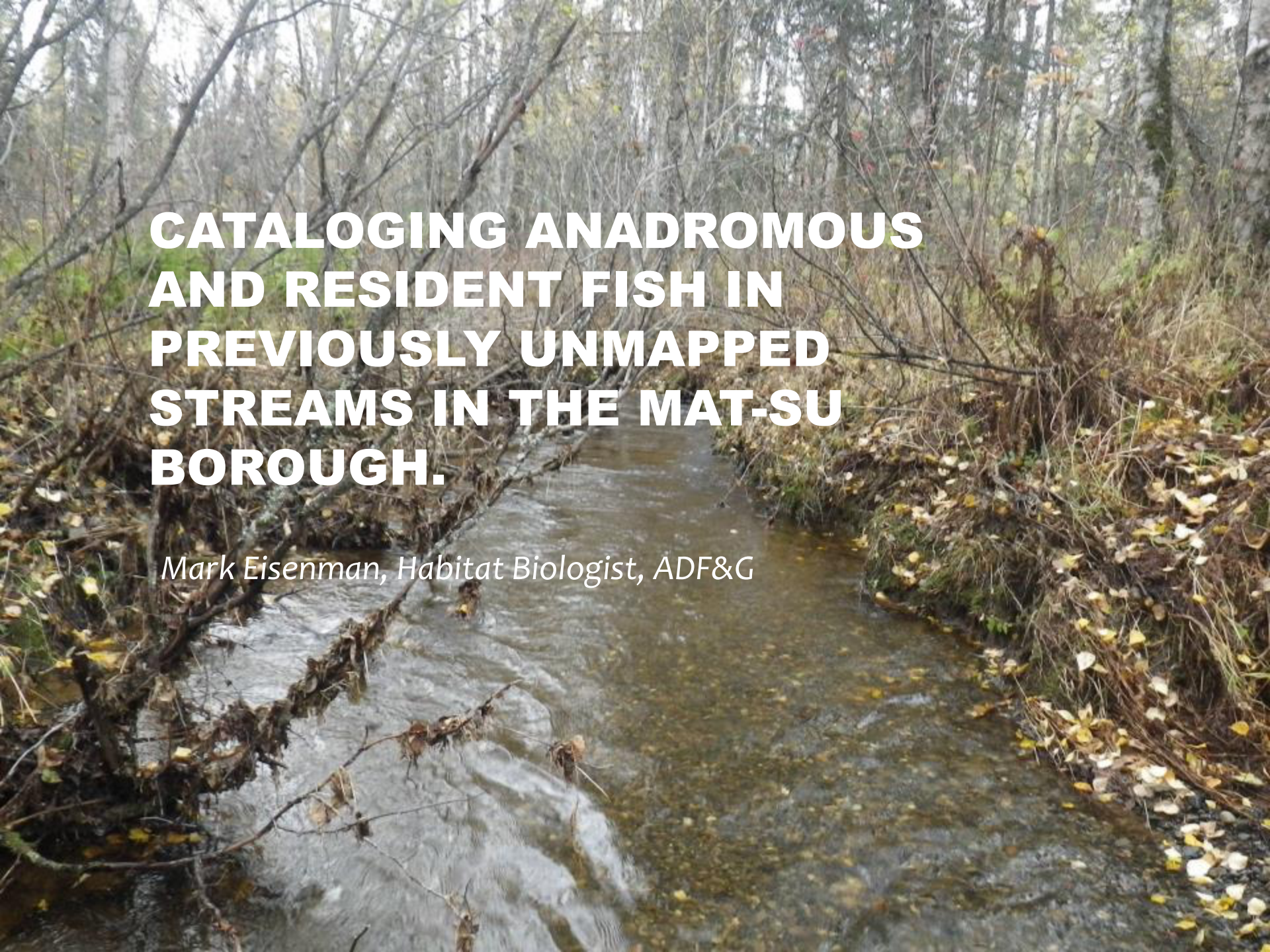


CATALOGING ANADROMOUS AND RESIDENT FISH IN PREVIOUSLY UNMAPPED STREAMS IN THE MAT-SU BOROUGH.

