A web-based tool for grower assessment of native bee abundance in the wild blueberry production landscape

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What is this web tool?

A map-based guide to show blueberry growers the predicted native bee abundance around wild blueberry fields.

Background:

- Native bees are critically important, but their populations are difficult to assess.
- A predictive model has estimated native bee abundance surrounding downeast Maine wild blueberry fields.
- We are developing a web-based tool to show blueberry growers these estimates.

Methods

Technical specifications:

- Data displayed in the model comes from the InVEST crop pollination model, which predicts native bee abundance in agricultural landscapes.
- We are working with the UMaine Faculty Development Center to format the data into a web-based, interactive GIS tool.
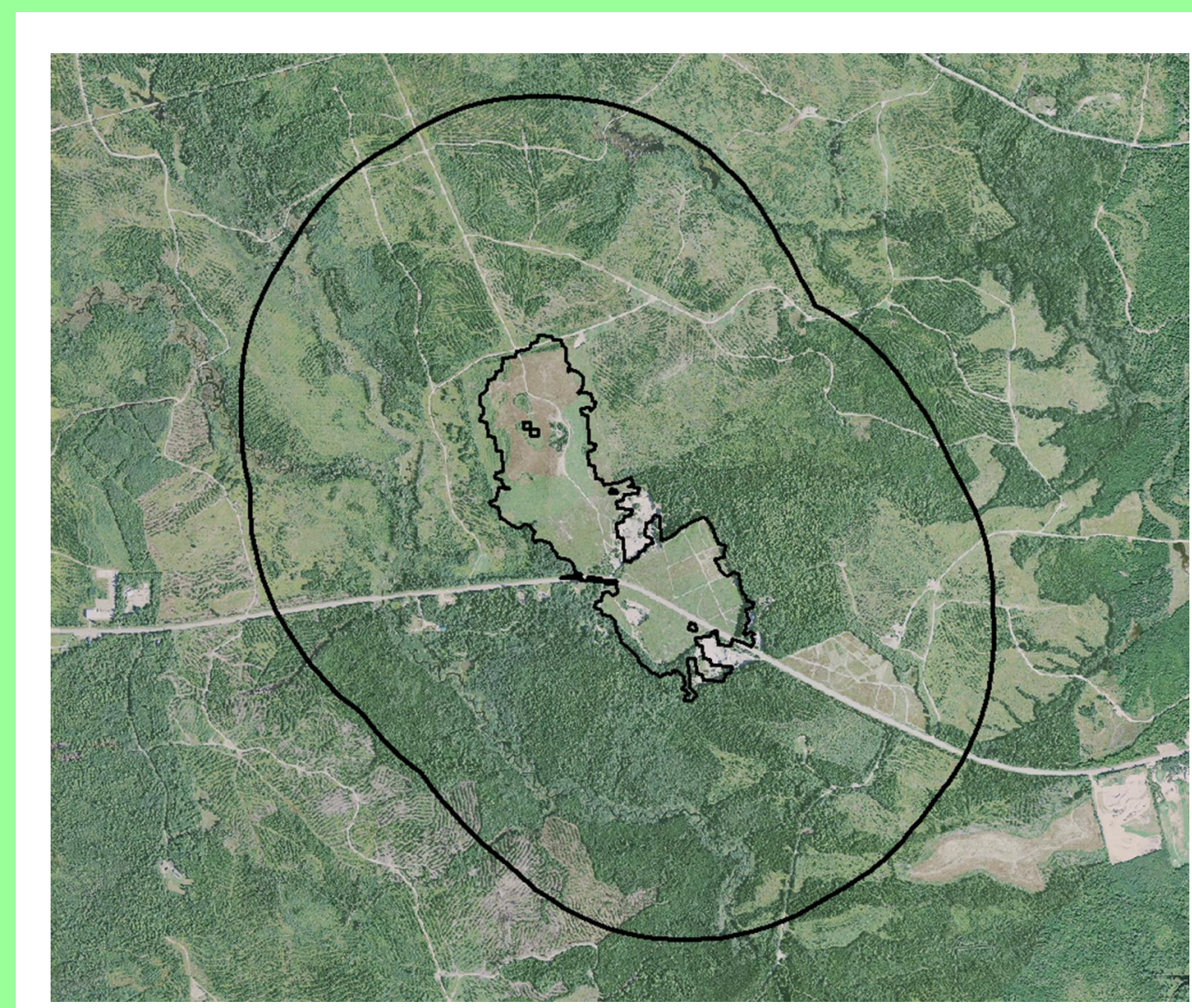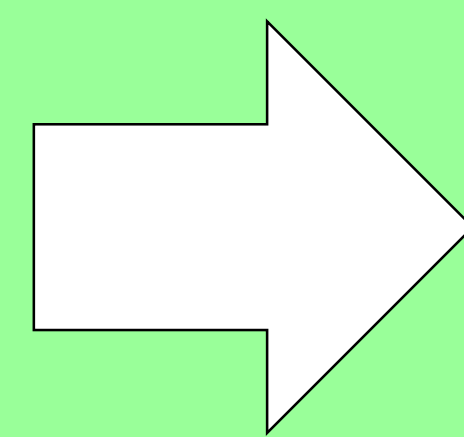
Participatory development:

