

Connected Forests for Climate Adaptation: Updates to Vermont Conservation Design



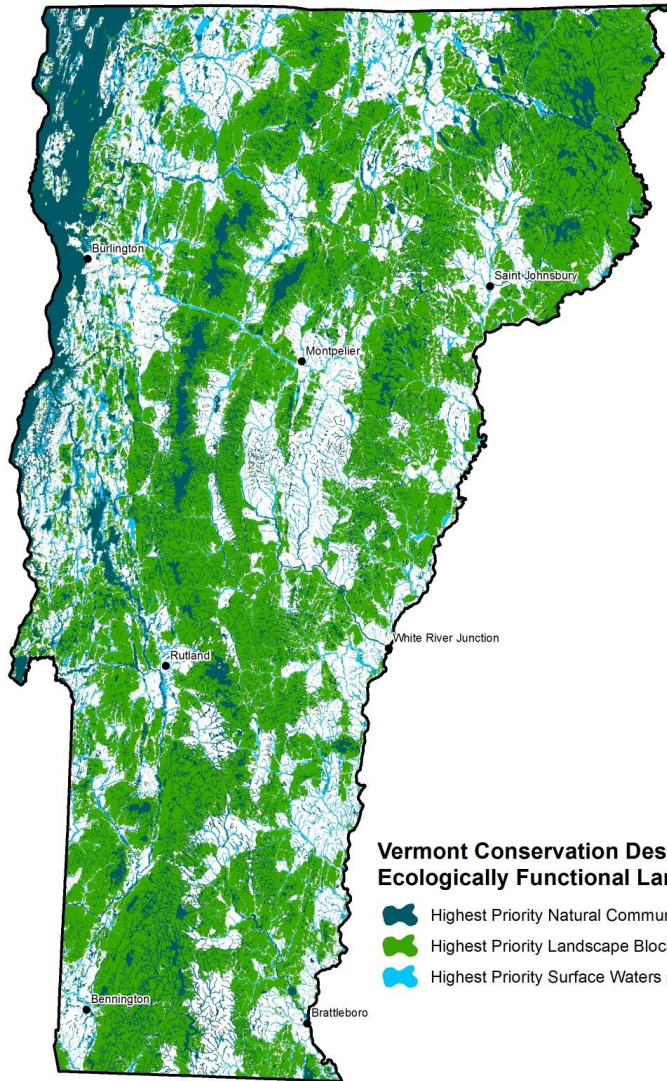
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Vermont Fish & Wildlife Department
2023 FEMC Conference

Agenda

- Vermont Conservation Design
- Update to Habitat Blocks Dataset
- Inputs
- Outputs
- Limitations and Opportunities



VERMONT CONSERVATION DESIGN



Vermont Conservation Design Ecologically Functional Landscape

-  Highest Priority Natural Community & Habitat Features
-  Highest Priority Landscape Blocks
-  Highest Priority Surface Waters and Riparian Areas