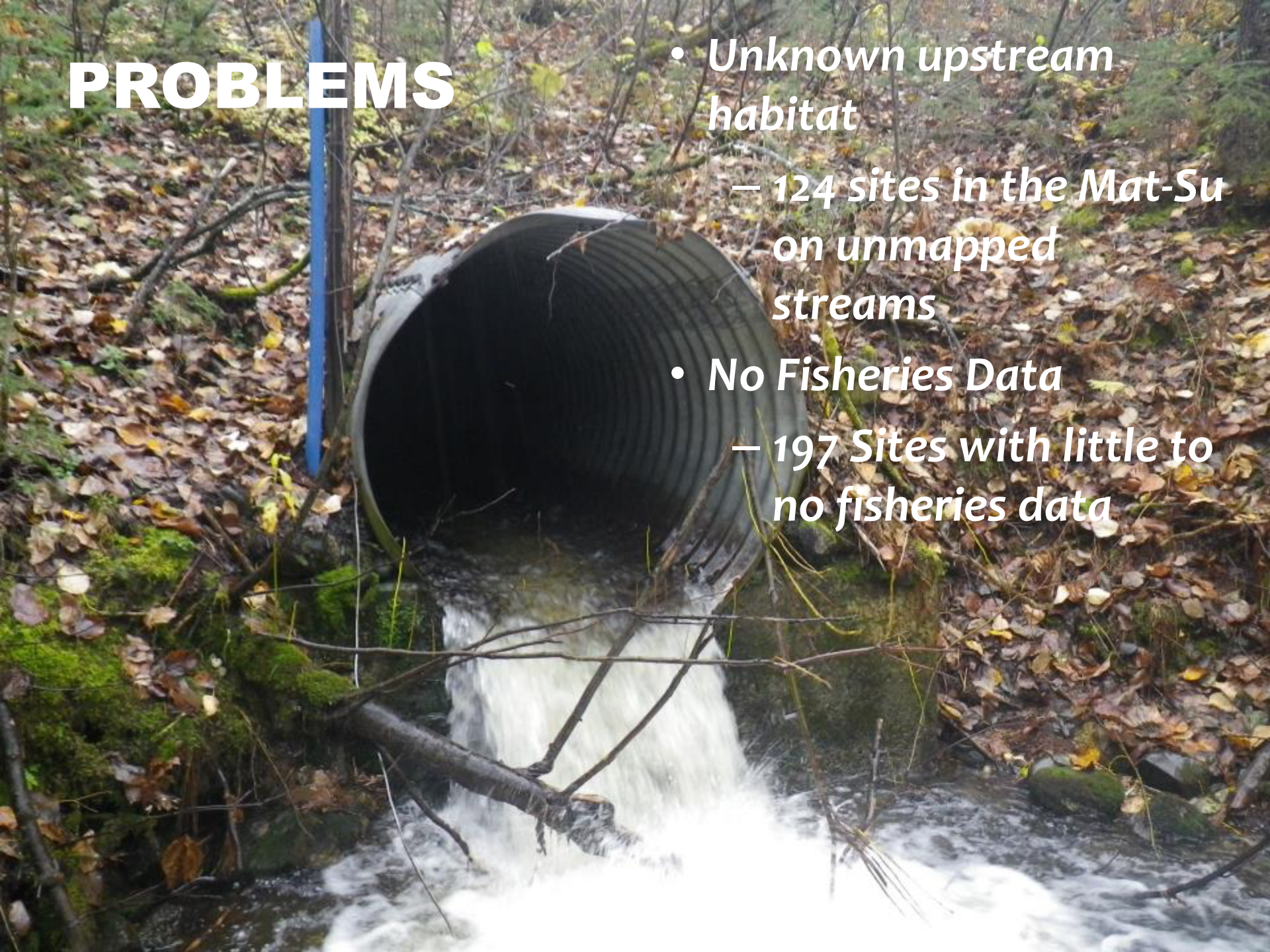
Mark Eisenman, Habitat Biologist, ADF&G

A LITTLE BACKGROUND

- *2009-2011 Fish Passage Assessment of Culverts within the MSB.*
  - *395 sites were assessed.*
- *Currently there are 572 Assessed Culverts in the Mat-Su*
  - *272 Red*
  - *102 Gray*
  - *185 Green*
  - *13 Black*

A LITTLE BACKGROUND

- *Initial Prioritization*
  - *Replaced 10 Culverts*
  - *>30 miles of upstream habitat made available*
- *New Optimization Model*
  - *Replacement Cost*
  - *Fisheries Data*
  - *Available Upstream Habitat*
  - *Other Barriers*

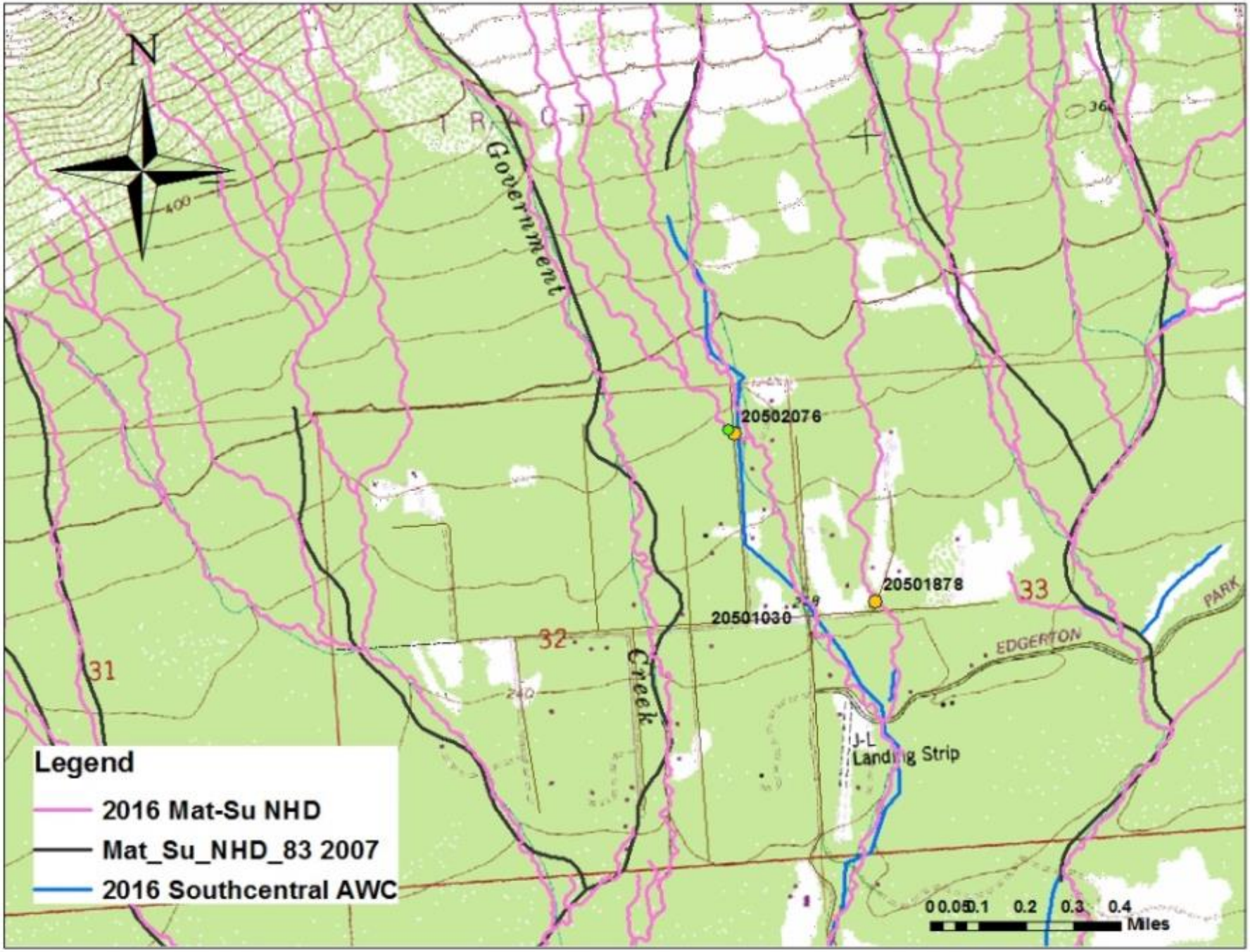


PROBLEMS

- *Unknown upstream habitat*
  - *124 sites in the Mat-Su on unmapped streams*
- *No Fisheries Data*
  - *197 Sites with little to no fisheries data*

