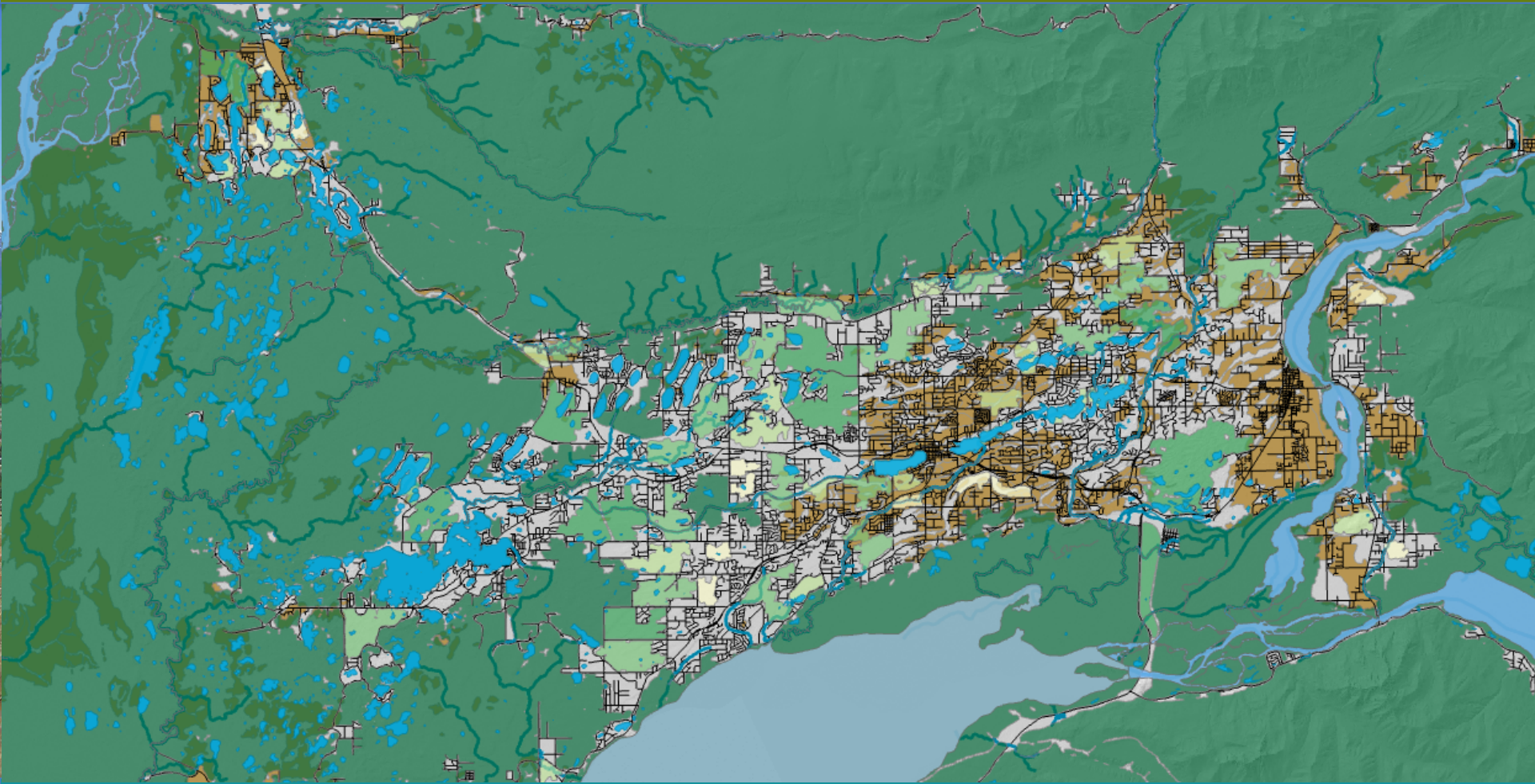


A GIS Model for Mapping Community Assets



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OUR MISSION




Conserving and stewarding lands and waters essential to the quality of life and economic health of Alaskans.

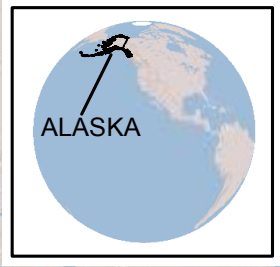
Conservation benefiting people and communities.



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 Great Land Trust Service Area



GLT FOCUS AREAS

**HABITAT
ACCESS
PARTNERSHIPS
HAPPINESS**



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Benefits of Community Asset Driven Conservation



Protect the Environment

Community Assets, or Green Infrastructure, protects the health and diversity of wildlife and maintains natural systems that deliver critical, life-sustaining services



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Benefits of Community Asset Driven Conservation



*Help the
Economy Thrive*

Community Assets, or Green Infrastructure, benefits property values, lowers health care costs, and helps communities make smarter investments in grey infrastructure



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Benefits of Community Asset Driven Conservation



Enhance Quality of Life

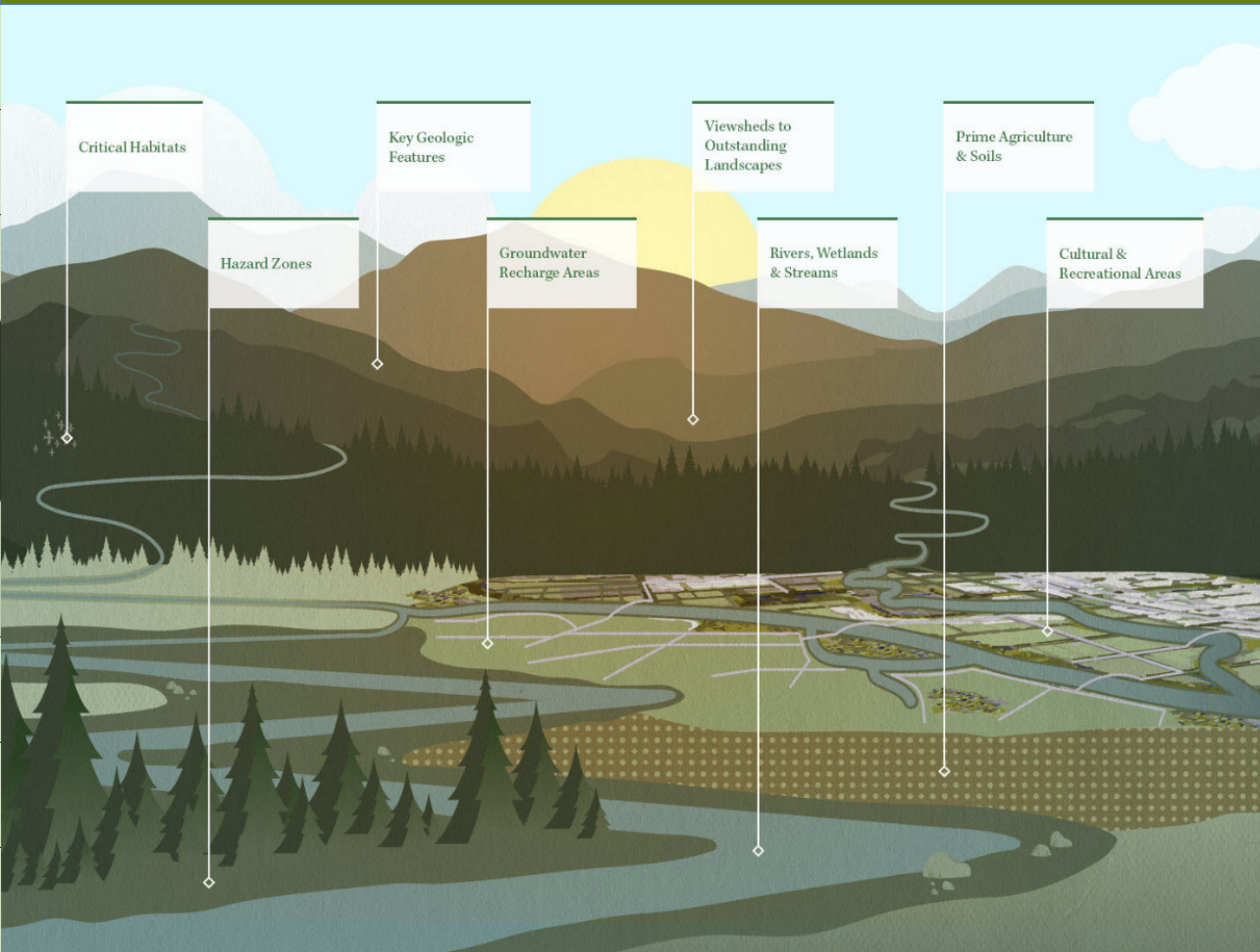
Community Asset Mapping, or Green Infrastructure Planning, ensures that people connect with nature; have access to clean air and water; and live healthier, happier lives.



