

# Botanical Program Progress: 2012-2013 Studies

Technical Workgroup Meeting  
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Prepared for: **Alaska Energy  
Authority**



# Five Botanical Studies

## *Initiated in 2012:*

- Vegetation and Wildlife Habitat Mapping Study in the Upper and Middle Susitna Basin
- Wetland Mapping Study in the Upper and Middle Susitna Basin
- Riparian Vegetation Study Downstream of the Proposed Susitna-Watana Dam

## *Others that were in 2012 planning phase:*

- Rare Plant Study
- Invasive Plant Study



# Current Status, Botanical Studies (as of early February 2013)

*All three mapping studies:*

- Collected field ground-reference data to match up with high-resolution (generally  $\leq 1$ -m pixels) aerial photo and imagery signatures, summer 2012
- Integrated Terrain Unit (ITU) mapping of individual terrain units (e.g., geomorphology, physiography, vegetation, wetland type) is underway; initiated in 2012 and will continue through 2014



# Current Status, Botanical Studies (continued)

## *Vegetation and Wildlife Habitat Mapping and Wetland Mapping Studies:*

- Assessed current accuracy of the historical 1987 vegetation map prepared for the APA Project; data available for the upper and middle Susitna basin
- Pursuing acquisition of additional high-resolution imagery to cover the full study areas for the two mapping studies in the upper and middle Susitna basin



# Current Status, Botanical Studies (continued)

## *Riparian Vegetation Study:*

- Riverine physiography was mapped as provisional lateral boundary for the study area
- Coordinating with other researchers to determine the downstream extent of the study area
- Broad-scale mapping of vegetation (Level III of Alaska Vegetation Classification) to facilitate the selection procedure for Focus Areas



# Current Status, Botanical Studies (continued)

## *Rare Plant Study:*

- Refinement of search area for rare plants: request for list of rare species list from the AKNHP



