

Mat-Su Basin Salmon Habitat Partnership: Achievements and Going Forward



**Bill Rice, PE, U.S. Fish and Wildlife
Service**



**Mat-Su Salmon Science and Conservation
Symposium, Palmer, Alaska
November 9, 2017**

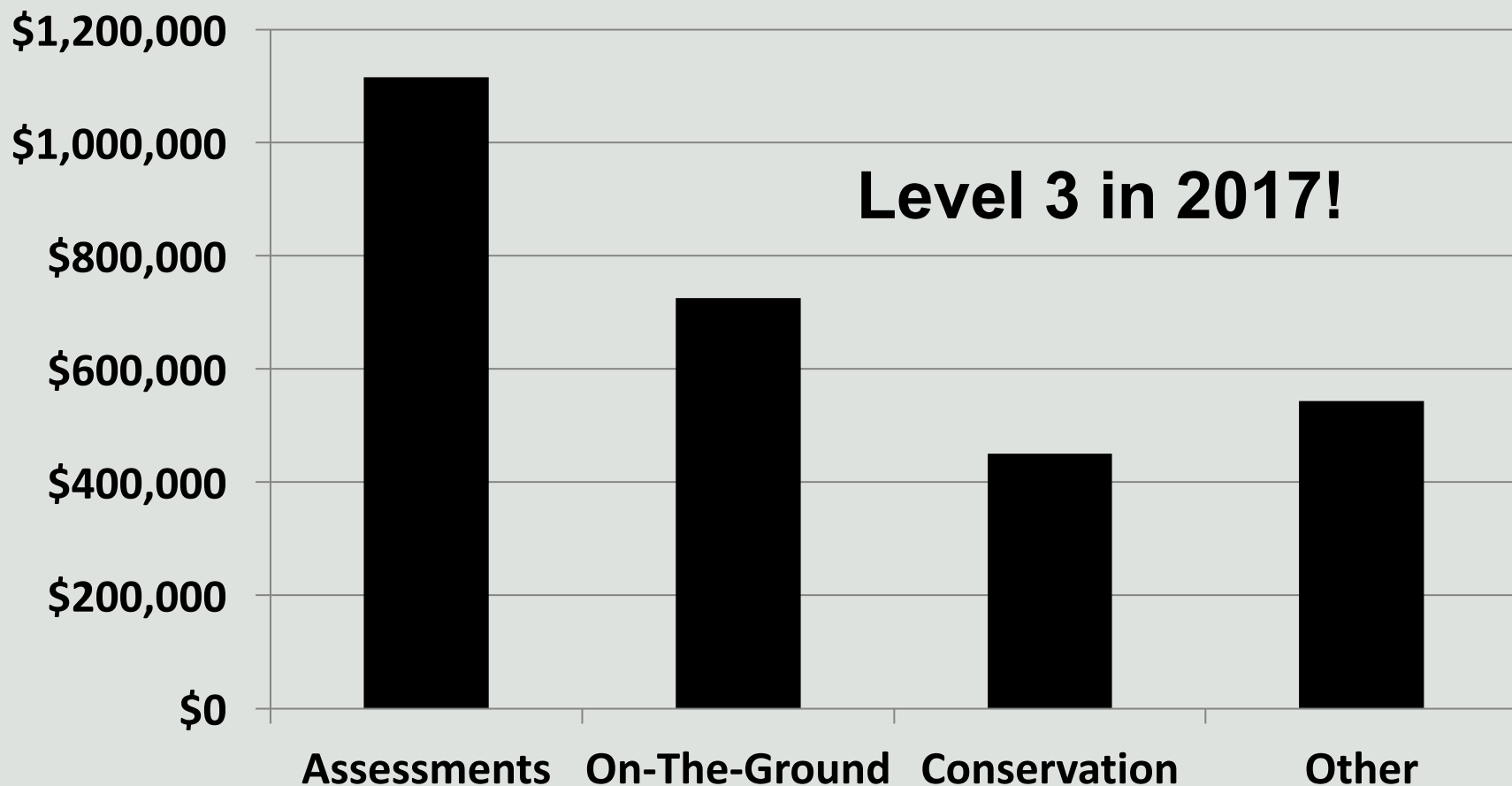
“Thriving Fish, Healthy Habitats & Vibrant Communities Can Co-exist in the Mat-Su”

Category	Total #	Percentage
Non-profit	22	34%
Governmental (local, state, federal)	18	28%
Business (including consultants)	10	16%
Tribal	5	8%
Fishing (interest groups & guides)	5	8%
Academic	1	2%
Private Individual	3	5%
	64	100%



