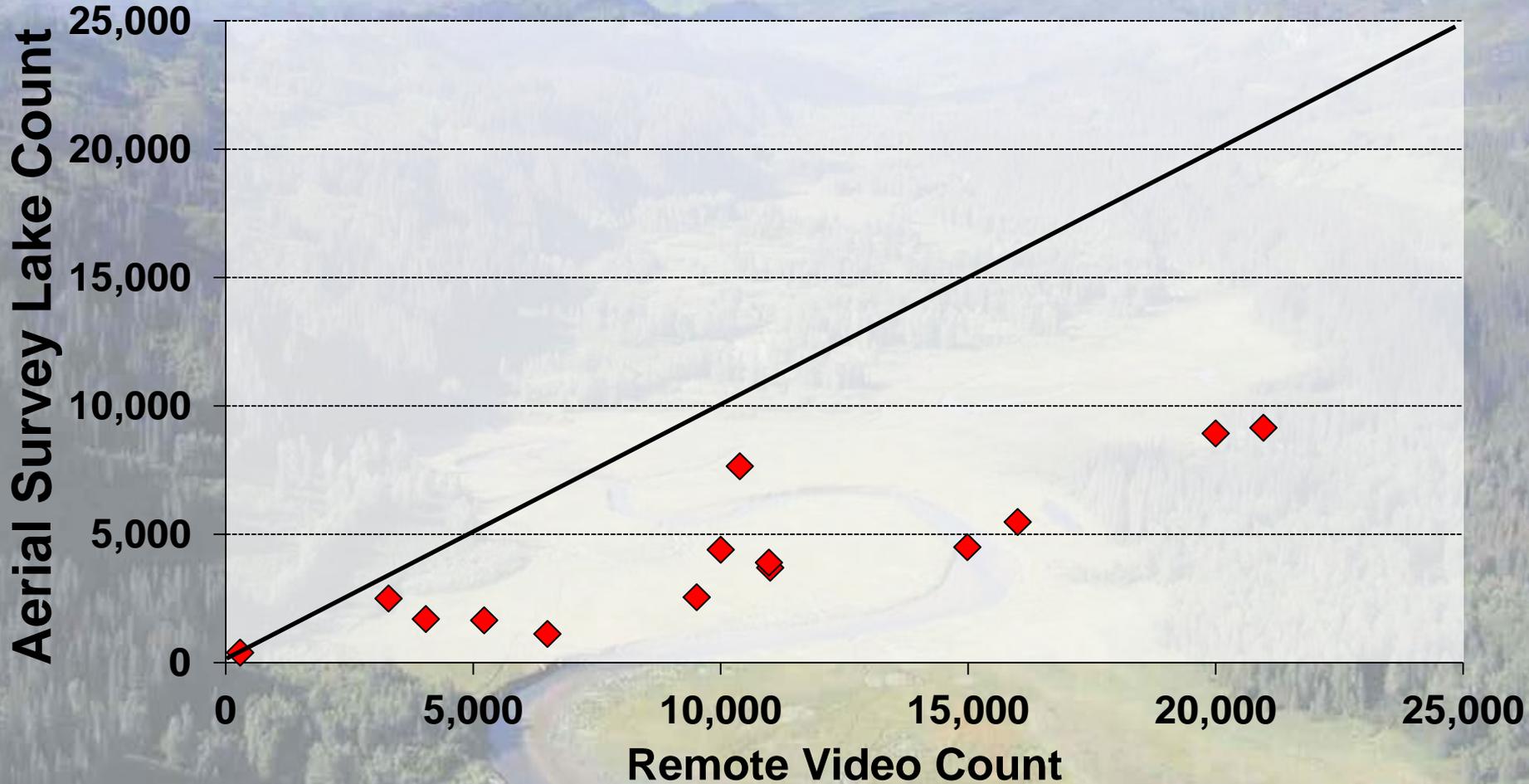
Chenik Lake - 2005 & 2007



