

Tahoe Aquatic Resources Inventory (TARI)

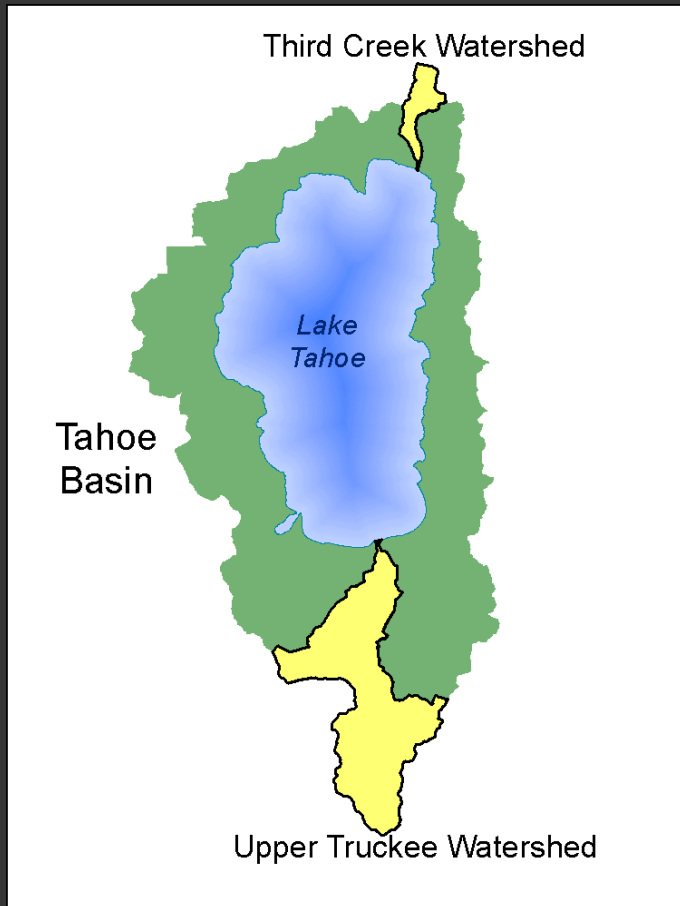
Tahoe WRAMP Level 1 mapping

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May 24, 2012



What is TARI?



- Pilot project of CARI in the Lake Tahoe Basin
- CARI is Level 1 of the 1-2-3 WRAMP Framework
- Sample frame for level 2 and 3 WRAMP activities

What does TARI include?

Stream Network

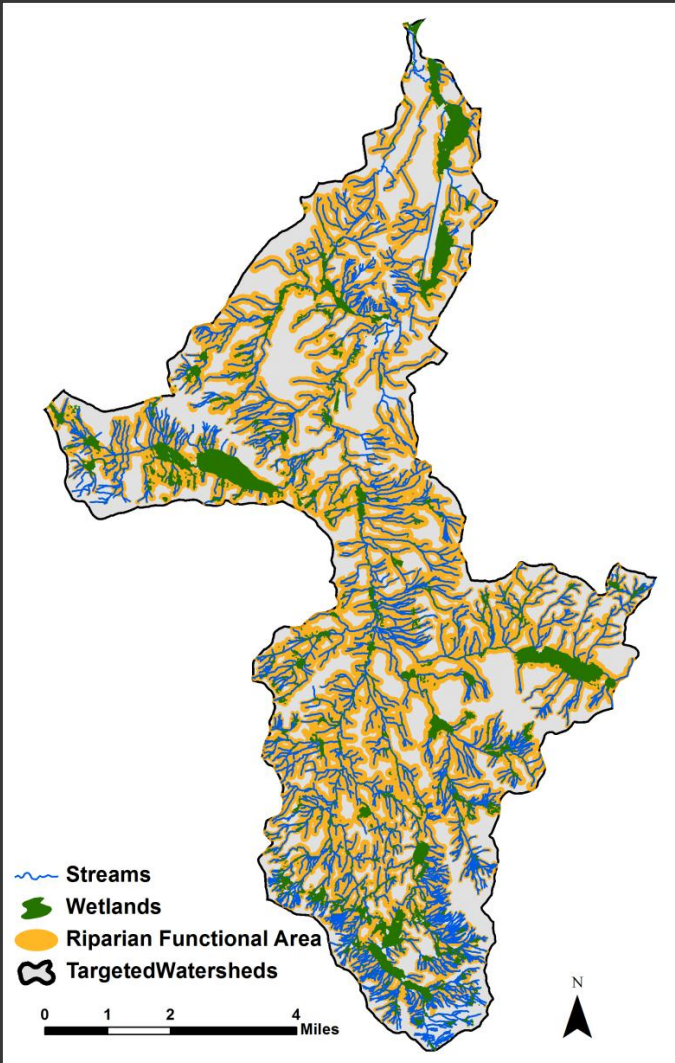
- Natural and modified features
- Stream order
- Flow direction

