



U.S. Department of the Interior
Bureau of Land Management

AIM-NAMF Application to the Mat-Su

To Understand Current and Future Aquatic Habitat Conditions



Colin Brady – BLM Alaska Aquatic Implementation Lead

Matthew Varner – BLM Alaska Fisheries and Riparian Program Lead





Outline



- Why Aquatic Habitat Data are Important
- What is AKMAP and AIM-NAMF
- BLM's role in the Mat-Su
- Management Applications



Snapshot of BLM Managed Stream Habitats in Alaska

- 118,000 miles of perennial stream and lotic riparian habitat
- 87% of the BLM's riverine resources
- Large majority are believed to be unaltered
- Need to characterize current conditions and understand change over time
- 3,200 miles of BLM managed stream in Mat-Su watershed





Value of Habitat Data

Inventory, assessment and monitoring data provide us with information regarding:

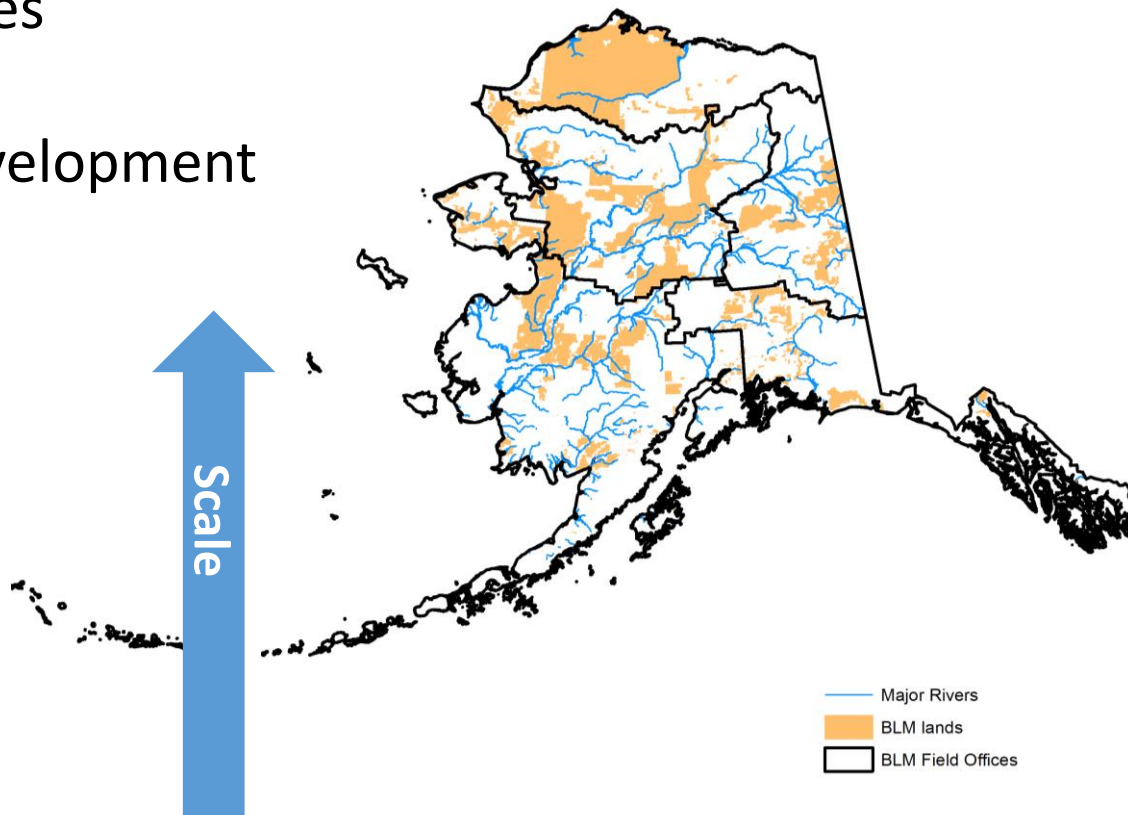
- Resource extent, condition, and trend
- Compliance with permits
- Stressor identification
- Reclamation/treatment effectiveness



