



Mat-Su Symposium November 14, 2013

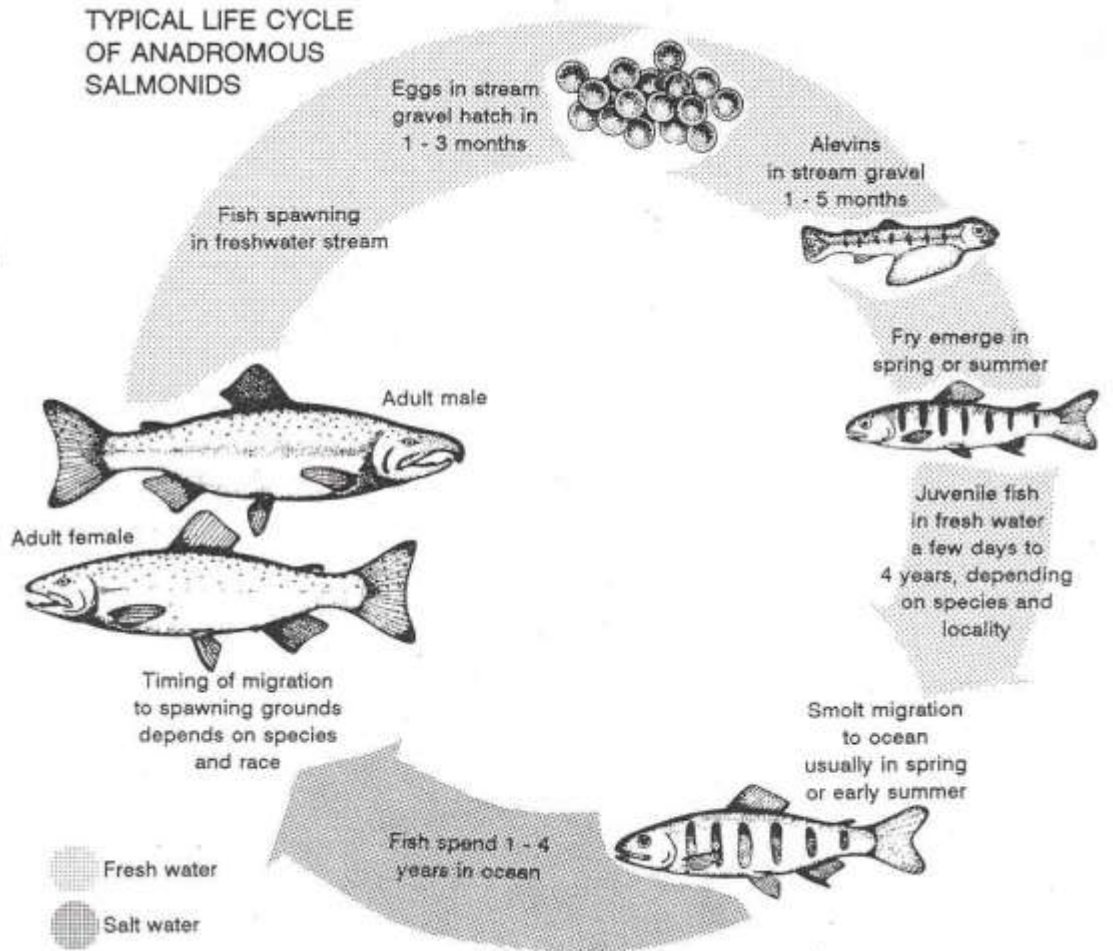
Juvenile Coho Salmon Overwintering Habitat in Blodgett Lake, Alaska