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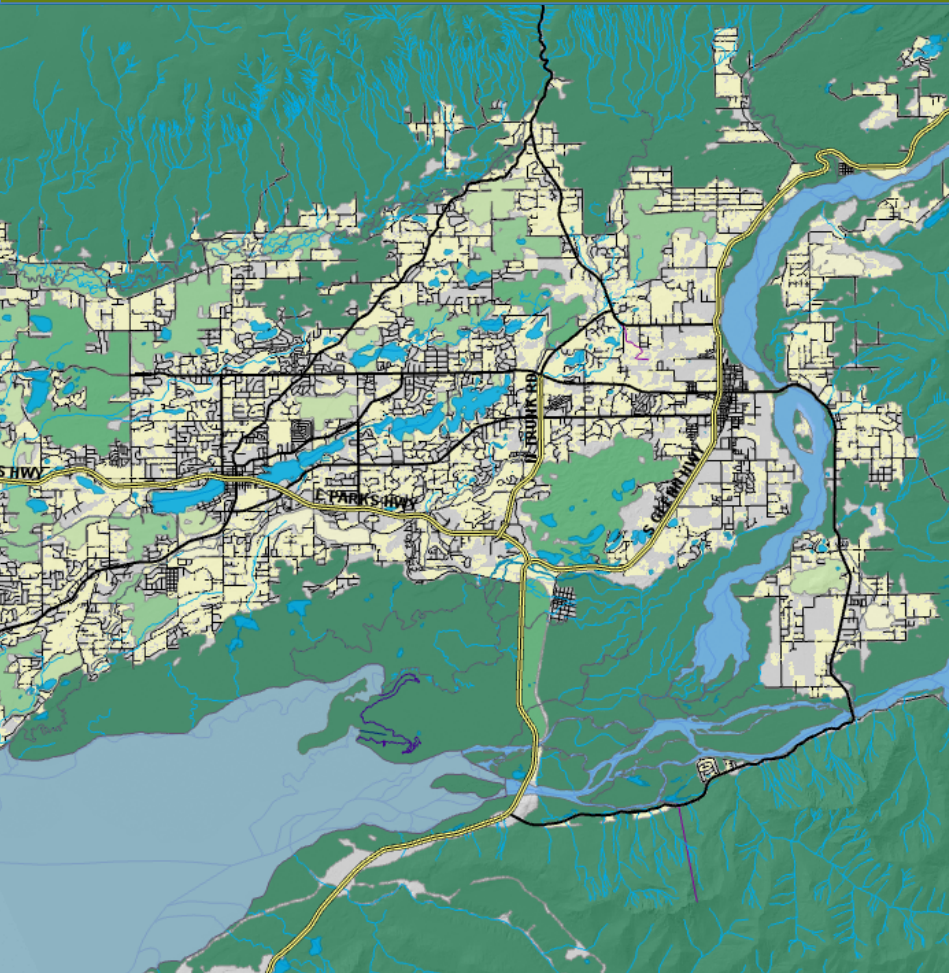
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Community Assets – Green Infrastructure



- Critical Habitats
- Hazard Zones
- Geologic Features
- Groundwater Recharge Area
- Scenic Viewsheds
- Rivers, Lakes, Wetlands
- Prime Farmland Soil
- Cultural and Recreational Areas

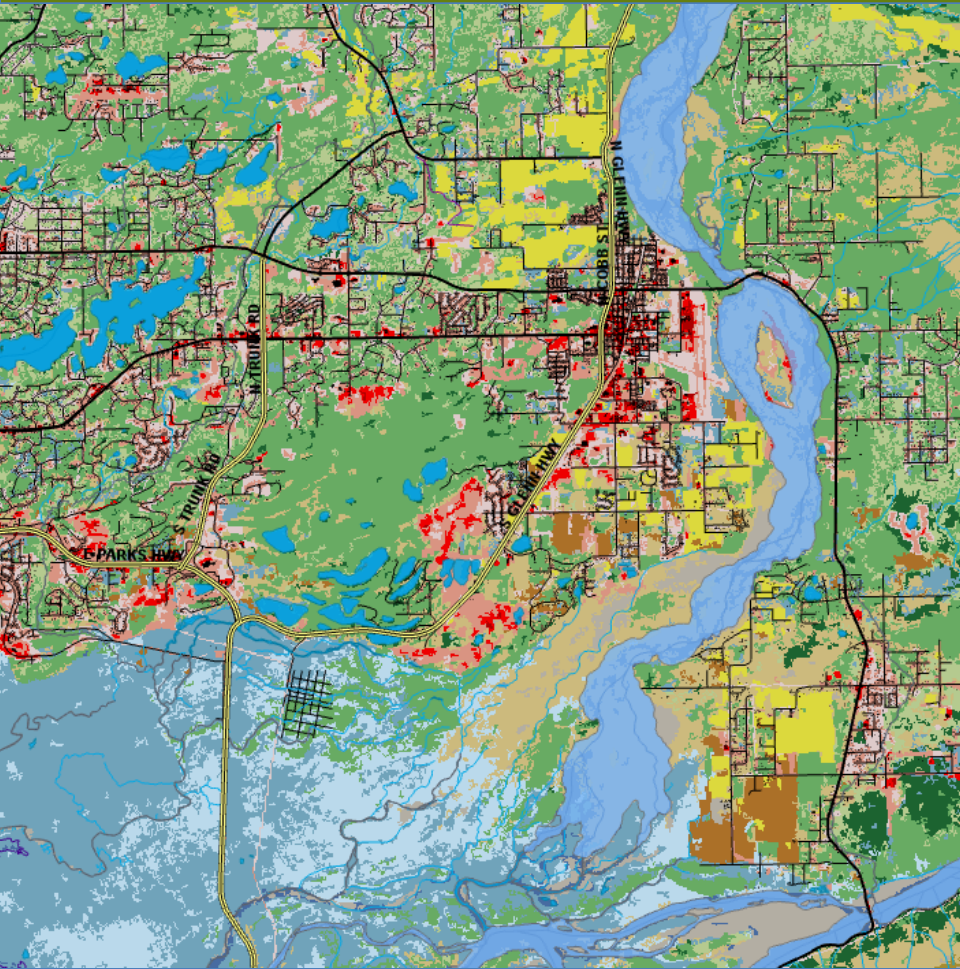
Steps to Create GIS Model of Community Assets