AIM data – BLM's need for scalability

BLM multi-scale data needs:

- Permitted activities
- Land use plan development & assessment
- Ecoregional
- State-wide
- Bureau-wide
- Cross-agency





BLM Aquatic Assessment, Inventory, and Monitoring (AIM) Strategy

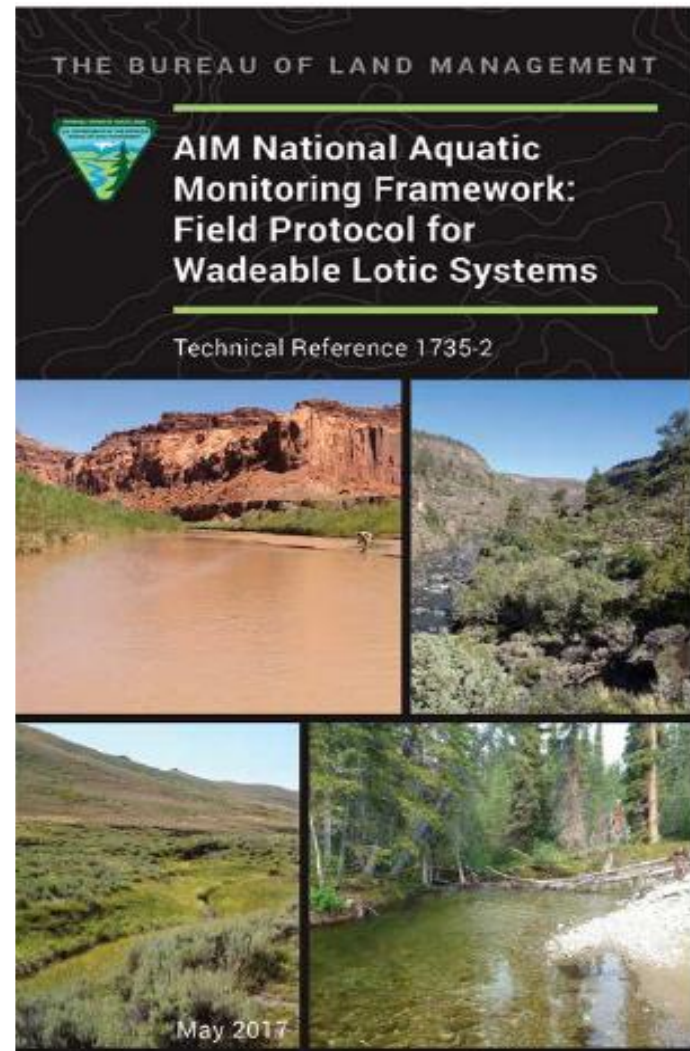
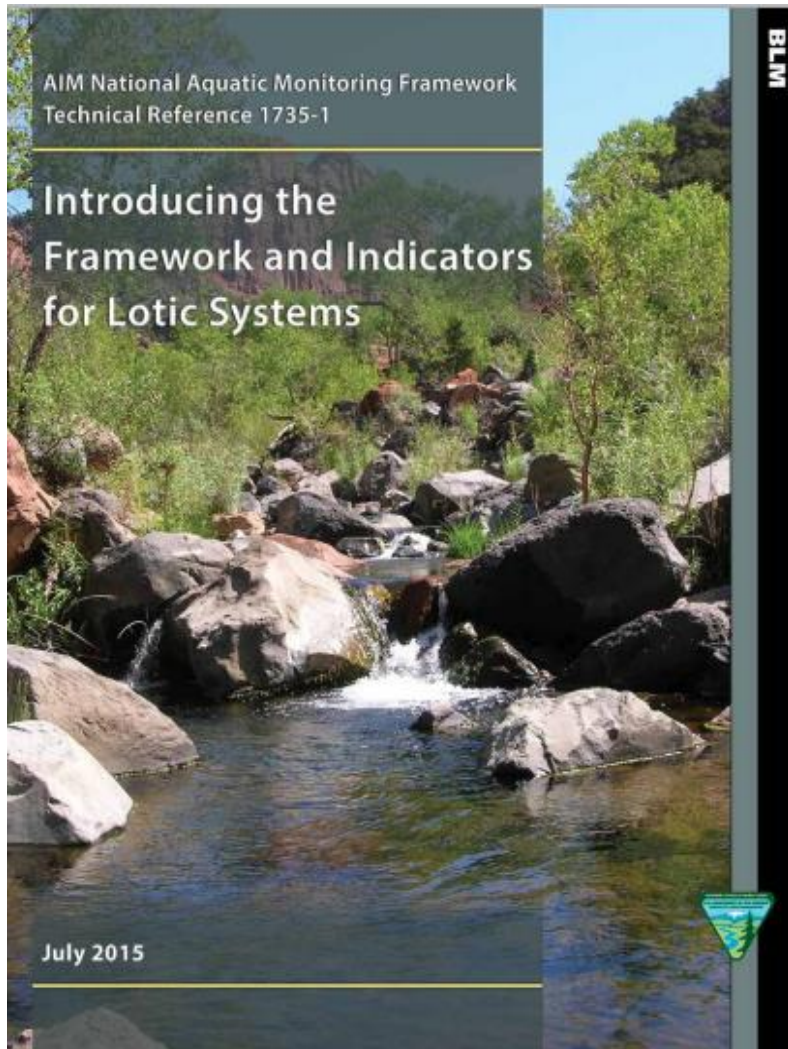
Fundamentals

