

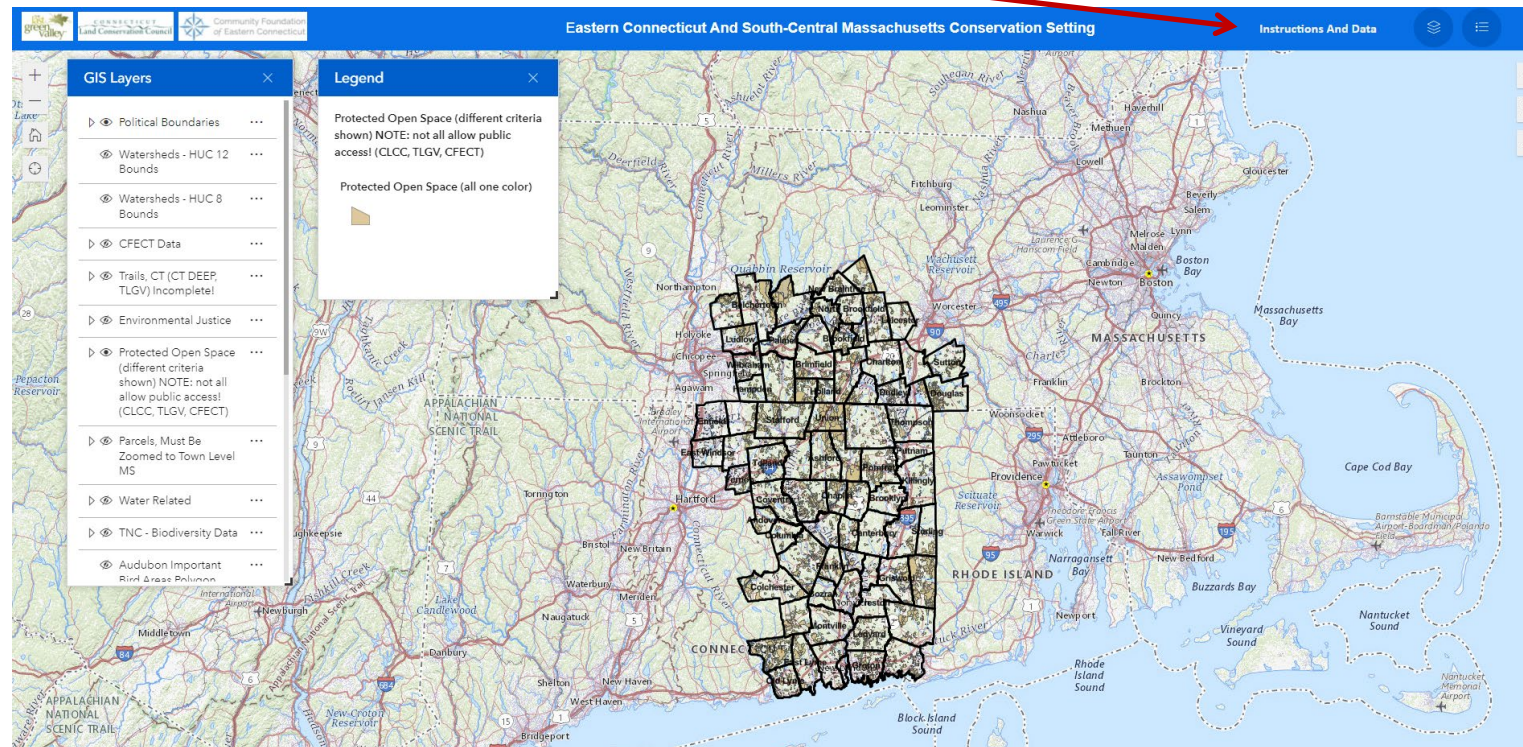
# How to use the Eastern Connecticut-South-Central Massachusetts Conservation Map Tool

The Protected Open Space data layer was developed through an Advancement Initiative of the CT Land Conservation Council and The Last Green Valley and was funded in part by the Community Foundation of Eastern Connecticut.

<https://experience.arcgis.com/experience/b6ea7f74dc15418a97a7353c2d613302>

Or: [bit.ly/TLGVWebMap](https://bit.ly/TLGVWebMap)

**If you want to download a PDF of instructions  
and data descriptions, click here**



# Navigation:



You can zoom in or out by pressing the plus and minus buttons or by rolling the wheel on a mouse (much better IMHO). Use two fingers on a touch screen.