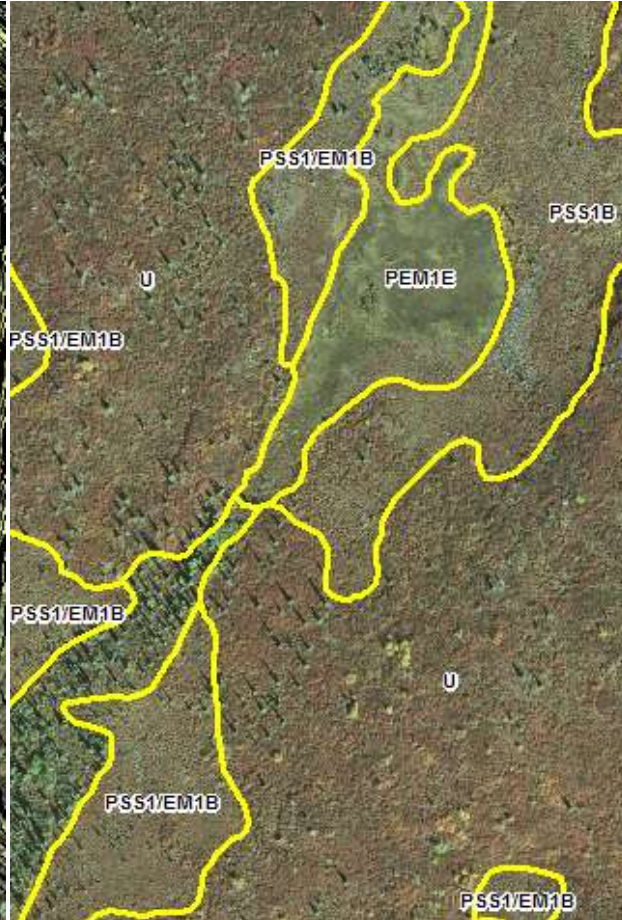


# Generalized Steps in ITU Mapping

Compile Existing Data and  
Collect Field Data



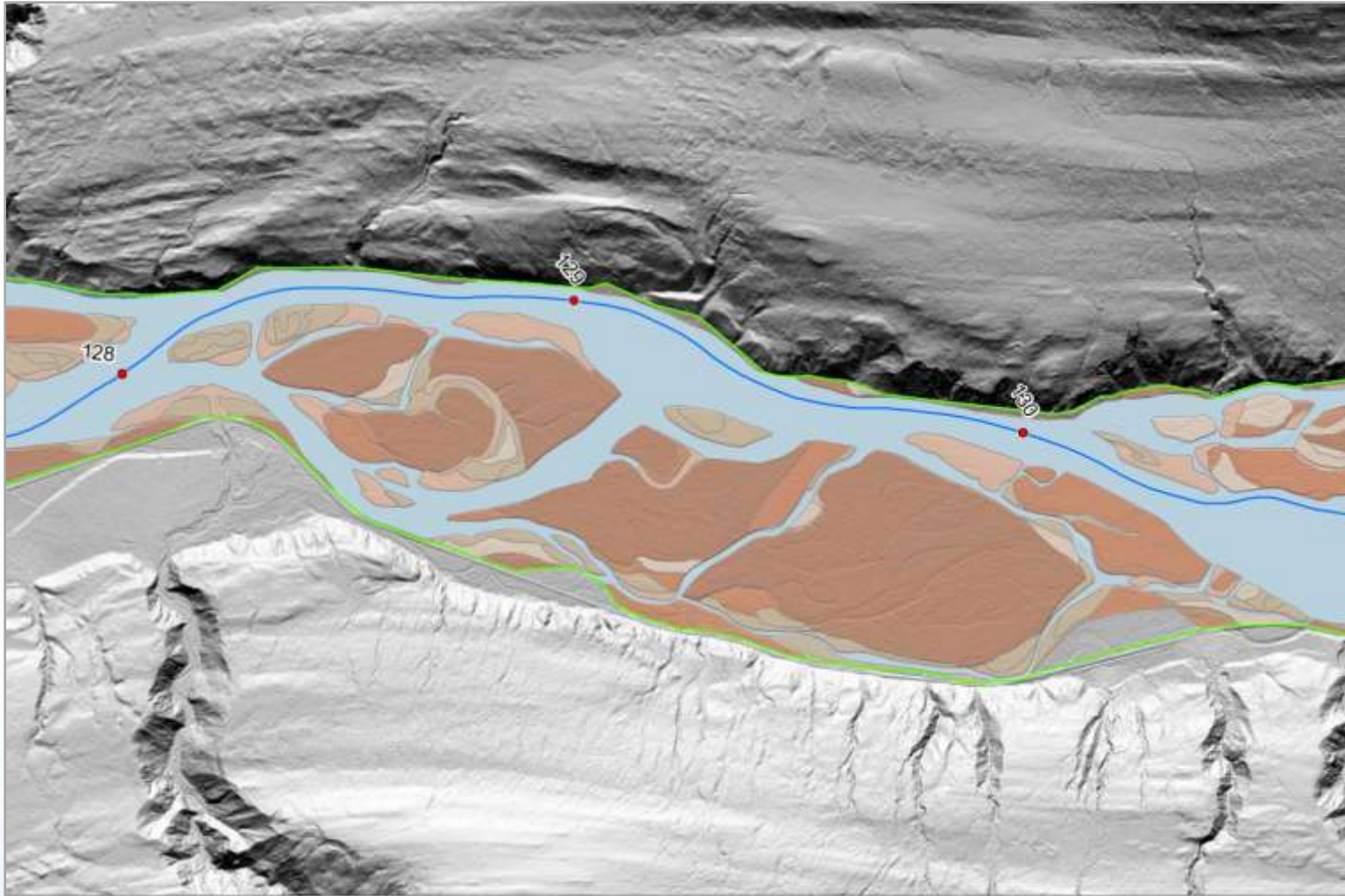
Imagery Interpretation and  
Boundary Delineation