Ecologically Functional Landscape

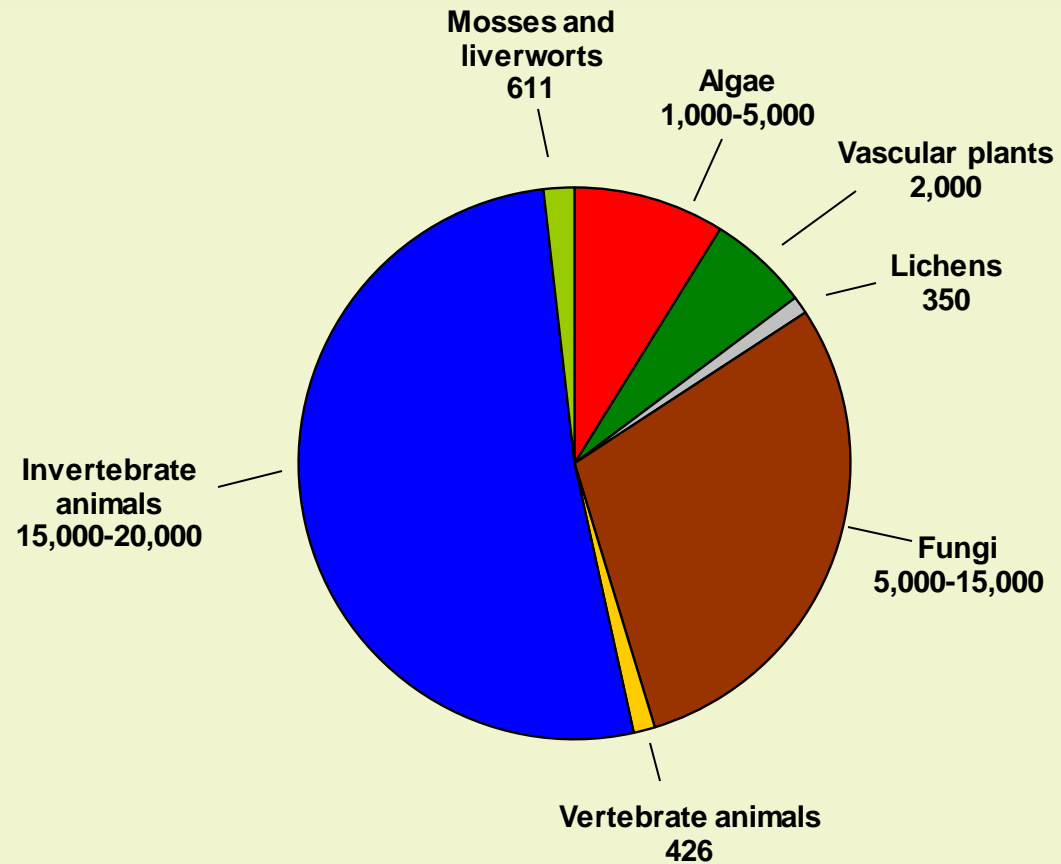
- Intact
- Connected
- Diverse

*The mission of the Vermont
Fish & Wildlife Department is
the conservation of our fish,
wildlife, plants and their
habitats for the people of
Vermont*



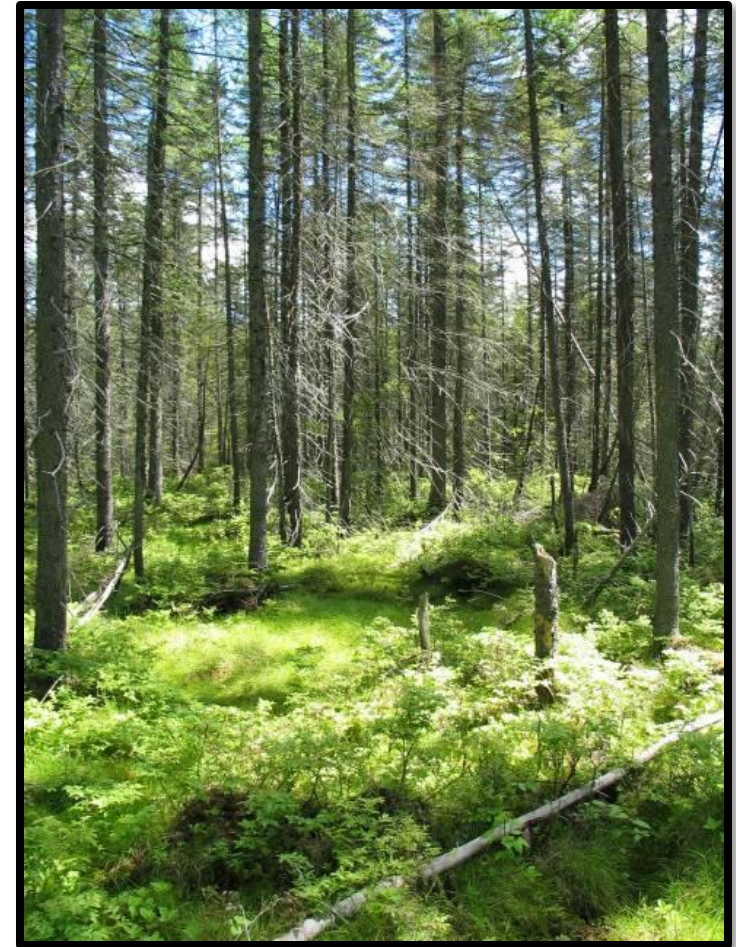
An estimated 24,000 to 43,500 species in Vermont!

How do we protect them all?