Polygonal Wetlands

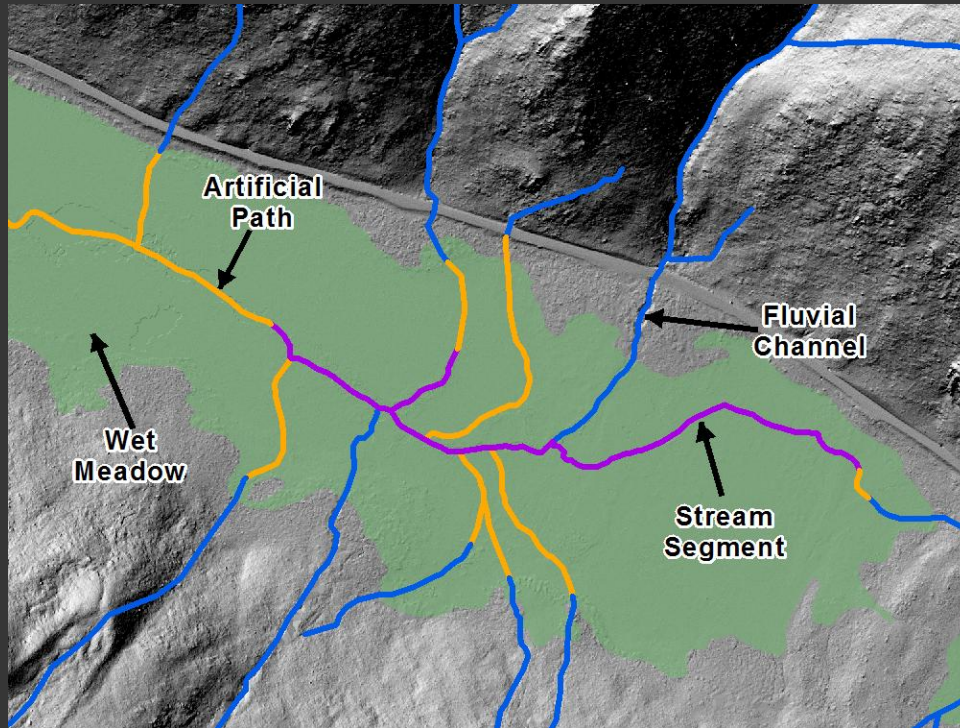
- Natural and modified features

Modeled Riparian Functional Areas

- Vegetation
- Hillslope

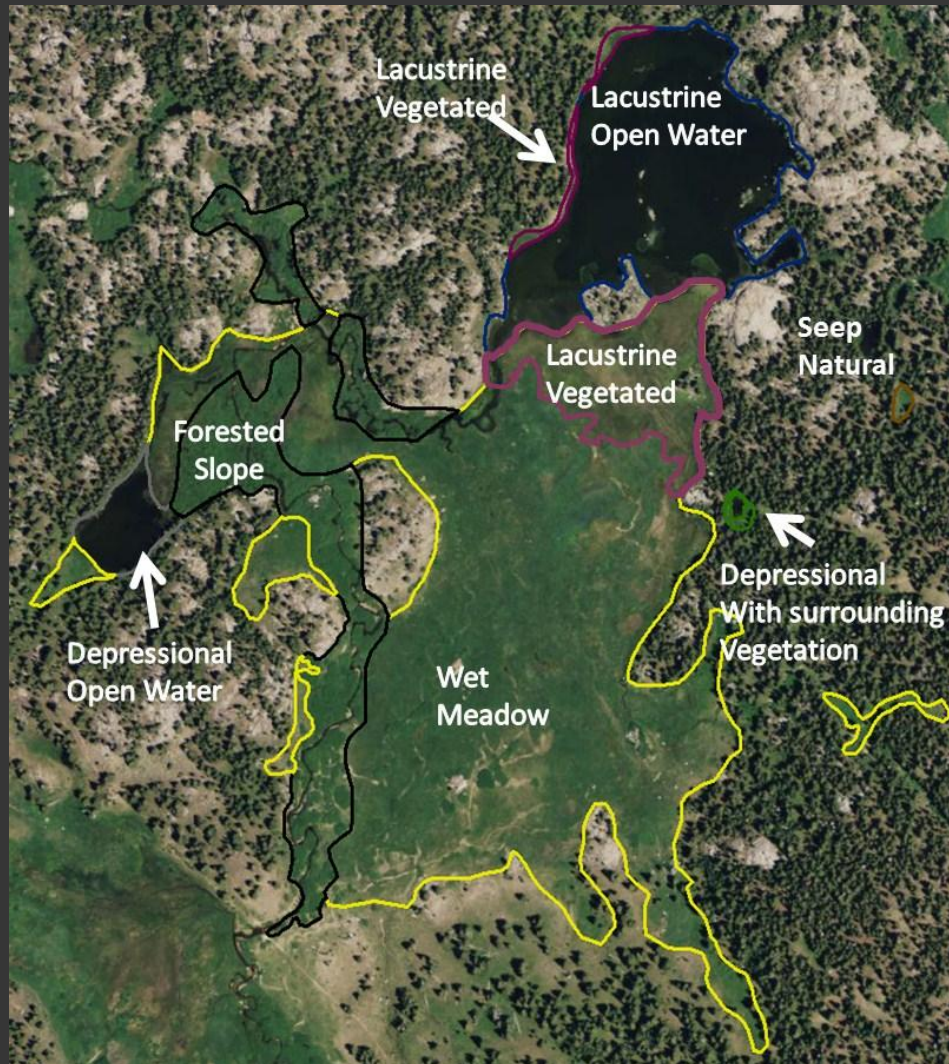


Stream Network



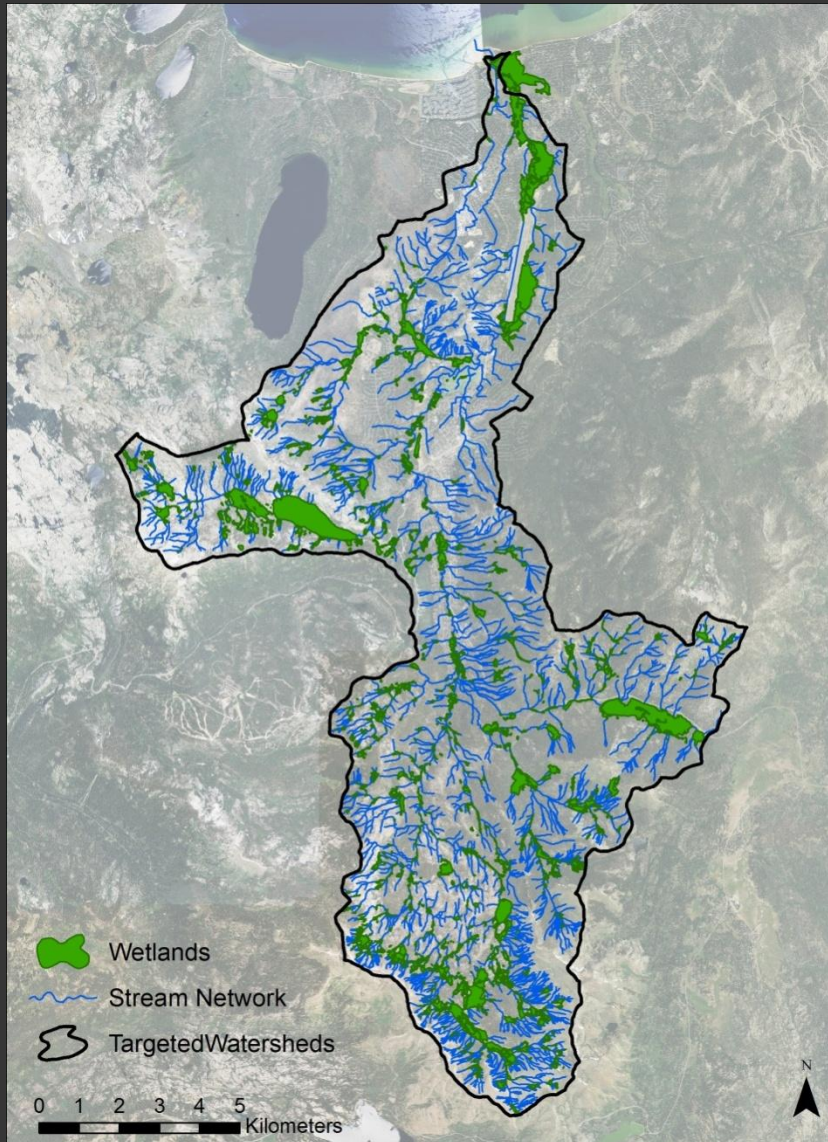
- Map at a scale of 1:5000
- Minimum Mapping Unit
 - Natural Channels = 50 m
 - Modified Channels = 25 m
 - * except body of water connectors
- 5 channel classes
 - Channel
 - Ditch
 - Subsurface drainage
 - Artificial Path
 - Stream Segment

Wetlands

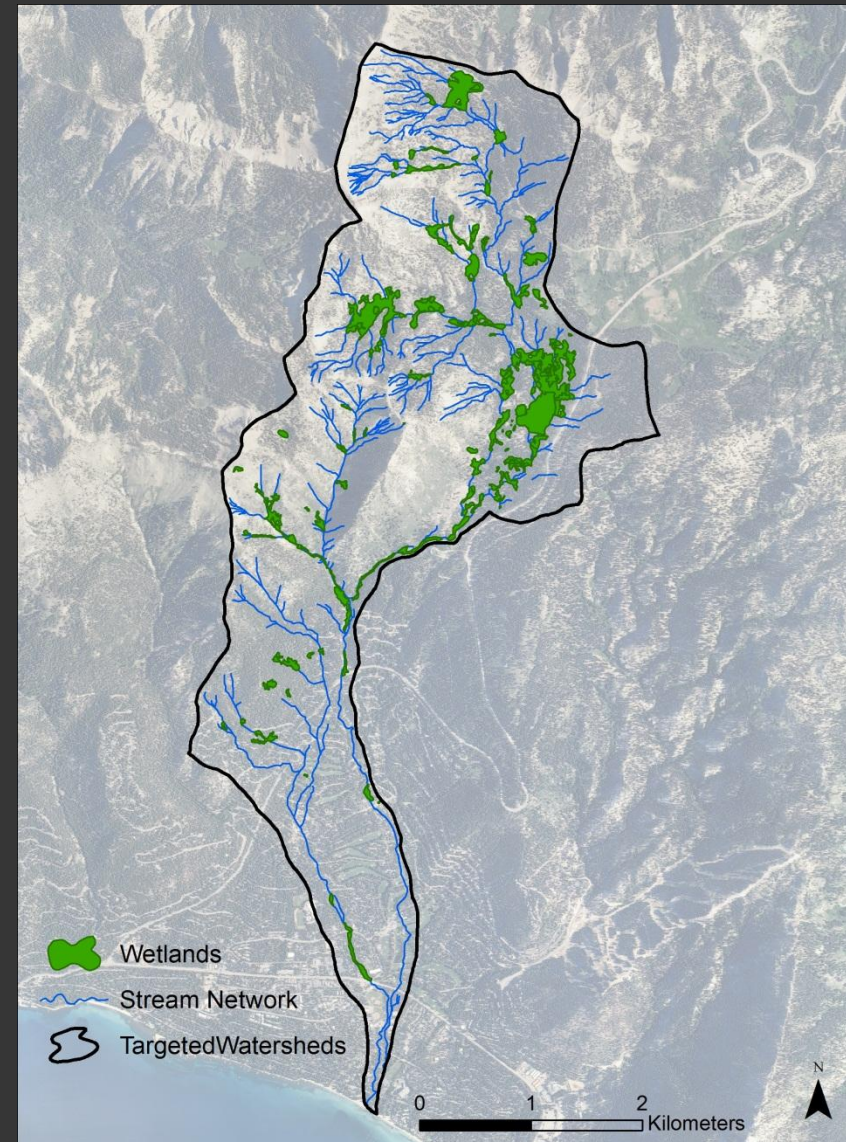


- Identify features at a scale of 1:5,000
- Map and classify based on size and vegetation cover
- Seeps
- Wet meadows
- Forested Slope Wetlands
- Depressional Wetlands
- Lacustrine Wetlands