*Model Adapted from GIS toolbox
and script developed by the Green
Infrastructure Center/ESRI*

1. Identify large habitat - Hubs
2. Identify smaller habitat patches
3. Calculate metrics for each Hub
4. Rank Hubs based on metrics to prioritize conservation decisions
5. Wildlife Corridor

Step 1: Identify Large Habitat Patches - Hubs



Identify Landcover types such as wetlands, forest, and waterbodies that are contiguous

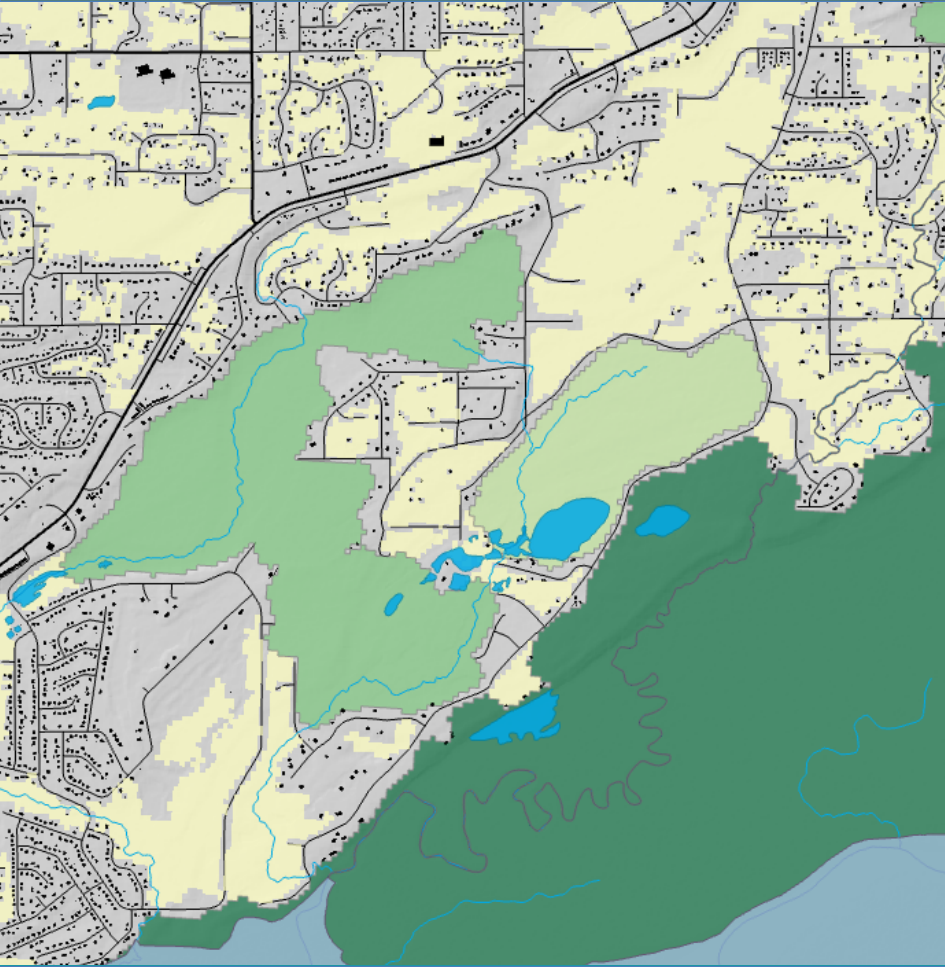
- National Land Cover Dataset
- National Wetlands Inventory
- Agricultural Land not considered



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Step 2: Assess Fragmentation



Bring together data representing infrastructure

- Buildings
- Roads
- Railroads
- Urbanized Areas

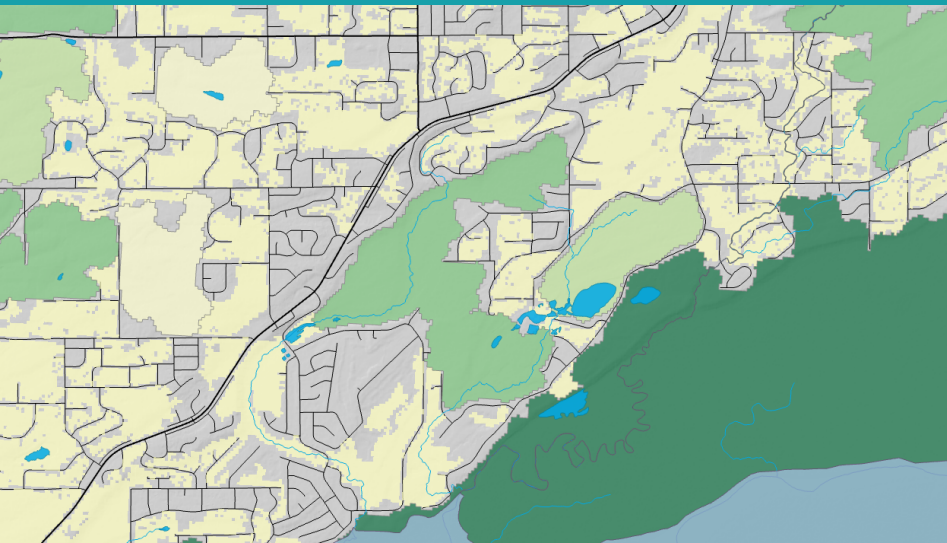


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Step 3: Calculate Metrics

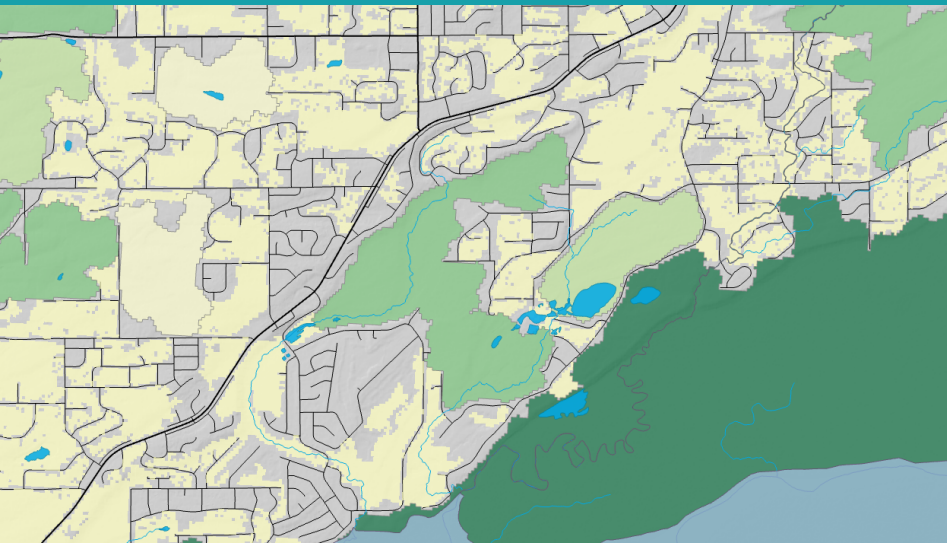
Calculate a variety of statistics based on what each Hub contains