1. Quantitative core indicators & methodologies that are standardized
2. Statistically valid sample designs
3. Integration of remote sensing technologies
4. Electronic data capture



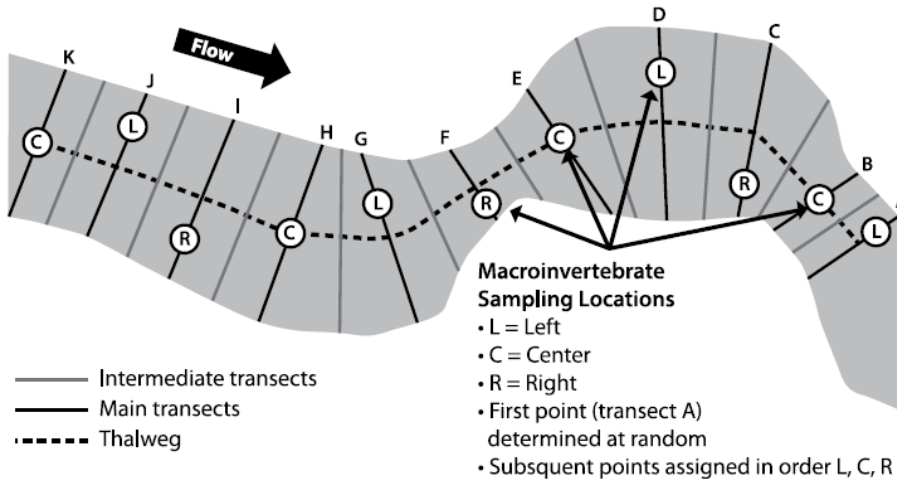


BLM Aquatic AIM National Aquatic Monitoring Framework - NAMF





Transect based surveys



- Middle of reach established from random survey design coordinates
- Reach length is 20X the average of five bankfull widths
- 150 meter minimum reach length
- 11 main transects and 10 intermediate transects





NAMF Core Measures

- pH
- Salinity
- Temperature
- Pool dimension / frequency
- Streambed particle size
- Bank stability and cover
- Floodplain connectivity
- Large woody debris
- Macroinvertebrates
- Riparian vegetation
- Canopy cover





NAMF Flexibility

Aquatic Contingent Methods

- Turbidity
- Instream habitat complexity
- Thalweg depth profile

Aquatic Supplemental Methods

- eDNA
- Surveyed cross-section





NAMF Crosswalk with AKMAP

What is AKMAP?