The “Home” button takes you back out to the default (starting) zoom level and extent.

If you are on a device with a GPS such as a cell phone, clicking this button will show a dot on the map for your current location. Please remember that all the datalayers in the map are not of “survey grade” accuracy, so use with appropriate caution.

Pan – to pan (move) around the map, you can click and drag anywhere on the map.

The button in the lower right will make the map go full screen. Press the button again, or press esc to go back to normal view.





# GIS Layers Button and Moving Windows:

Click the “GIS Layer” button to close and open the layer list:

**Eastern Connecticut And South-Central Massachusetts Conservation Setting**

**GIS Layers**

- ▶ Political Boundaries ...
- ▶ Watersheds - HUC 12 Bounds ...
- ▶ Watersheds - HUC 8 Bounds ...
- ▶ CFECT Data ...
- ▶ Trails, CT (CT DEEP) Incomplete!
- ▶ Environmental Justice ...
- ▶ Protected Open Space (different criteria shown) NOTE: not all allow public access! (CLCC, TLGV, CFECT) ...
- ▶ Parcels, Must Be Zoomed to Town Level MS ...
- ▶ Water Related ...
- ▶ TNC - Biodiversity Data ...
- ▶ Audubon Important Bird Areas ...

**Legend**

- Protected Open Space (different criteria shown) NOTE: not all allow public access! (CLCC, TLGV, CFECT)
- Protected Open Space (all one color)

**You can click on the top blue bar on each panel to move it around the screen. The “X” will close the window.**

**Click and drag the black corner in the bottom right to resize the panel.**

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# GIS Layers (Turning Them On and Off) and the Legend Button:

Click the Legend button to close and open the legend which only shows the colors of those items that are turned visible

**Click the triangle to open and close grouped layers.**

**To see an individual layer in a group, you must make it visible and its parent group visible**

**Clicking the eye icon changes visibility for the individual GIS layers and groups of individual layers. Note: the data sources are listed for each layer in parentheses and there are brief descriptions of each at the back of this document.**

**GIS Layers**

- ▶ ☒ Political Boundaries ...
- ☒ Watersheds - HUC 12 Bounds ...
- ☒ Watersheds - HUC 8 Bounds ...
- ▶ ☒ CFECT Data ...
- ▶ ☒ Trails, CT (CT DEEP) Incomplete! ...
- ☒ Environmental Justice ...
- ▶ ☒ Protected Open Space (different criteria shown) NOTE: not all allow public access! (CLCC, TLGV, CFECT) ...
- ▶ ☒ Parcels, Must Be Zoomed to Town Level MS ...
- ▶ ☒ Water Related ...
- ▶ ☒ TNC - Biodiversity Data ...
- ☒ Audubon Important Bird Areas Pollution ...

**Legend**

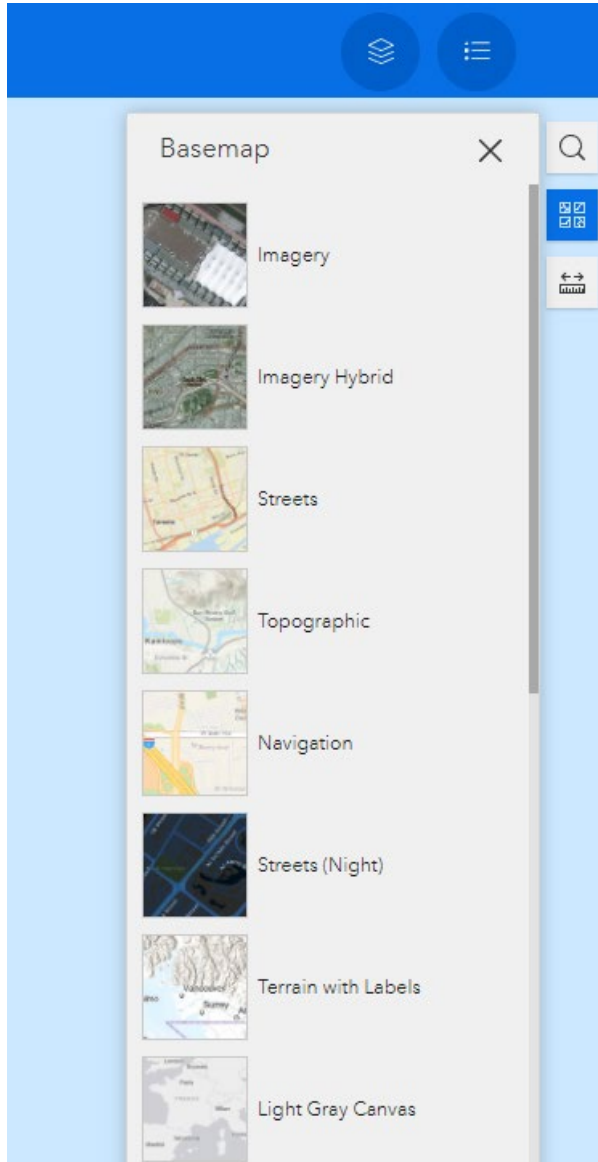
Protected Open Space (different criteria shown) NOTE: not all allow public access! (CLCC, TLGV, CFECT)