Elfin Skimmer

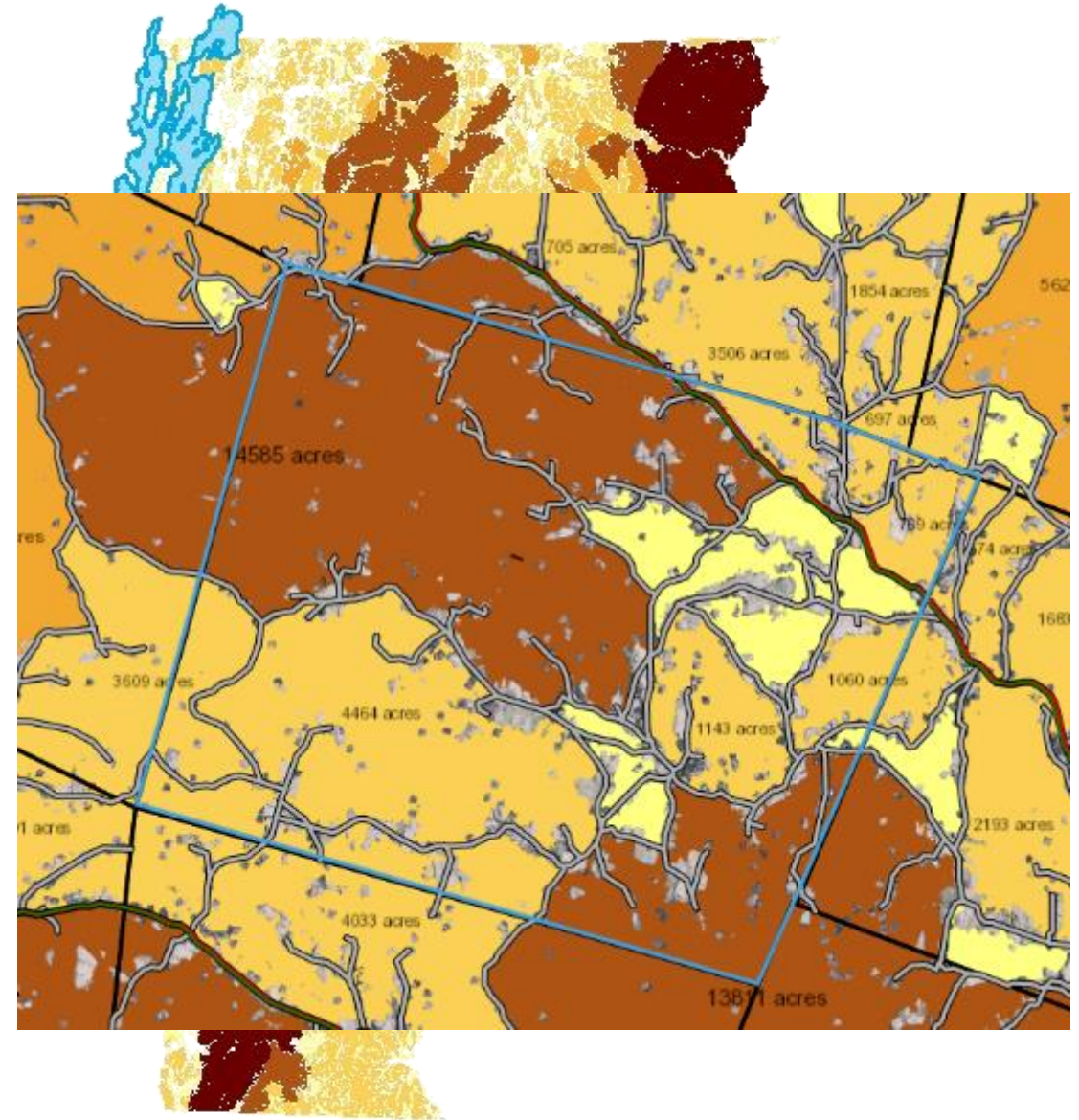
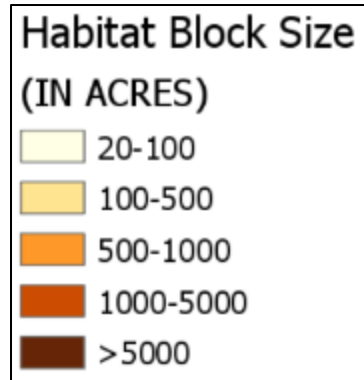
Coarse filter/fine filter approach to conservation



Habitat Blocks

Areas of natural cover surrounded by roads, development, & Agriculture

- *4052 blocks statewide*
- *20 ac – 153,000*



The Need

2014 Habitat Blocks
30m pixel



2016 LiDAR-derived Forest Canopy
0.5m pixel

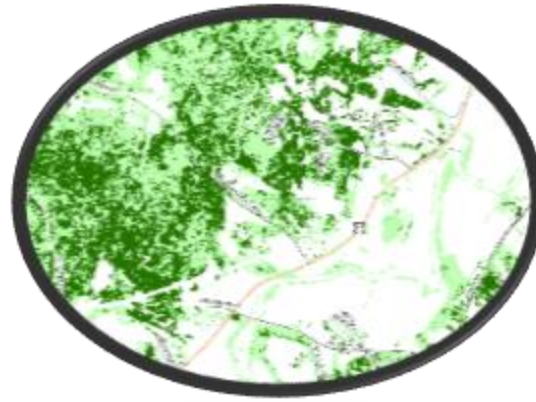


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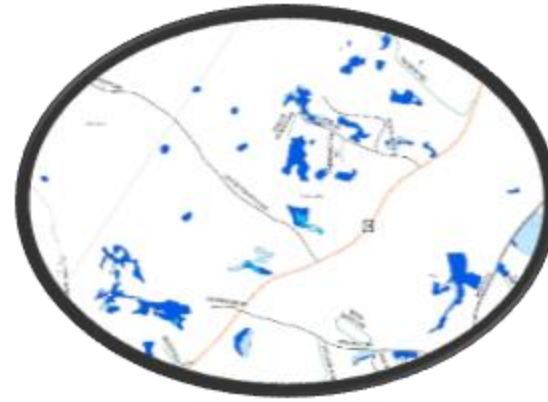
Natural Cover Inputs