- Alaska Monitoring and Assessment Program
- Run by the Alaska Department of Environmental Conservation

Compatibilities:

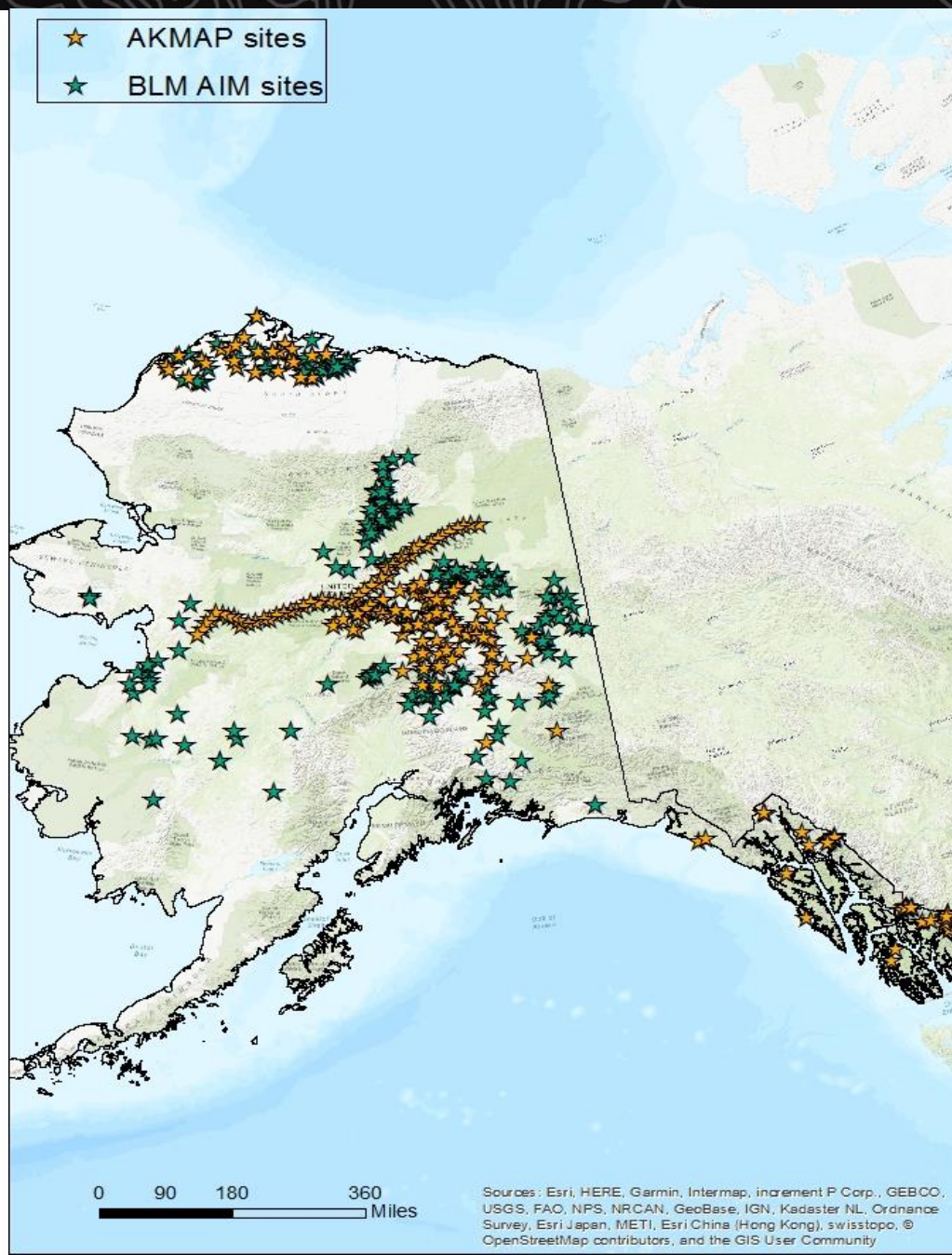
- Probability based survey designs
- Comparable field methods and indicators