Protected Open Space (all one color)

**GIS Layers**

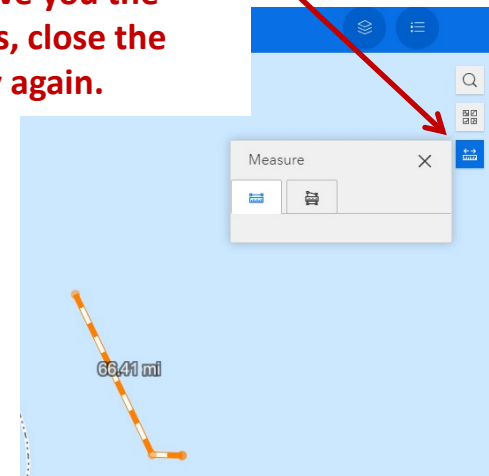
- ▶ ☒ Political Boundaries ...
- ☒ Watersheds - HUC 12 Bounds ...
- ☒ Watersheds - HUC 8 Bounds ...
- ▶ ☒ CFECT Data ...
- ▶ ☒ Trails, CT (CT DEEP) Incomplete! ...
- ☒ Environmental Justice ...
- ▶ ☒ Protected Open Space (different criteria shown) NOTE: not all allow public access! (CLCC, TLGV, CFECT) ...
- ☒ Protected Open Space (all one color) ⓘ
- ☒ Owned By Land Trust or Cons. Org. ⓘ
- ☒ Easement by Owner (if known to have easement) ⓘ
- ▶ ☒ Parcels, Must Be Zoomed to ...