Upper Truckee



Third Creek



Riparian Functional Areas

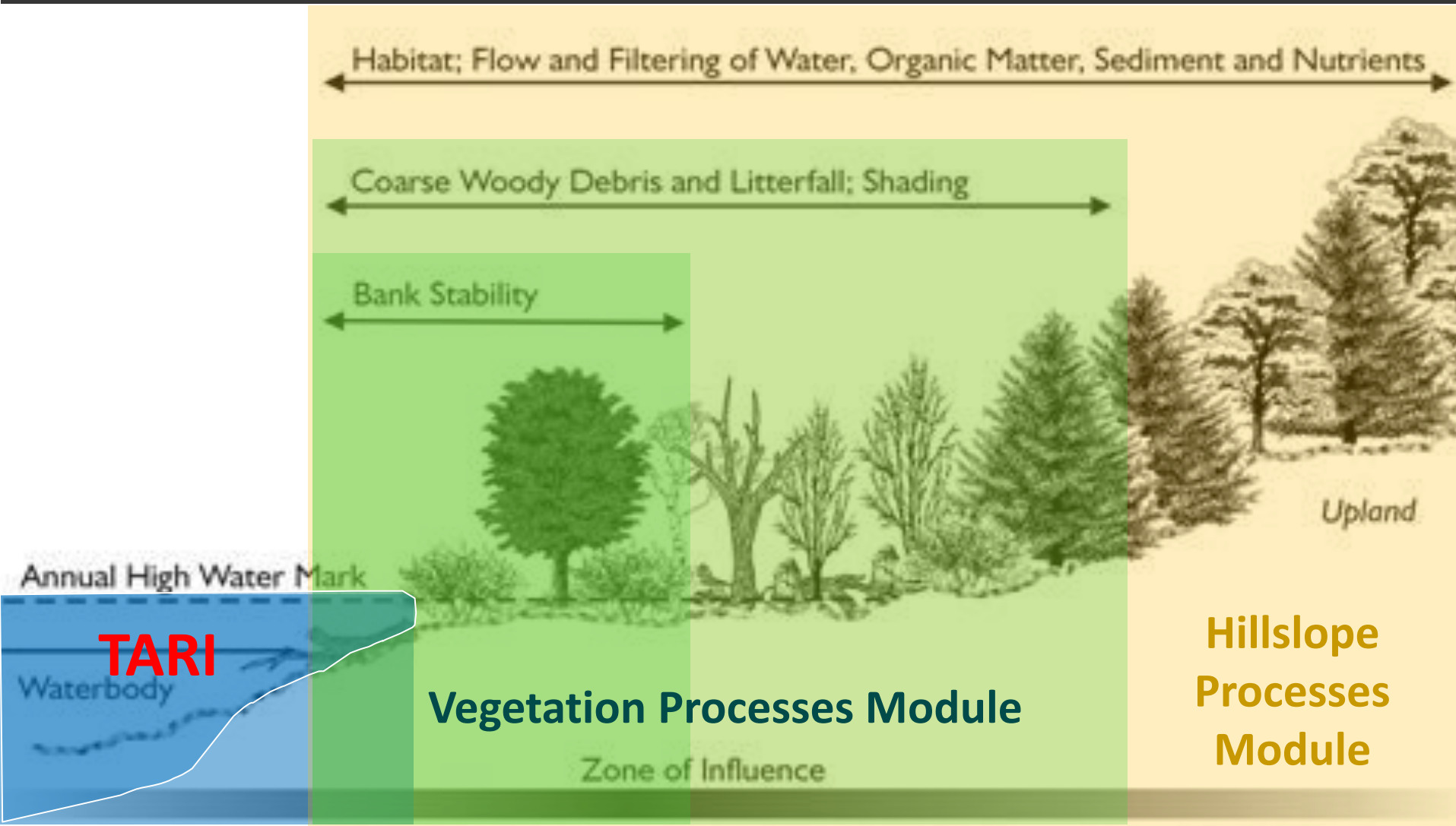


Vegetation

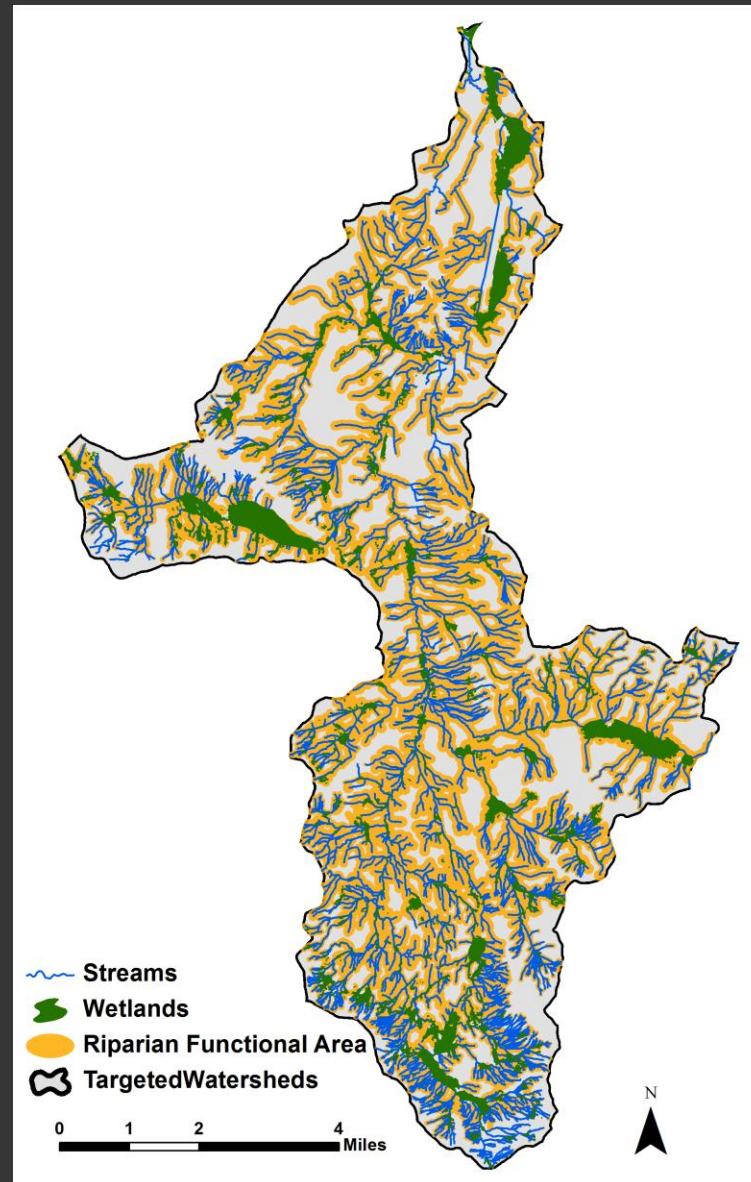
Hillslope

Modeled Riparian Functional Areas

- functionally relevant distance from waterbody
- riparian width varies with function

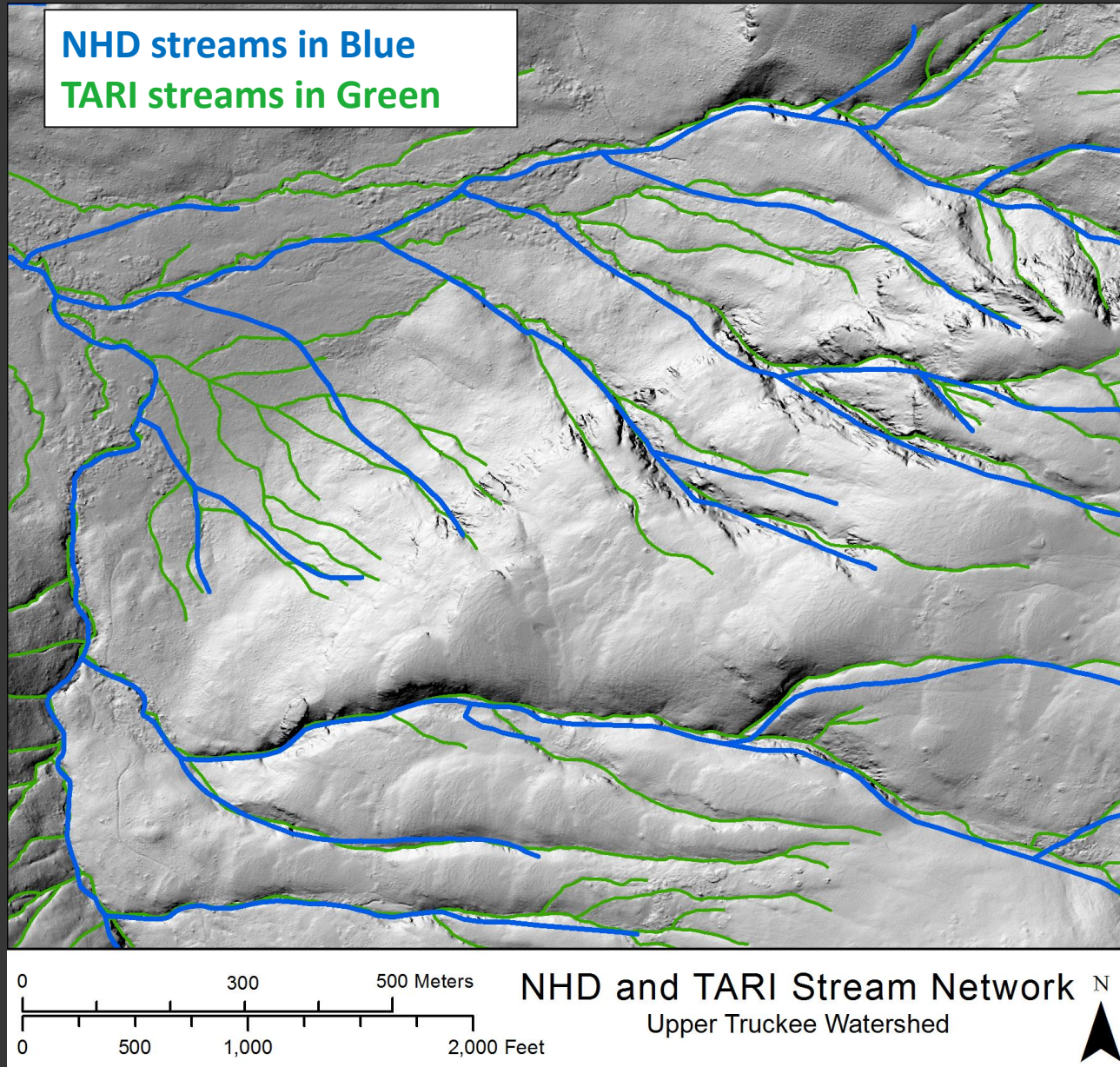


Riparian Functional Area

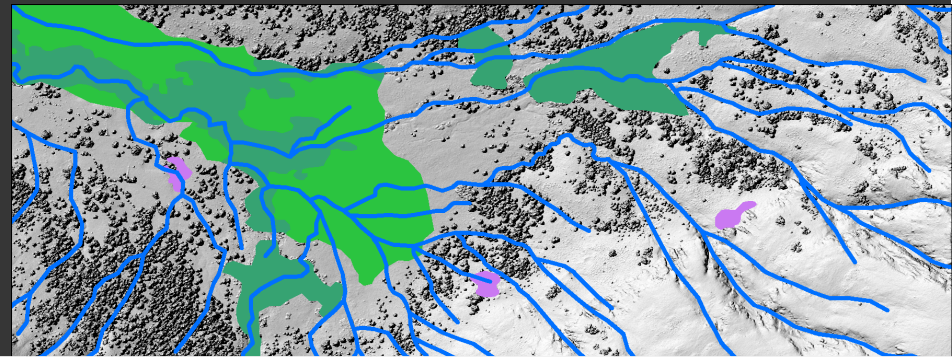
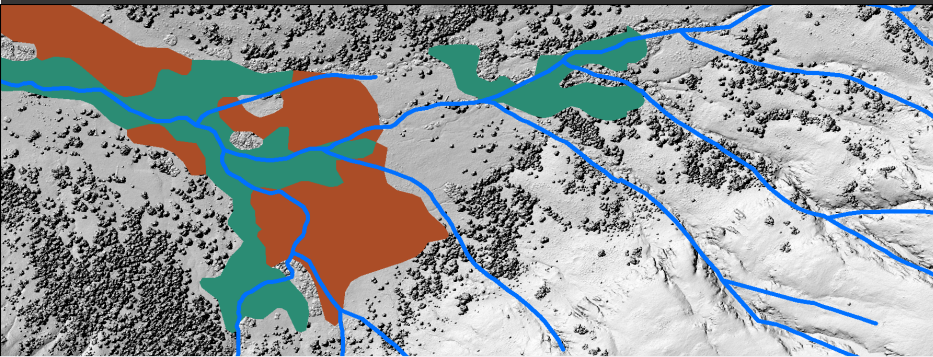


Isn't Everything Already Mapped?