- Area, Thickness, P/A Ratio
- Topographic Diversity – 5m DEM
- Soil Diversity - SSURGO
- Species Richness - AKNHP
- Percent Wetland Cover - NWI
- Compactness Ratio – Roundness
- Stream Density - NHD
- Anadromous Diversity - AWC

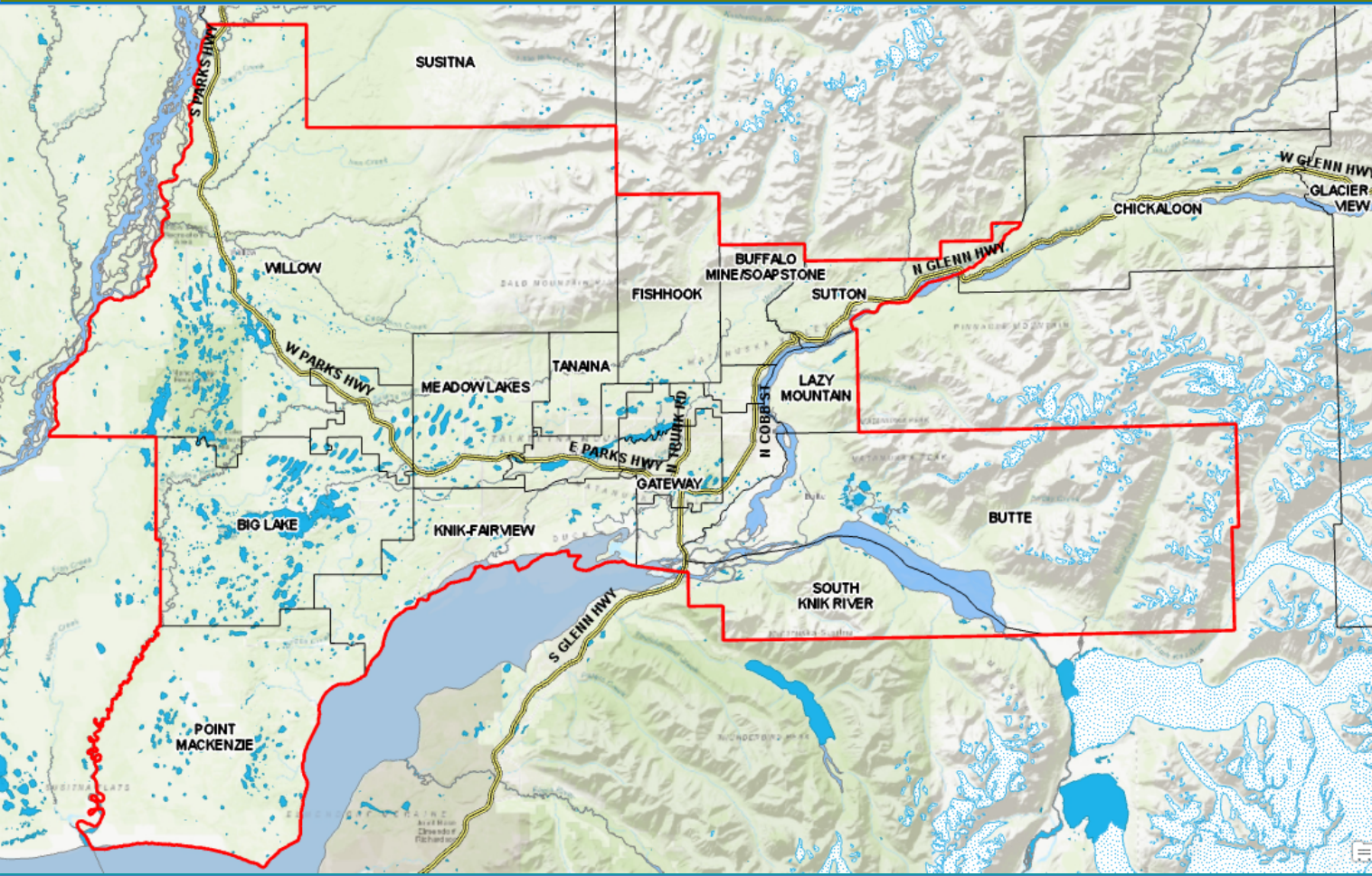
Step 4: Rank Habitat Hubs

Each Hub ranked against each other based on which quintile they fall into for each attribute then summed giving greater weight to area



- Area, Thickness
- Topographic Diversity – 5m DEM
- Species Richness - AKNHP
- Percent Wetland Cover - NWI
- Soil Diversity - SSURGO
- Compactness Ratio – Roundness
- Stream Density - NHD
- Anadromous Diveristy - AWC

Area of Interest – 16 CC, 1570 sq miles



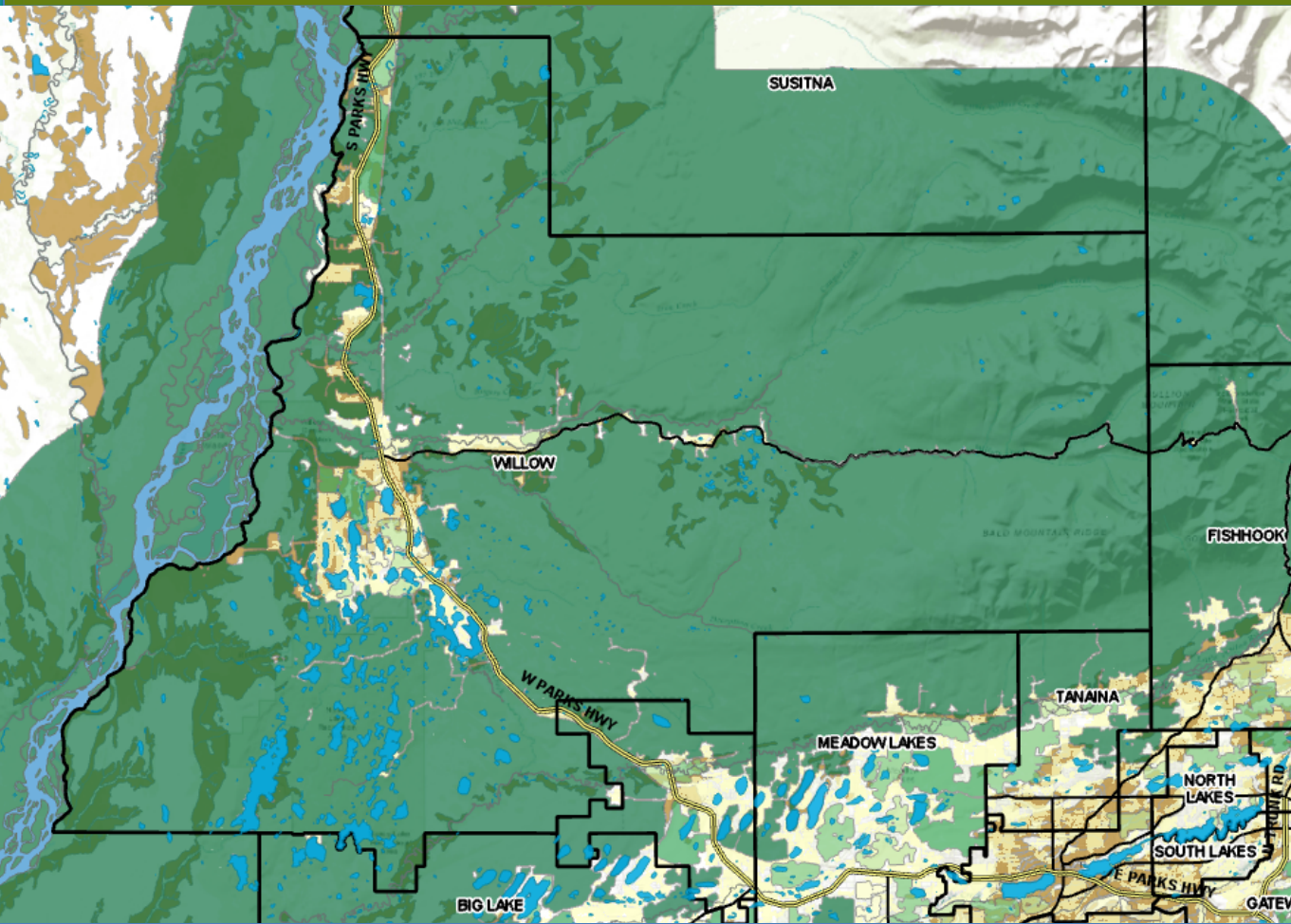
- Big Lake
- Buffalo Mine/Soapstone
- Butte
- Farm Loop
- Fishhook
- Gateway
- Knik-Fairview
- Lazy Mountain
- Meadow Lakes
- North Lakes
- Point Mackenzie
- South Knik River
- South Lakes
- Sutton
- Tanaina
- Willow