NFHP Funding Over Time

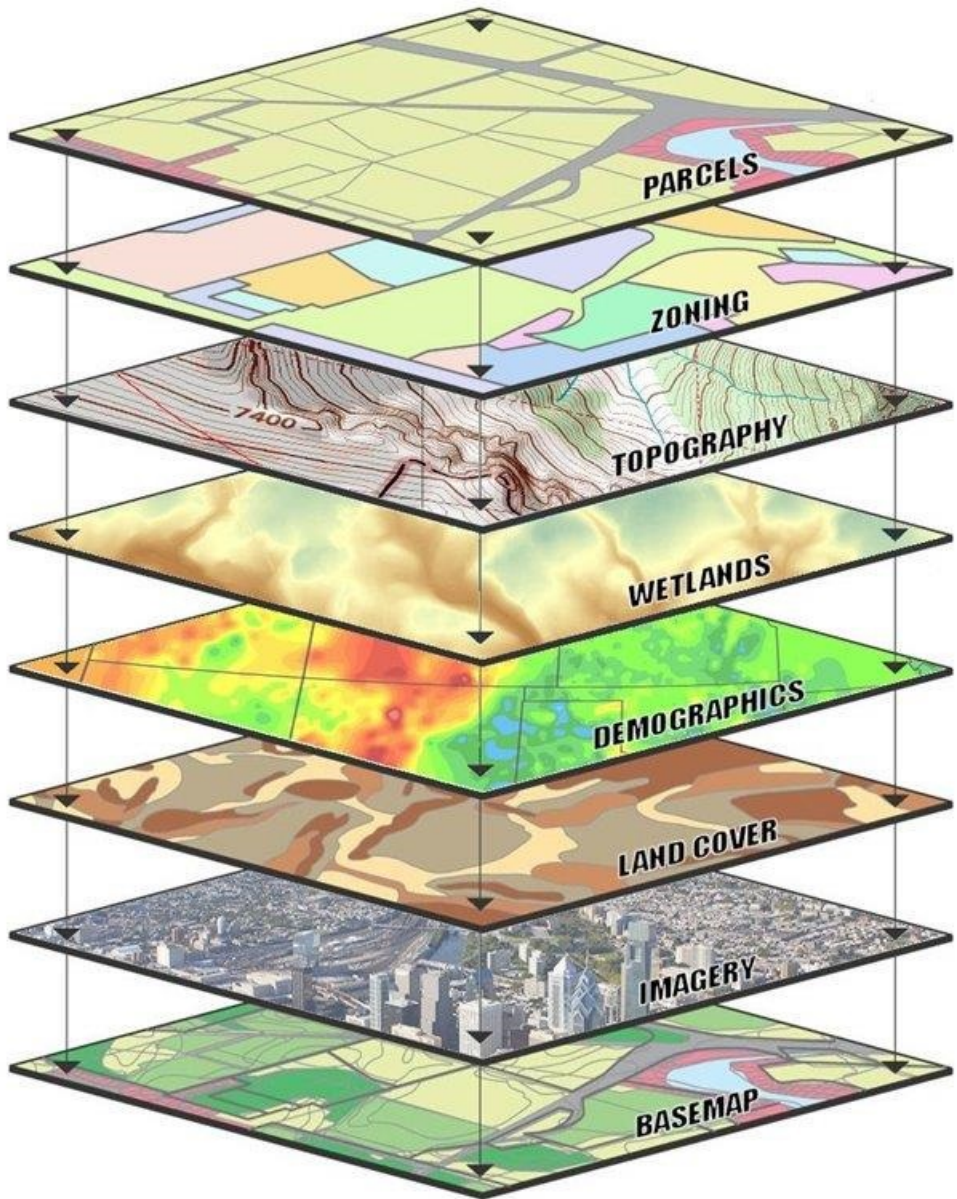
- **\$2.8 million NFHP Funds**
- **\$6.2 million match**
- **83 Projects**



Conservation Strategies

- 1. Overarching Science Strategies**
- 2. Alteration of Riparian Areas**
- 3. Climate Change**
- 4. Culverts that Block Fish Passage**
- 5. Filling of Wetlands**
- 6. Impervious Surfaces & Stormwater**
- 7. Aquatic Invasive Species**
- 8. Large-scale Resource Development**
- 9. Loss or Alteration of Water Flow/Volume**
- 10. Loss of Estuaries & Nearshore Habitats**
- 11. Motorized Off-road Recreation**
- 12. Wastewater Management**

1. Overarching Science Strategies



Informed Decisions



- **Salmon!!**
- **Streams**
- **Watersheds**
- **Wetlands**
- **Land Cover**
- **Topography**
- **Imagery**
- **Groundwater**