- We are working with wild blueberry growers throughout the tool development process.
- We are seeking feedback through multiple forums:
    - Presentation to Wild Blueberry Commission Advisory Board
    - 1:1 sessions with growers
    - Small and large group workshops
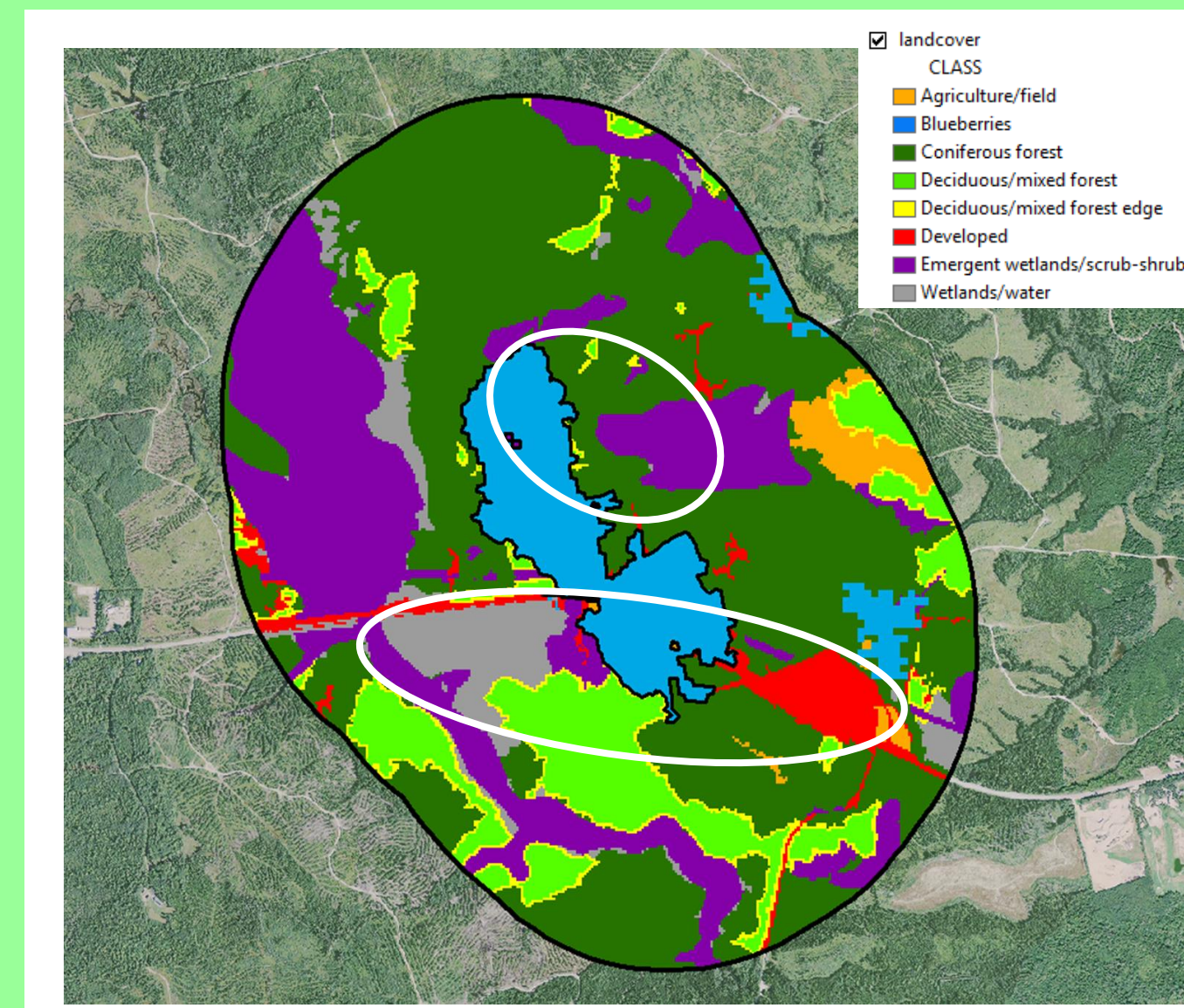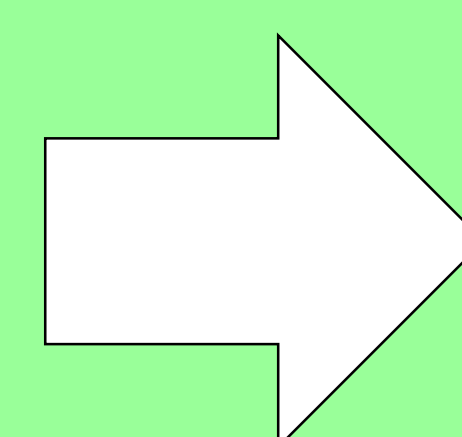- We will modify the tool between each feedback session.