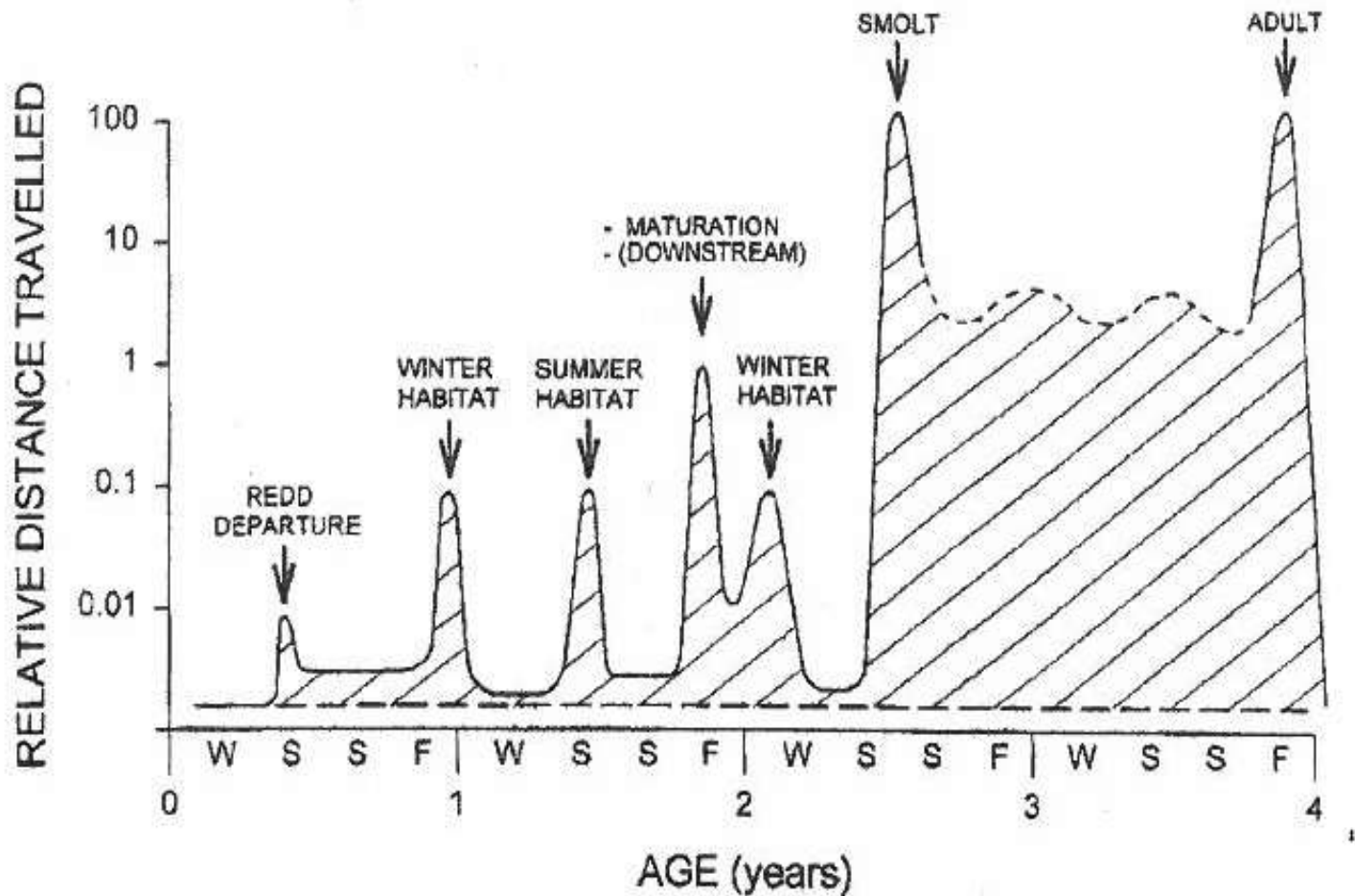
Jon Gerken

Anchorage Fish and Wildlife Field Office

Pacific Salmon Life History



	FW	SW
•Sockeye	1-3	1-4
•Chinook	1-2	1-8
•Coho	1-3	18 m
•Pink	0	1
•Chum	0	1-5

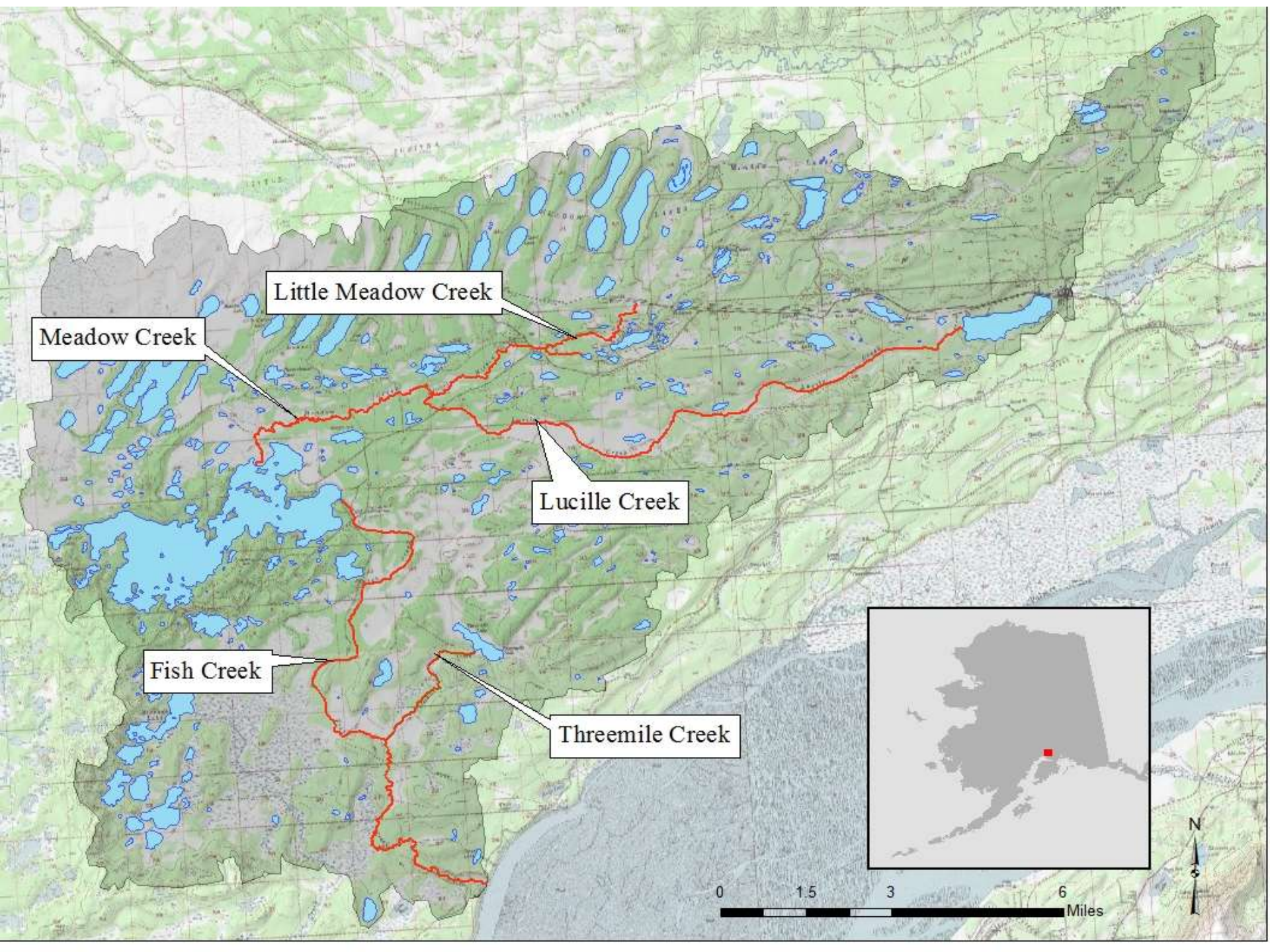


McCormick, S.D., L.P. Hansen, T.P. Quinn, and R.L. Saunders. 1998. Movement, migration, and smolting of Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Science*. 55(Suppl.1).