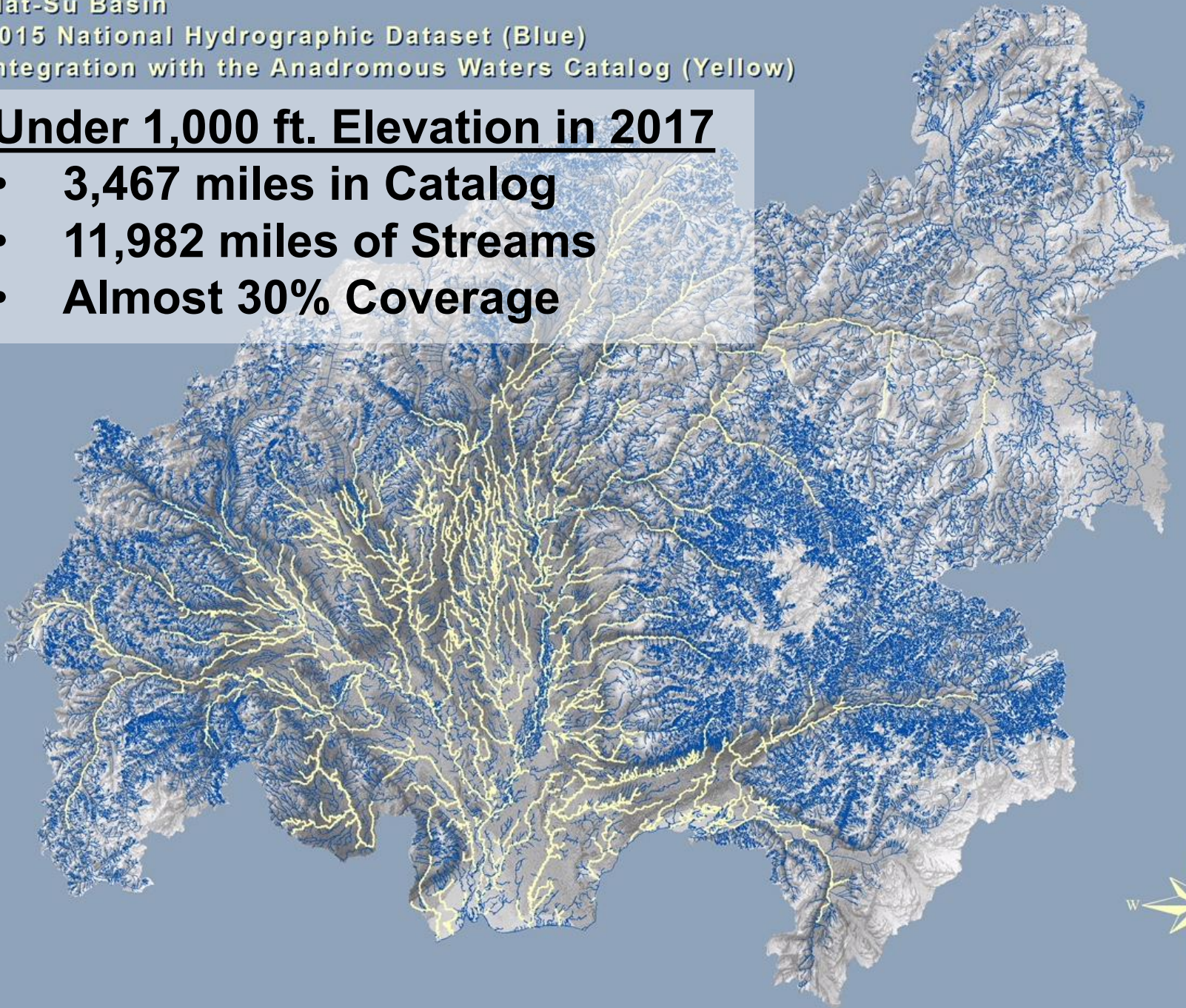
Mat-Su Basin

2015 National Hydrographic Dataset (Blue)

Integration with the Anadromous Waters Catalog (Yellow)

Under 1,000 ft. Elevation in 2017

- **3,467 miles in Catalog**
- **11,982 miles of Streams**
- **Almost 30% Coverage**




Partnership Progress - Science

USGS
science for a changing world

Prepared in cooperation with the Chickaloon Village Traditional Council


Distribution, Persistence, and Abundance of Salmon Spawning in the Matanuska River



USGS
science for a changing world

Prepared in cooperation with the Alaska Energy Council

Streamflow Record Extension for the Susitna River Basin, Alaska




Sublim
Max
SuCont

USGS
science for a changing world

Prepared in cooperation with U.S. Fish and Wildlife Service

Baseline Channel Geometry and Aquatic Habitat Data for Selected Streams in the Matanuska-Susitna Valley, Alaska



USGS
science for a changing world

Alaska Department of Natural Resources


Simulation of Flow in the Matanuska-Susitna Valley, Alaska—

Simulation of Flow



Susitna Borough

Assessment of the Matanuska River,



U.S. Fish & Wildlife Service

Inventory of Fish Distribution in Matanuska-Susitna Basin Streams, Southcentral Alaska

U.S. Fish and Wildlife Service

Juvenile Coho Salmon Migration and Use in Meadow Creek, Southcentral Alaska, 2011

Alaska Fisheries Data Series Number 2011-01

U.S. Fish & Wildlife Service

Estimating the Spawning Distribution of Coho Salmon in the Matanuska-Susitna Valley, Alaska

Comparison of Site Fidelity and Growth Rates of Juvenile Salmon between two Stream Types—A Pilot Study


A 2012 Pilot Study Evaluating Juvenile Salmon Use of Knik Arm Estuaries

Monitoring Juvenile Salmon and Resident Fish within the Matanuska-Susitna Basin



Matanuska-Susitna Stormwater Assessment

May through September 2011



Partnership Progress – Science 2016/17


- Increased knowledge of distribution and habitat importance in Big Lake watershed completed.
- Stream temperature monitoring and thermal watershed classification effort (20 sites, metrics for 75)
- Monitoring under the Forest Practices Act shows good results for current logging practice in MatSu.
- Lake Characteristics Monitoring - A set of lakes (10) monitored and final report coming.