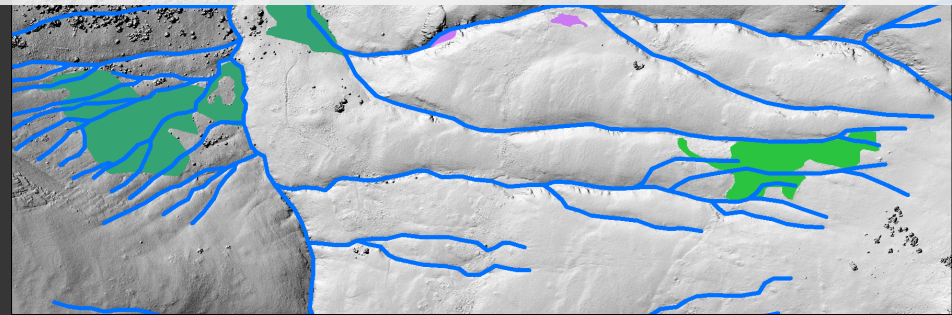
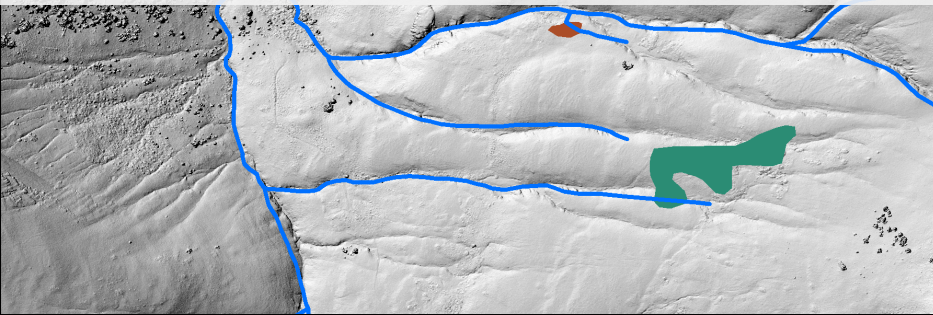
Why do we need to remap Tahoe?



Why do we need to remap Tahoe?



It's hard to protect what isn't accurately mapped.



0 300 500 Meters
0 500 1,000 2,000 Feet

NHD Stream Network
and NWI Wetlands

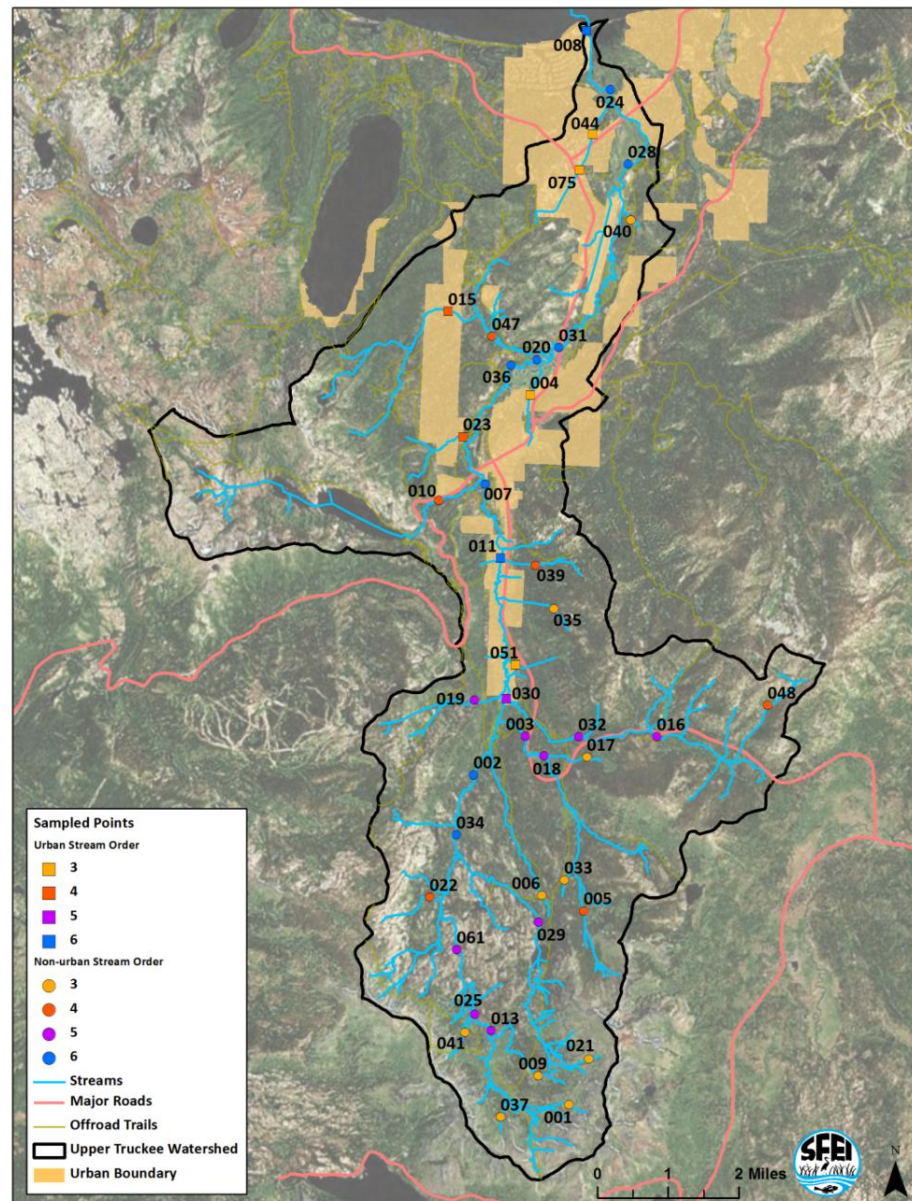


0 300 500 Meters
0 500 1,000 2,000 Feet

TARI Wetlands
and Stream Network



Why do we need to remap Tahoe?



Development of the TARI Standards

The Development of TARI Standards

- Tailored BAARI methodology to new environments
- Utilize new source datasets - LiDAR
- Transfer of methodology with periodic in person meeting and multiple web meetings

Tailoring BAARI Standards



Imagery calibration through field work

Tailoring BAARI Standards



Helped in areas where imagery and LiDAR weren't enough.

Tailoring the BAARI Standards

Wet Meadow Mapping



Development of mapping methods for new habitat types

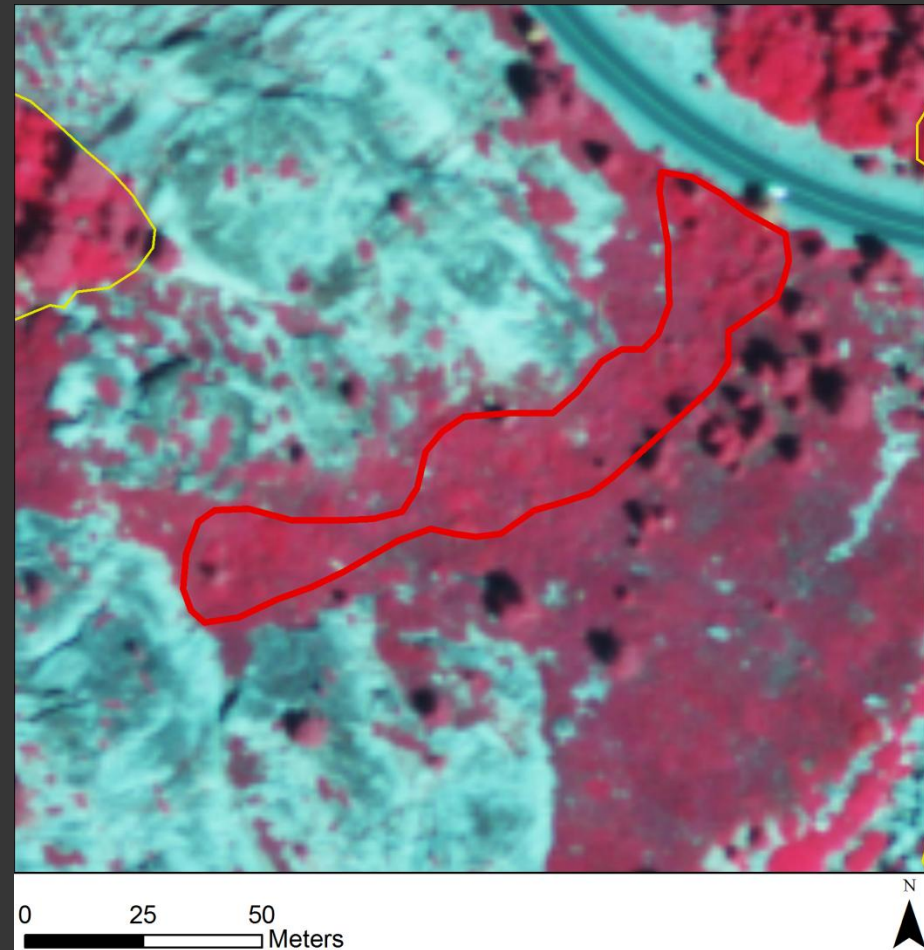
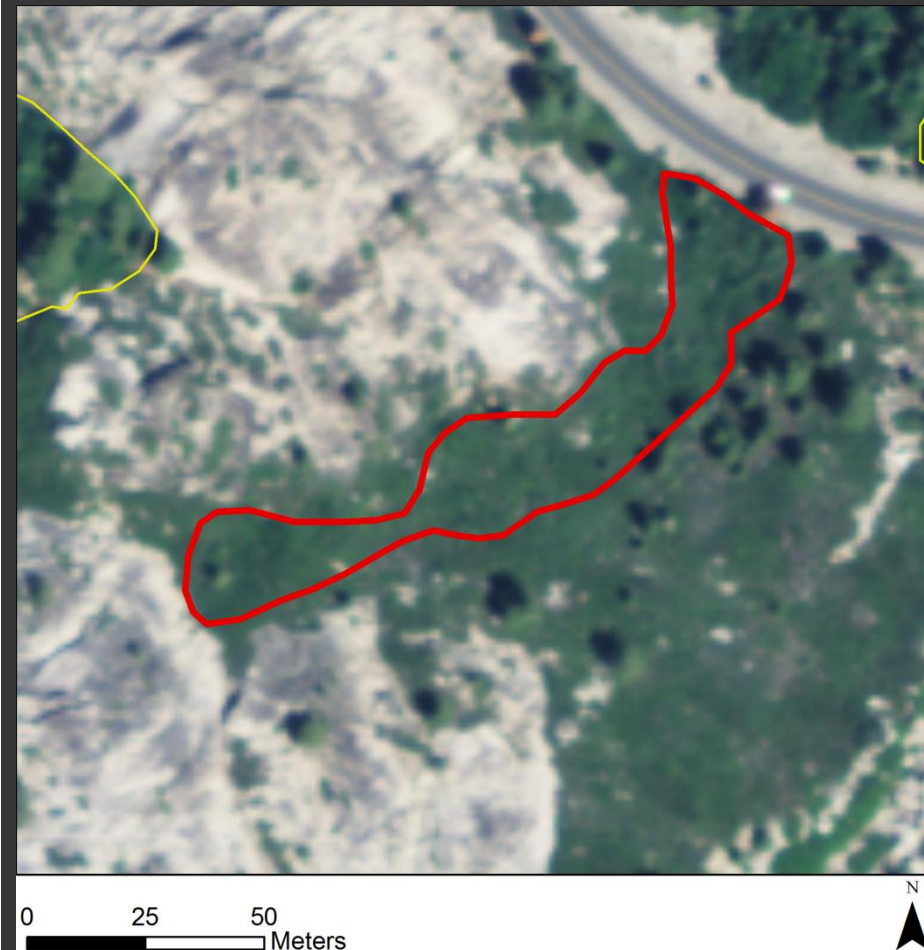
Tailoring the BAARI Standards