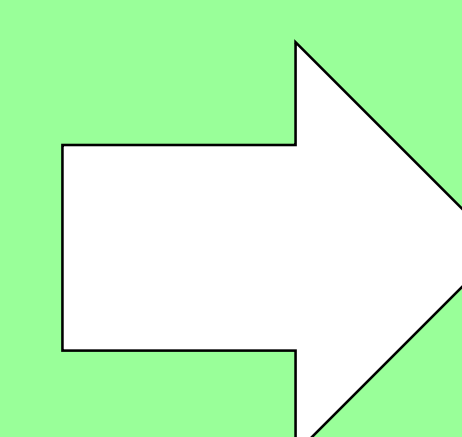
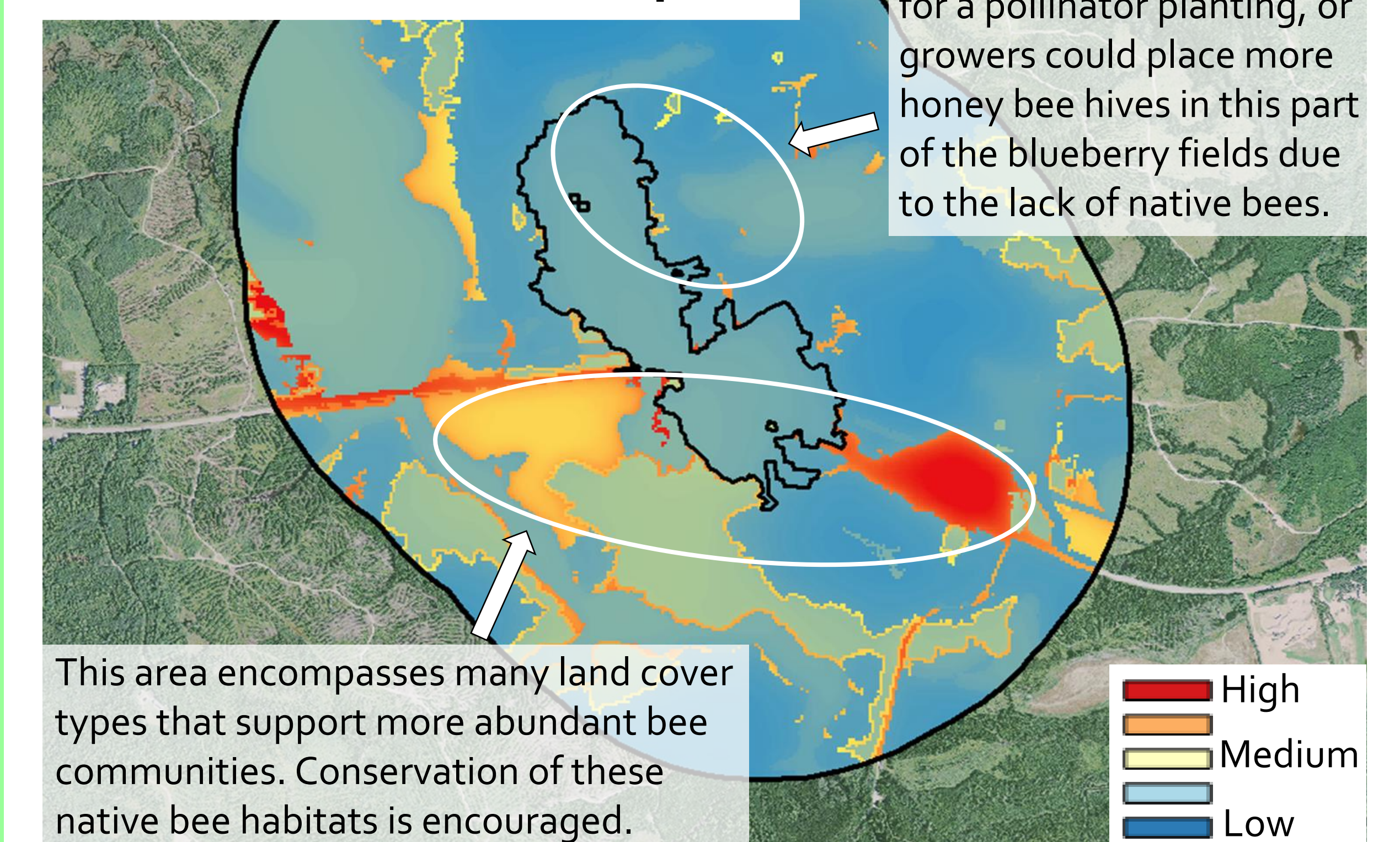## How does the web tool work?
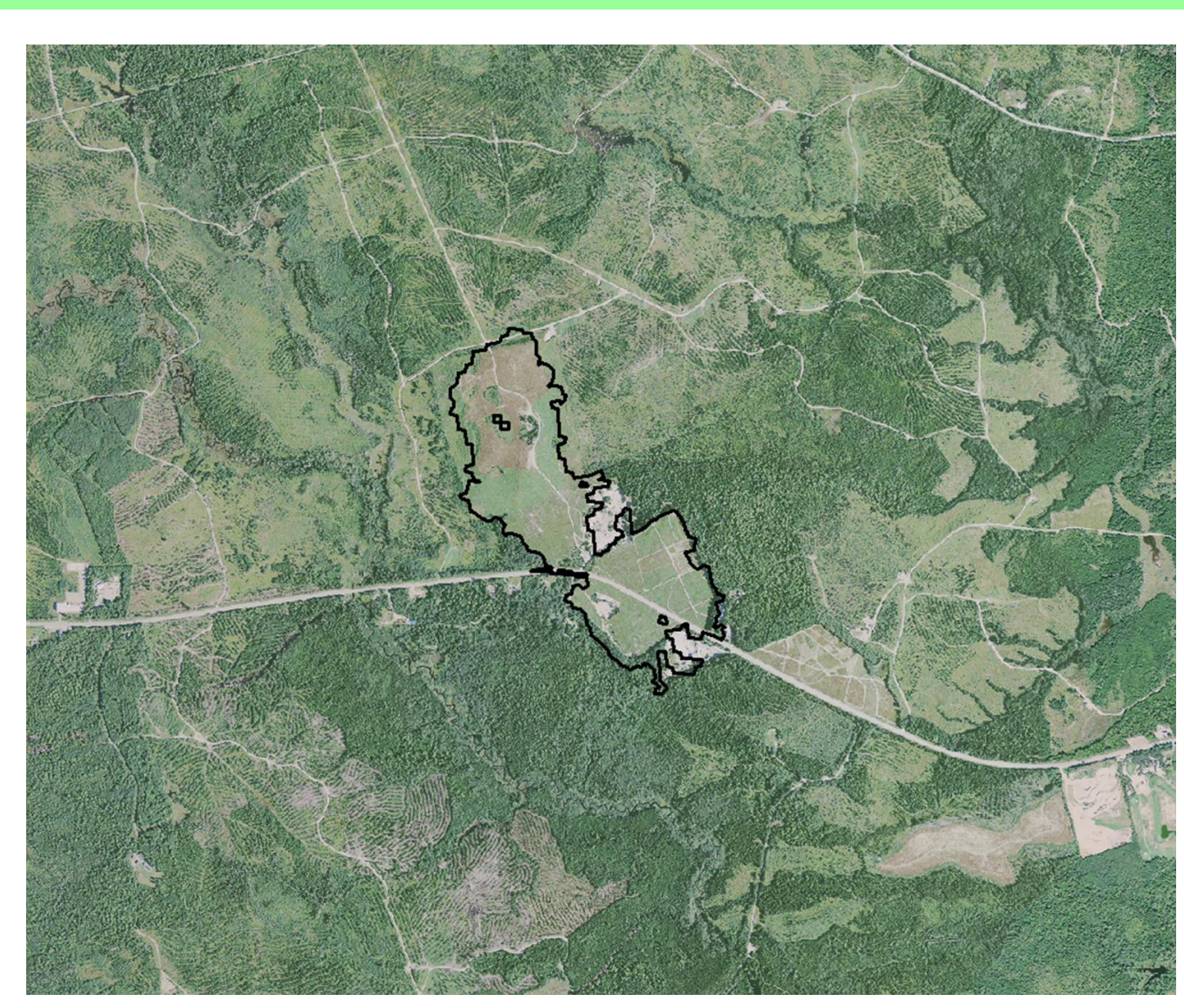
1) Locate field in landscape

2) Display bee habitat extent

3) Display land cover for bees

4) Display bee abundance map

This area is very coniferous and does not support an abundant bee community. It would be a suitable site for a pollinator planting, or growers could place more honey bee hives in this part of the blueberry fields due to the lack of native bees.

This area encompasses many land cover types that support more abundant bee communities. Conservation of these native bee habitats is encouraged.

How will growers benefit from the web tool?

- Growers will learn how to connect land cover type to native bee abundance.
- Growers will be linked to Cooperative Extension information on pollination ecology and conservation that they can use in implementing pollinator conservation practices.
- Growers will help develop a tool that will be the most user-friendly to them.
- This is the first effort to translate InVEST crop pollination model output to crop growers.