SOLUTIONS

- *Upstream habitat*
  - *Use the new NHD flowlines created from the 2011 Mat-Su LiDAR imagery.*


N
Government
Creek
20502076
20501878
20501030
33
32
31
EDGERTON
PARK
J-L
Landing Strip
Legend
2016 Mat-Su NHD
Mat_Su_NHD_83 2007
2016 Southcentral AWC
0 0.05 0.1 0.2 0.3 0.4
Miles

SOLUTIONS

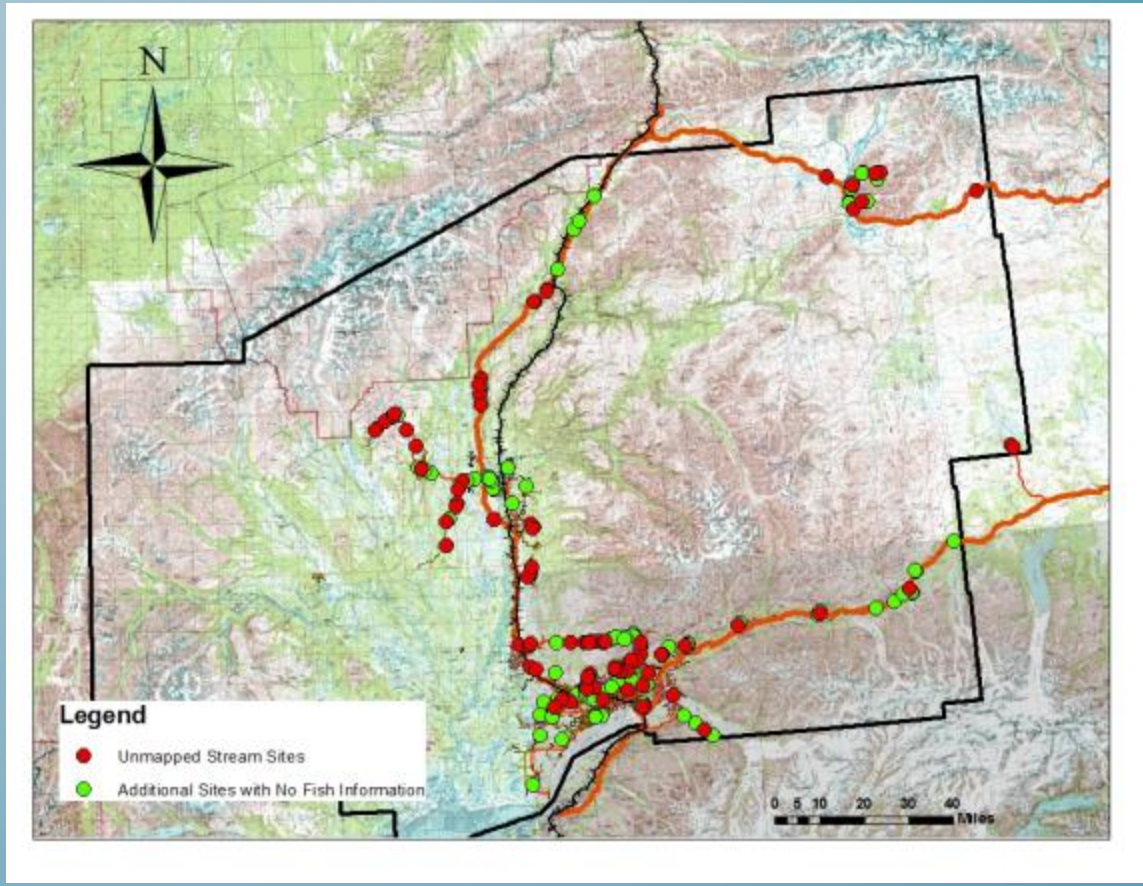
- *Fisheries Data Gaps*
  - *Sample unmapped sites and sites with no fisheries data using a backpack electrofisher and/or baited minnow traps.*

THE GOAL

- *Strategic Action Plan of the Mat-Su Basin Salmon Habitat Partnership*
- *Objective 1.1 – The Anadromous Waters Catalog*
  - *Strategic Action 1.1.1 – Complete the AWC*
  - *Objective 2.1 - Identification of Priority Riparian Areas for Salmon*
  - *Objective 2.2 – Protection of Priority Salmon Riparian Habitat*
- *Objective 1.2 - Habitat Quality : Establishing which waters are important habitat for salmon rearing, spawning, and overwintering*
- *Objective 4.2 – Fish Passage Restoration*