# Basemaps and Measuring Sizes on the Webmap:



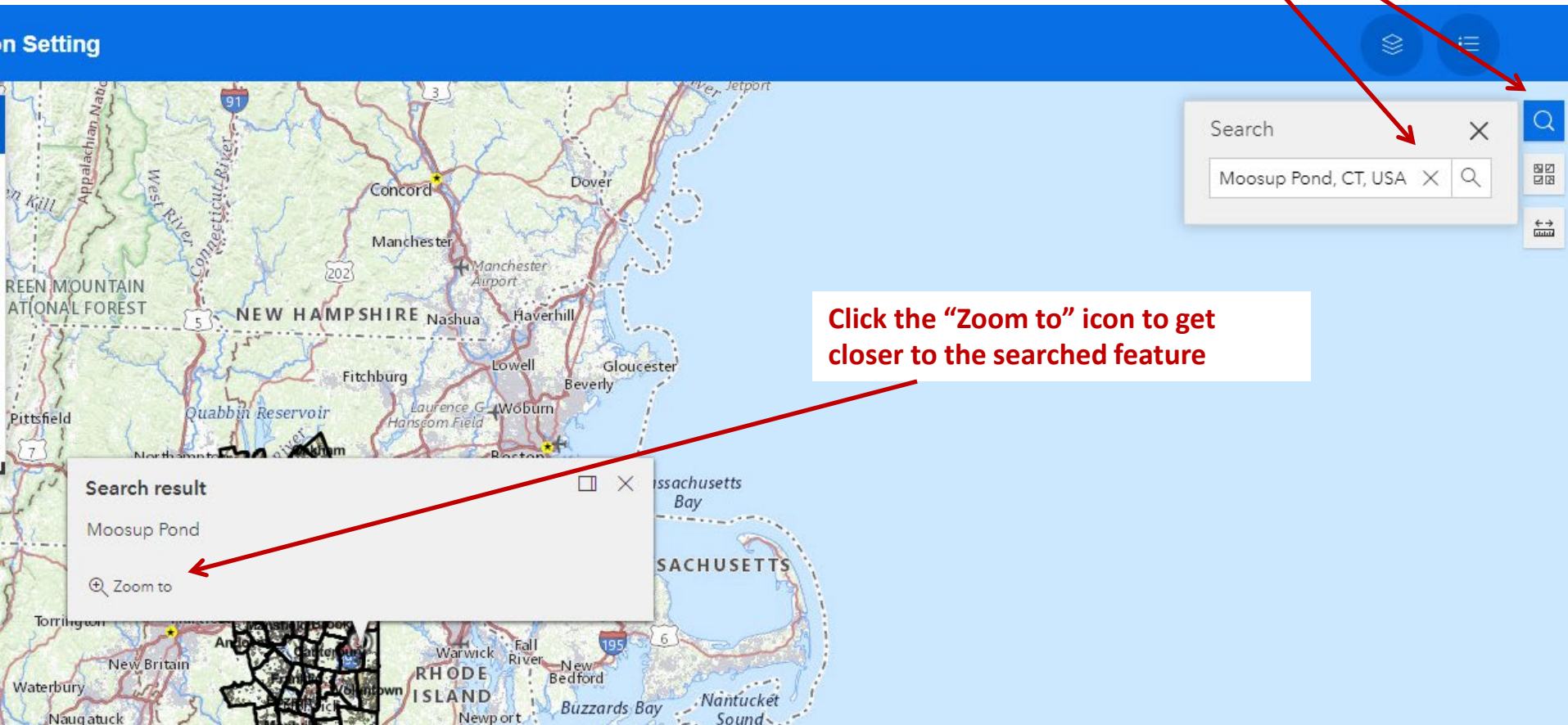
The “Basemap” button allows you to change the basemap. There are aerial photos, topographic maps, and many more. The “Light Gray Canvas” is very subdued which allows layers turned on in you map to be very visible and uncluttered. Play around with different ones! The “USGS National Map” near the bottom of the list (scroll down in your webmap) is the default basemap and quite beautiful when zoomed in.

The “Measure Tool” allows you to draw a line or shape and get its length or area in metric or English units. If it does not give you the option to change units, close the tool and open it to try again.



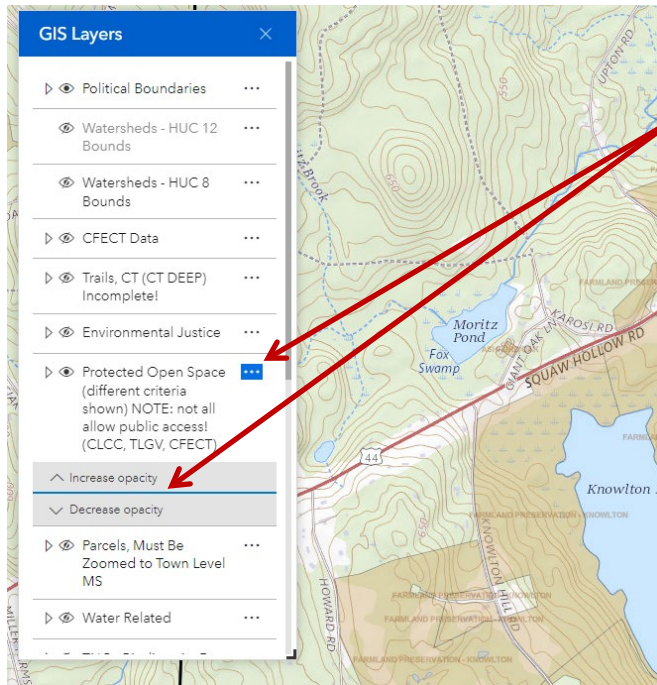
# Search Button:

The Search For Place button allows you to input a street address, town, or place name and search for it:





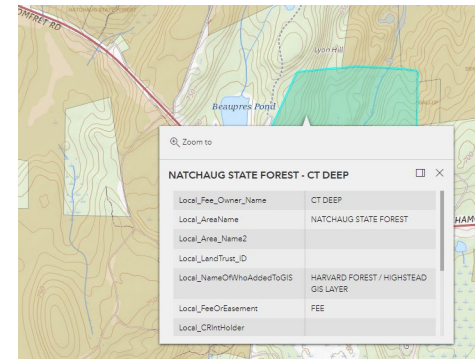
# Misc. Helpful Tips:



Click the three-dot option button to change the transparency of individual layers



Note: small scale bar in lower left corner.



Clicking on features in many layers will open a pop-up window with detailed information. Scroll down to see all available info, or click the little button next to the X to open full table. The X button closes the window.

# Taking a Screenshot to Share

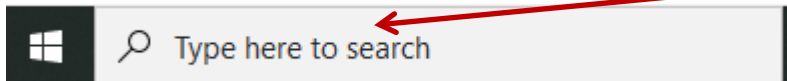
There are many ways to take a screenshot of your map to share with others via email, or as an image in your word processing software.

## On a Mac:

1. Command-Shift-3. It captures a **screenshot** of your entire **screen**.
2. Command-Shift-4. It turns the cursor into a crosshair, which you can drag to select a portion of your **screen** to capture. ...
3. Command-Shift-4, then space bar, then click on a window.

<https://www.cnet.com/how-to/three-ways-to-take-a-screenshot-on-a-mac/>

**On a PC:** There are many ways, my favorite is to use the “Snipping Tool” which I have “pinned to taskbar” so it is always easy to get to. If you don’t see it, you can do a search on your computer to find it (then pin it to taskbar). You will use this Snipping Tool very often, not just in this webmap. To find the tool, type “Snipping Tool” in this box in the lower left of your PC:





# Brief Descriptions About the Data Layers (Metadata):

If you are using a dataset for important decision making, grant applications, etc., we strongly suggest you view the link to learn more about the particular dataset of concern. Data often is highly nuanced and is usually appropriate for certain types of analyses, and may be outdated. Use these data and this WebMap at your own discretion. The layers are described according to their order in the GIS Layers tool in the WebMap. Names that end in “MS” are “map services” being consumed by this WebMap, some are updated by the original data creators, and some are not, so caution is advised.

**Watersheds – HUC 12 and HUC 8 Bounds: Hydrologic Unit Codes (HUCs).** These layers show watershed bounds as defined by the US Geologic Survey. They define HUCs as “The United States is divided and sub-divided into successively smaller hydrologic units which are classified into four levels: regions, subregions, accounting units, and cataloging units. The hydrologic units are arranged or nested within each other, from the largest geographic area (regions) to the smallest geographic area (cataloging units). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system.” Thus HUC 8 bounds are composed of HUC 12; HUC 12 bounds are smaller watersheds. For more information, please see: <https://water.usgs.gov/GIS/huc.html>

**CFECT Data:** These are datalayers created by Brian Hall and staff at the Community Foundation of Eastern Connecticut (CFECT) to show areas where they have been doing environmental work. For more information, visit: <https://cfect.org/>

**Trails, CT (CT DEEP and TLGV) Incomplete!:** These datalayers contain trails information from CT DEEP (<https://ct-deep-gis-open-data-website-ctdeep.hub.arcgis.com/maps/CTDEEP::deep-trails-set/about>) and The Last Green Valley (TLGV). While there has been many more trails added to these layers over the past few years, they are still very incomplete and an absence of trails on this map should not be considered as evidence of no trails on the ground.