Field Verification

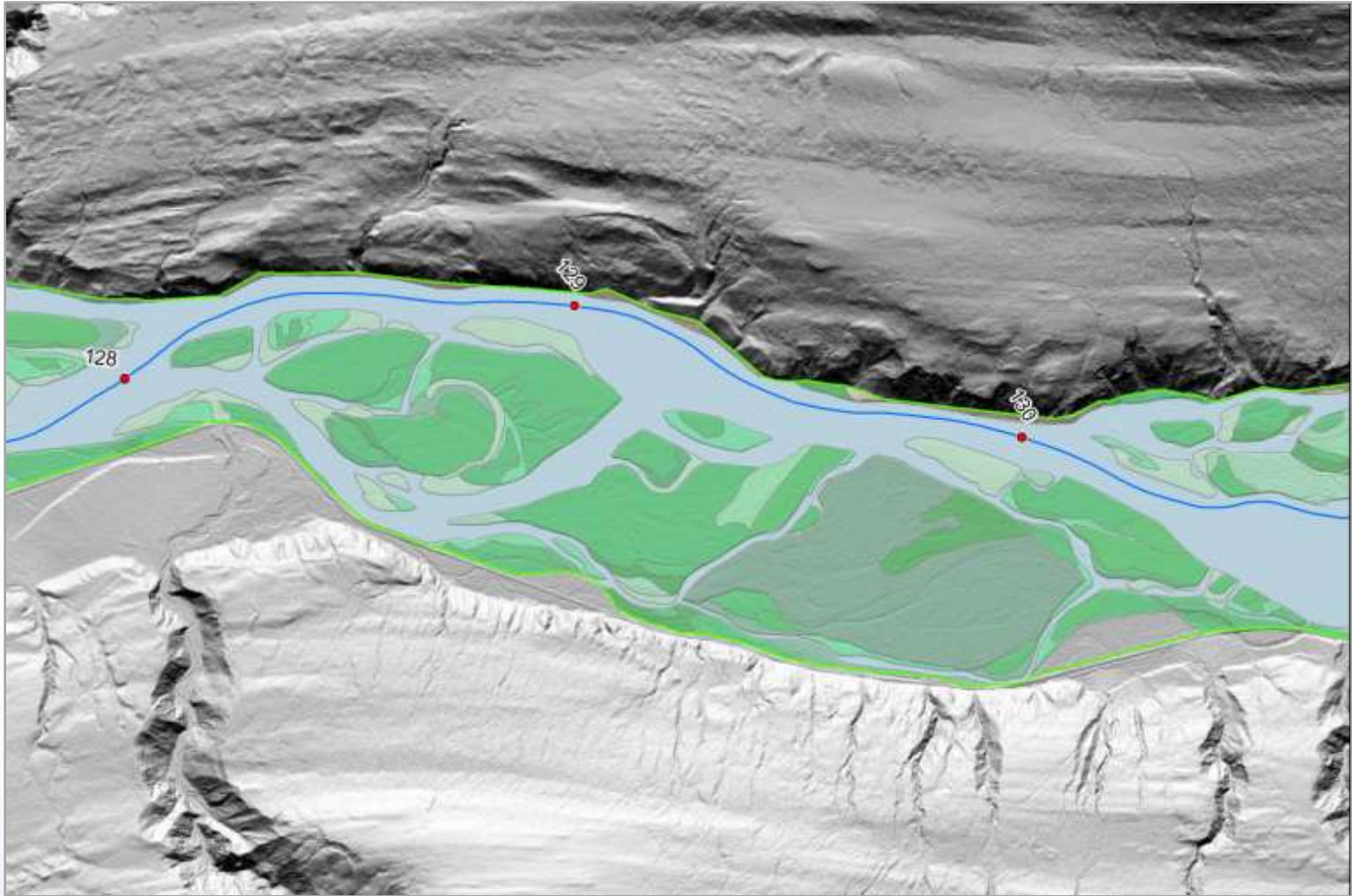


# ITU Variable: Geomorphology

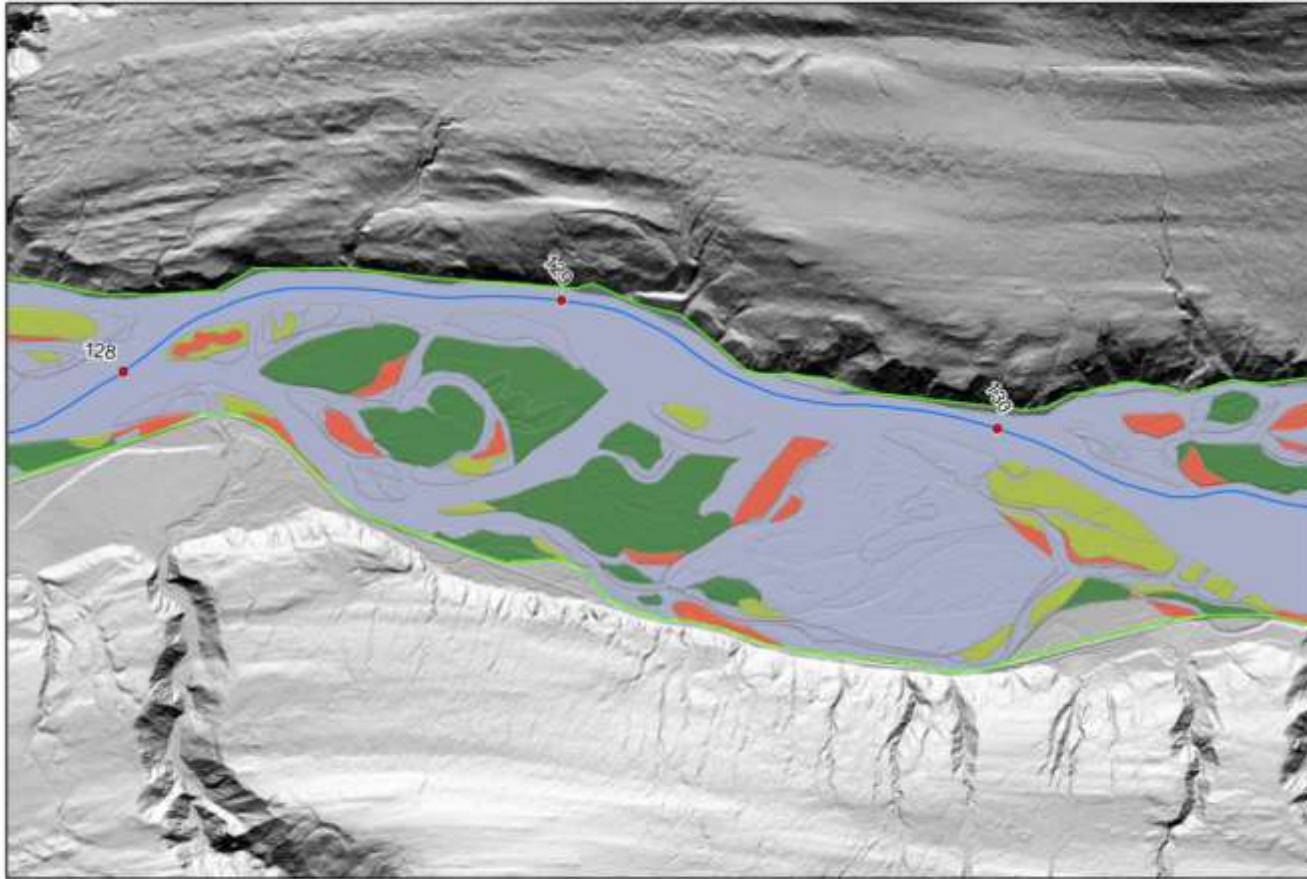




# ITU Variable: Vegetation







# ITU Variable: Poplar Size Class



## Legend

### ITU Mapping

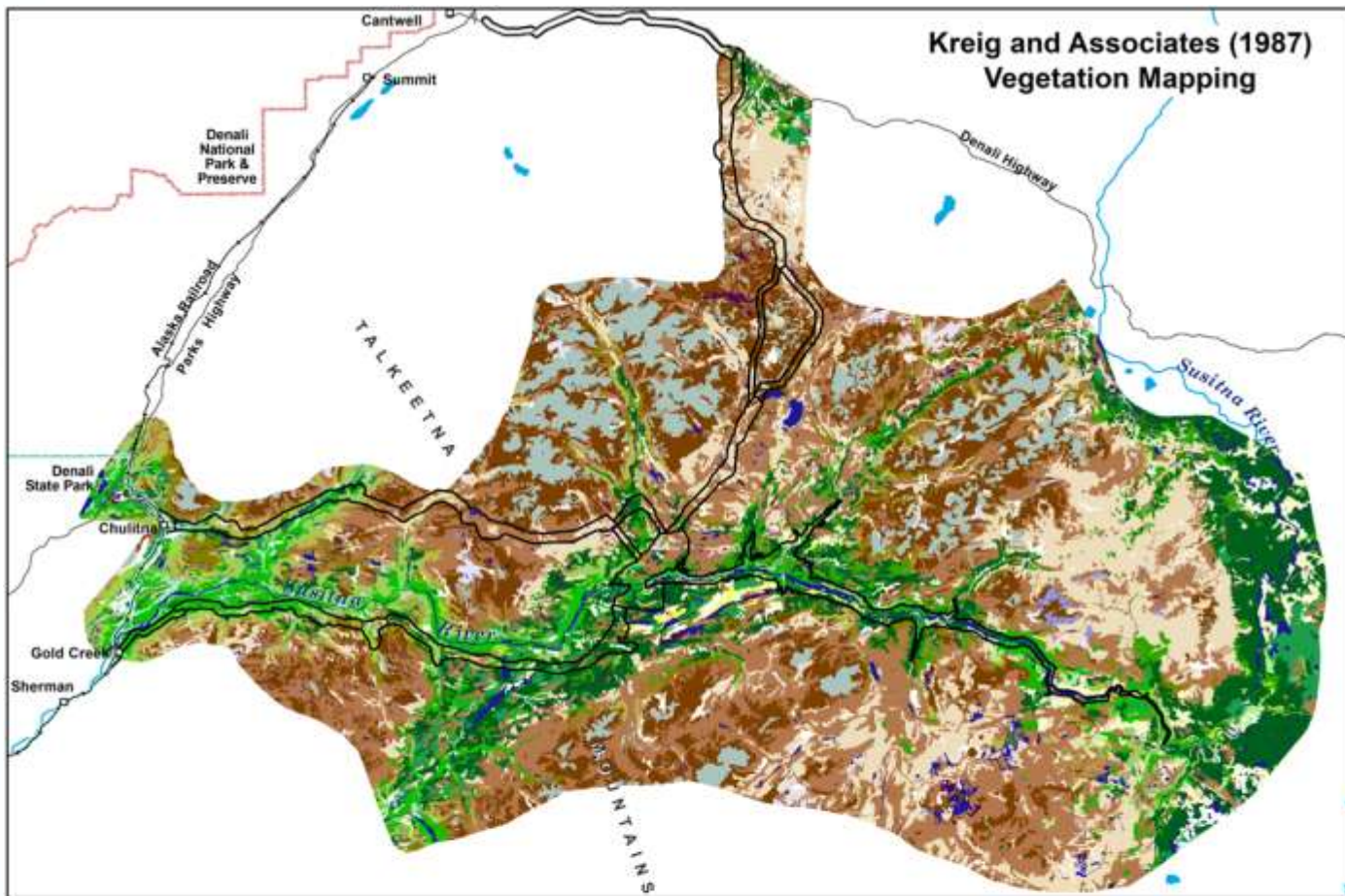
-  No poplar
-  Large Timber (>30 cm DBH)
-  Pole (5-15 cm)
-  Timber (15-30 cm)

# Coming Up

- When substantial mapping of the study areas has been completed, ITU variables will be compiled for each map polygon and multivariate riparian ecotypes, wetland types, and wildlife habitat types will be developed
- Typically this process is performed after all ITU mapping is completed, but preliminary types will be prepared for review before the mapping is fully complete
- Expected that these preliminary types will be available for review in the Initial Study Report, due in Q1 2014