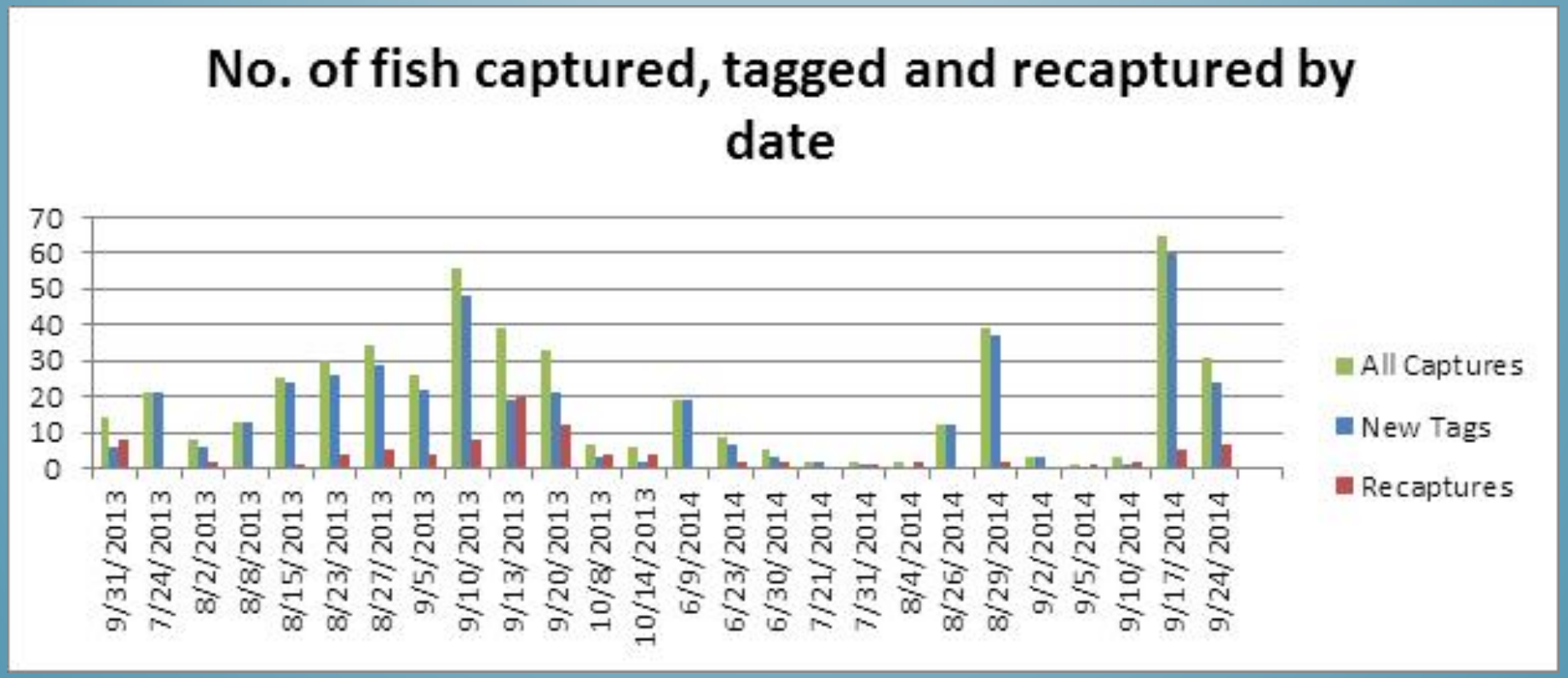
THE GOAL

- *Sample 50-60 Unmapped streams and as many bonus sites without fish information as possible.*
- *Submit all sampling results to the Alaska Freshwater Fish Inventory.*
- *Nominate all streams and lakes where anadromous fish were found to the Anadromous Waters Catalog.*
- *Update the Optimization Model with new fisheries data.*



SAMPLING

- *Occurred Mid-August through September*



2 years of fish trapping at the Buddy Creek PIT Tagging Project

RESULTS

104 Sites Sampled

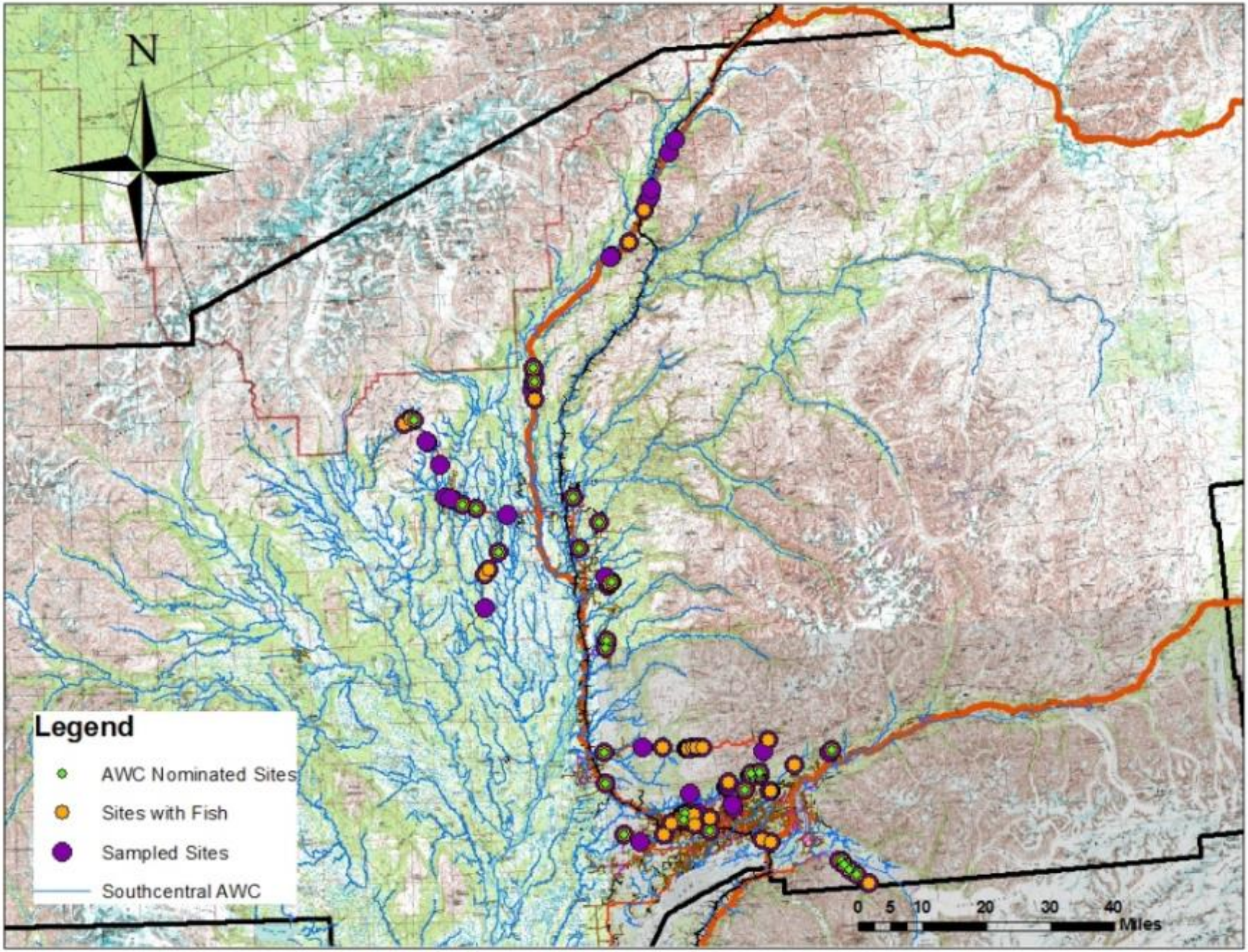
- 45 Unmapped

64 Sites had fish captured (62%)

- 25 Unmapped

31 Sites had salmon captured (30%)

- 14 Unmapped


N
Legend
AWC Nominated Sites
Sites with Fish
Sampled Sites
Southcentral AWC
0 5 10 20 30 40
Miles