**Environmental Justice:** contains individual datasets relating to environmental justice issues. It contains CT State House and Senate districts, schools (from UCONN’s MAGIC GIS program), and the following:

**American Indian Areas:** from the US Census, 2018

**EJSCREEN: from the US EPA’s EJ Screen program.** Total population in census blocks, percent low income, and percent minority. <https://www.epa.gov/ejscreen>

**CT Environmental Justice Block Groups 2021 (CT DEEP):** block groups “...on the Connecticut Department of Economic and Community Development (DECD) list of distressed municipalities (also listed here below) or in a defined census block (see new map link below) to be considered under section 22a-20a of the General Statutes and the Environmental Justice Policy.” See: <https://portal.ct.gov/DEEP/Environmental-Justice/Environmental-Justice-Communities>

**CT Environmental Justice Distressed Municipalities 2021 (CT DEEP):** was created by CT DEEP based on income, unemployment rates, population change, housing stock changes, education level, and per capita equalized net grand list. See: <https://portal.ct.gov/DEEP/Environmental-Justice/Environmental-Justice-Communities>

**Protected Open Space:** The three datalayers under this heading are actually all the same data source – they are just colored differently to highlight different aspects of the datalayer. The information was originally compiled by 10-12 different organizations. The bulk of the compilation came from the Harvard Forest and Highstead who got the data from The Nature Conservancy, USGS PADUS (Protected Area Database US), National Conservation Easement Database, and state GIS clearinghouses. Hunter Brawley and a few land trusts added in additional parcels and some members notified us about others. The parcels were all reshaped to fit the town parcel layers at the time the data was compiled. While this is without a doubt the most complete GIS layer of protected open space in this region, it is certainly not complete. We ask members to be patient with us and be willing to provide us with a few bits of information when asking us to add in more parcels and to use the data update form.

**Parcels:** All land parcels for the towns in the region as supplied from MassGIS <https://www.mass.gov/info-details/massgis-data-property-tax-parcels> ), or from the CT ECO “Connecticut Parcels” Map Service. <https://cteco.uconn.edu/data/parcels/index.htm> Please note, that you must be zoomed in to an approximate town-level for the parcels to be made visible (and of course they must be turned on); this is done to prevent this large dataset from clogging your internet connection and slowing down the WebMap.

**Water Related:** Since many of these terms have specific regulatory meanings, please read the original sources in the links.

**Streams and Water Bodies, USGS National Hydrography Dataset (NHD), (USGS) MS:** The NHD is used in the “National Map” which is the newer version of the USGS Topographic Maps. See: <https://www.usgs.gov/national-hydrography/national-hydrography-dataset>

**Outstanding Resource Waters, Massachusetts (MassGIS) MS:** “This datalayer delineates areas in which certain waters are afforded Outstanding Resource Water (ORW) protection under the Massachusetts Surface Water Quality Standards, 314 CMR 4.00 (WQS). According to 314 CMR 4.04(3).” See: <https://www.mass.gov/info-details/massgis-data-outstanding-resource-waters>

**MassDEP 2012 Integrated List of Waters (305(b)/303(d)) (MassGIS) MS:** “This data layer represents the combined reporting elements for the 2012 cycle of both sections 305(b) and 303(d) of the Federal Clean Water Act (CWA).” Please see: <https://www.mass.gov/info-details/massgis-data-massdep-2012-integrated-list-of-waters-305b303d>

**CT Water Quality Classifications (CT\_ECO, 2017) MS:** there are separate sublayers for surface water and ground water. “The Water Quality Classifications based on adopted standards establish designated uses for waters and identify the criteria necessary to support those uses.” See: <https://tlgv.maps.arcgis.com/home/item.html?id=79cb7432d9e44a78955e95ecfa98715f>

**CT NWI Wetland Functions 2010 (CT\_ECO, 2017) MS:** contains sublayers of different wetland types. “National Wetlands Inventory (NWI) for Connecticut completed in 2010.”. See: <https://tlgv.maps.arcgis.com/home/item.html?id=5b8198111b5d46a5be4f9c4751dc9395>



**TNC - Biodiversity Data:** These datasets are all part of The Nature Conservancy’s Resilient and Connected Landscapes project. Which seeks to identify “resilient lands and significant climate corridors across eastern North America”.