Water



Tree Canopy



Supplemental Wetlands



Supplemental Shrublands

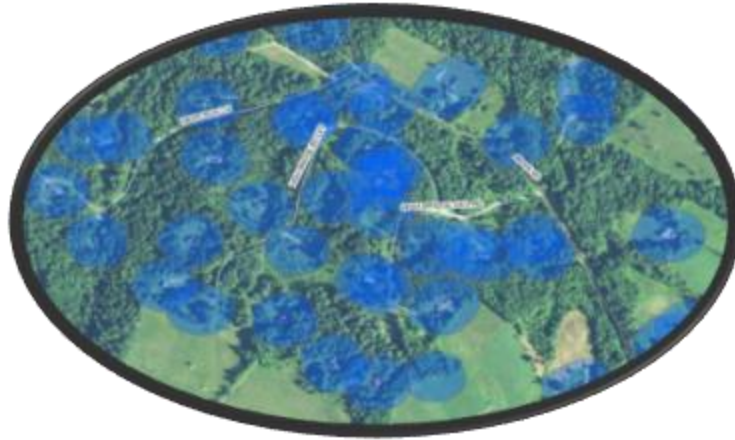


Significant Natural Communities

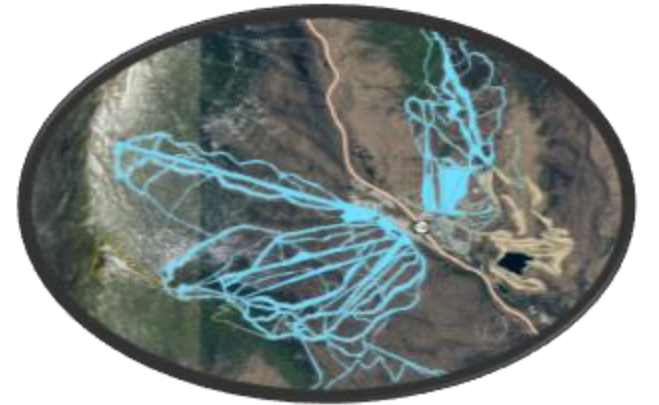
Fragmenting Features



Roads



Houses (Buffer on Eg11)