Allows for cross-agency data sharing





NAMF and AKMAP Coverage in Alaska

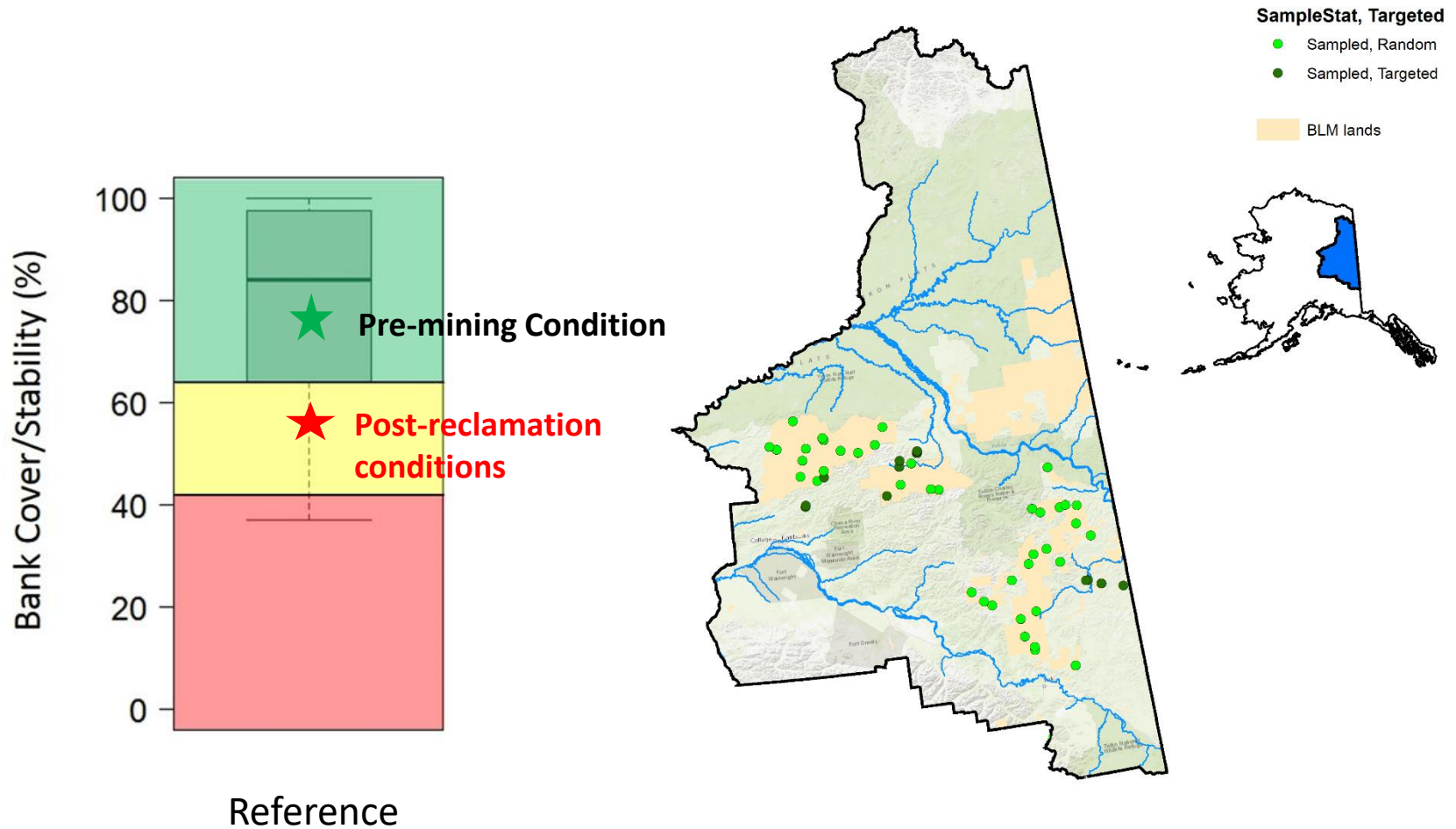


Alaska Placer Mining



Eastern Interior Field Office: Permitted Activity

- Targeted sampling to:
 - Assess reclamation effectiveness





NAMF/AKMAP Applications to the Mat-Su

The Mat-Su valley is the fastest growing region in the state.