RESULTS

Fish Captured	Number of Sites	% of Sites Sampled
Coho Salmon	30	28.85%
Dolly Varden	24	23.08%
Three Spine Stickleback	15	14.42%
Sculpin (unid)	11	10.58%
Rainbow Trout	7	6.73%
Chinook Salmon	3	2.88%
Nine Spine Stickleback	3	2.88%
Blackfish	3	2.88%
Sockeye Salmon	1	0.96%
Lamprey	1	0.96%
Pike	1	0.96%
Burbot	1	0.96%
Grayling	1	0.96%
Total number of sites sampled n=104		

RESULTS

21.39 Miles of Streams Nominated to the Anadromous Waters Catalog

- 11.34 Miles from Unmapped Streams

171.25 Acres of Lakes Nominated to the Anadromous Waters Catalog

- 134.16 Acres from Unmapped Streams

ANADROMOUS WATERS CATALOG NOMINATIONS

State of Alaska
Department of Fish and Game
Division of Sport Fish

Fish Survey
Nomination Form
Anadromous Waters Catalog

Region: South Central **USGS Quad:** Anchorage C-2
Anadromous Waters Catalog Number of Waterway:
Name of Waterway: Unnamed stream ☐ **USGS Name** ☐ **Local Name**
☑ **Addition** ☐ **Deletion** ☐ **Correction** ☐ **Backup Information**

For Office Use

Nomination # ______		______ **Fisheries Scientist**	______ **Date**
Revision Year: ______		______ **Habitat Operations Manager**	______ **Date**
Revision to: **Atlas** ___ **Catalog** ___ **Both** ___		______ **AWC Project Biologist**	______ **Date**
Revision Code: ______		______ **GIS Analyst**	______ **Date**

Site Information **Station:** MSH1620502?? **Date Observed:** 10/?2/2016 **Legal Desc.:** S01??N01?E

	Latitude:	Longitude:	Datum:
Up Stream	61.69921	-149.30199	WGS84
Down Stream	61.69907	-149.30063	WGS84

Station Comments: Survey 20903?76. This site was accessed by North Wasilla Road ??.

Life History: Anadromous
Species/LifeStage: coho salmon juvenile **Sampling Method (No. of fish):** S24 (3) VOG (1)

Life History: Unknown
Species/LifeStage: Dolly Varden juvenile/adult **Sampling Method (No. of fish):** S24 (3)

Key to Sample Method
(S24) Smith-Root LR-24 (VOG) Visual Observation, Ground

Additional Comments: Adding new AWC stream with CO.

Name of Observer: Mark Eisenman, Habitat Biologist Phone: (907) 267-2591 Date Printed: 11/8/2016

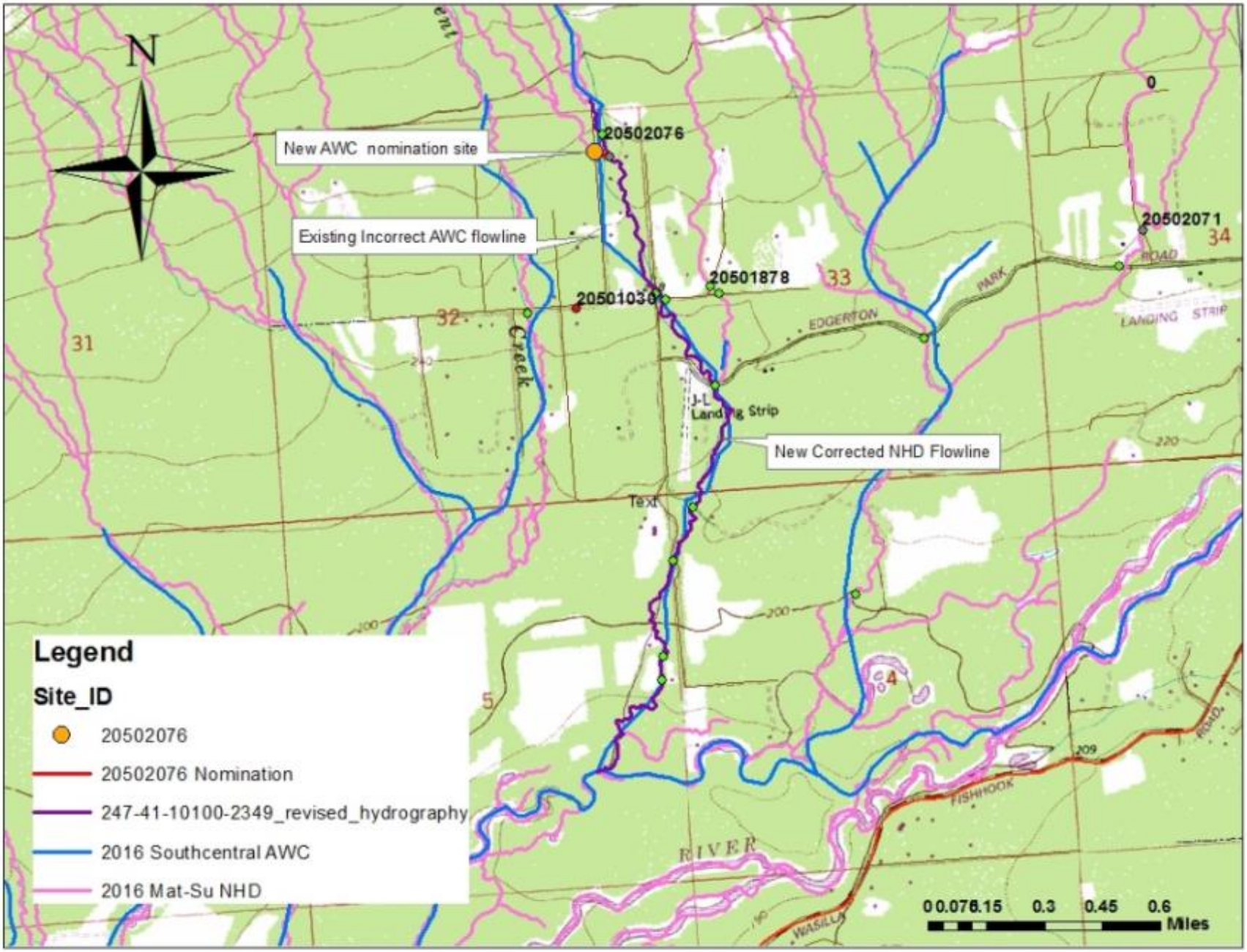
Signature: ......