Partnership Progress - Science

Anadromous Catalog, 2014

Key to Symbols

 Coho rearing habitats documented in the Anadromous Waters Catalog

What is Mapped

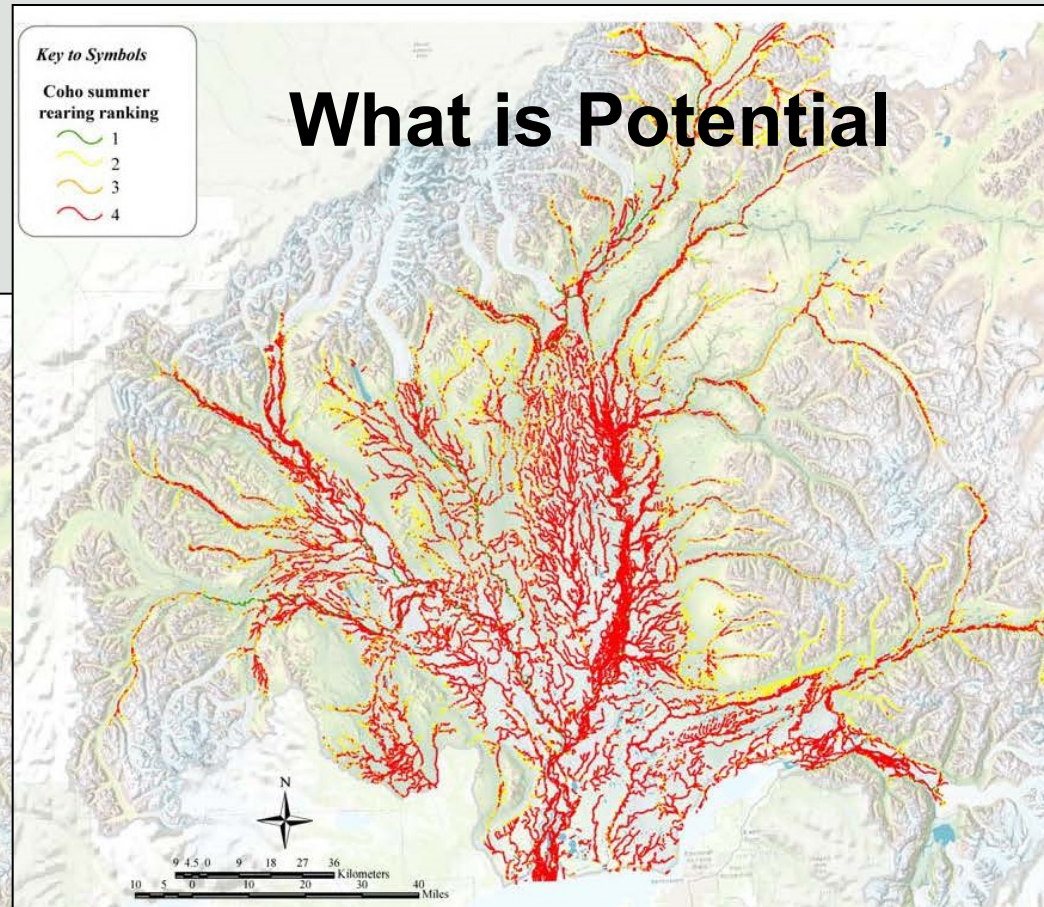


Key to Symbols

Coho summer rearing ranking

-  1
-  2
-  3
-  4

What is Potential



Woll, 2016

Landscape-scale mapping of Pacific salmon and their freshwater habitats in the Mat-Su Basin, Christine Woll, 2016.

2. Riparian Alteration

35 Priority Lakes and Creeks

- 23.3 miles altered (1.4%)
- 2 miles restored (2005-2015)
- 865 ft. (2016-2017)

Restoration Goal per 2013 Plan

- 6,200 ft. goal (5%)
- 15% towards goal as of 2017

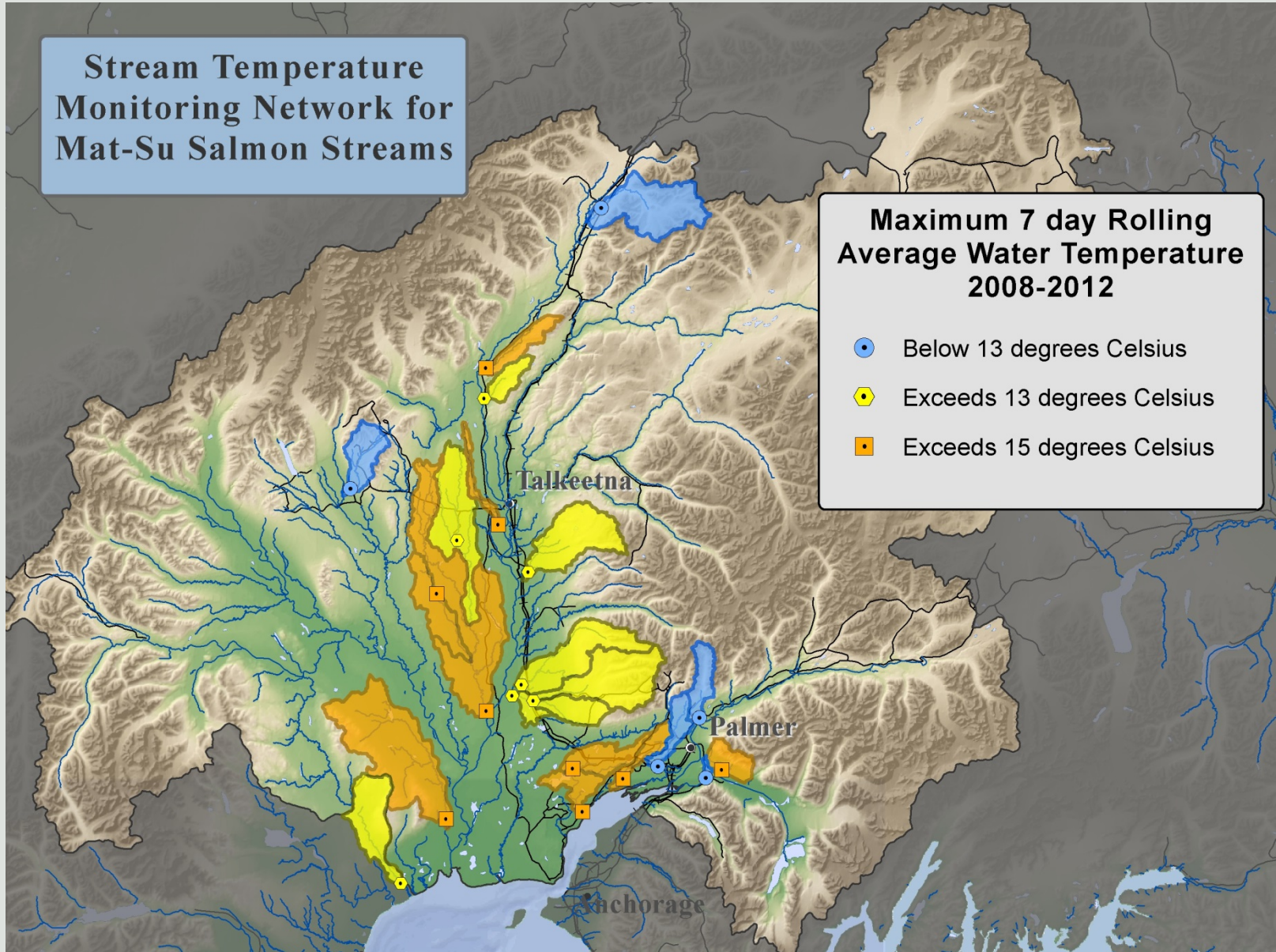


Big Lake Sailing Club



Sunshine Creek

3. Climate Change



4. Culverts that Block Salmon

Culverts	2005	2017	2025?
Open Fish Passage	17%	40%	50%
Open Miles Upstream	26%	55%	90%

