How to Create Base Maps

Maps are an essential tool to understand the forest as it presently exists and the opportunities for future planning. For this project, you should create three different maps of the town forest.

1) A base map that shows the extent of the town forest

2) A context map of the entire town to show the relationship between the town forest and the surrounding community

3) A natural resources map that shows the natural resources present in the town forest

Vermont Center for Geographic Information (VCGI) and Agency of Natural Resources (ANR) have interactive mapping tools that are easy to use to develop the maps above. The VCGI mapping tool should be used to create the base map and the context map, while the ANR mapping tool can be used to develop the natural resources map. With both mapping tools, the map creator should create an account to save the maps and go back and edit them easily.

It is possible that not all the data around your town forest is available in state data layers. If that is the case, you may need to use VCGI's drawing tool to draw trailheads, trails, or other features onto your maps.

Basemap should include:

- ❖ Roads
- ❖ Trails
- ❖ Parcels
- ❖ Contours
- ❖ Streams, drainages, and water bodies
- ❖ Parking, trailheads, and access

> **Essential Map Elements**
>
> - ❖ North arrow
> - ❖ Scale
> - ❖ Legend

Context map should include:

- ❖ Roads
- ❖ Trails
- ❖ Parcels
- ❖ The Town Forest parcel (highlighted)

- ❖ Parks
- ❖ Conserved land
- ❖ Ortho Photo Base
- ❖ Streams, drainages, and waterbodies

Natural resources map should include:

- ❖ Roads
- ❖ Trails
- ❖ Parcels
- ❖ Parking, trailheads, and access
- ❖ Forest health data
- ❖ Streams, drainages, and waterbodies
- ❖ Wetlands
- ❖ Impaired watersheds
- ❖ Stormwater features
- ❖ Rare, threatened and endangered species
- ❖ Significant wildlife habitat
- ❖ Significant natural communities
- ❖ Forest blocks
- ❖ Soils

To create your base map:

1. Go to VCGI mapping tool
2. Under the navigation tab, select zoom to town and zoom to your town. Zoom to your town forest.
3. Turn on Parcels data (under Operational Layers > Popular Layers), Contours (Operational Layers > Popular Layers), Trails (Recreation > Trails- E911 database), Town Forest Boundary (Cadastral> Protected Local Government Lands) and water

resources (check 303d Impaired Surface Waters, Small Streams, Class A Water Resources, Priority Surface Waters, and Whitewater Rivers).

4. Under the draw tab, place a point at trailhead locations. You may need to change the display order for your layers (i.e. to show forest trails on top of the boundary). To do so, in the top left where it says Layers, click the four lines and select change layer order. Select Services Drawing Order and by selecting the eight dots next to the recreation layer, drag the recreation layer above cadastral. Close those options and choose the four lines next to Layers again and select show legend.

5. Zoom to the extent of your town forest and under the home tab and select print.

    a. For layout, select 11x17 portrait or landscape, depending on the shape of your forest.

    b. By deselecting lock print preview with the map, you can shift the extent of the map that will print.

    c. Use the highest resolution available, as this map will be printed very large as a "floor map" for use at public meetings.

    d. You should print your map as a PDF with a title of "___ Town Forest Basemap."

To create your context map:

1. Under the Base Maps layer, select BING Aerial.

2. Under Cadastral, check that all protect lands are highlighted.

3. Under Recreation, check Outdoor Recreation Sites.

4. Deselect contours (under Operational Layers and possibly under Base Maps > Hillshades and contours).

5. Print your map according to the instructions above, title the map "____ Town Forest Context Map."

    a. The map extent should show the town and surrounding area.

    b. Under map scale, select current extent.

To create your natural resources map:

1. Go to [ANR mapping tool](#)

2. Press "Click Here to Begin" and navigate to your town forest.

3. On the upper right-hand corner of the map, select tools and then the draw tab.

4. On the draw tab, select the polygon tool and then select styles.

5. In the styles menu, select the library drop down menu and select Outline. Begin outlining the boundaries of the town forest on the map and double click a point when finished.

6. Close the Select Drawing Tool menu to return to the Layers menu. Unselect the Landscape Scale (components combined) box.

7. Under Component Layer, select the Community & Species Scale Components box and then the following: Vernal Pools, Unconfirmed Vernal Pools, Wetlands, Representative Lakes, Exemplary Surface Waters, Mast Stands, Rare Species, Uncommon Species, Rare Natural Communities, and Uncommon Natural Communities. Select Landscape Scale Components and then the following: Highest Priority Surface Water and Riparian Areas, Priority Surface Water and Riparian Areas, and Highest Priority Interior Forest Blocks, Priority Interior Forest Blocks.

8. On the upper left-hand corner of the map, select quick tools and then Create Printable Map.

9. As with the previous maps, print the map as a PDF in High Resolution and title it "____ Town Forest Natural Resources Map." You may need to adjust the scale and extent and should de-select lock print preview to do so.

Resources

VCGI Interactive Mapping Tool- http://maps.vermont.gov/vcgi/html5viewer/?viewer=vtmapviewer

ANR BioFinder Mapping Tool- http://anrmaps.vermont.gov/websites/BioFinder2016/

ANR's Natural Resource Atlas Mapping Tool- https://anrmaps.vermont.gov/websites/anra5/