**Vegetation Class**

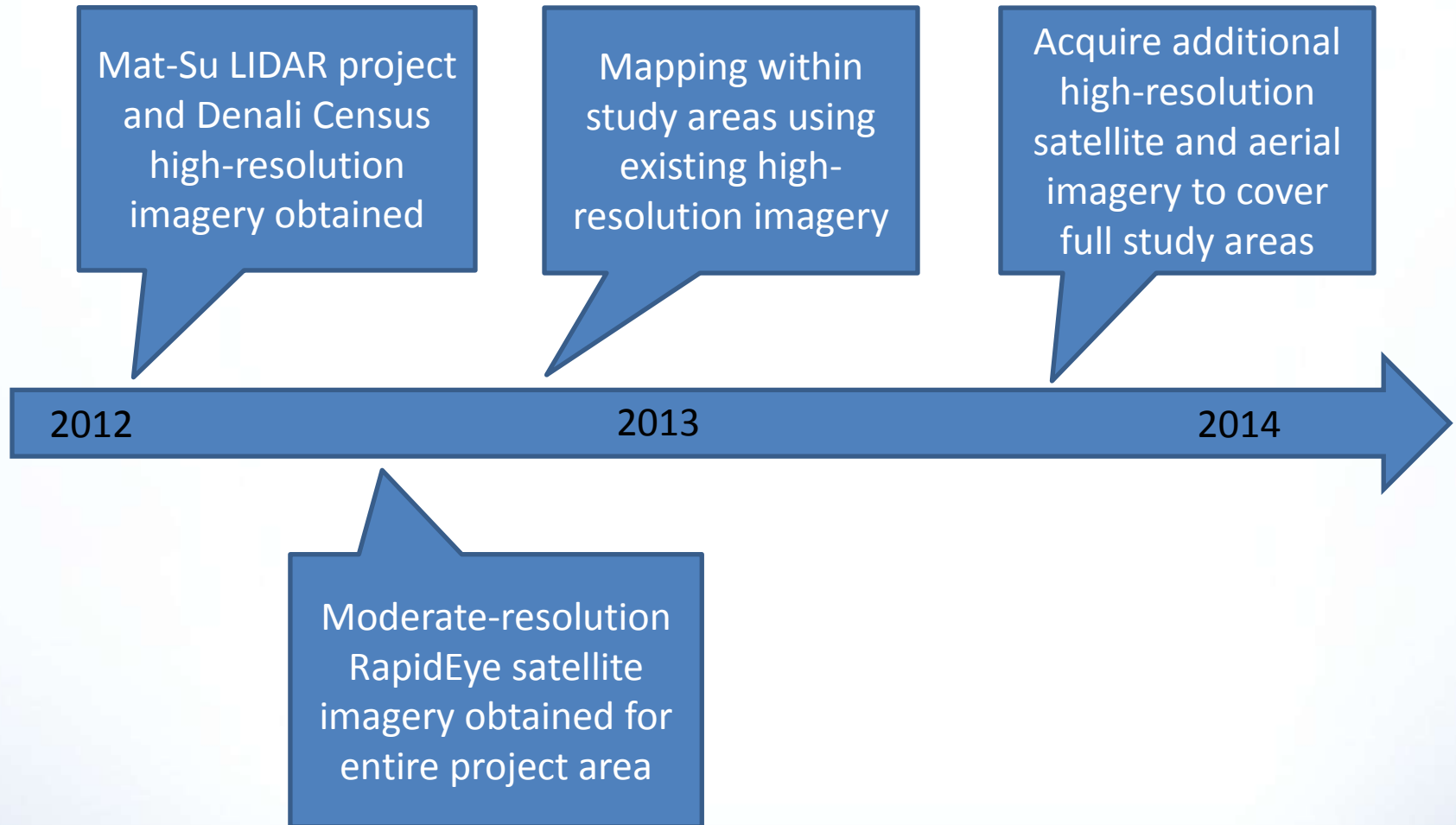
Not Classified	Dry Forb Meadow	Dwarf Forest Woodland	Open Broadleaf Forest
Barrens	Moist Dwarf Shrub (ericaceous)	Open Dwarf Forest	Closed Broadleaf Forest
Water	Dry Dwarf Shrub	Closed Dwarf Forest	Mixed Woodland
Bryophyte	Open Low Shrub	Needleleaf Woodland	Open Mixed Forest
Wet Graminoid Meadow	Closed Low Shrub	Open Needleleaf Forest	Closed Mixed Forest
Moist Graminoid Meadow	Open Tall Shrub	Closed Needleleaf Forest	
Dry Graminoid Meadow	Closed Tall Shrub	Broadleaf Woodland	Proposed Project Area