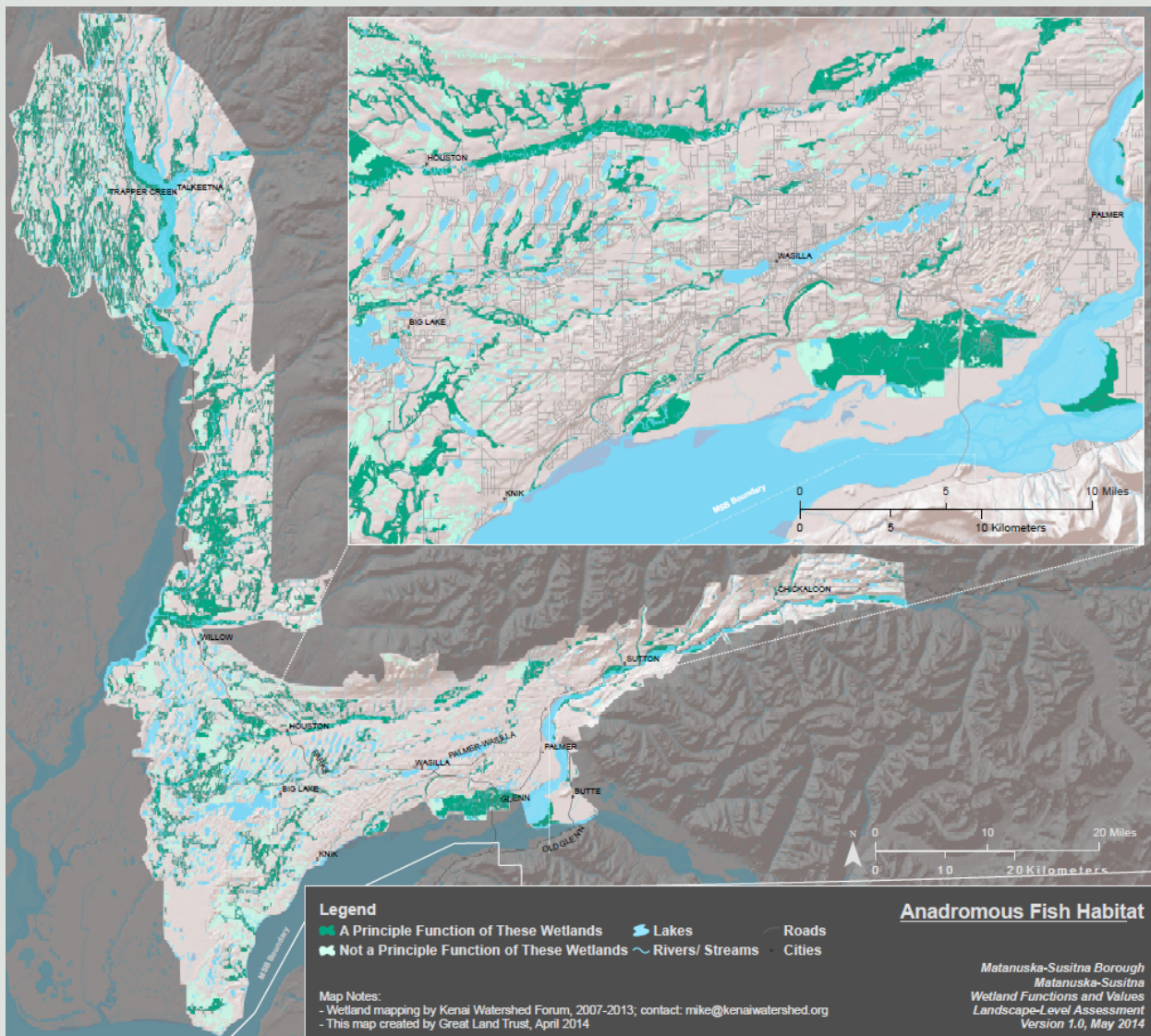
- 2016-2017**
- ✓ **4 Barriers**
 - ✓ **3.1 miles**
 - ✓ **No New Barriers!**