...where every day is an adventure



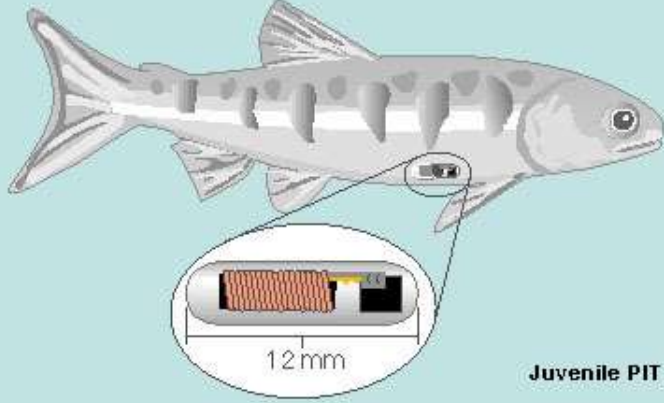




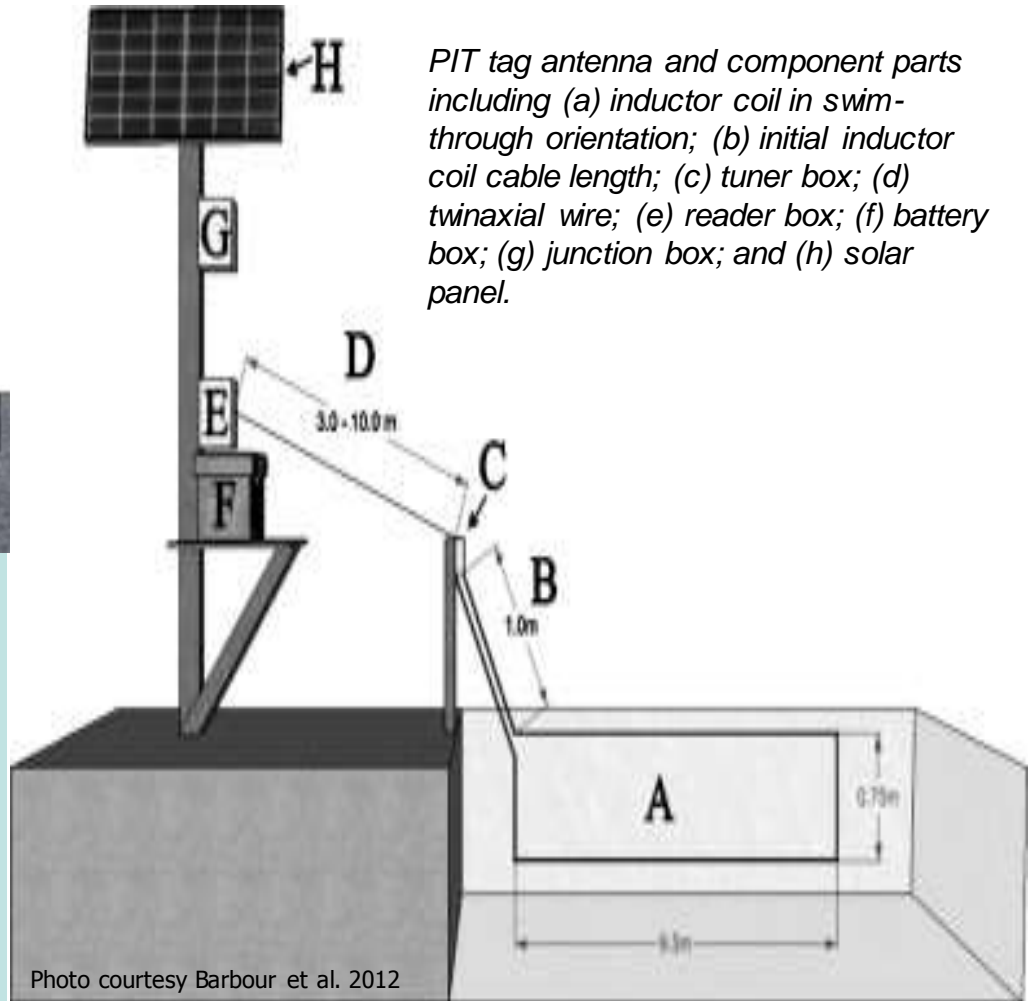
Methods



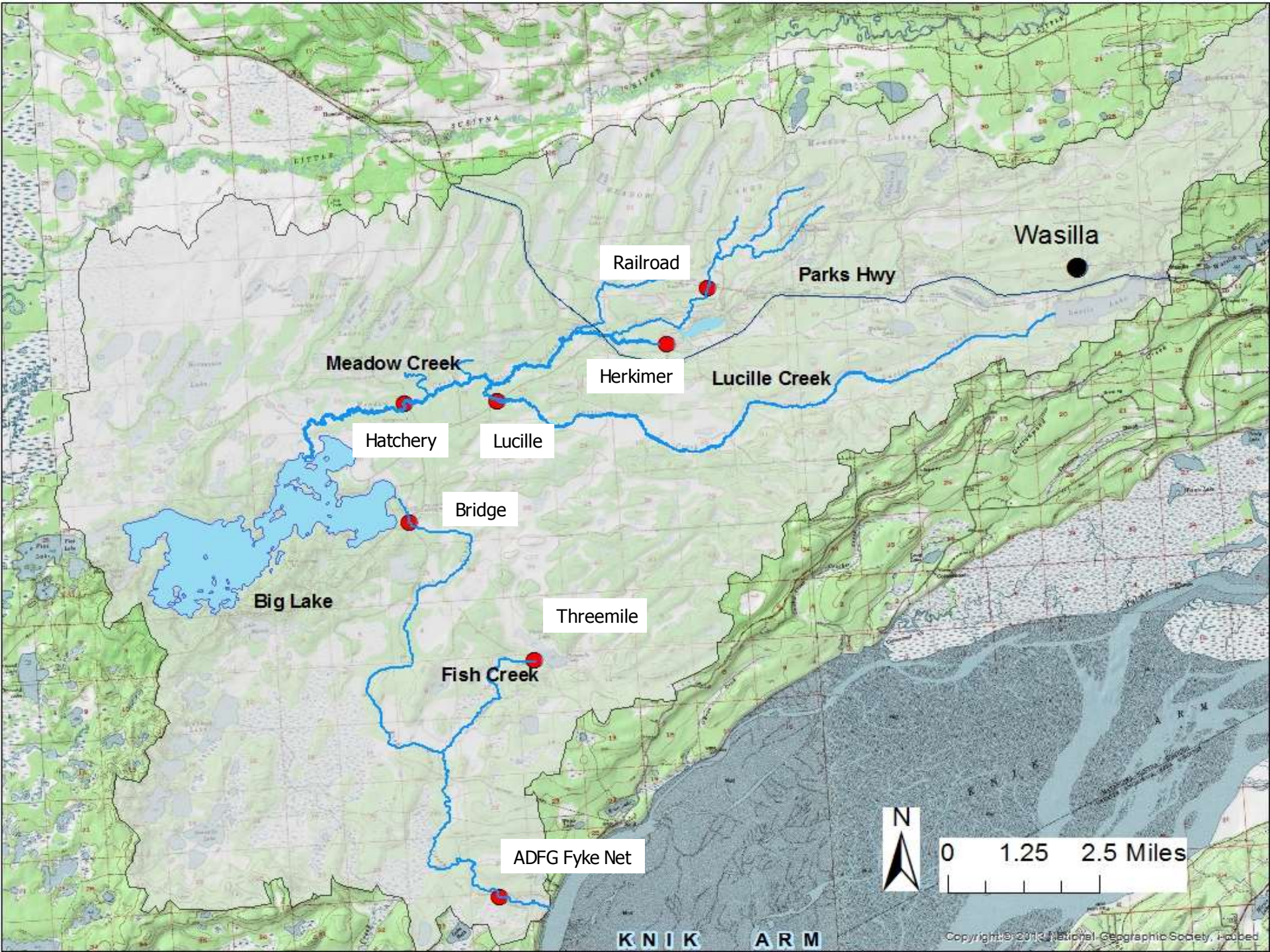
Photo courtesy US Army Corp of Engineers



Juvenile PIT Tag



Barbour, A.B, A.J. Adams, T. Yess, D.C. Behringer, R. Kirby Wolfe. 2012. Comparison and cost-benefit analysis of PIT tag antennae resighting and seine-net recapture techniques for survival analysis of an estuarine-dependent fish. *Fisheries Research*, 120-121:153-160.