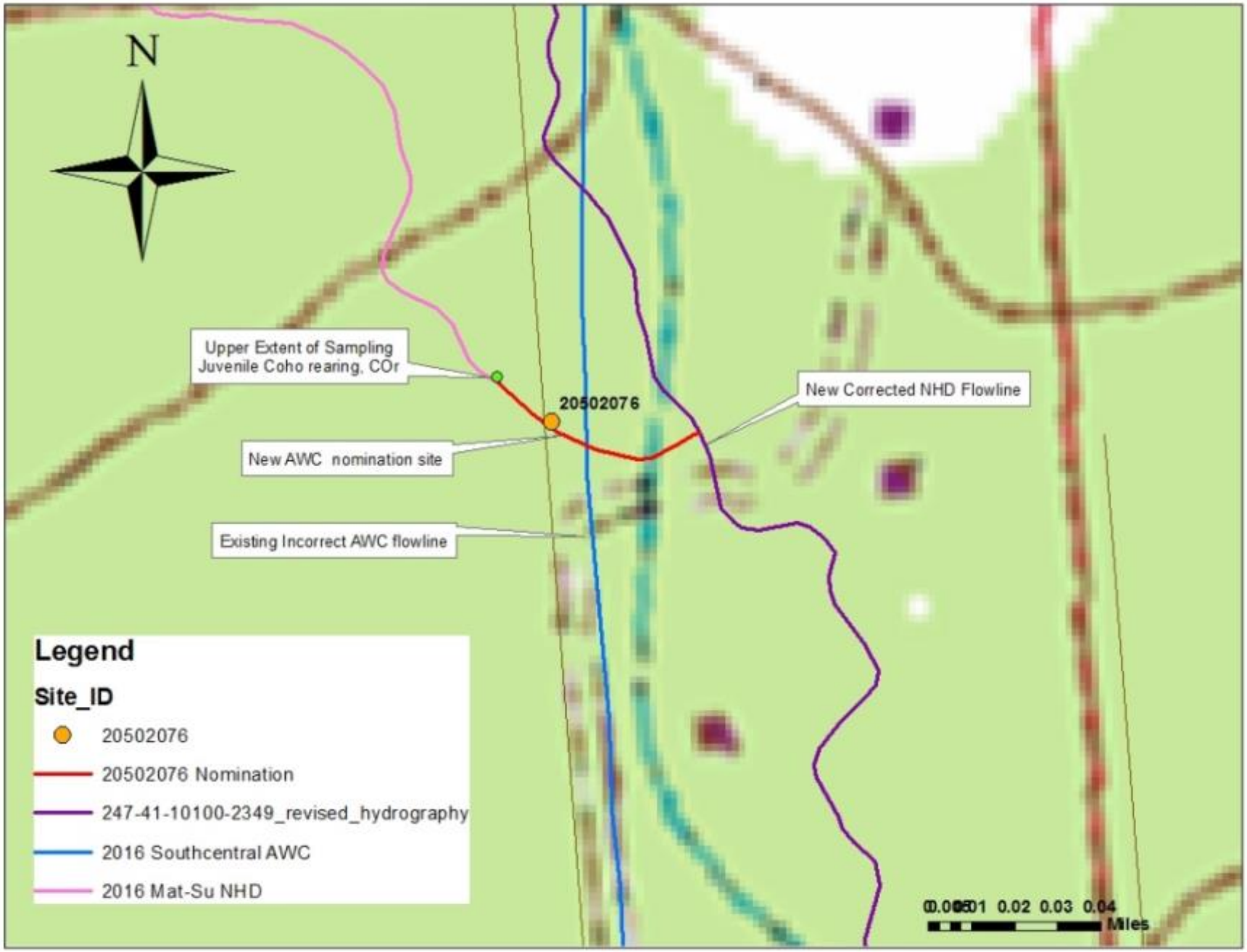
Address: Alaska Department of Fish and Game, Sport Fish - Anchorage
333 Raspberry Rd
Anchorage, AK 99518