Riverdell at Cottonwood Creek Before and After, 2016

5. Filling in Wetlands

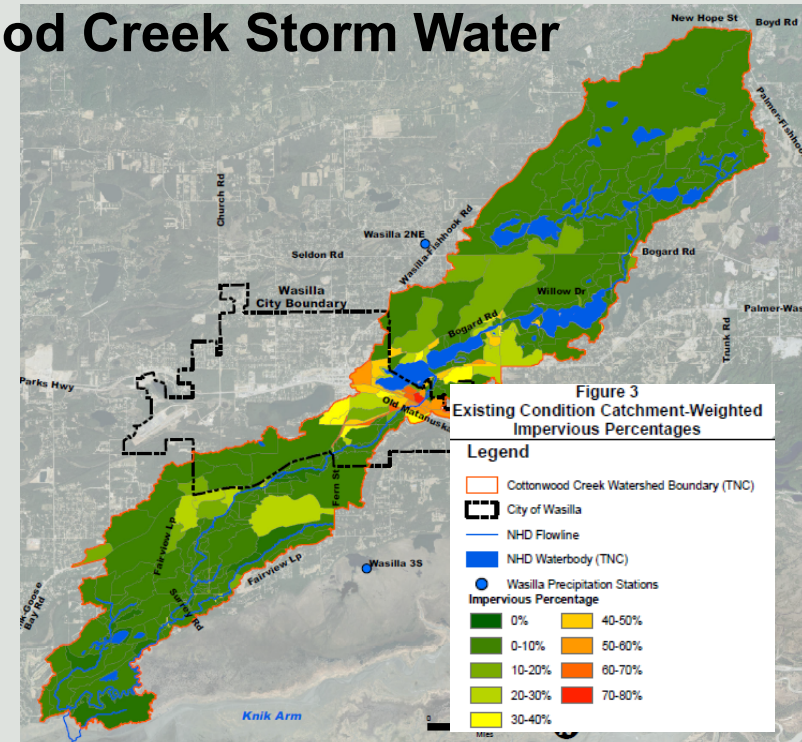
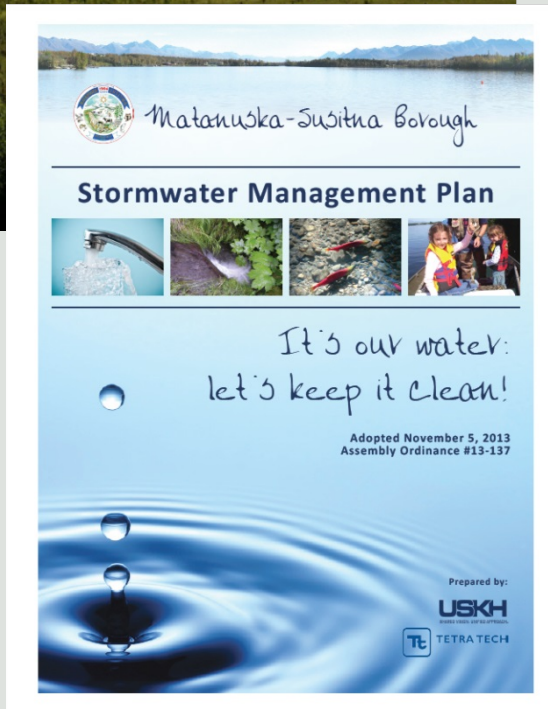
- 1 million acres assessed (36% Wetlands)
- Functions and Values Report (2014)
- Wetlands for Salmon (2014)
- Wetland Loss (Initiated 2017)
- Hydrology (Ongoing)



6. Impervious Surface and Stormwater

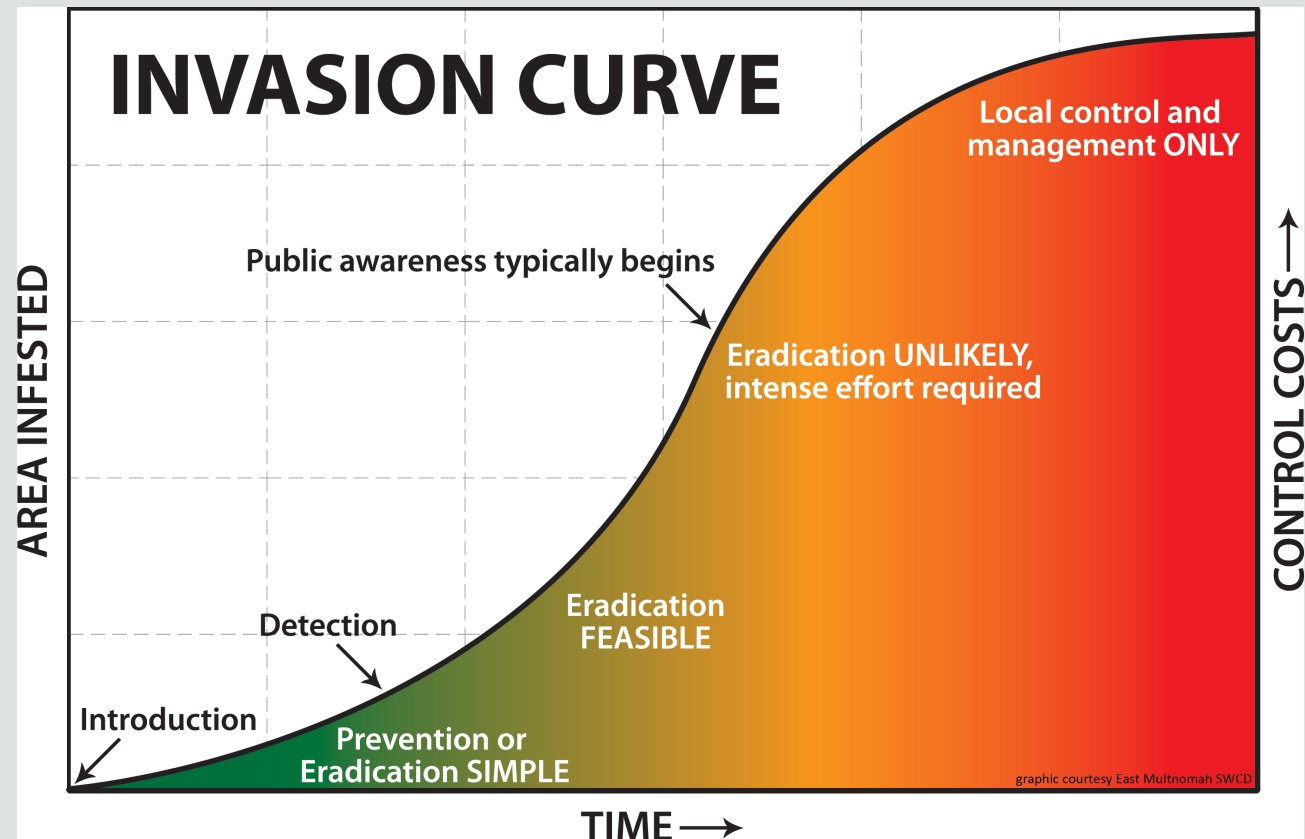


- 2005 MSB Wide Comprehensive Plan
- 2007 Green Infrastructure
- 2011 Wetland Management Plan
- 2011 Impervious Surface Map
- 2012 Living Next to a Salmon Stream
- 2013 Storm Water Management Plan
- 2017 Cottonwood Creek Storm Water