Wasilla

Railroad

Parks Hwy

Meadow Creek

Herkimer

Lucille Creek

Hatchery

Lucille

Bridge

Big Lake

Threemile

Fish Creek

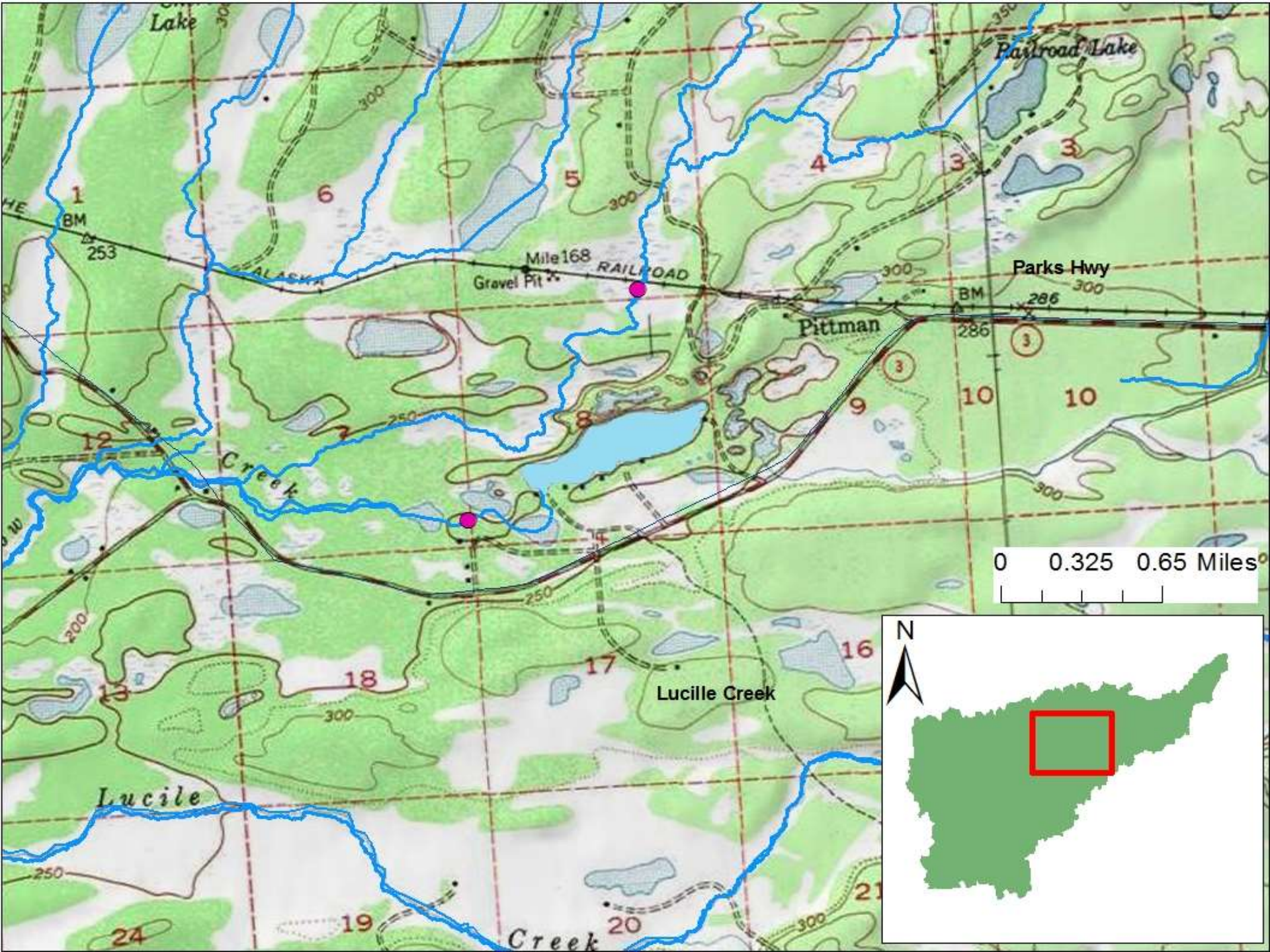
ADFG Fyke Net



0 1.25 2.5 Miles

KNIK ARM

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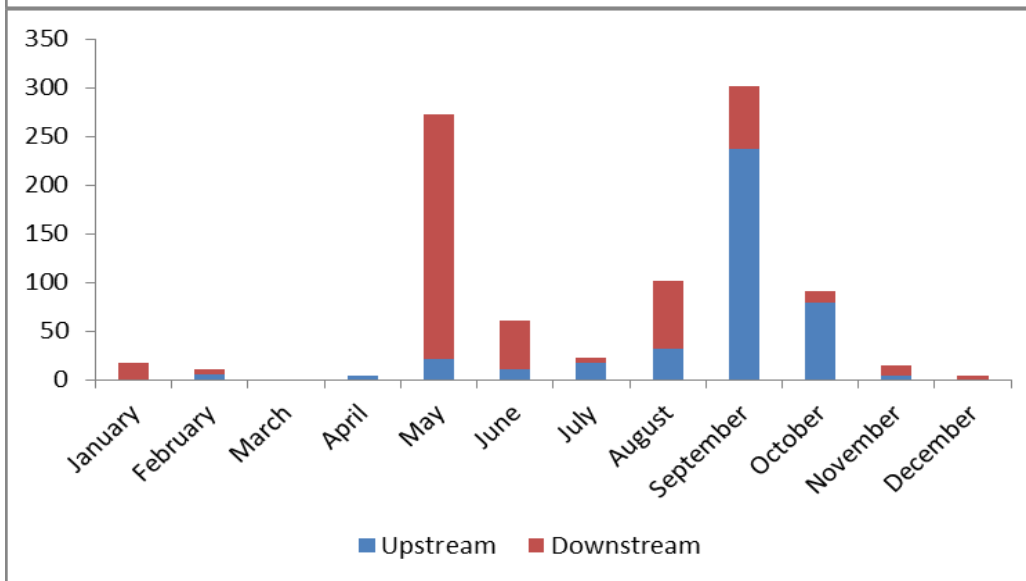
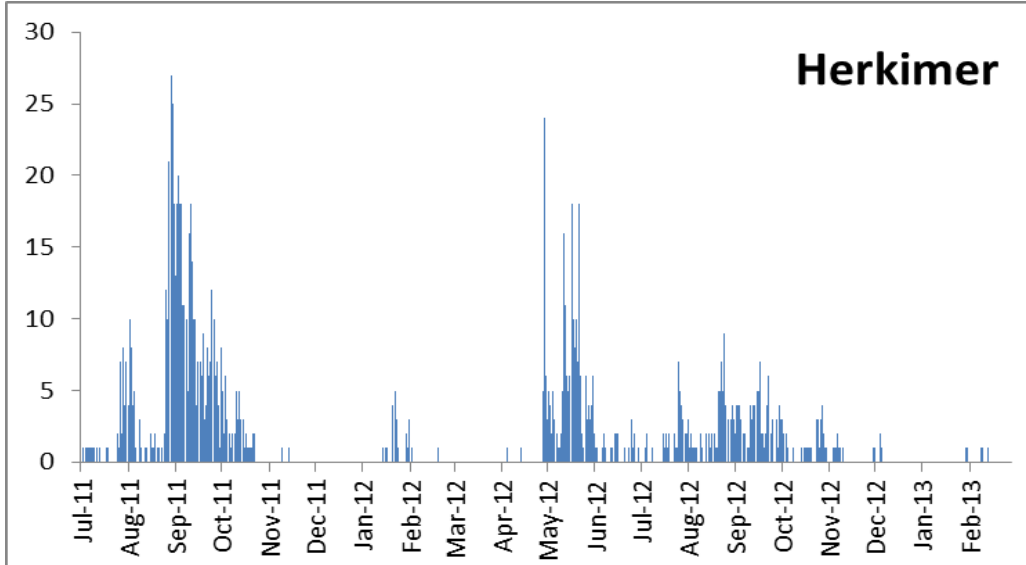