Forested Slopes



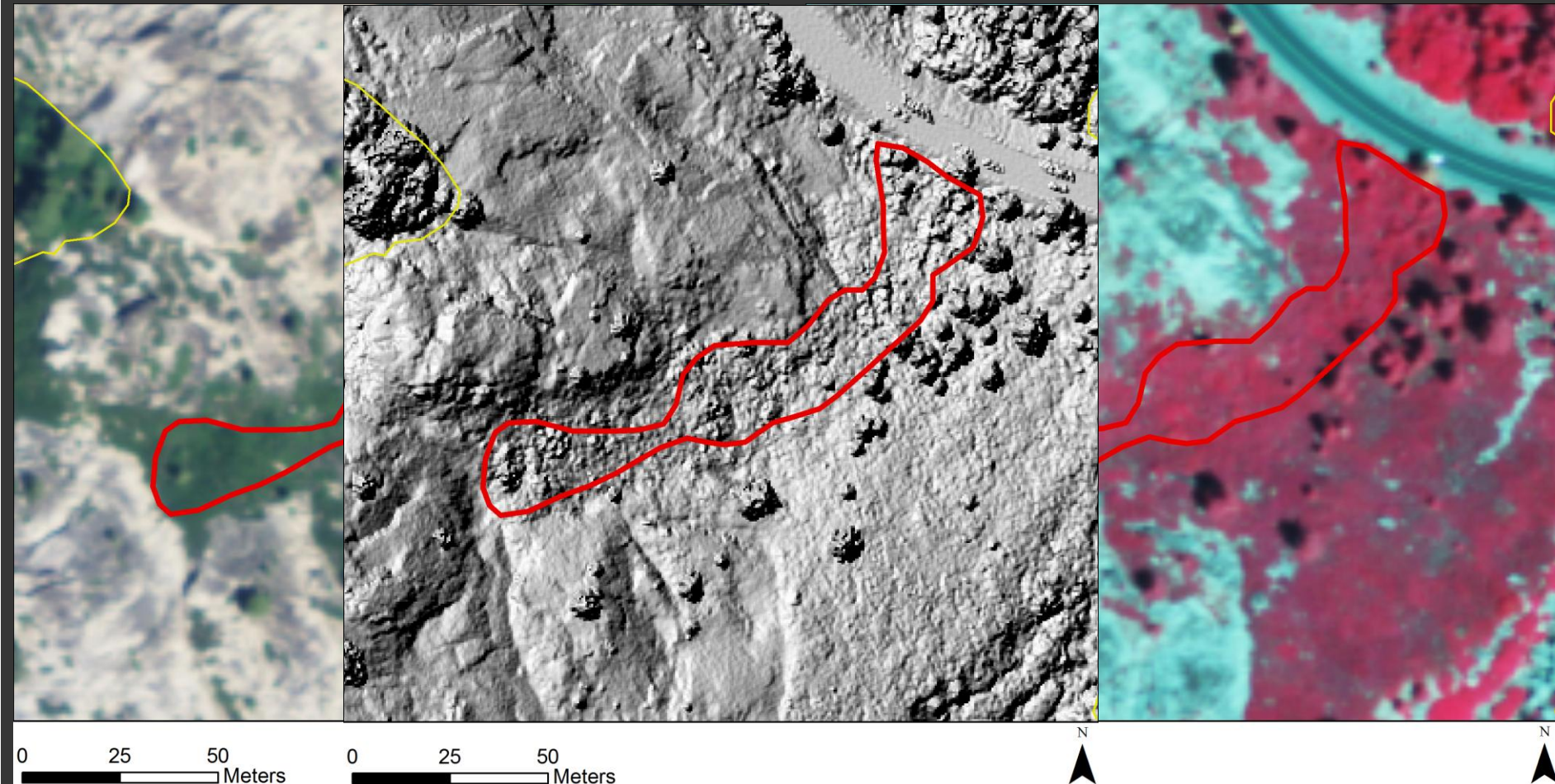
Tailoring the BAARI Standards

- Forested slope mapping methodology

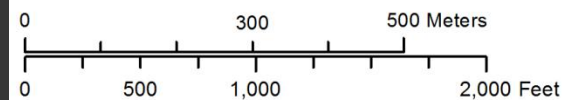
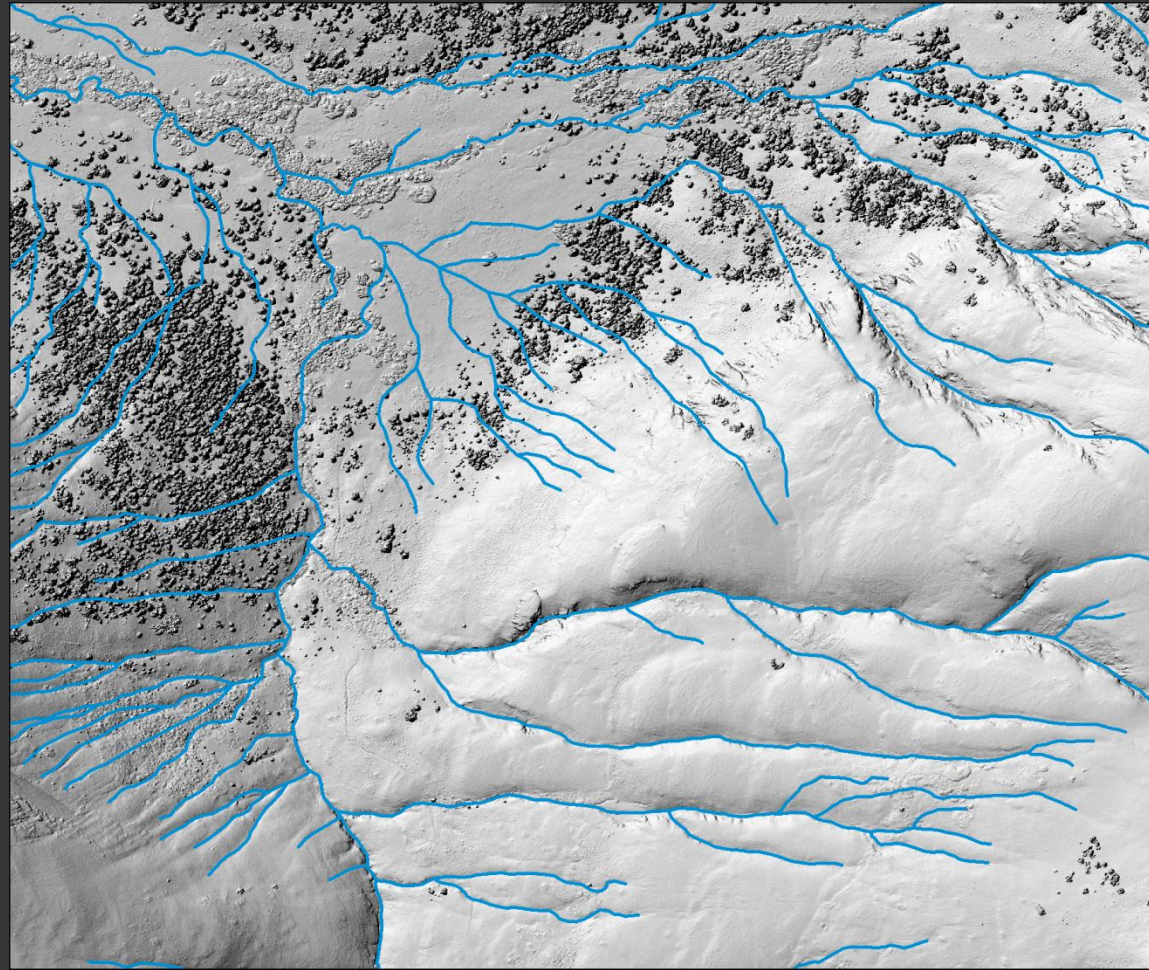