7. Aquatic Invasives

- Prevent
- Early Detection / Surveillance
- Rapid Response
- Control



8. Large Scale Resource Development

- Education
- Outreach
- Data and Facts



9. Flow Alterations

15 Past Streams by ADFG = Water Reservations

Reservation Applications

- **Moose Creek**
- **Wasilla Creek**
- **Montana Creek**

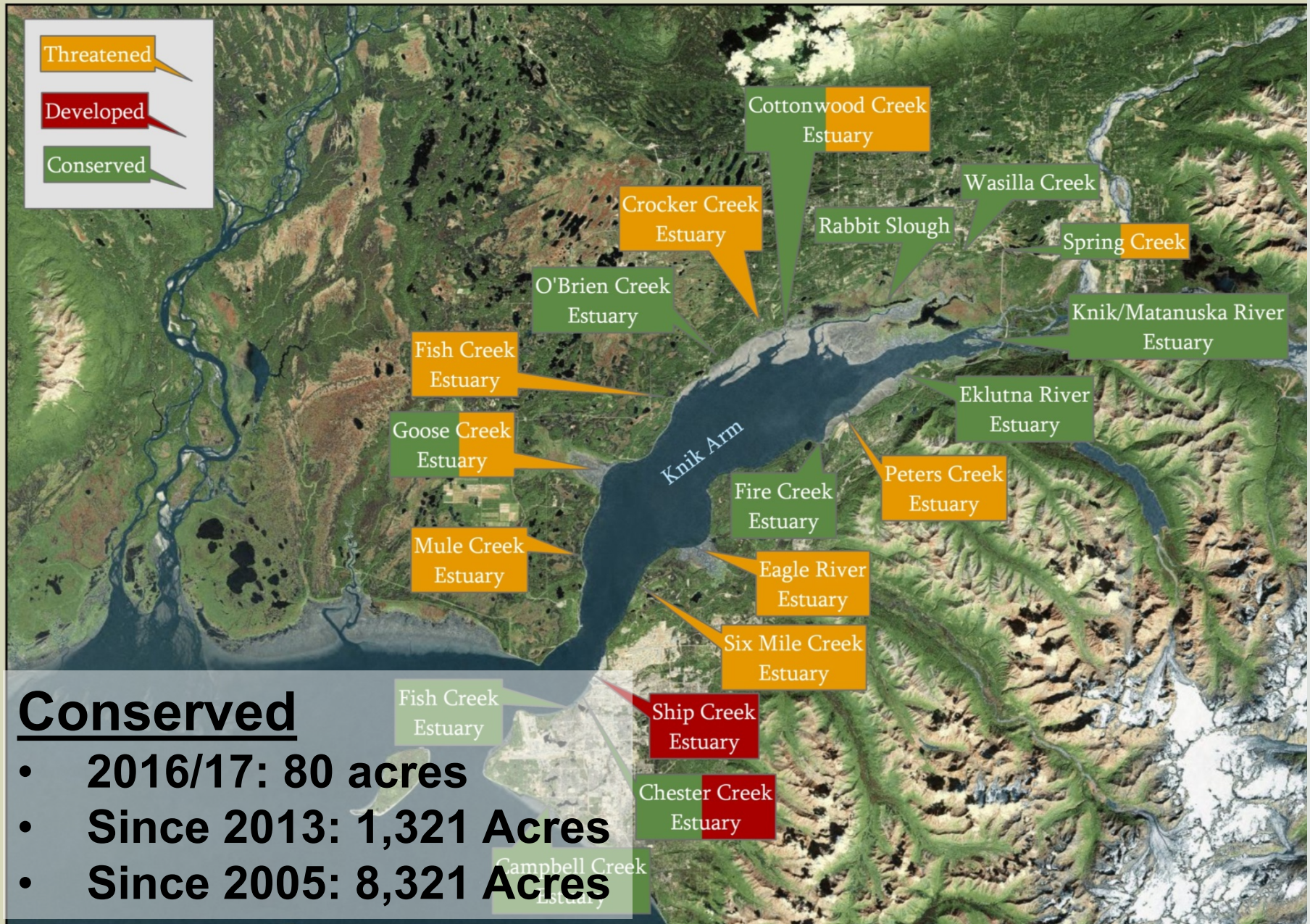
- **New Gages (2016/17)**
- **Kroto Creek (Area)**
- **Where Next?**

Gages

- **Kashwitna River**
- **NF Kashwitna River**
- **Little Willow Creek**
- **Kings River**