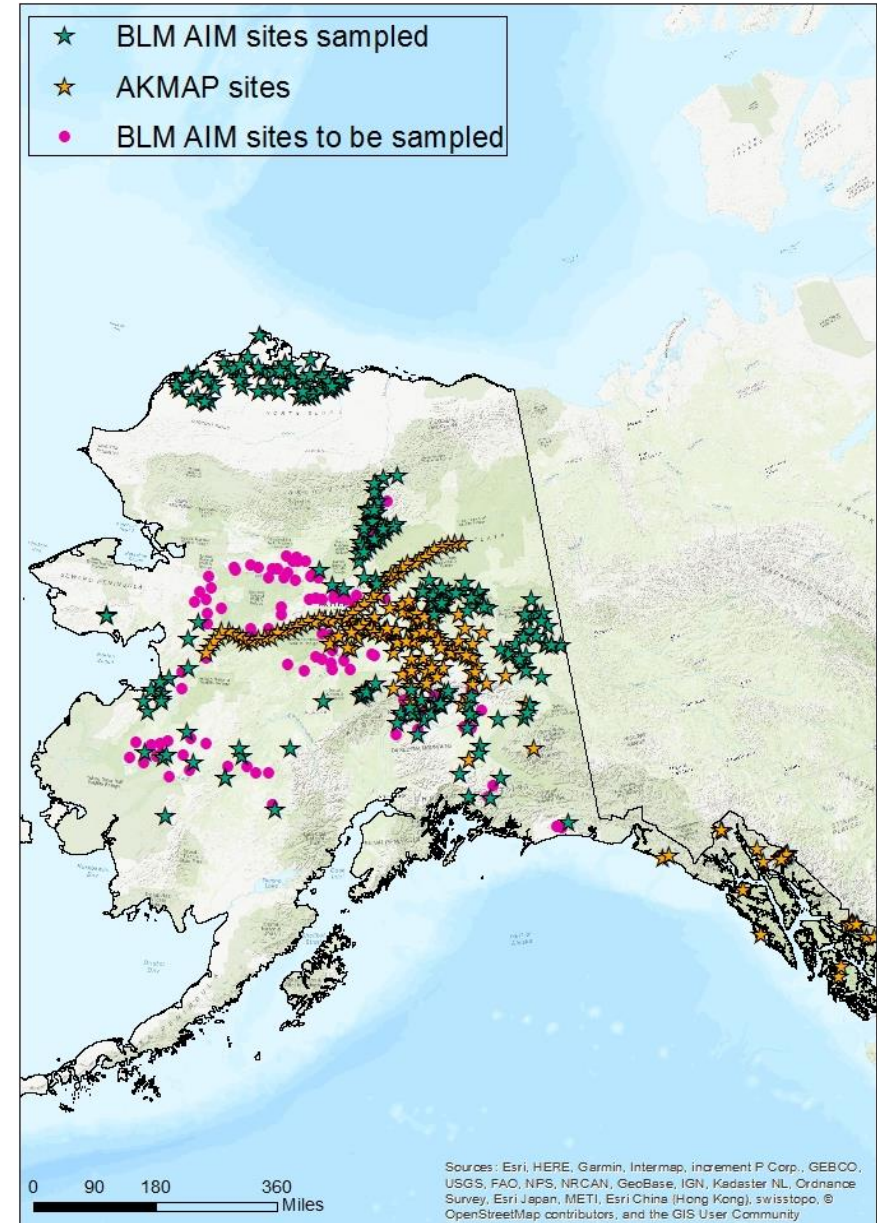
It's important that we:

- Understand the natural range of variability with the region
- Detect natural and anthropogenic change over time
- Collect information that can complement other datasets, such as temperature, flow, and fish habitat use data to enhance interpretation (multiple lines of evidence)



NAMF/AKMAP Applications to the Mat-Su

- Scalable data
- Collect data once and use multiple times
- Sharing of data between agencies
- Integration with local and regional datasets
- Baseline conditions serve as a foundation for change detection on the landscape





Additional Resources

- OFR129 EIFO AIM report
- AIM National Aquatic Monitoring Framework Technical Reference 1735-1
- AIM landscape toolbox website

Contact info:

- cbrady@blm.gov
- 907-474-2326