Tailoring the BAARI Standards

- Forested slope mapping methodology



Utilization of LiDAR

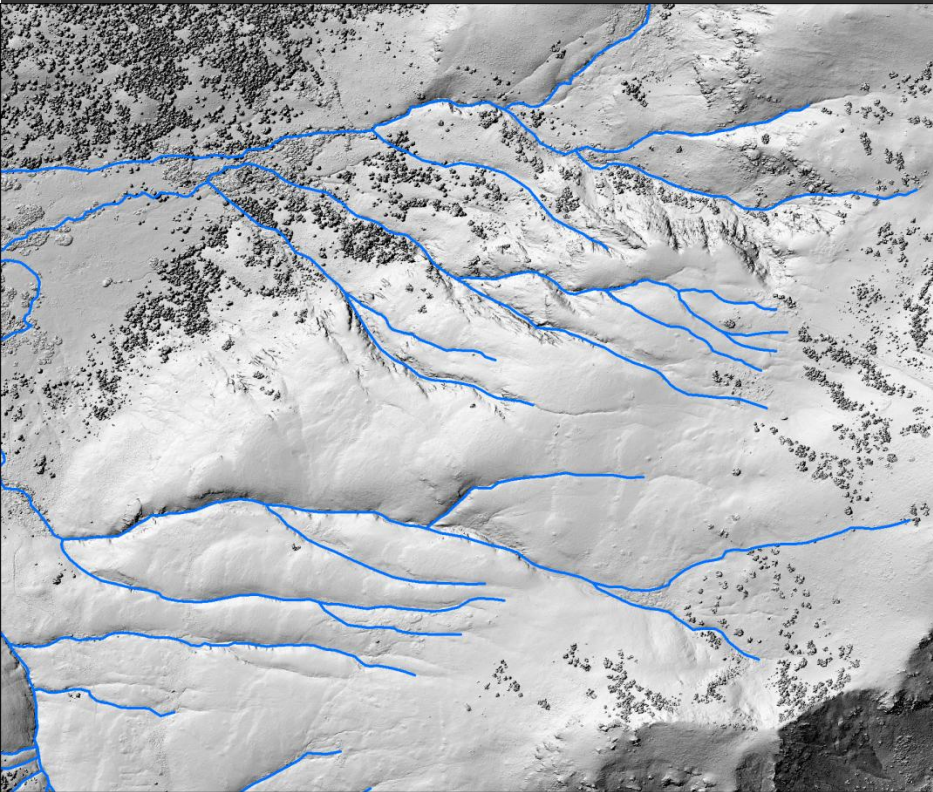


TARI Stream Network
Upper Truckee Watershed



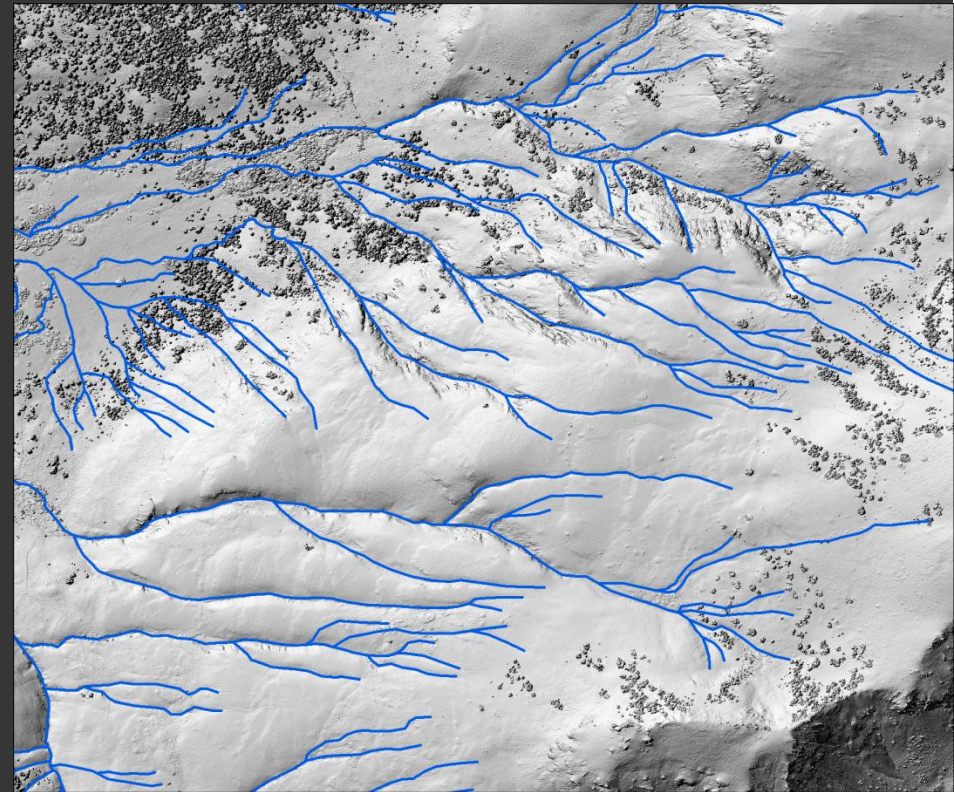
- Hydro-enforced Dem used for flow modeling
- LiDAR hillshade used for mapping visualization
- Highest Hit/tree height hillshade use to visualize the vegetation

Utilization of LiDAR



0 300 625 Meters
0 625 1,250 2,500 Feet

Stream Network
Non-Lidar Mapping

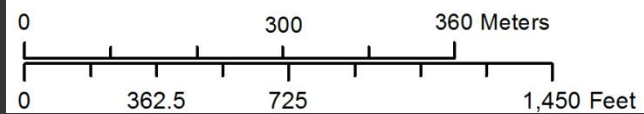
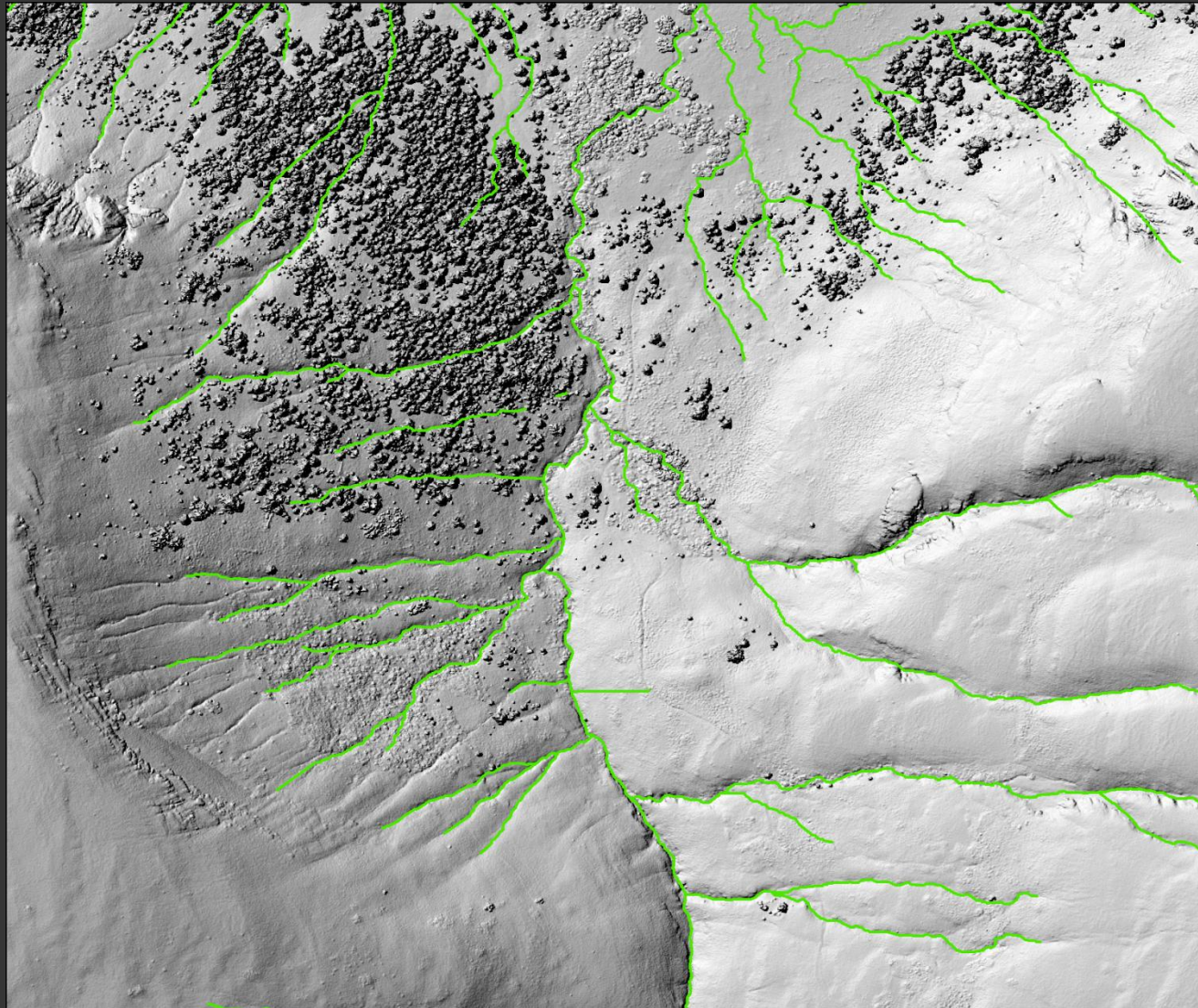