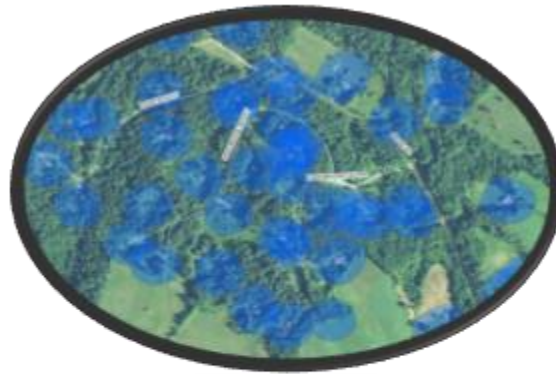


Ski slopes

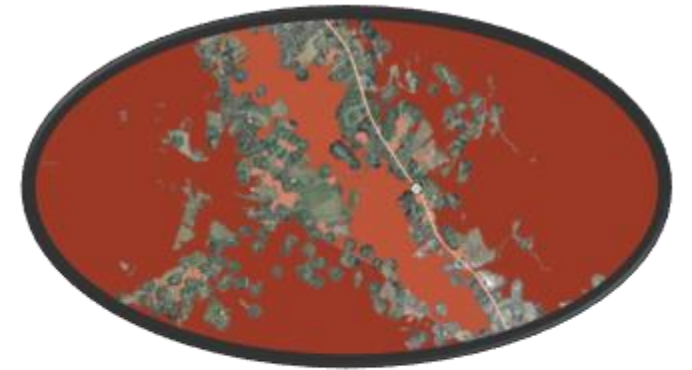
Steps



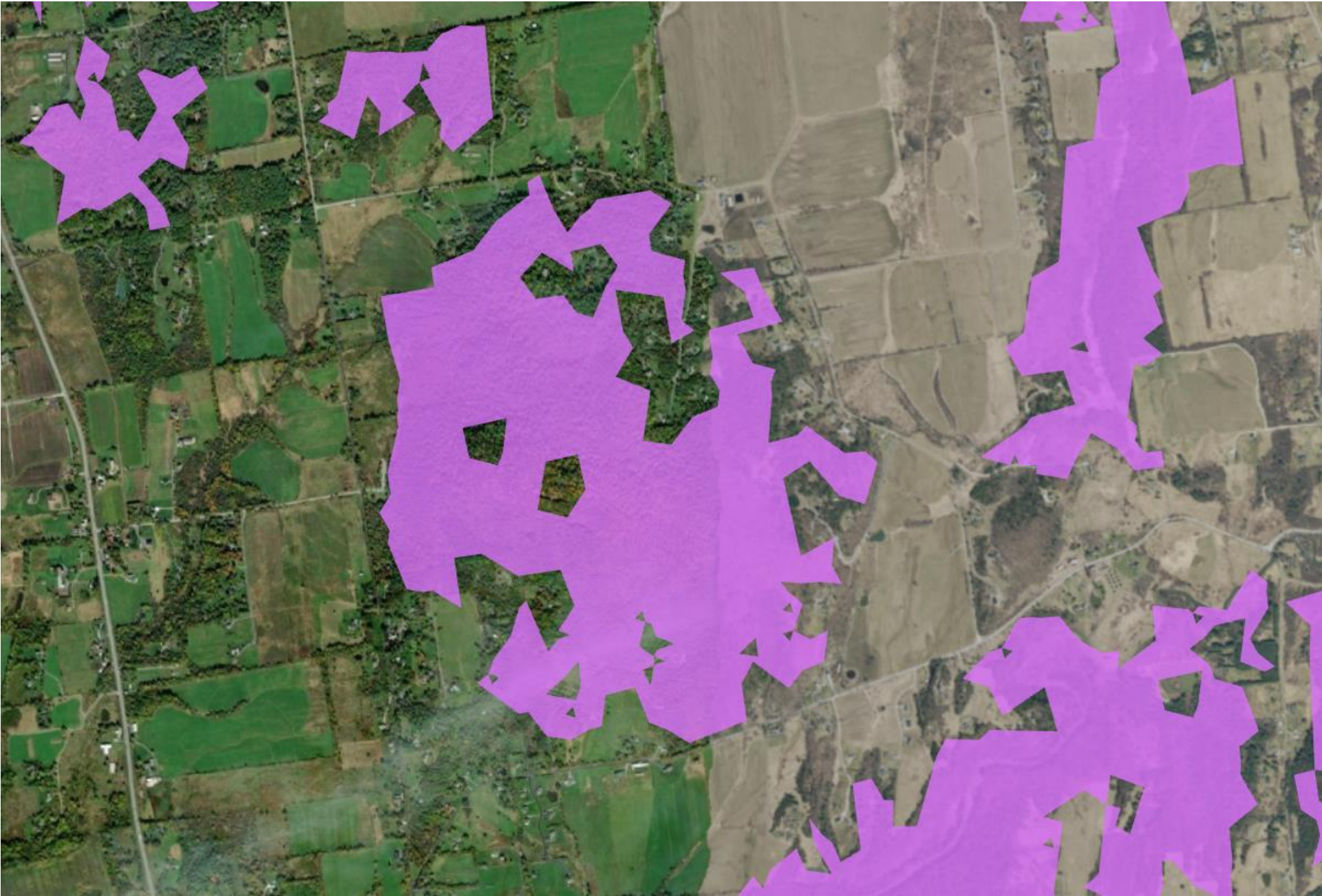