Results – Herkimer Population

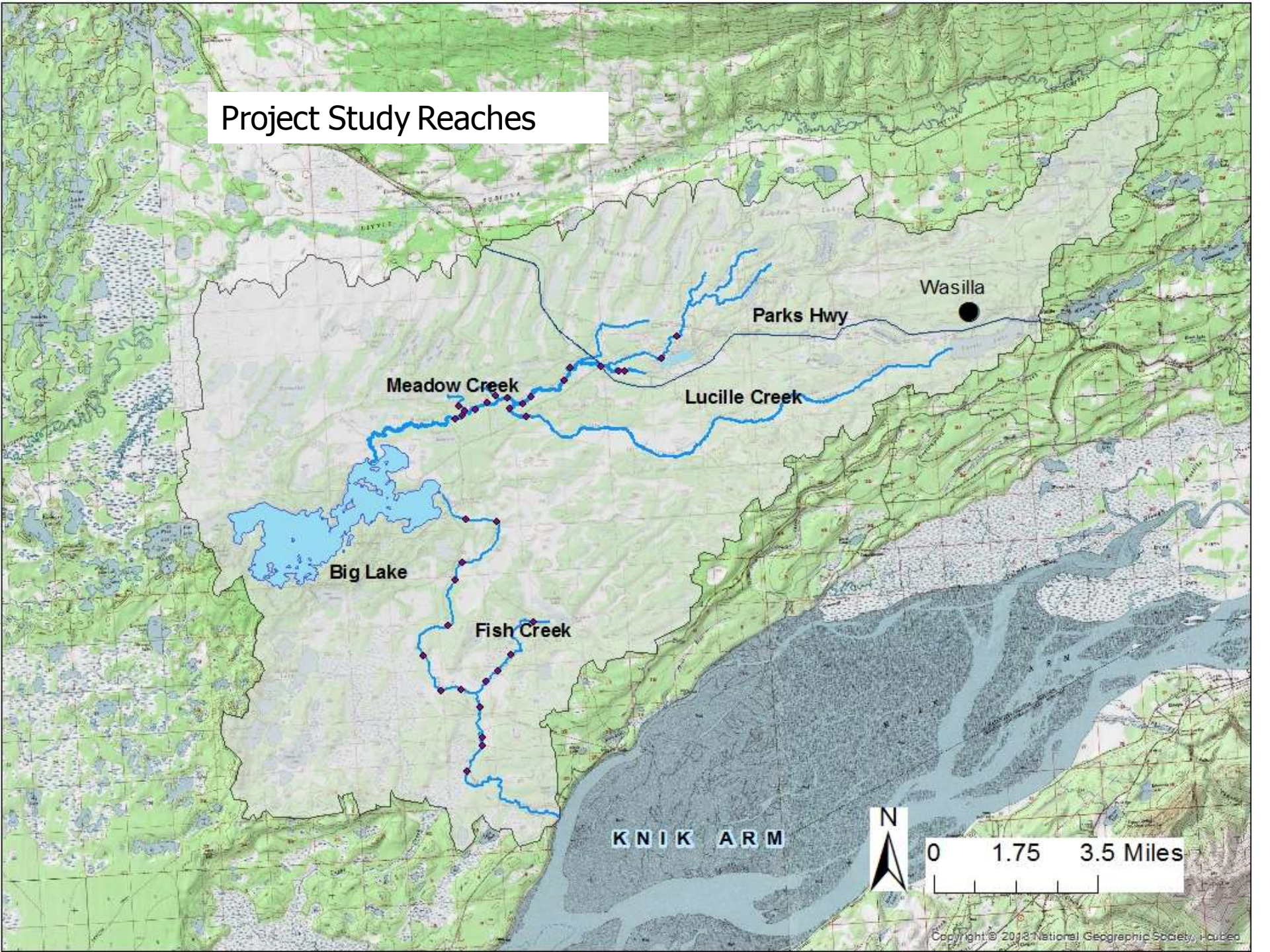
- Meadow Creek
 - 2011 = 2,295 tags
 - 2012 = 1,362 tags
- Total tags 3,657
- Total tags in watershed = 6,295
- Herkimer
 - 2011 = 356 tags
 - 2012 = 356 tags
 - 2013 = 138 tags
- Total tags from Meadow Creek = 850 (23%)
- Total tags from watershed = 850 (14%)
- Number of smolting fish = 170