0 300 625 Meters
0 625 1,250 2,500 Feet

Stream Network
Lidar Mapping



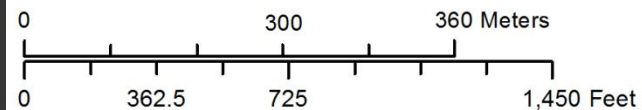
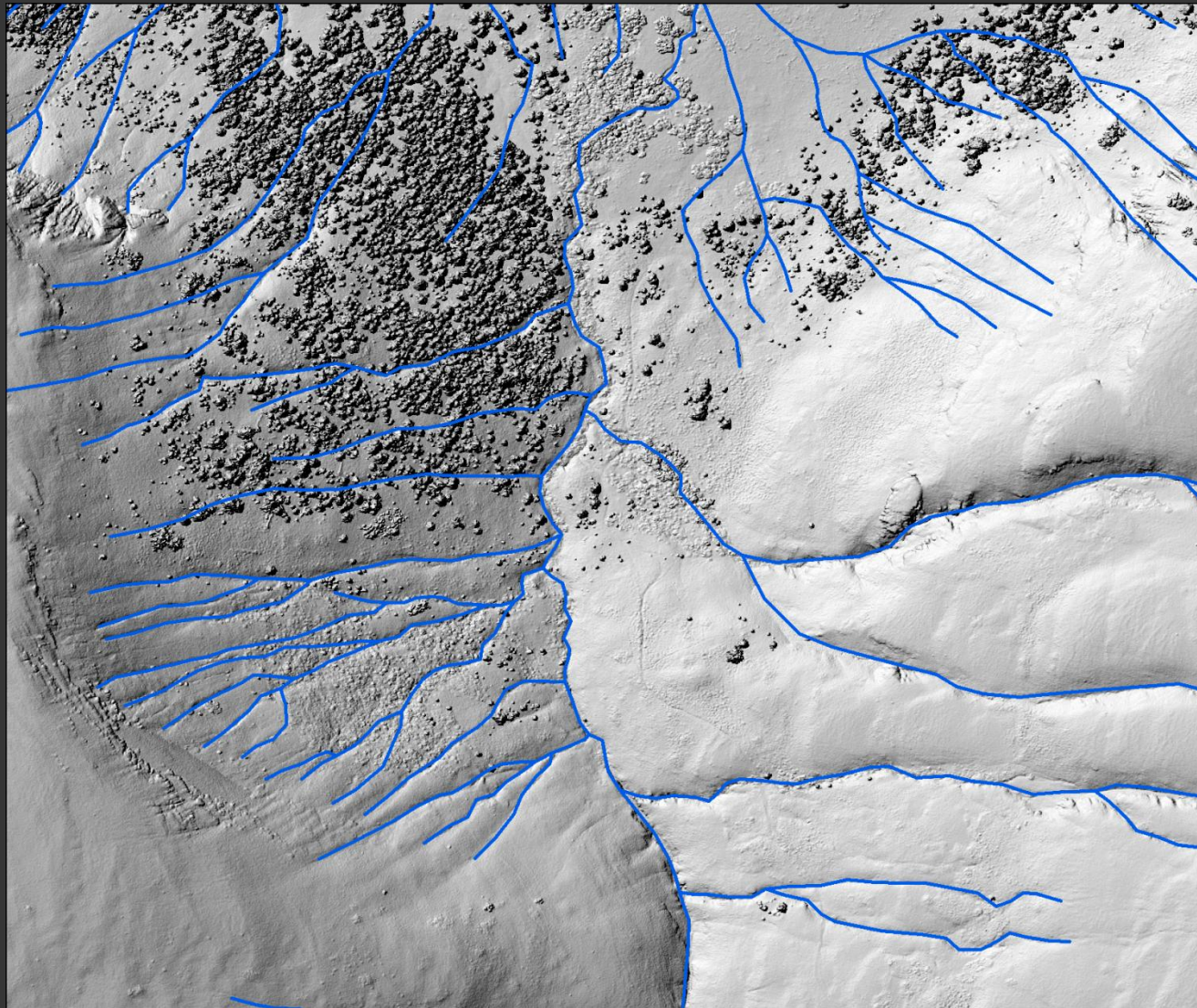
ArcHydro



ArcHydro



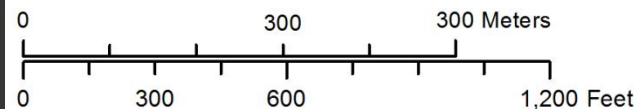
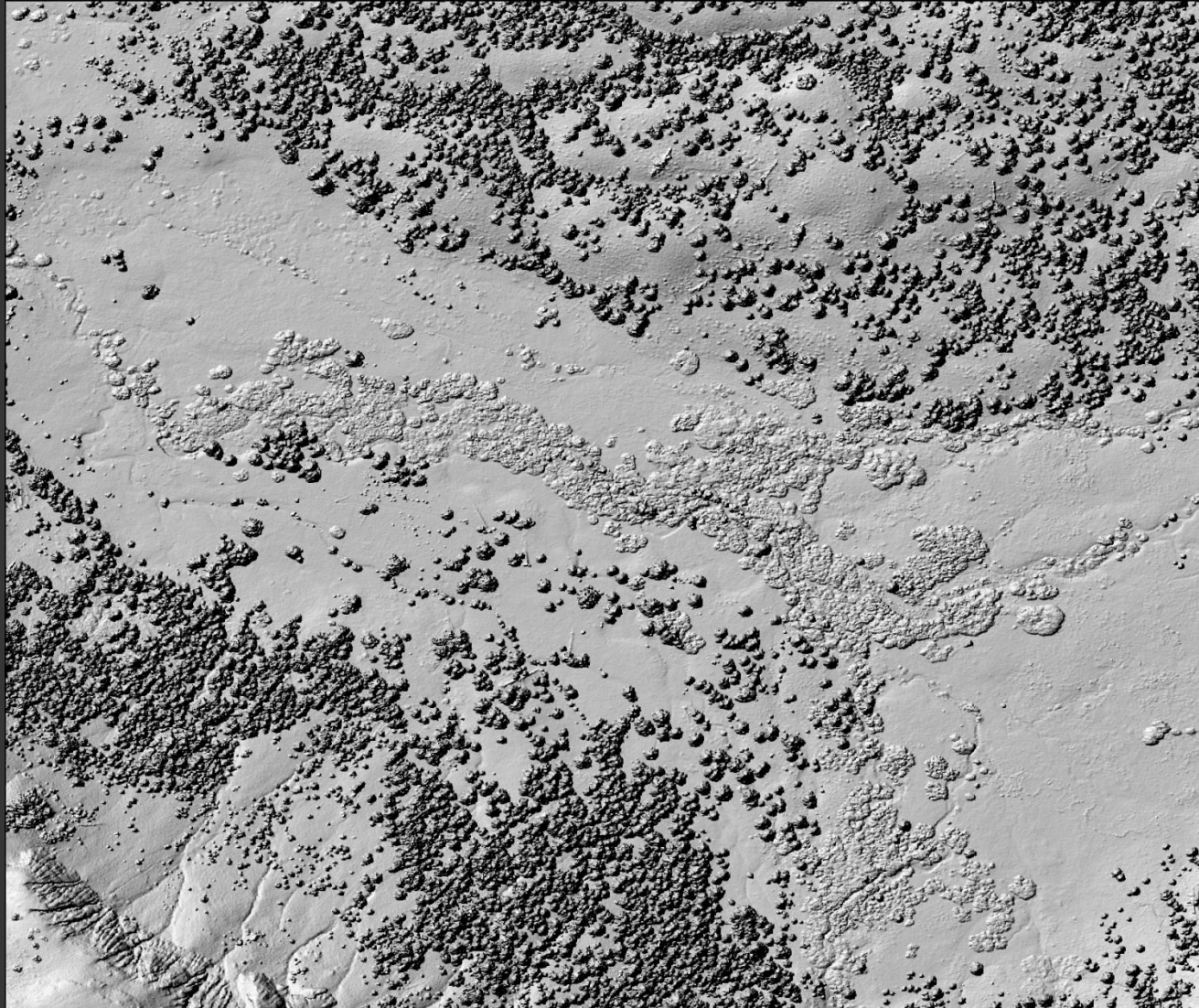
TARI Stream Network