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Highlights - Willow



Willow

- Habitat
- Water
- Wetlands
- Anadromous diversity
- Stream length

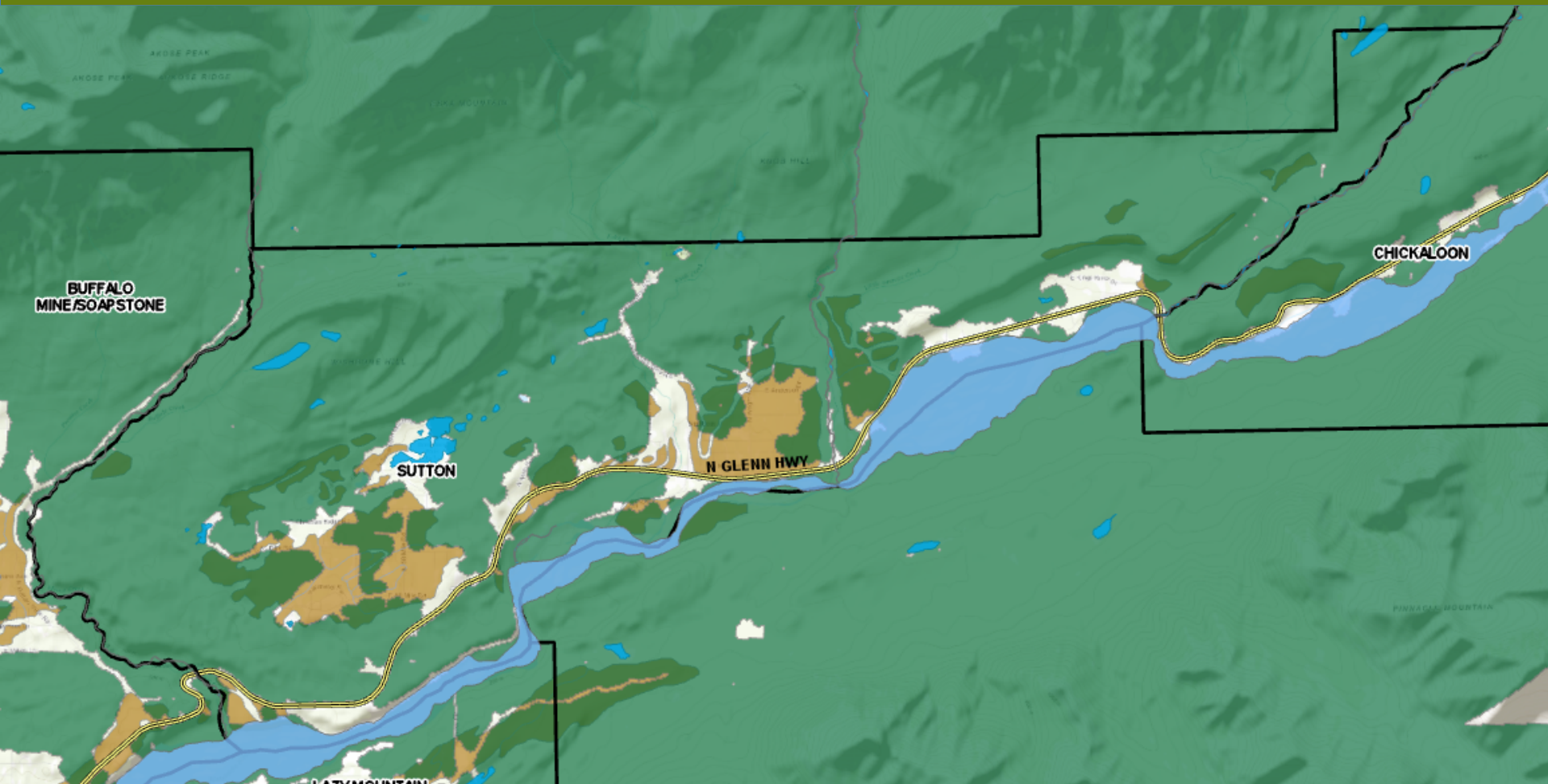


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Highlights - Sutton

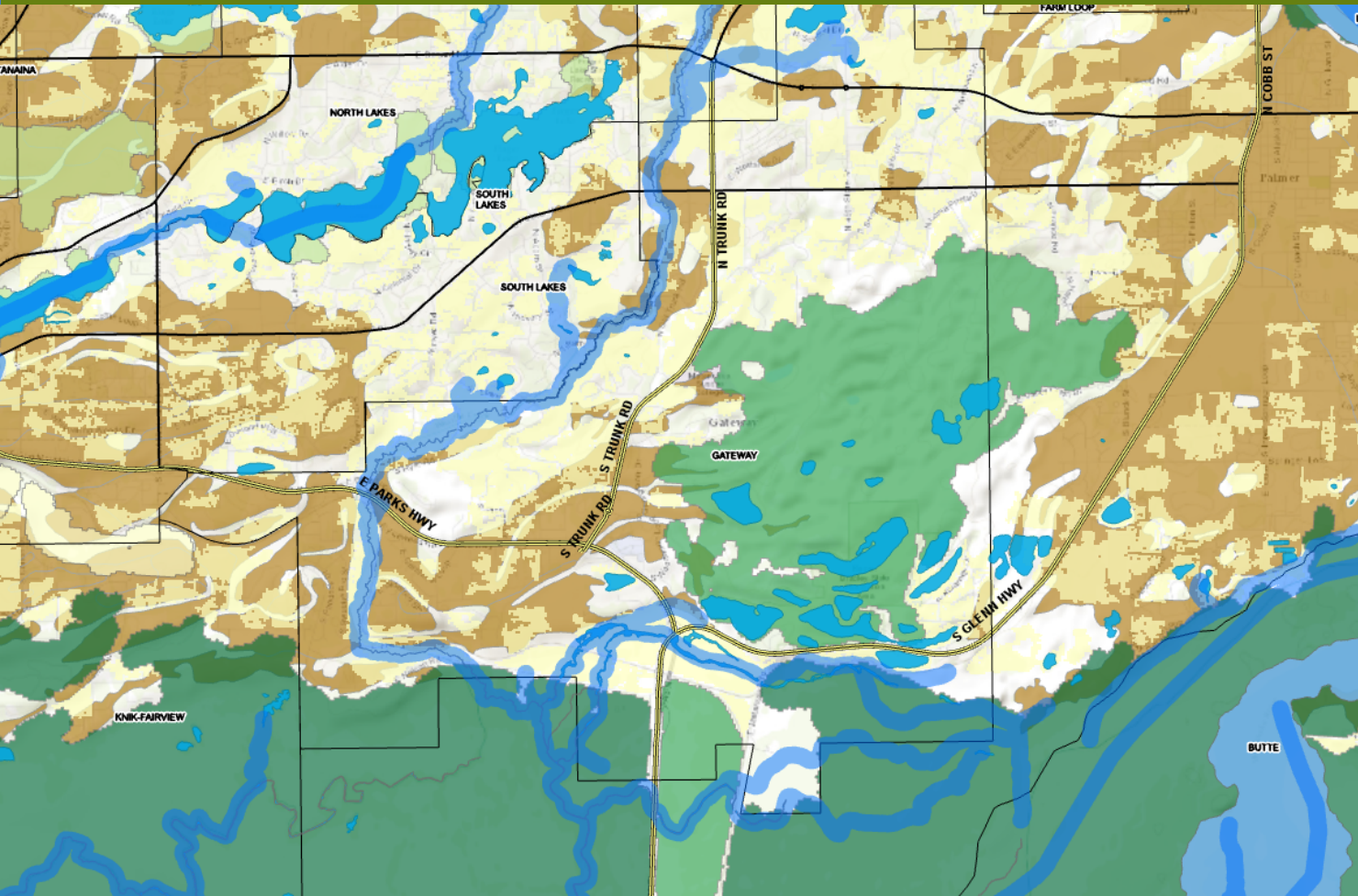
Most Topographic Diversity, Soil Diversity, Highest Mean Rank, Mean Area