Results – Herkimer Array Detection



Project Study Reaches



Wasilla

Parks Hwy

Meadow Creek

Lucille Creek

Big Lake

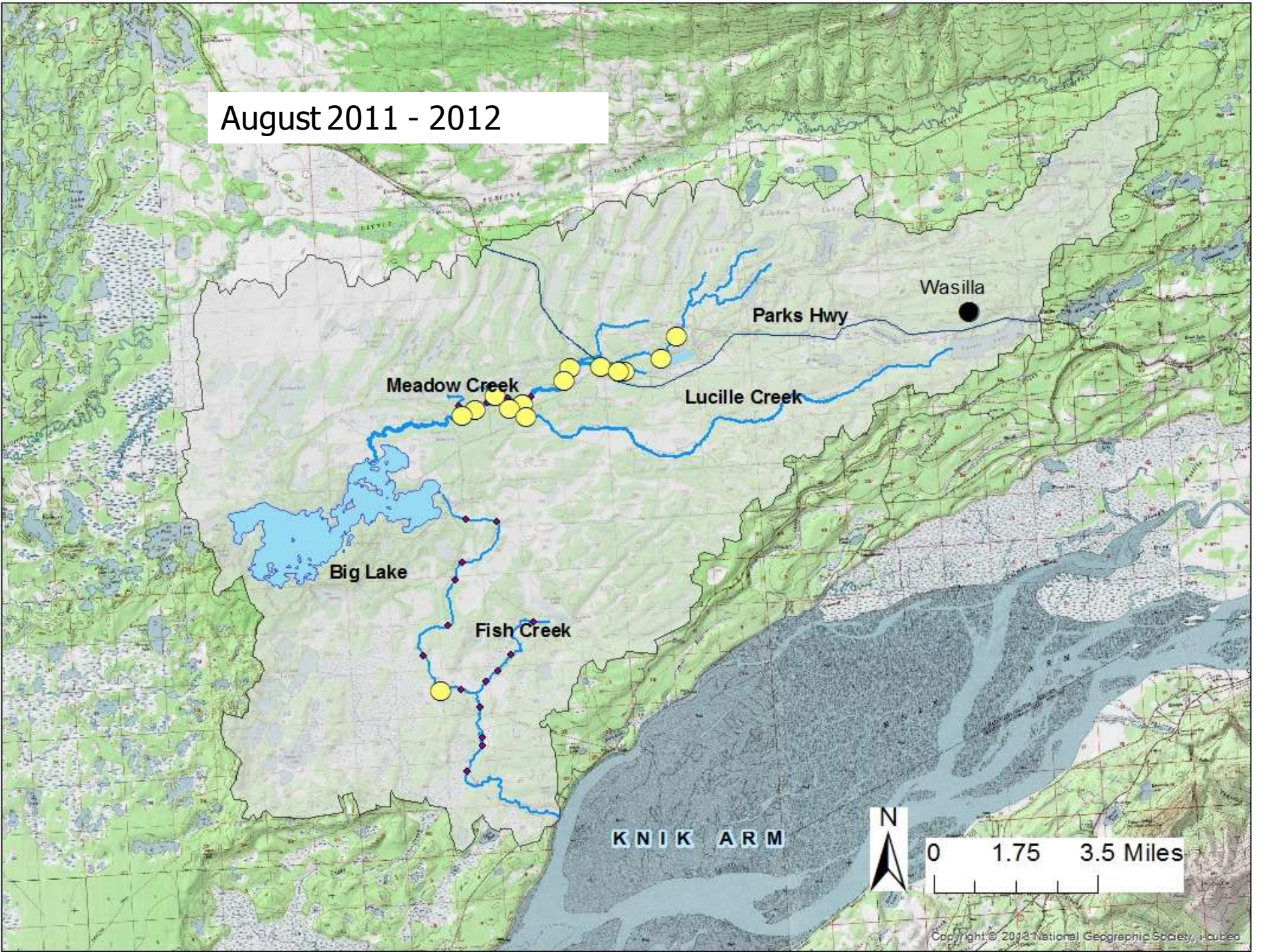
Fish Creek

KNIK ARM

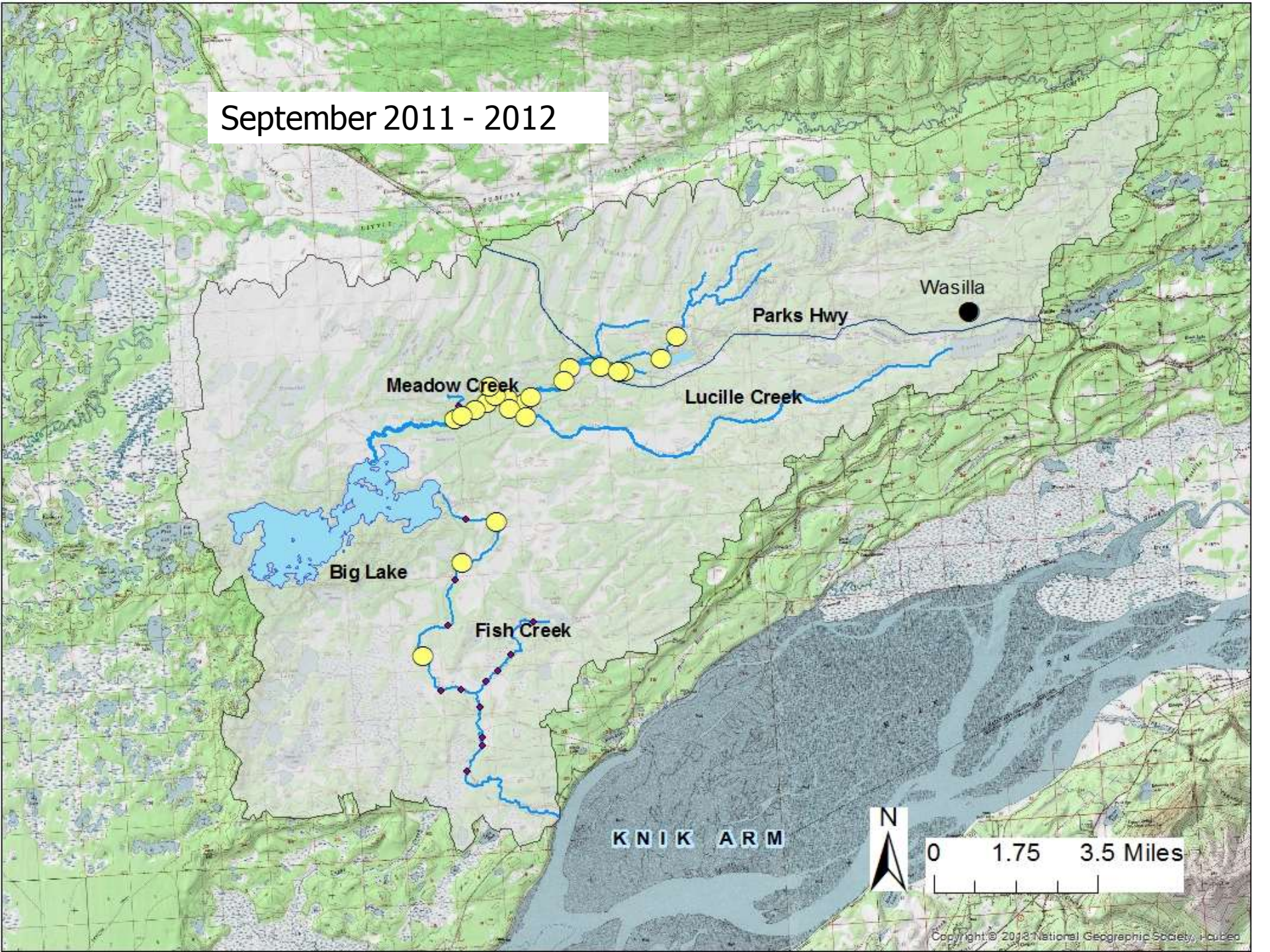


0 1.75 3.5 Miles

August 2011 - 2012



September 2011 - 2012



Wasilla

Parks Hwy

Meadow Creek

Lucille Creek

Big Lake

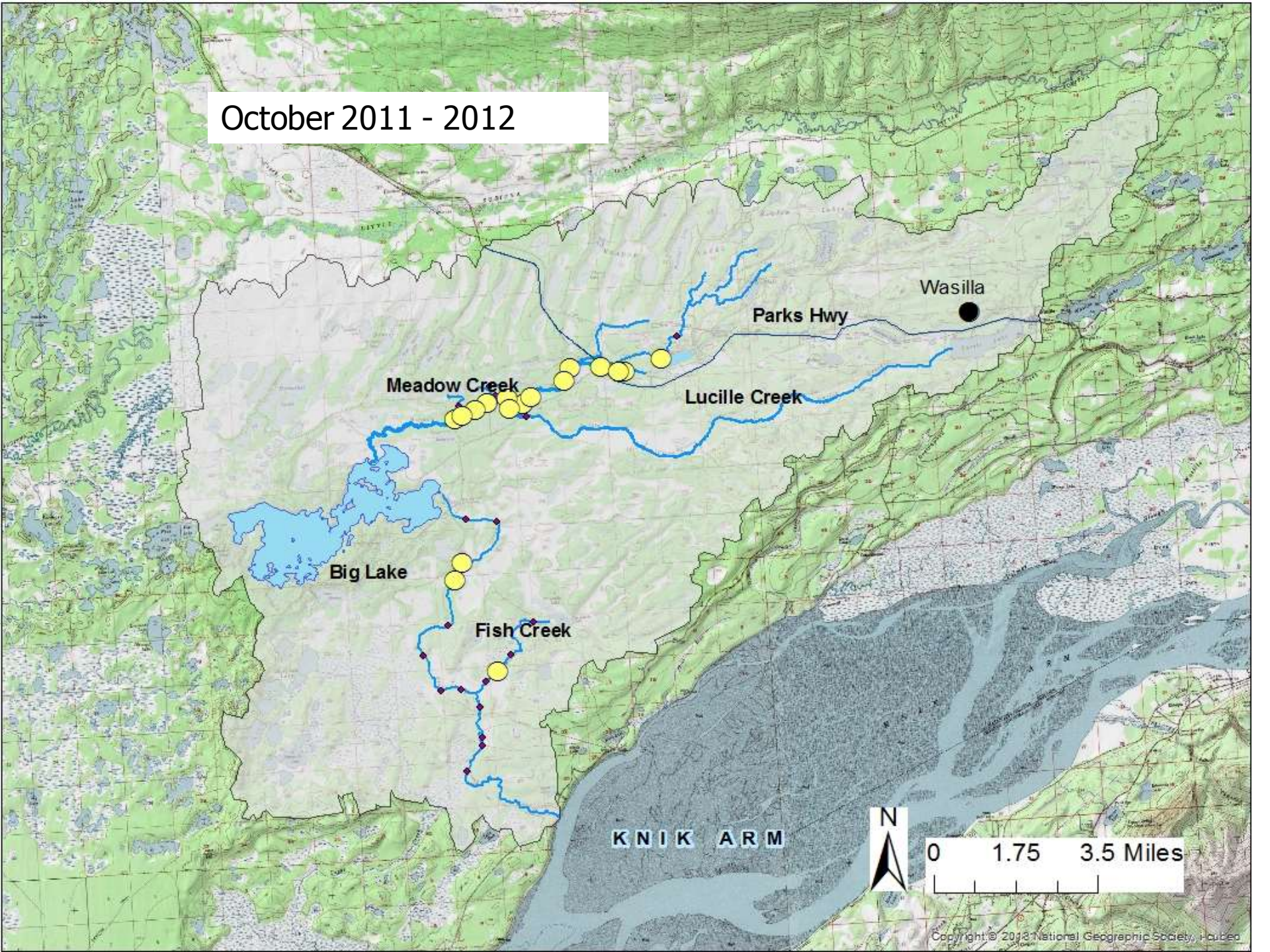
Fish Creek

KNIK ARM

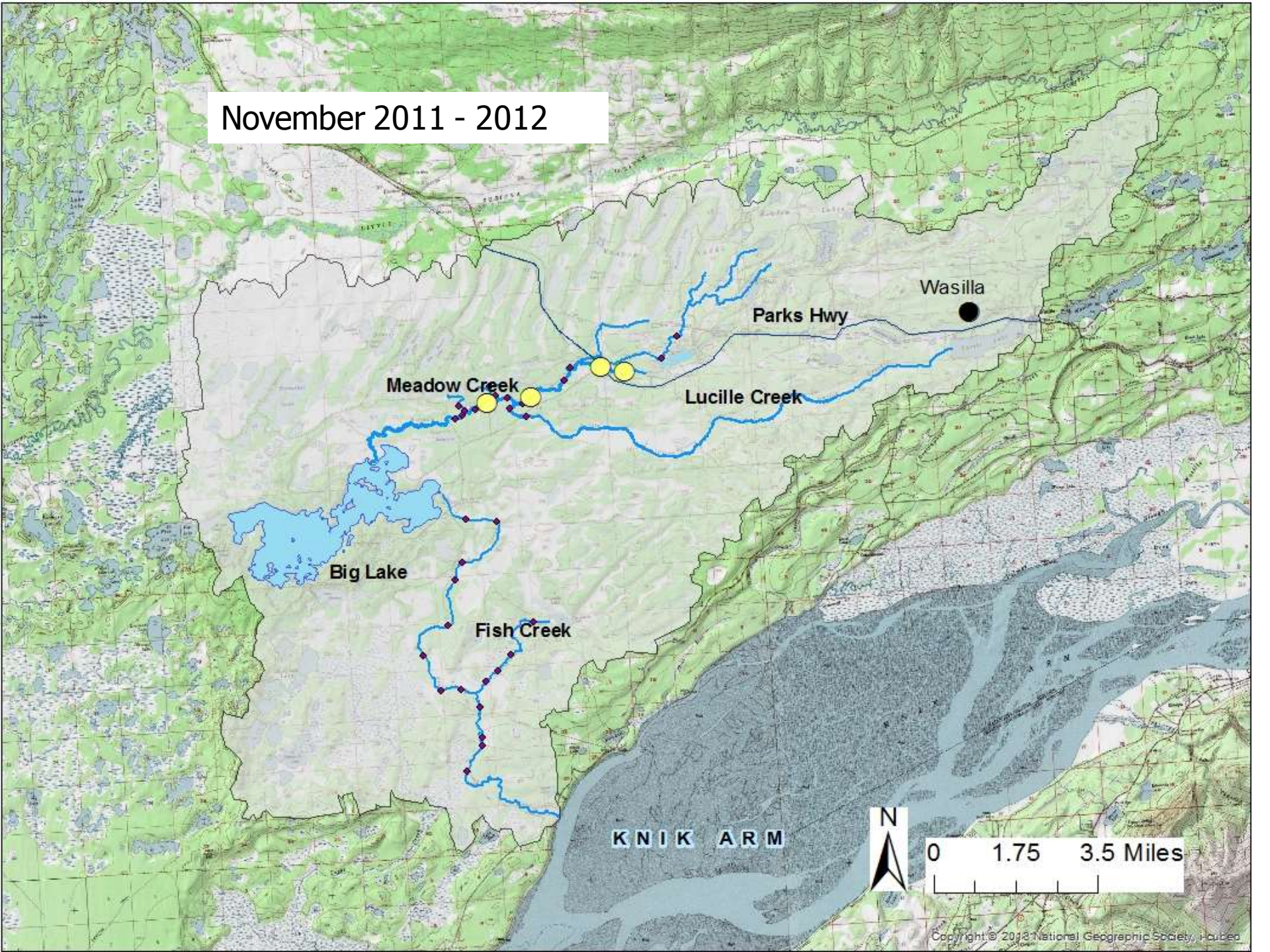


0 1.75 3.5 Miles

October 2011 - 2012



November 2011 - 2012



Wasilla

Parks Hwy

Meadow Creek

Lucille Creek

Big Lake