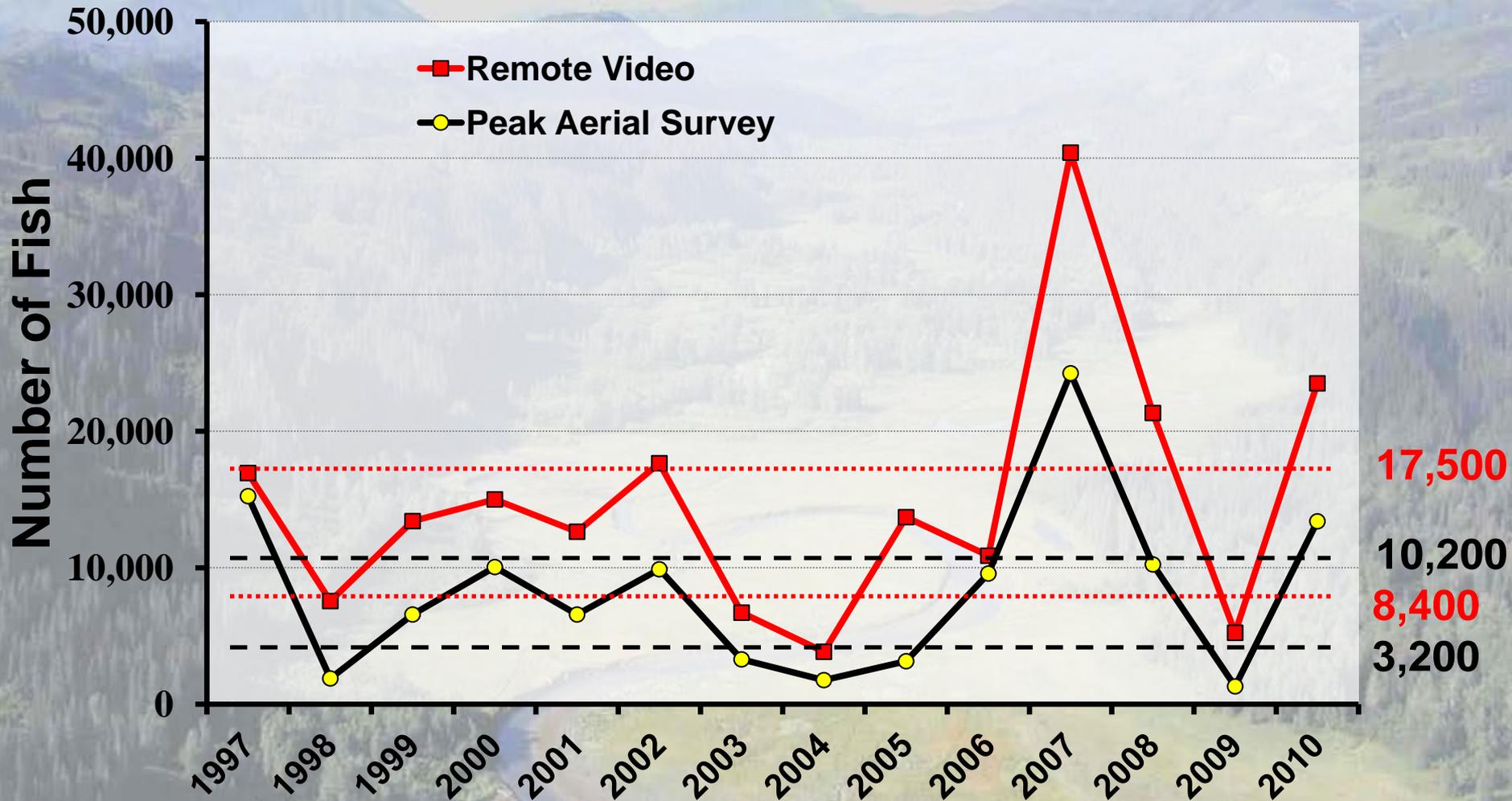
Chenik Lake Weir vs. Aerial Survey Comparison