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Highlights - Gateway



- Water/Hub
- Wetland Area/Hub
- Anadromous Diversity

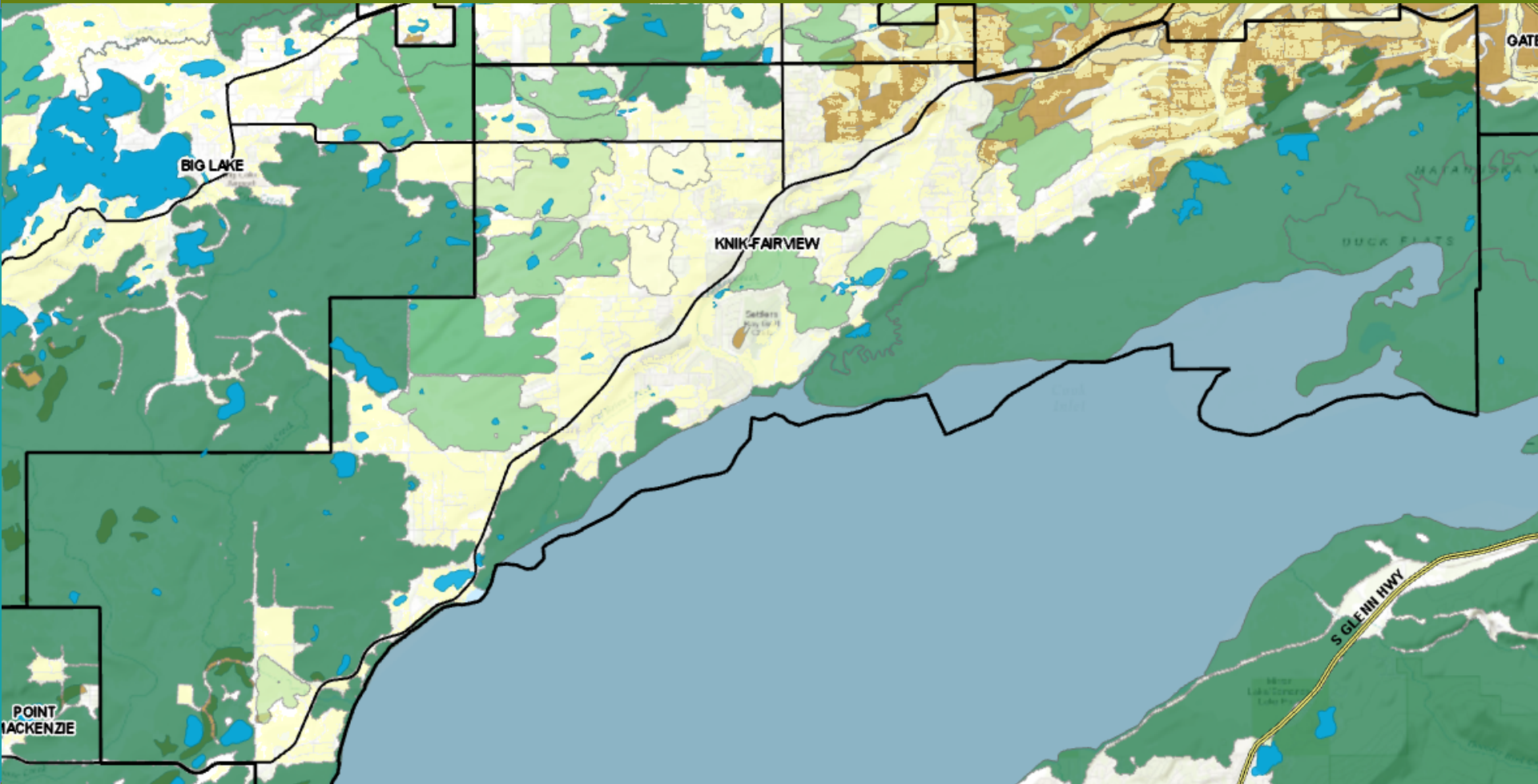


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Highlights – Knik Fairview

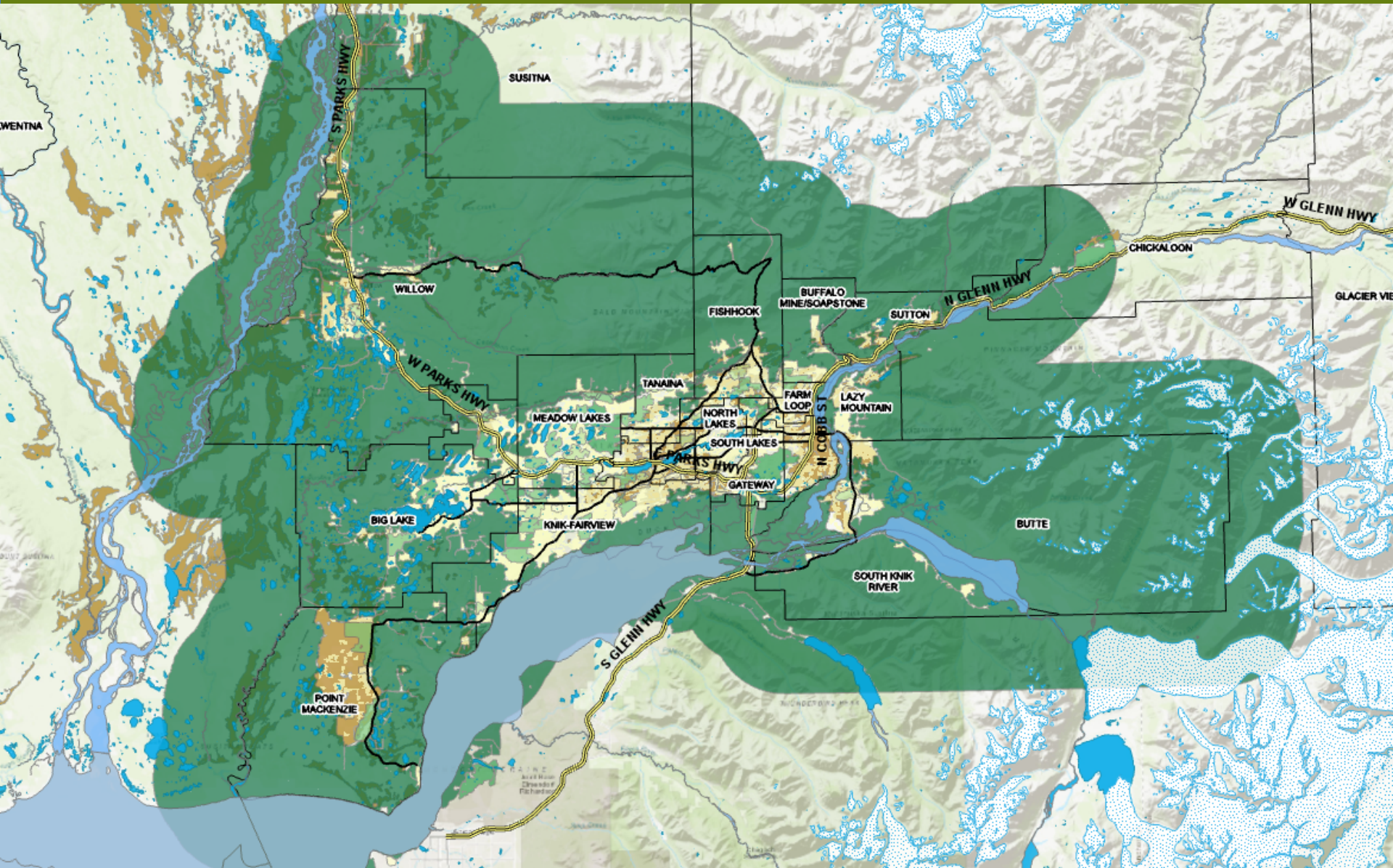
Highest Species Richness



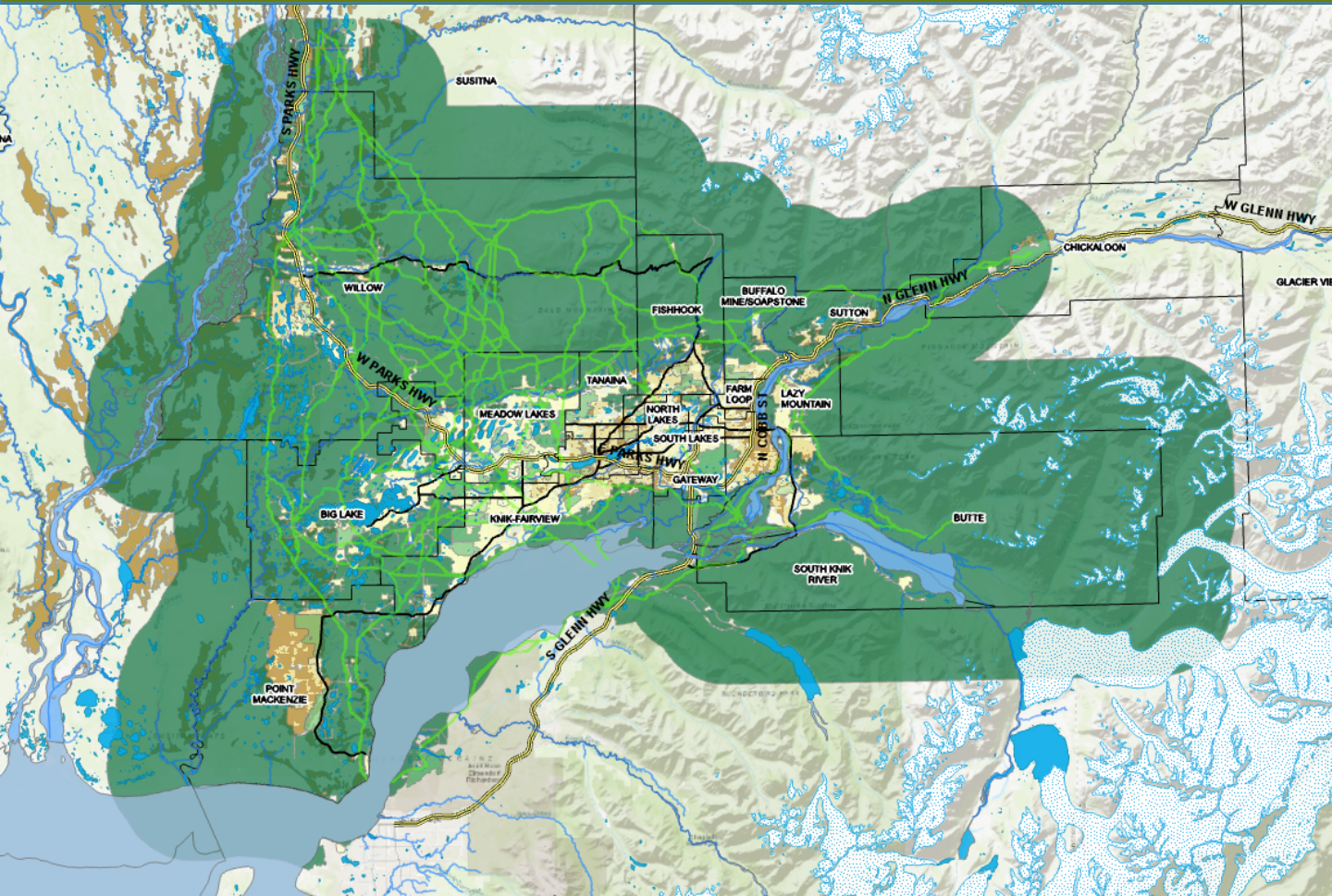
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Community Asset Map