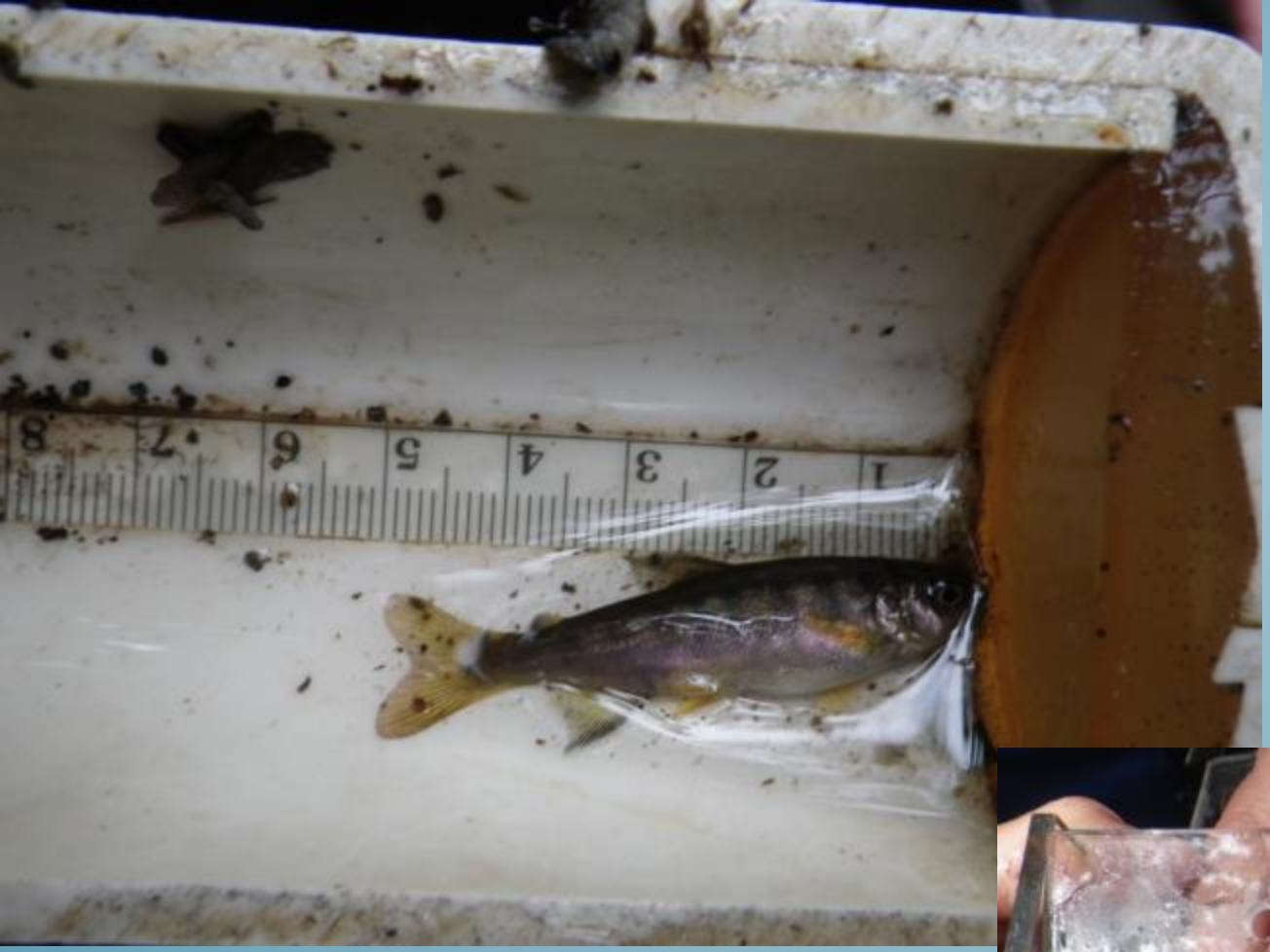
This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Anadromous Waters Catalog

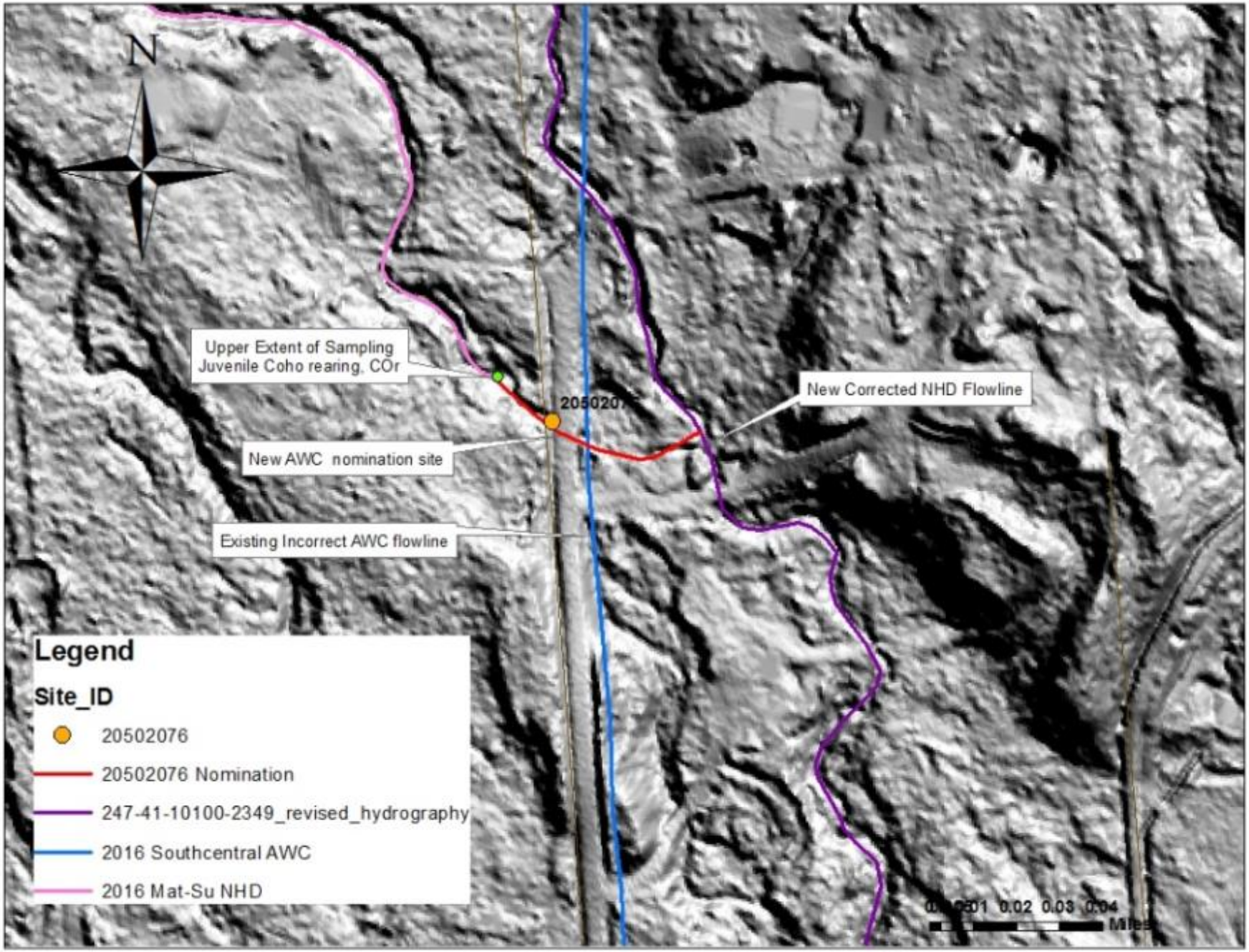
Signature of Area Biologist: ______ **Date:** ______