TARI Stream Network



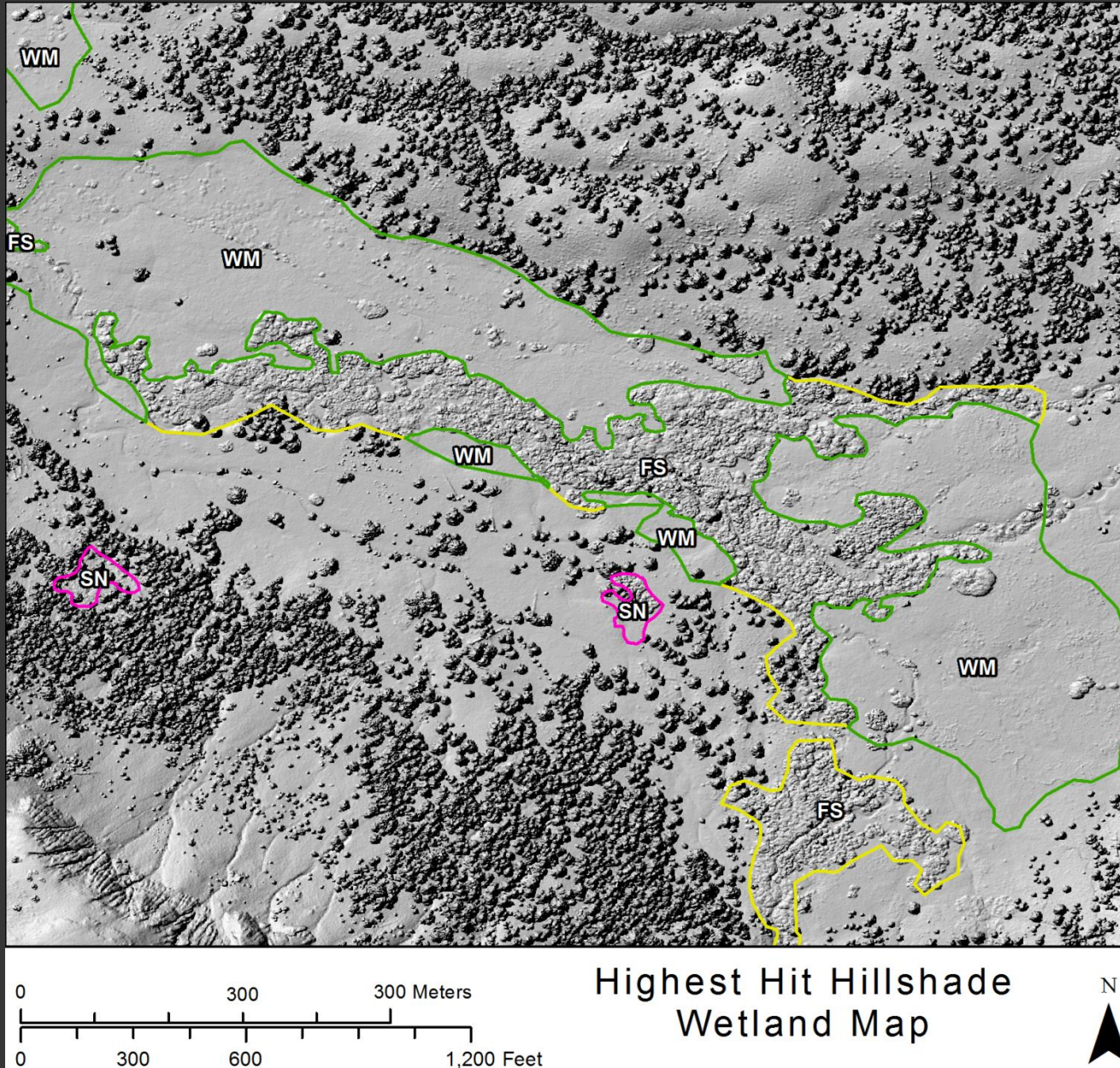
LiDAR Vegetation Differentiation



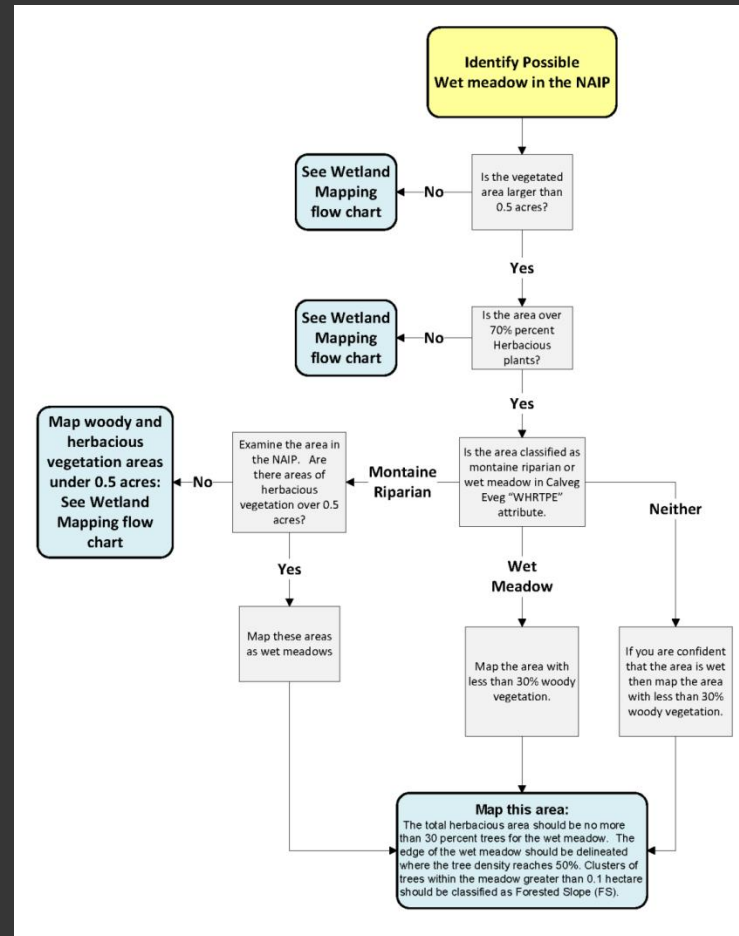
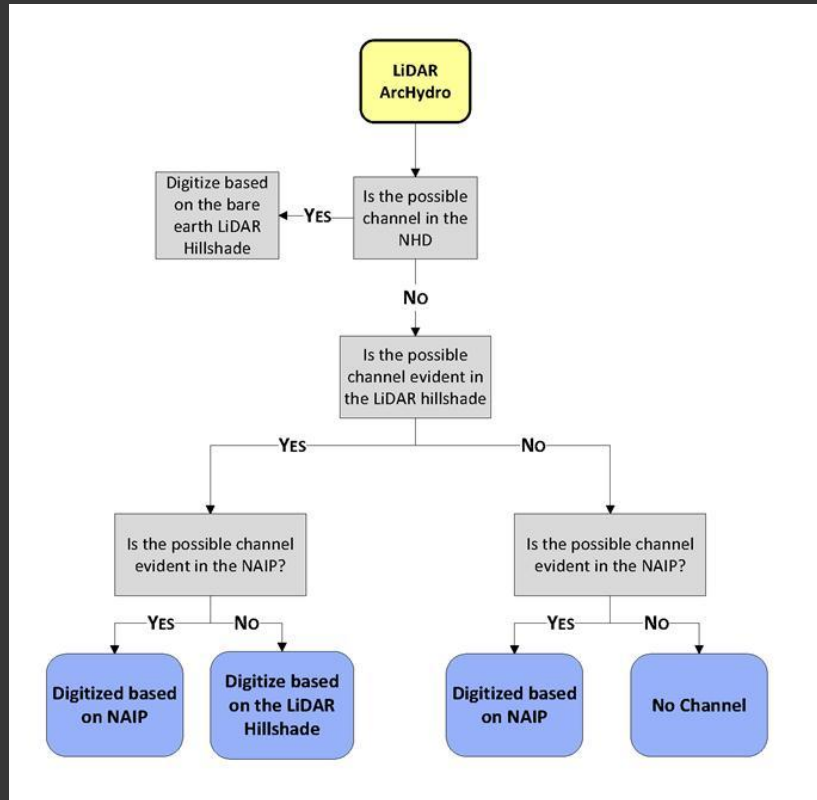
Highest Hit Hillshade



LiDAR Vegetation Differentiation



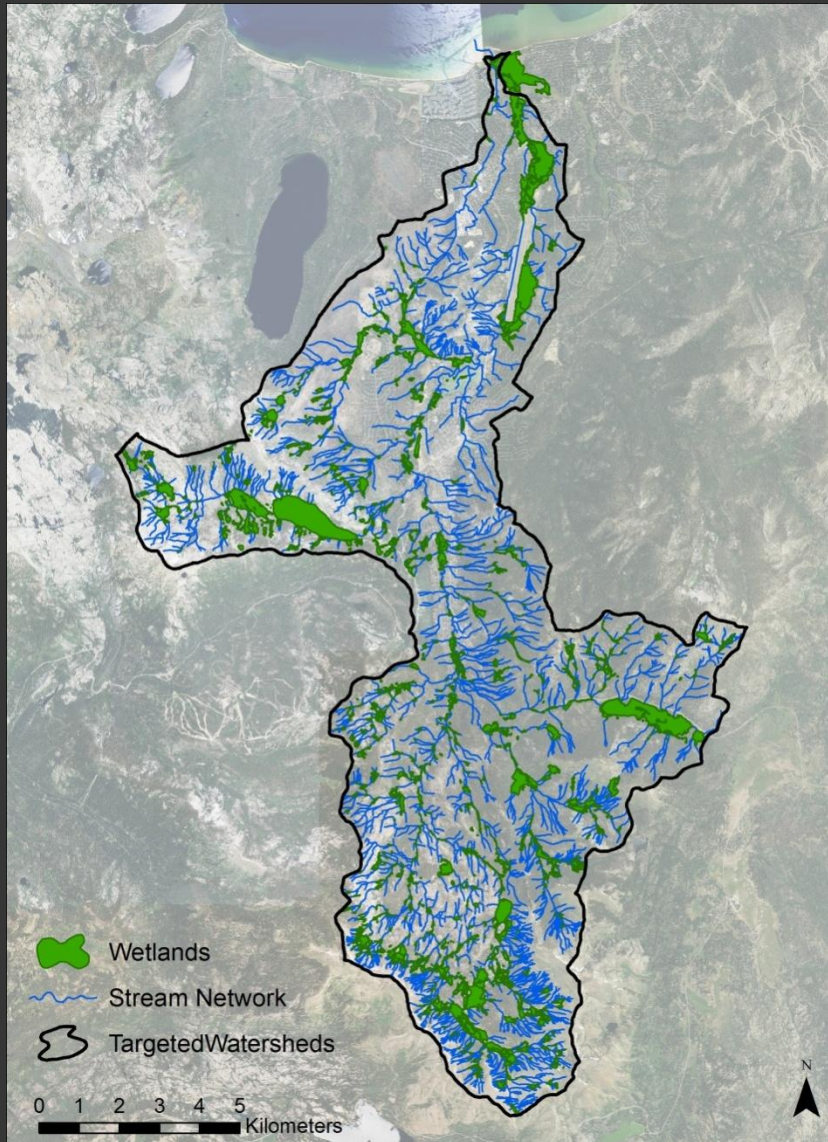
Development of Flow Charts



TARI Next Steps

- Local review of maps and methods
- Incorporation of local edits into maps
- Upload to Wetland Tracker
- Demonstration of Landscape Profile tool

Upper Truckee



Third Creek