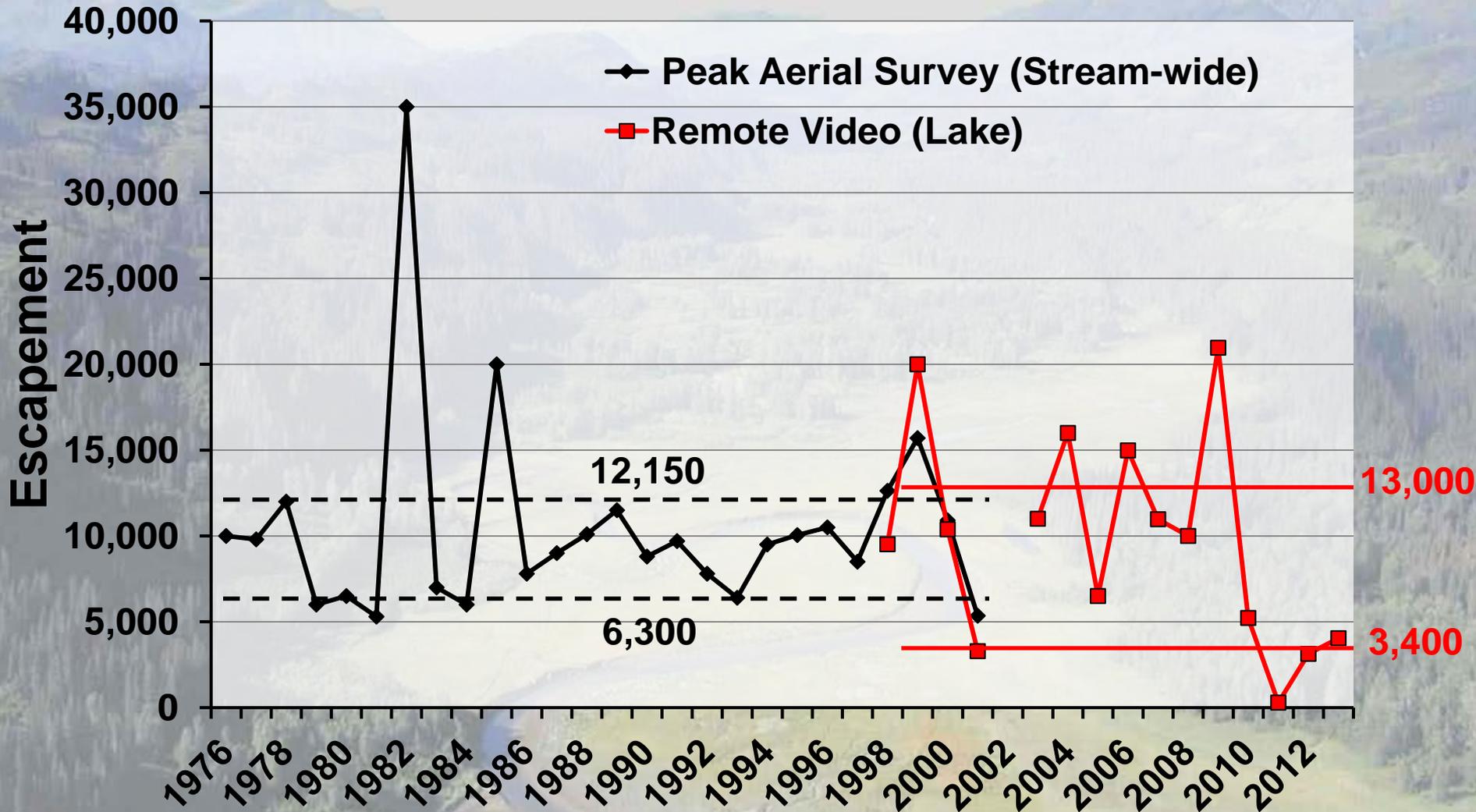
Mikfik Lake Video vs. Aerial Survey Comparison



Remote Video vs. Aerial Survey



Mikfik Lake Sockeye Salmon



Summary

- Established SEG for Dogfish Lagoon creeks pink salmon stock in Outer District
- Changed SEG for Mikfik Lake sockeye salmon stock so it's consistent with the current monitoring method
- Will maintain the Mikfik goal while funding is available to operate the video
- Will revert back to aerial survey-based goal if funding is lost



Outline (Continued)