Fish Creek

KNIK ARM



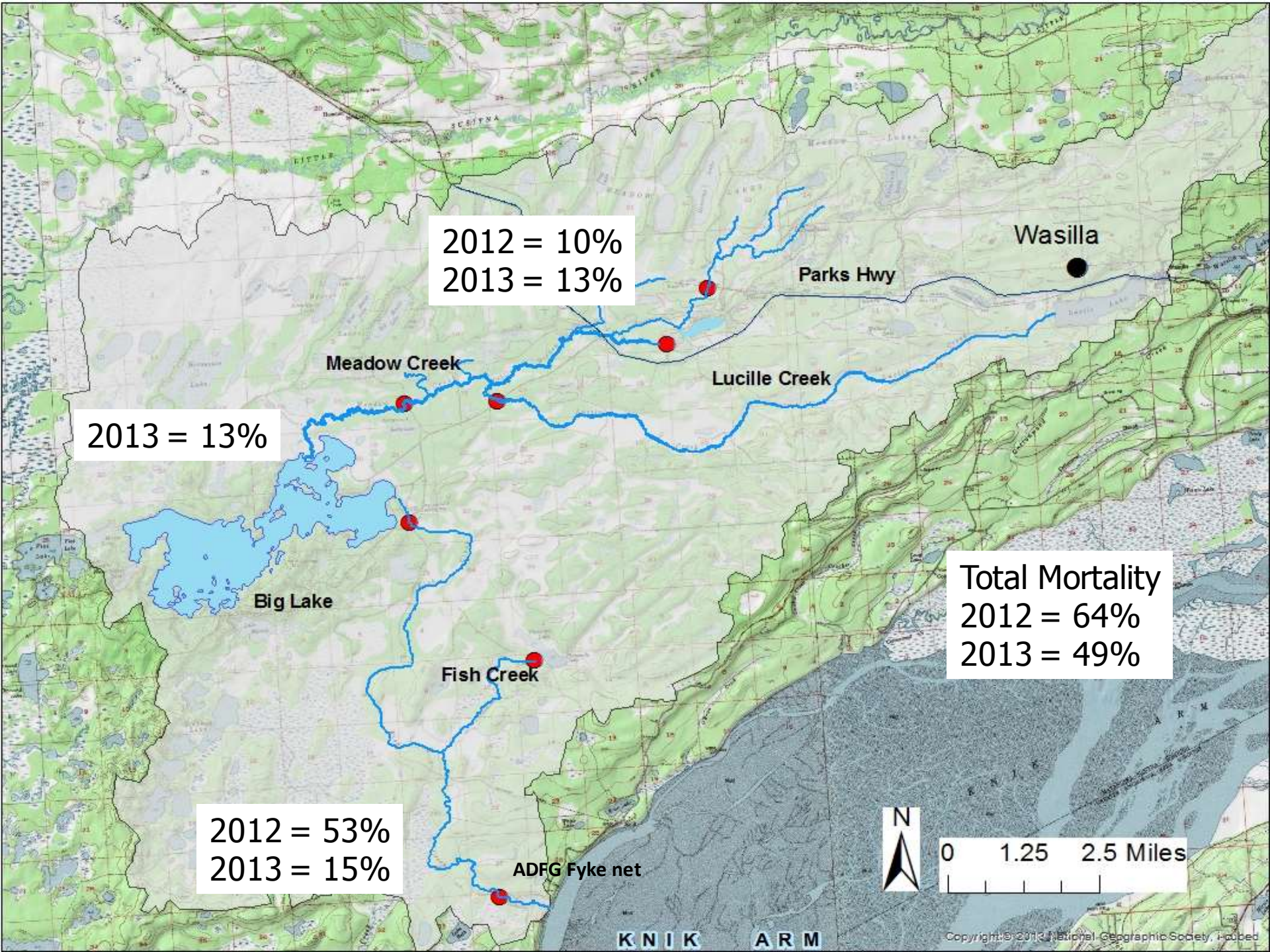
0 1.75 3.5 Miles



Results - Downstream movement

- Distance from Herkimer to ADFG fyke net = 40 rkm.
- Avg downstream migration rate = 2.8 rkm/day.





2012 = 10%
2013 = 13%

Wasilla

Parks Hwy

Meadow Creek

Lucille Creek

2013 = 13%

Big Lake

Fish Creek

Total Mortality
2012 = 64%
2013 = 49%

2012 = 53%
2013 = 15%

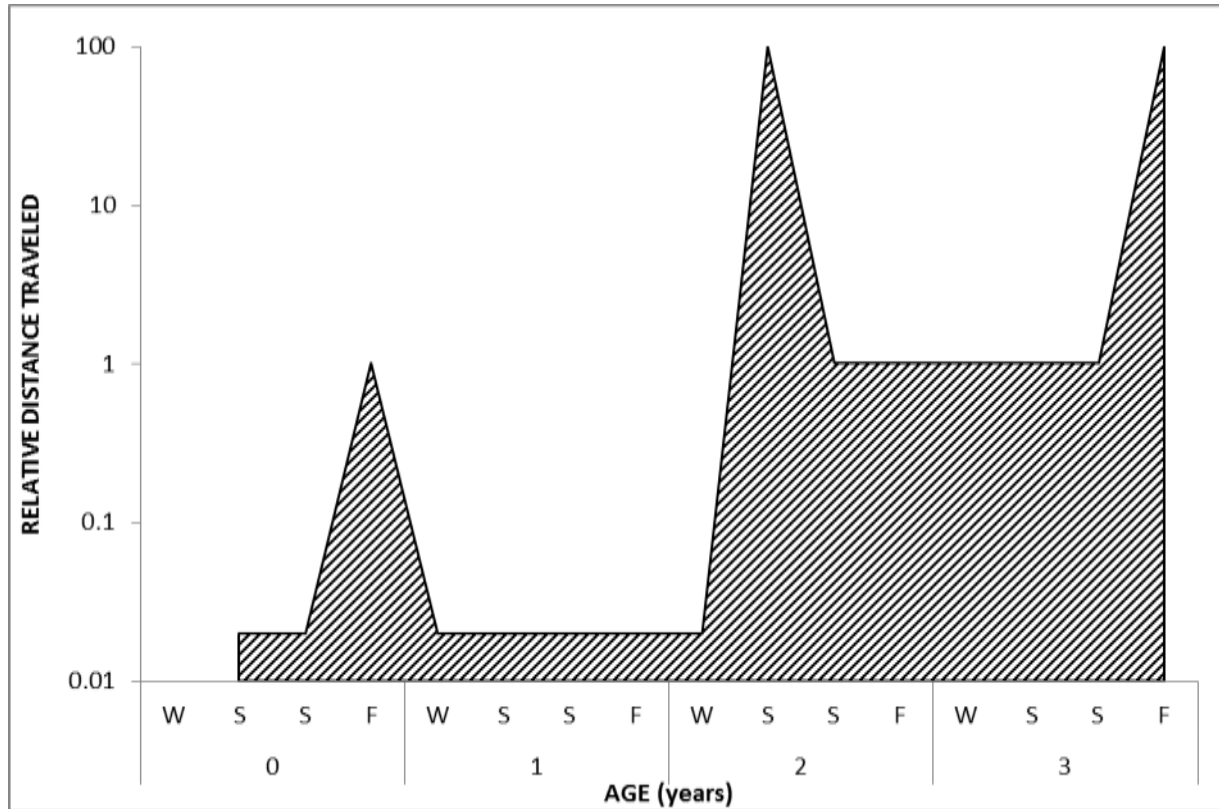
ADFG Fyke net



0 1.25 2.5 Miles



Herkimer Migration Life History





Results compared – Herkimer

Location	Distance	2012		
		Mortality Rate	Avg smolt length	Avg smolt wt
Herkimer	40 rkm	64%	127 mm	20 g
Railroad	42 rkm	59%	138 mm	26 g
Lucille	34 rkm	67%	135 mm	25 g





Conclusions

- Juvenile coho salmon can exhibit extensive movements.
- Mortality is variable between years
- Lakes have value for overwintering but don't have equal value





Acknowledgements

- **Partners**
 - ADFG
 - Local Landowners
- **Funding**
 - AKSSF
- **Field Crew**
 - Josh Ashline, Steve Schwartz, Coby Sims, Phillip Taylor, Veronica Corbett, Laura Smith, Casey Smith, Casey Balthrop, Adam Jaeckel, Kevin Foley, Caroline Walls, Jennifer Gregory