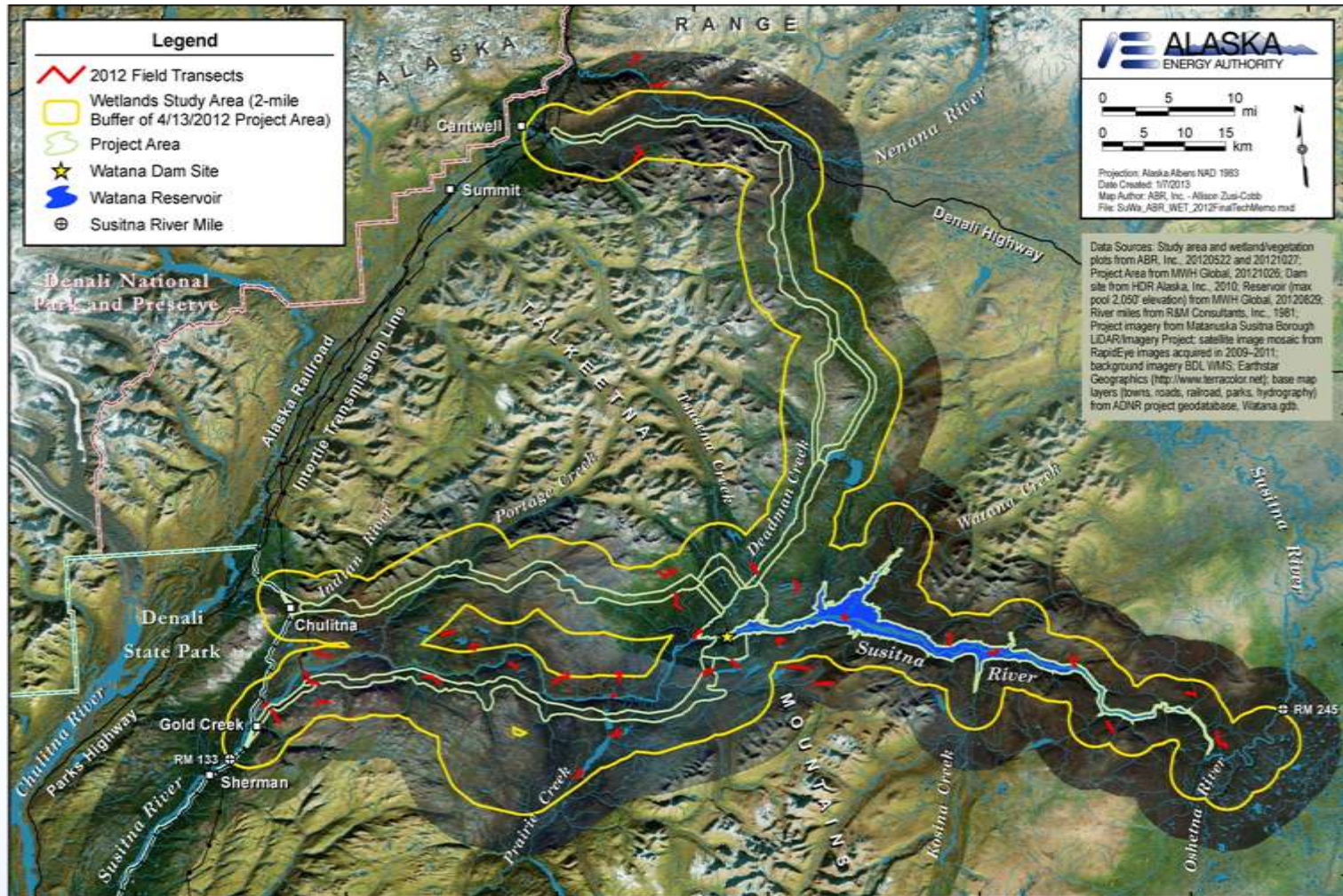
Projection: Al State Plane-4, NAD 1983  
 Date Created: 2/11/2013  
 Map Author: ABE, Inc. - Data Drawing  
 File: Hyd\_Veg\_Map\_State.mxd