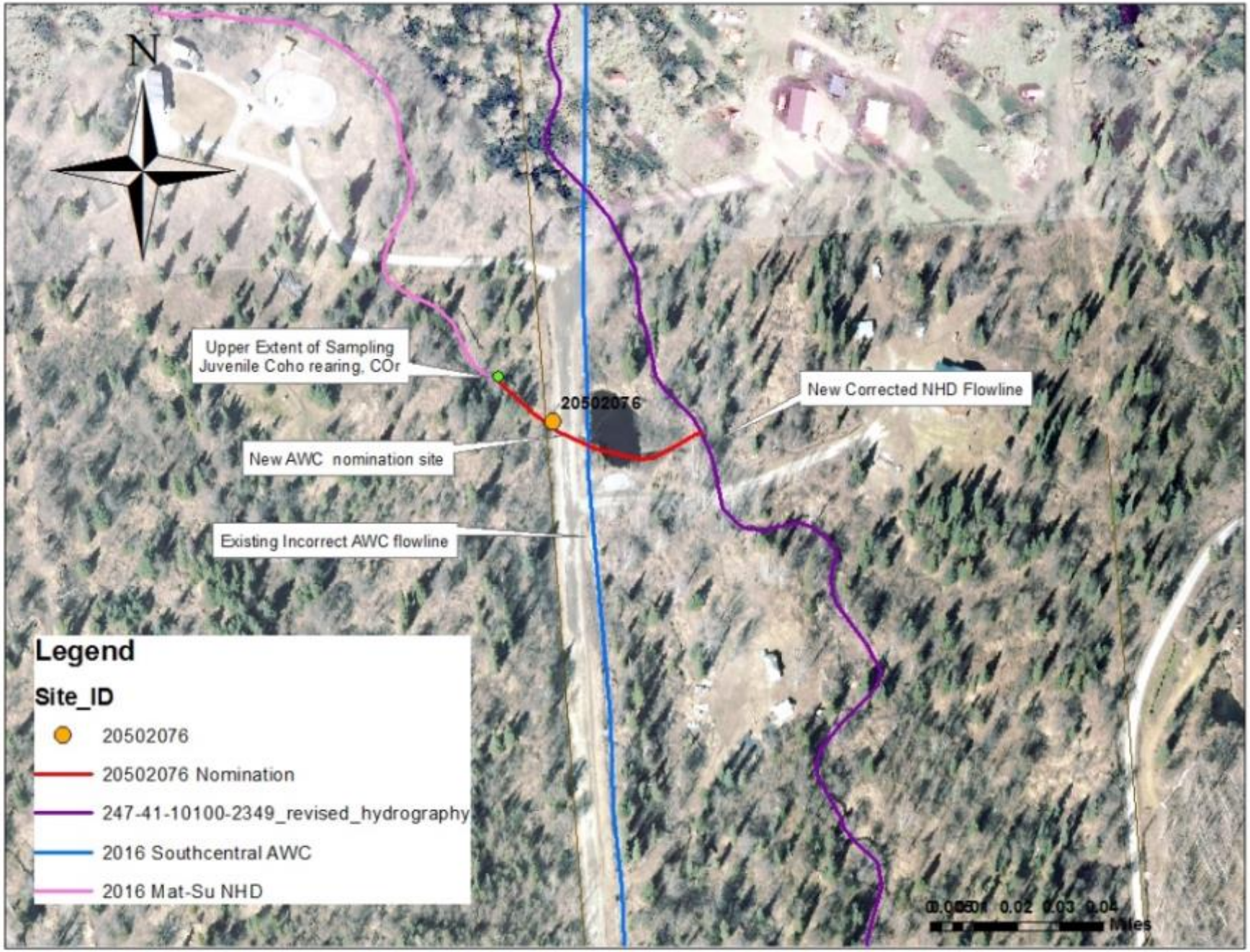
USING THE NEW NHD FOR AWC NOMINATIONS


N
New AWC nomination site
20502076
Existing Incorrect AWC flowline
20501878
20501030
20502071
New Corrected NHD Flowline
Legend
Site_ID
20502076
20502076 Nomination
247-41-10100-2349_revised_hydrography
2016 Southcentral AWC
2016 Mat-Su NHD
0 0.075 0.15 0.3 0.45 0.6
Miles


N
Upper Extent of Sampling
Juvenile Coho rearing, COr
20502076
New Corrected NHD Flowline
New AWC nomination site
Existing Incorrect AWC flowline
Legend
Site_ID
20502076
20502076 Nomination
247-41-10100-2349_revised_hydrography
2016 Southcentral AWC
2016 Mat-Su NHD
0.01 0.02 0.03 0.04
Miles




N
Upper Extent of Sampling
Juvenile Coho rearing, COr
New Corrected NHD Flowline
New AWC nomination site
Existing Incorrect AWC flowline
Legend
Site_ID
20502076
20502076 Nomination
247-41-10100-2349_revised_hydrography
2016 Southcentral AWC
2016 Mat-Su NHD
0.02
0.03
0.04
Miles


N
Upper Extent of Sampling
Juvenile Coho rearing, COr
20502076
New Corrected NHD Flowline
New AWC nomination site
Existing Incorrect AWC flowline
Legend
Site_ID
20502076
20502076 Nomination
247-41-10100-2349_revised_hydrography
2016 Southcentral AWC
2016 Mat-Su NHD
0.02
0.03
0.04
Miles

2016 MSB AWC STATISTICS

- *869 AWC streams documented in the MSB*
  - *383 salmon present (44%)*
  - *665 salmon rearing (77%)*
  - *342 salmon spawning (39%)*
- *7,654km (4,576 miles) of AWC stream in the MSB*
- *130 sq.km. (49 sq.miles) of AWC Lakes or 13000 Hectares (31,360 acres)*
- *Salmon in Streams*
  - *Coho – 694 (80%)*
  - *Chinook - 353 (41%)*
  - *Sockeye – 229 (26%)*
  - *Pink – 118 (14%)*
  - *Chum – 109 (13%)*

ACKNOWLEDGMENTS

- *We would like to thanks the US Fish and Wildlife Service, National Fish Habitat Partnership, Mat-Su Salmon Partnership for funding this project.*

- *We would also like to thank everyone who contributed to this project: Raye Anne Neustel, Tom Cappiello, Gillian O'Doherty, and Holly Zafian.*


QUESTIONS?