10. Loss of Estuaries and Habitat



Conserved

- 2016/17: 80 acres
- Since 2013: 1,321 Acres
- Since 2005: 8,321 Acres

11. Motorized Off Road Recreation



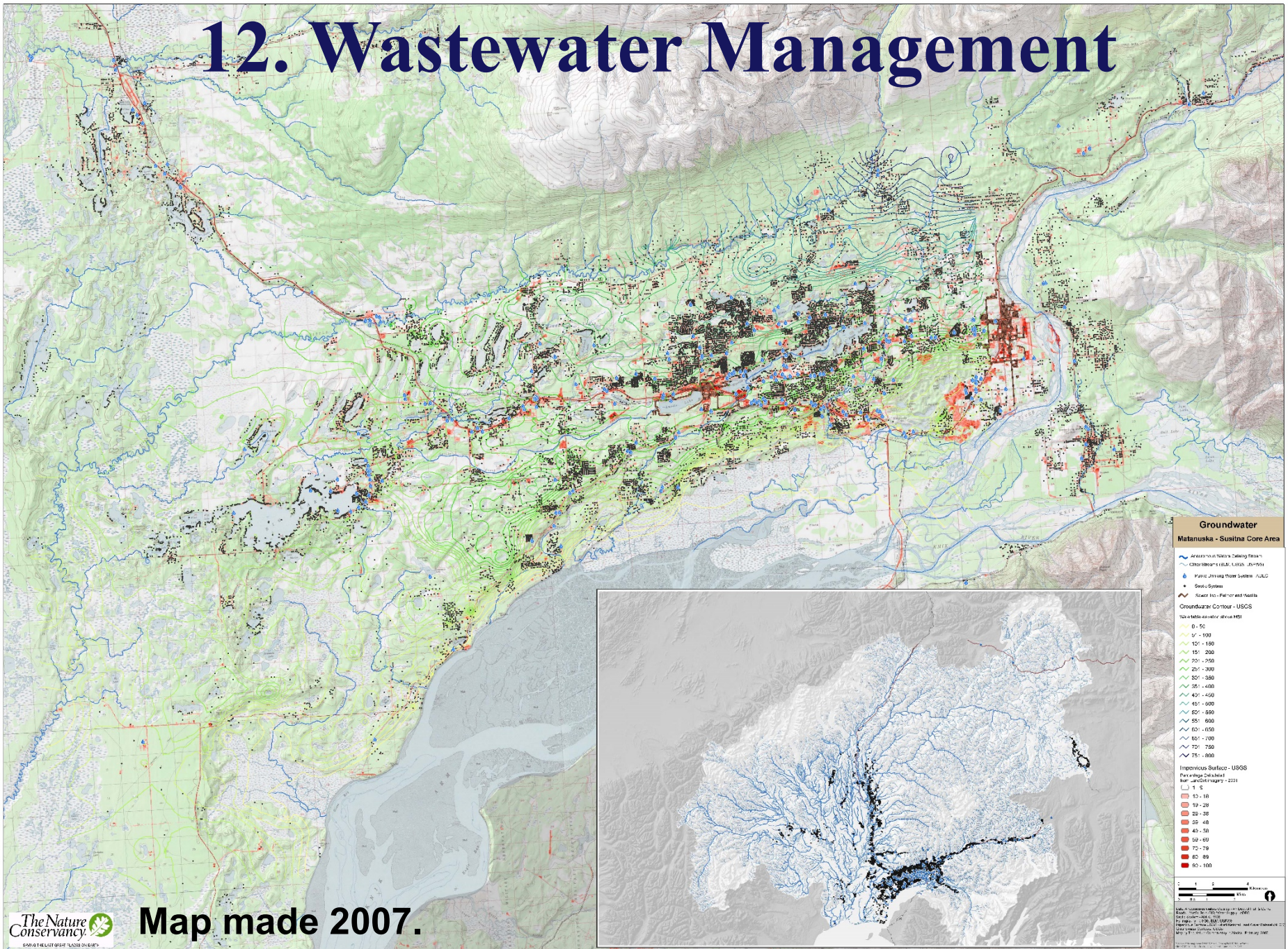
- Plumley-Maude Trail
- Moose Range Crossings
- Jim Creek Area

McRoberts Creek at Plumley-Maude Trail



Wasilla Creek Crossings (circa 2008 vs. 2017)

12. Wastewater Management



Where do we go Next?



Stay the Course



SALMON



SAFE

Invest in Green Infrastructure

EARTH
ECONOMICS



**\$5 back for every \$1
invested in trails, open
space, etc.**

Community Outreach

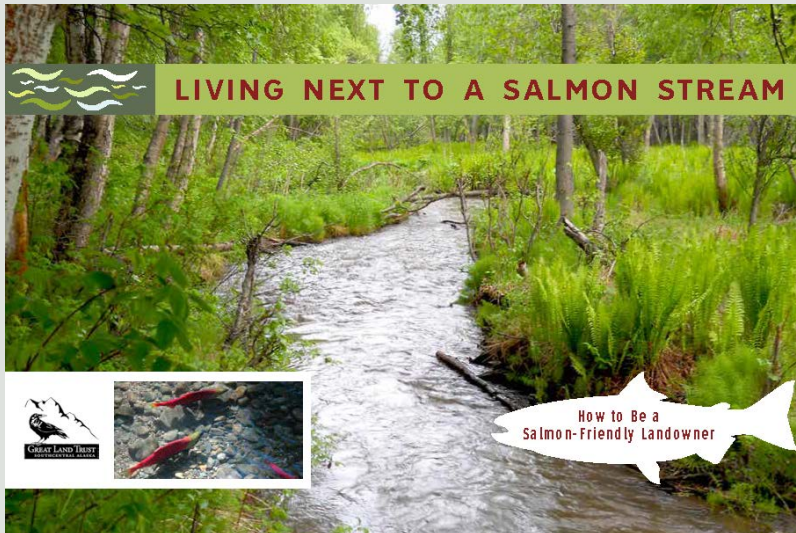
Partnership:

- **Mat-Su Salmon Symposiums**
- **Summer Site Tours**
- **Wildlife Wednesday Series**

Partner campaigns & initiatives:

Clean Boating
Kingmakers
Septic Smart

LIVING NEXT TO A SALMON STREAM



Perspectives

- ★ **MatSu FHP - One of the Best in the USA!**
 - **Focus on Accomplishing Objectives**
 - **Prioritize**
 - **Develop Funding Diversity and Outreach**
 - **Document, Document Progress**

Questions

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Something we can all agree on

MAT-SU SALMON SYMPOSIUM, NOV. 8-9

STORY, PAGE 6-7

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