# Project Ortho-photography Acquisition

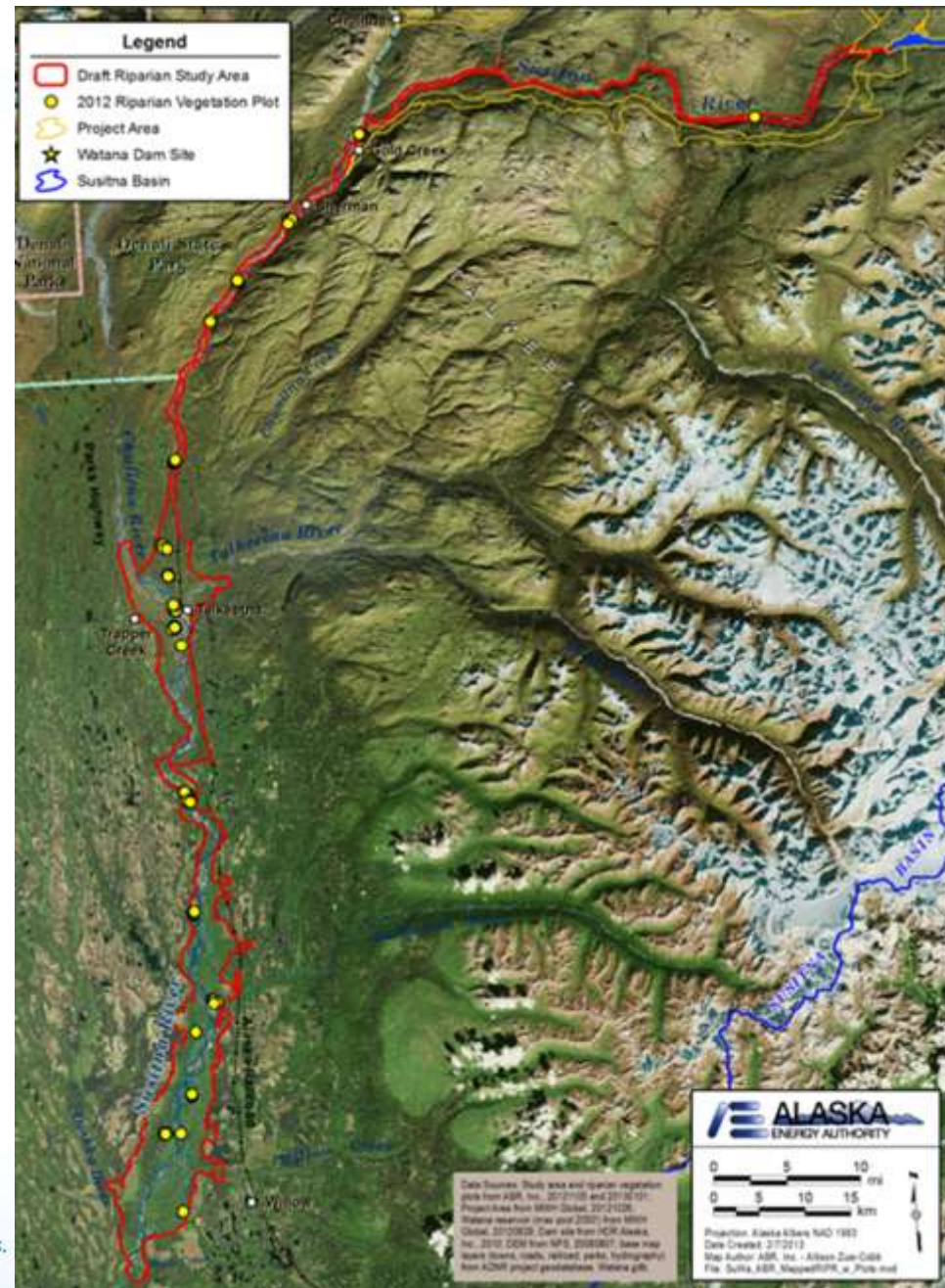


# Wetland and Wildlife Habitat Studies Transect Locations





# Draft Riparian Study Area and 2012 Field Plot Locations



# Fieldwork and Mapping Progress (as of Early February 2013)

Study	Number of Field Plots	Mapped Area to Date (Acres)
Riparian Vegetation Study	88	6,300
Wetland Mapping Study	361	40,203
Vegetation and Wildlife Habitat Mapping Study	361	40,203



# Study Plan Status

## *Riparian Vegetation Study:*

- Status of riverine physiography mapping: provisional lateral boundary of study area
- Downstream extent of study area
- Selection of Focus Areas
- Details on vegetation succession model development
- Details for field sampling protocols and clarification of responsibilities (vegetation study vs IFS)
- Supplemental March 1 RSP filing related to Riparian Vegetation Study