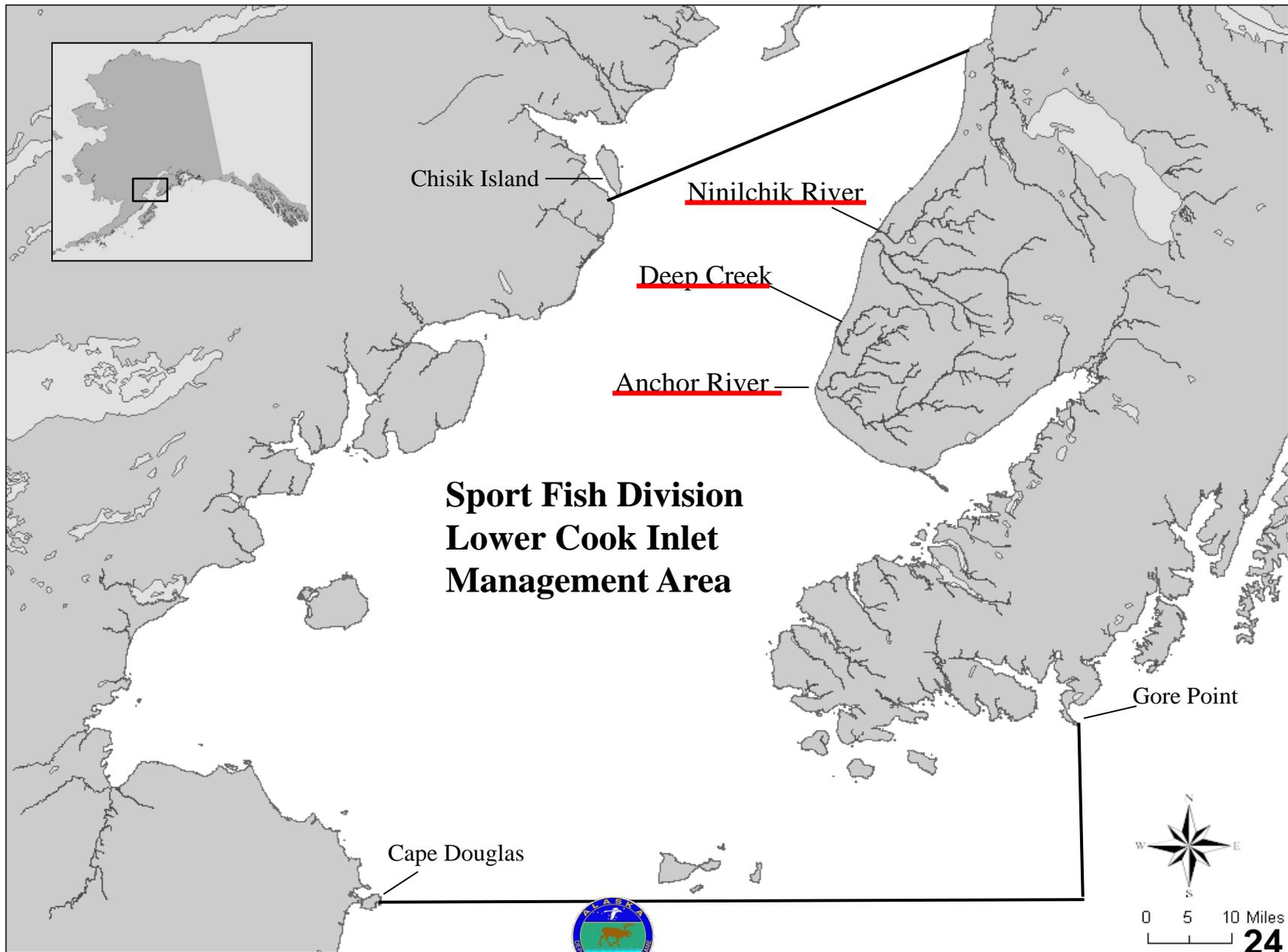
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Jack Erickson

- **Review of Lower Cook Inlet king salmon escapements 2010-2013**
- **Background and recommendations for 2013**





Chisik Island

Ninilchik River

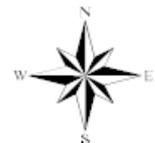
Deep Creek

Anchor River

Sport Fish Division Lower Cook Inlet Management Area

Gore Point

Cape Douglas



0 5 10 Miles

2010-2013 Escapement Performance for 3 King Salmon Stocks in LCI

System	SEG	2010	2011	2012	2013
Anchor River	3,800 – 10,000 (weir)	4,449	3,545	4,509	4,393
Deep Creek	350-800 (aerial index)	387	696	447	475
Ninilchik River	550-1,300 (weir)	605	668	555	571



Sport Fish Emergency Orders 2010-2013

2010	Inseason restrictions: freshwater and marine
2011	Inseason restrictions: freshwater and marine
2012	Preseason restrictions: freshwater Inseason restrictions: freshwater and marine
2013	Preseason restrictions: freshwater and marine Inseason restrictions: freshwater and marine



Recommendations

- No change for Anchor River, Deep Creek, or Ninilchik River.

Questions?



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Backup Slides

- Mikfik Lake Aerial vs. Remote Video EGs



Mikfik Lake Sockeye Salmon EGs (Remote Video vs. Aerial Survey)