Natural Cover



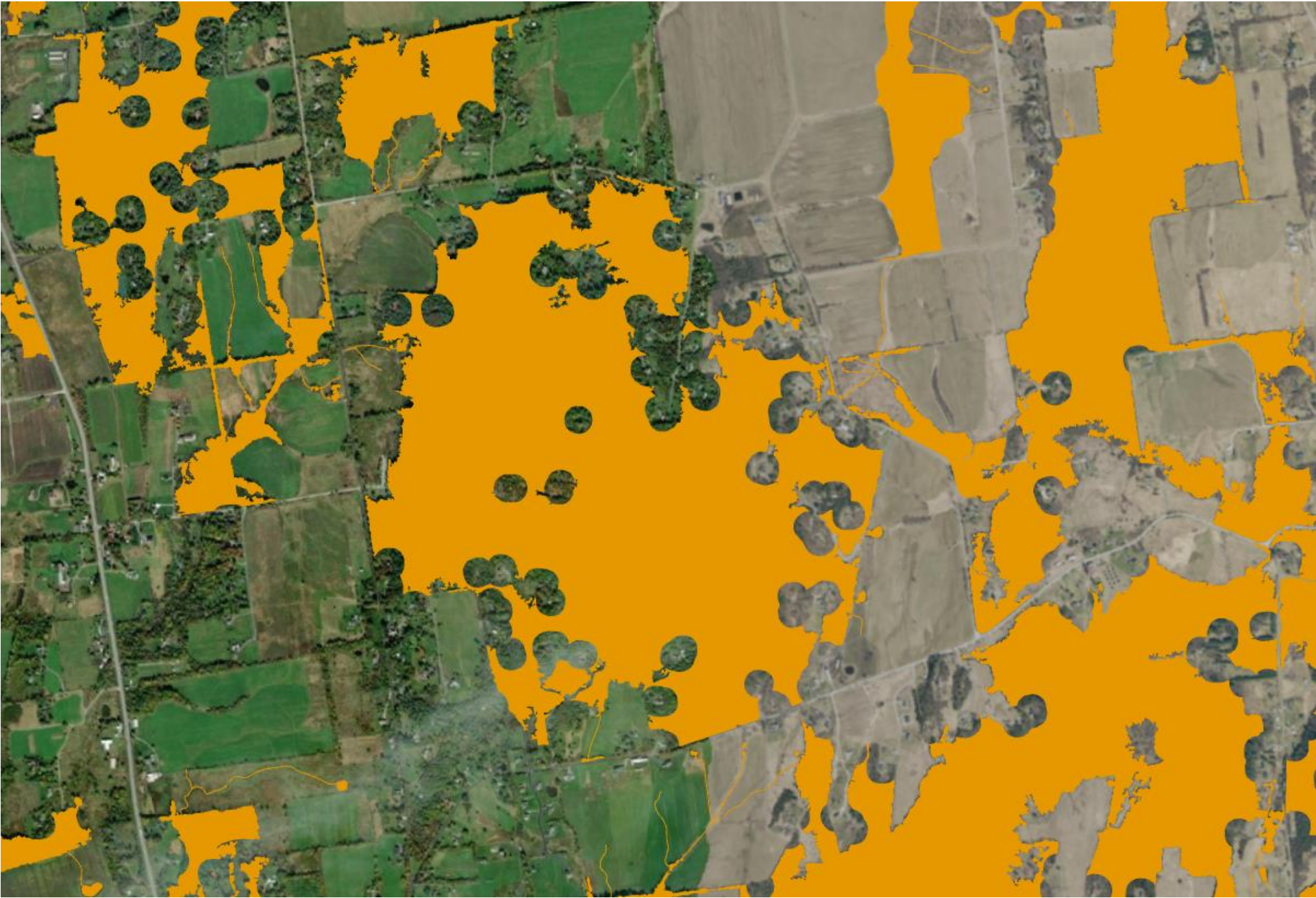
Fragmenting Features
(Roads, Railroads, Houses)