Step 5: Modelling Wildlife Corridors



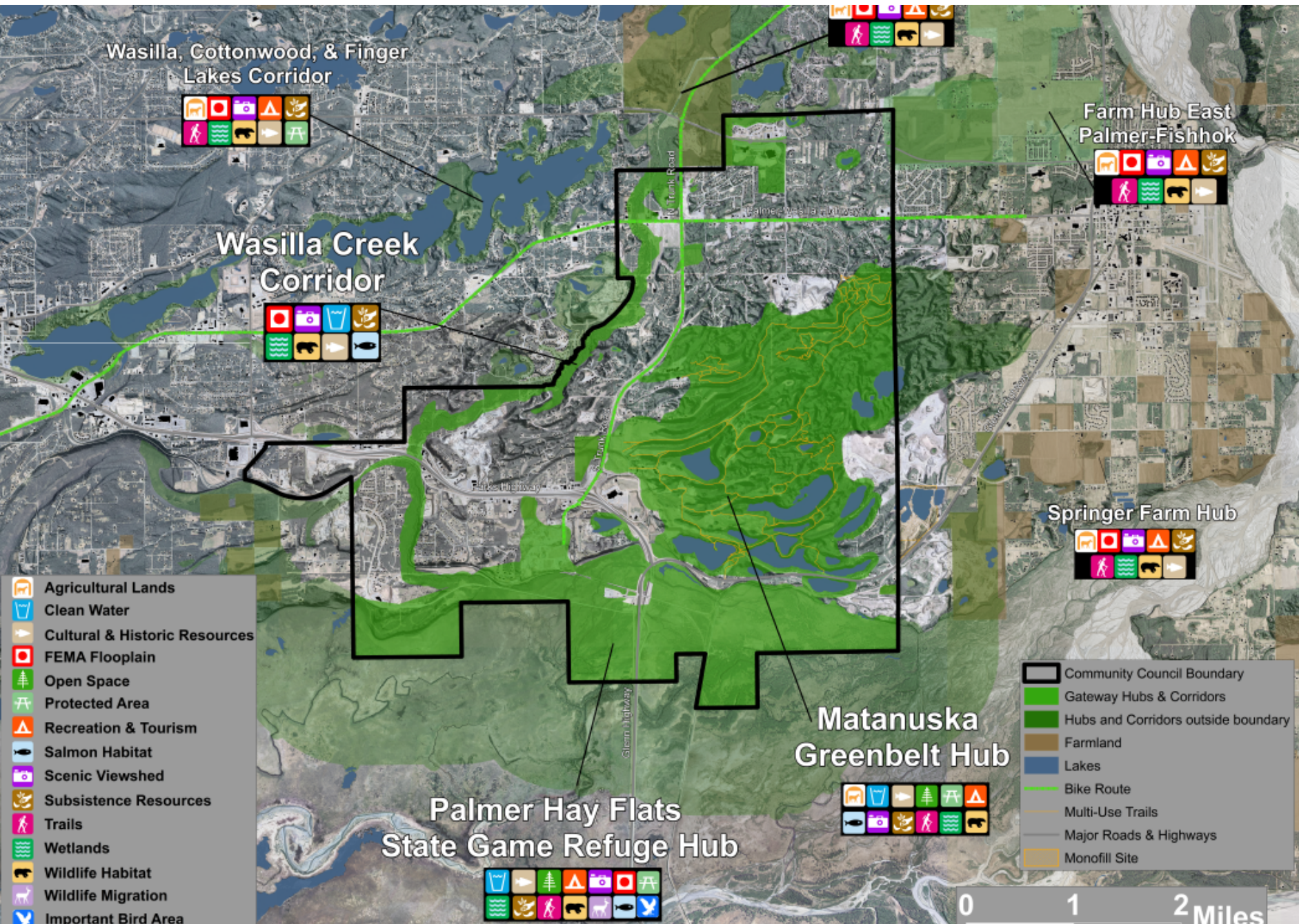
Least Cost Path

- Habitat Hubs (+)
- Interior Forest(+)
- Riparian Forest(+)
- Landcover(+/-)
- Steep Slopes(-)
- Major Roads(-)
- Urban Land(-)
- Buildings(-)
- 300 m Corridors



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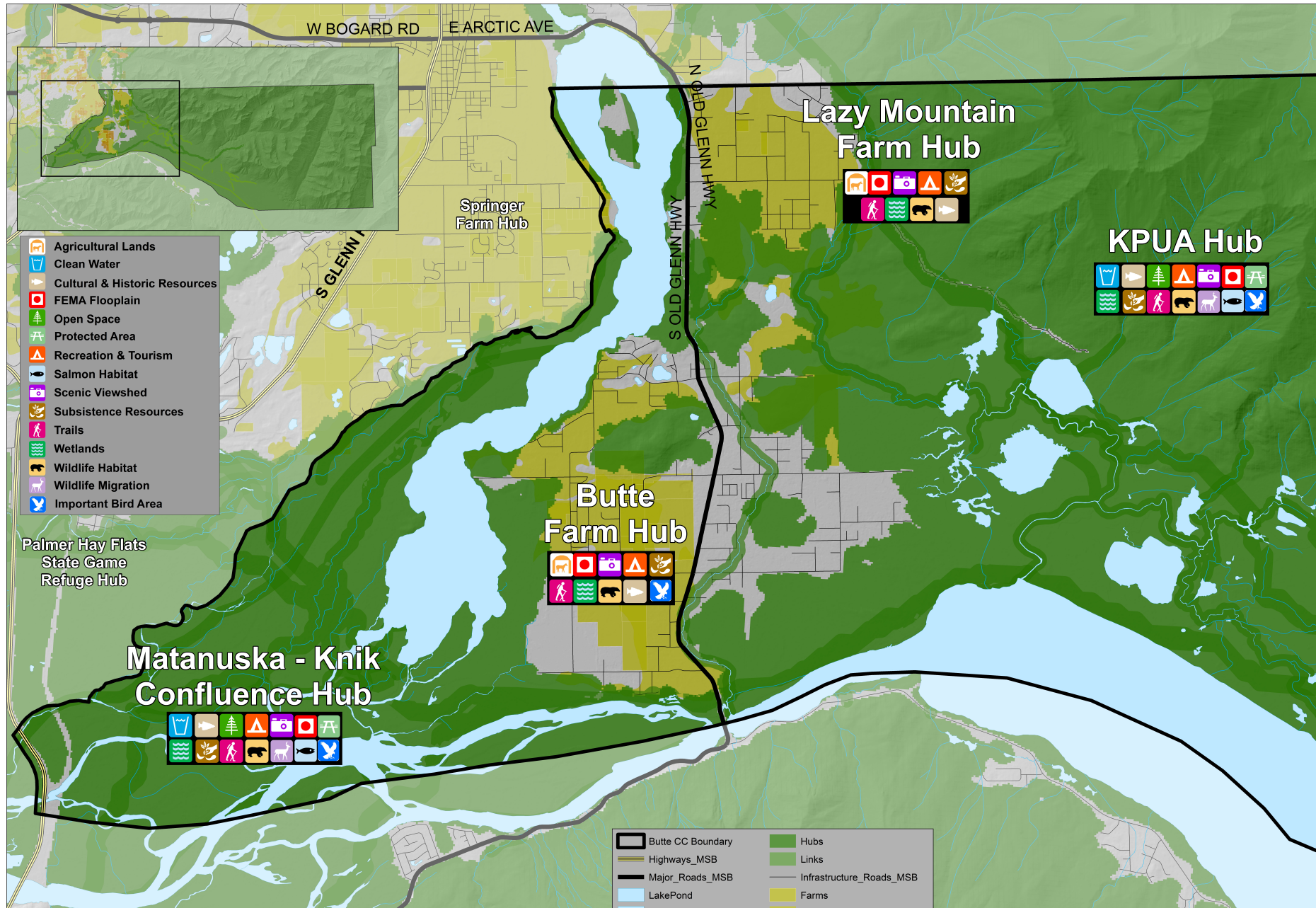
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- Agricultural Lands
- Clean Water
- Cultural & Historic Resources
- FEMA Floodplain
- Open Space
- Protected Area
- Recreation & Tourism
- Salmon Habitat
- Scenic Viewshed
- Subsistence Resources
- Trails
- Wetlands
- Wildlife Habitat
- Wildlife Migration
- Important Bird Area

- Community Council Boundary
- Gateway Hubs & Corridors
- Hubs and Corridors outside boundary
- Farmland
- Lakes
- Bike Route
- Multi-Use Trails
- Major Roads & Highways
- Monofill Site

0 1 2 Miles



This map was produced using the best available data, but should not be used in place of plat and survey maps.

Opportunities



- Community Outreach and Involvement
- Risk Management – Flood management
- Tourism Marketing
- Prioritization for future conservation action
- Food Security
- Balance Development and Conservation
- Future Riparian Corridor Mapping

Questions?