Habitat Blocks

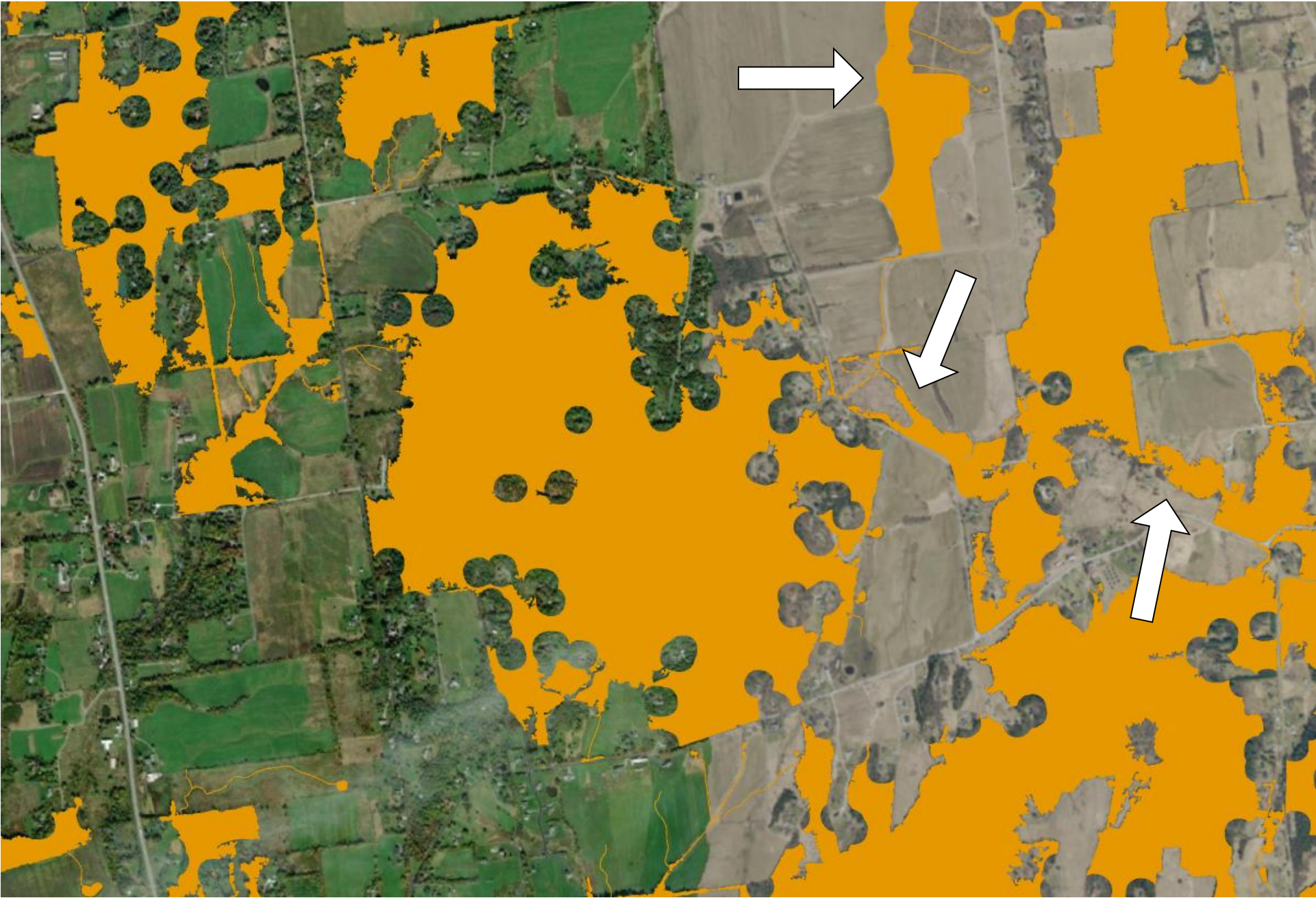


OLD

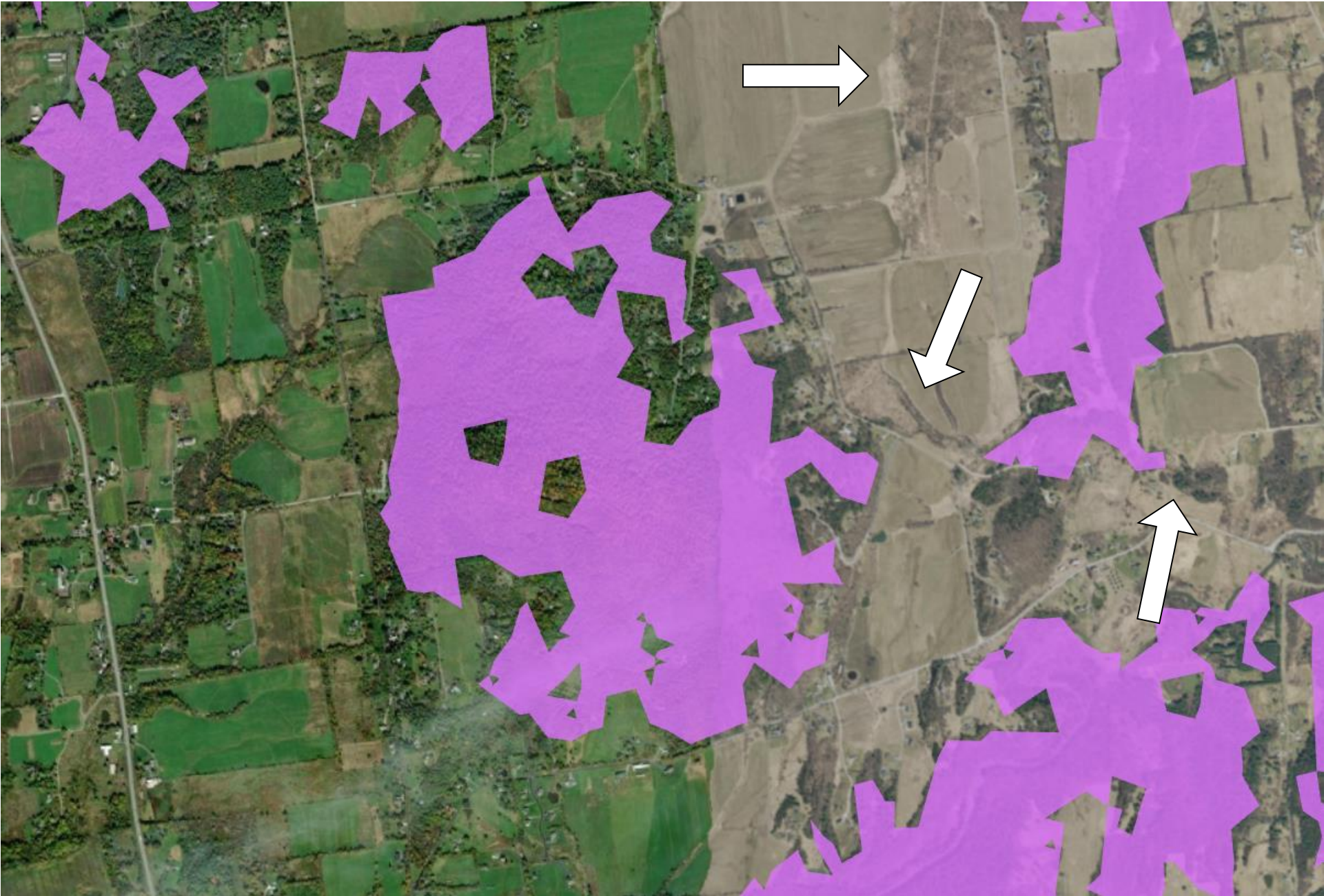


NEW

NEW



OLD



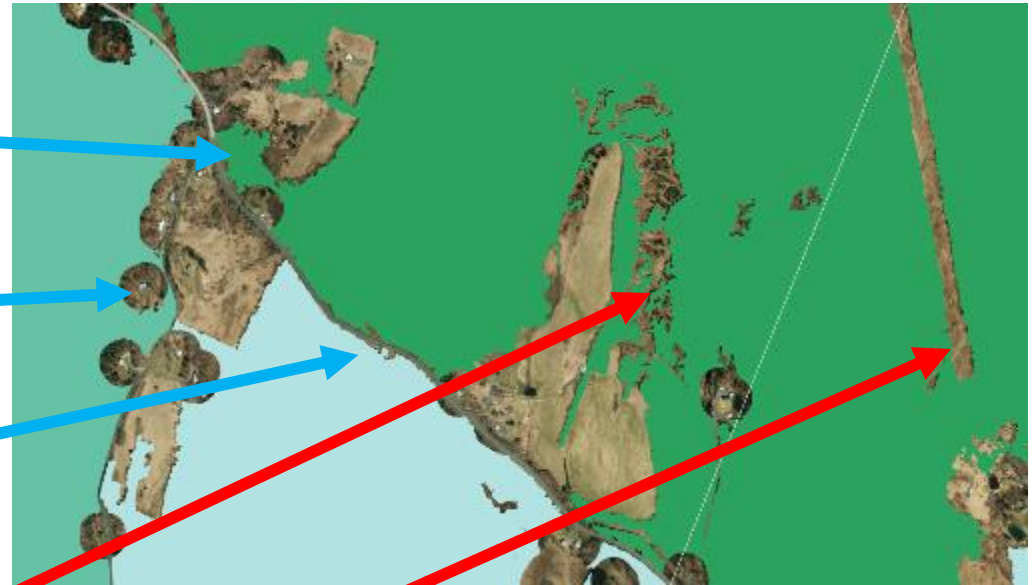
Better wetland data

Intuitive display of fragmentation/ buffer on development

Increase in edge

Artificial decrease due to underlying landcover dataset to pick up on forestry

Powerlines inconsistent

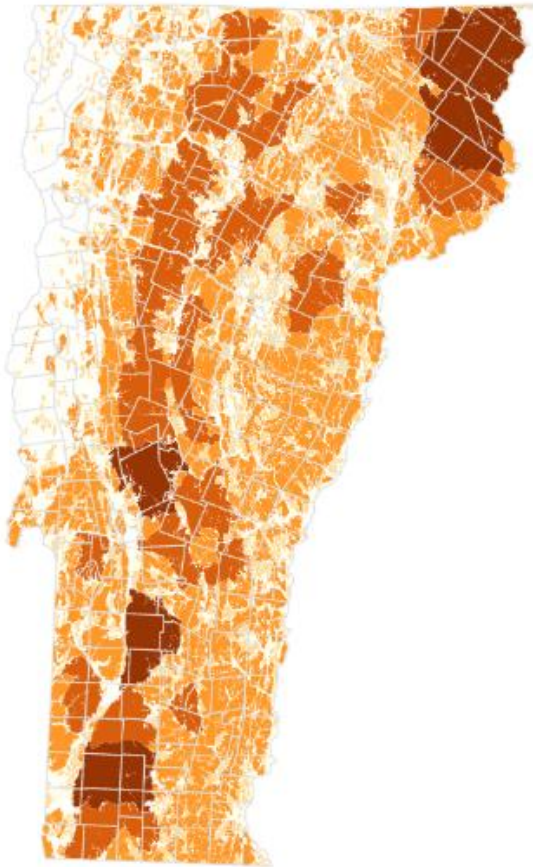


2023

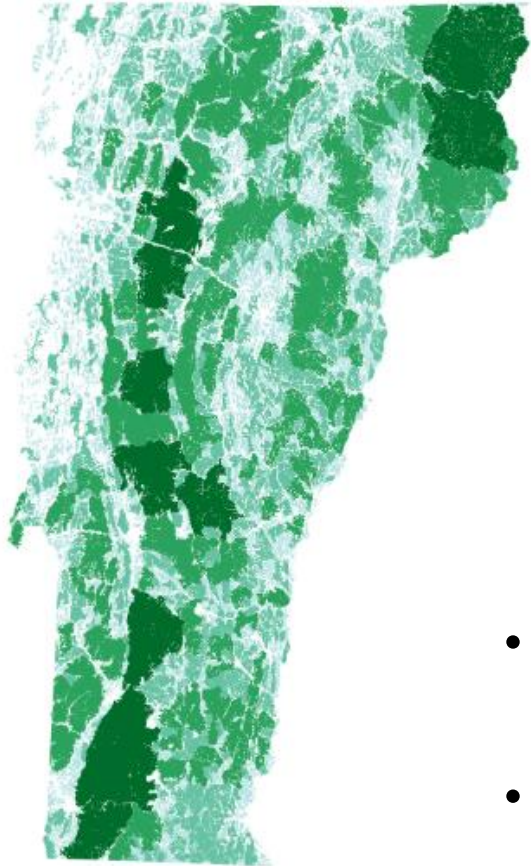


2011

Habitat Blocks



2011



2023

	2011	2023
# of Blocks	4,056	4,215
Average block size	1,091	1,078
Largest Block	154,564 ac	150,294 ac
Total area in Blocks	4,427,124 ac = 71.9% of VT	4,544,203 ac = 73.85 % of VT

- **Forest blocks are fundamentally similar at the statewide scale**
- **It is not possible to make comparisons between old data because of radically different input data**



Improved ability to map pathways of connectivity for plants and wildlife in a changing climate.

Acknowledgements

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