<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/Pages/default.aspx>

**TNC - Resilient and Connected Networks (Simple) MS:** “Final CRCS dataset. The Resilient and Connected Networks are a representative, connected network of climate resilient sites that if conserved, could help us sustain biodiversity into the future. Resilient and Connected Networks with BIA lands: updated 3/29/2021” Please see:

<https://tlgv.maps.arcgis.com/home/item.html?id=94e8635caa51472fac3f1870e15eb4e9>

**TNC - Connectivity and Climate Flow (Categorical) MS:** “Final CRCS dataset. Connectivity and climate flow is one component of three component of resilient and connected landscapes. The Resilient and Connected Networks are a representative, connected network of climate resilient sites that if conserved, could help us sustain biodiversity into the future. Resilient and Connected Networks with BIA lands: updated 3/29/2021” See: <https://tlgv.maps.arcgis.com/home/item.html?id=3c8e03f4aa2a41f6ab1c0605ce37a2cd>

**Connectivity and Climate Flow (Continuous) MS:** Similar to the dataset above, but this one has the original, uncategorized data for those who prefer to see more detail. “Final CRCS dataset. Connectivity and climate flow is one component of three component of resilient and connected landscapes. The Resilient and Connected Networks are a representative, connected network of climate resilient sites that if conserved, could help us sustain biodiversity into the future. Resilient and Connected Networks with BIA lands: updated 3/29/2021” See: <https://tlgv.maps.arcgis.com/home/item.html?id=0f24561686f042b782be3ead109263e3>

**TNC - Resilient Sites (Terrestrial and Coastal) MS:** “Final CRCS dataset. Climate Resilient Sites are ecologically representative sites with a diversity of connected microclimates and low human modification. Resilient terrestrial and coastal sites with BIA lands: updated 3/29/2021.” See: <https://tlgv.maps.arcgis.com/home/item.html?id=2b0ff2a8fb5340a5a5e91ff9c185aa1d>

**Audubon Important Bird Areas Polygon Public View (Audubon GIS, 4/2021) MS:** “Important Bird Areas Polygon authoritative layer last updated 4/16/2021”. See <https://tlgv.maps.arcgis.com/home/item.html?id=9217fd74cf8b4e47bd2d77720a757873>

**BioMap2 - Massachusetts Only (EOEEA) (MassGIS) MS:**

**BioMap2 Core Habitat and Critical Natural Landscape:** “Core Habitat: Core Habitat is critical to the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth. Critical Natural Landscape: Critical Natural Landscape complements Core Habitat and includes large natural Landscape Blocks that provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience; and includes buffering uplands around coastal, wetland, and aquatic Core Habitats to ensure their long-term integrity.” See: <https://tlgv.maps.arcgis.com/home/item.html?id=618dc2d55e7b499e9047287eba8830fa>

**BioMap2 Core Habitat Components:** The features used to create the Core Habitats shown in the above layer. For details on what each type is, please see: <https://tlgv.maps.arcgis.com/home/item.html?id=3230a018b54c489298c624a4078fbb74>

**BioMap2 Critical Natural Landscape Components:** The features used to create the Critical Natural Landscape shown in the above layer. Please see: <https://tlgv.maps.arcgis.com/home/item.html?id=5c89c3377c77462da166ea38e4f37e97>

**Natural Heritage, Massachusetts (MassGIS, 2021) MS:**

**NHESP Priority Habitats of Rare Species:** “Areas delineated as Priority Habitats in Massachusetts are protected and can include wetlands, uplands, and marine habitats. Published as a map service by MassGIS.”  
<https://tlgv.maps.arcgis.com/home/item.html?id=a953ef7fe0744ef2b2a8fb49118c51c7>

**NHESP Estimated Habitats of Rare Wildlife:** “The Estimated Habitats of Rare Wildlife datalayer contains polygons in Massachusetts that are a subset of the Priority Habitats of Rare Species. Published as a map service by MassGIS.”  
<https://tlgv.maps.arcgis.com/home/item.html?id=e99c0aae177247ae85636102db6ede5f>

**NHESP Certified Vernal Pools:** “Vernal pools in Massachusetts that have been certified by the Natural Heritage and Endangered Species Program (NHESP)” <https://tlgv.maps.arcgis.com/home/item.html?id=db5591721504490ba22a2fa8644b774>

## **Natural Heritage, Connecticut (DEEP, 2021) MS:**

**Diversity Database - Natural Diversity Database Area:** AKA Natural Heritage Data. “The Natural Diversity Database Areas is 1:24,000-scale data. It depicts the approximate locations of state and federal listed species and significant natural communities.” See: <https://tlgv.maps.arcgis.com/home/item.html?id=58c6d263e85647caaa82c466d5794227>

**CT - Critical Habitats - deepgis.DEEP.CRITICAL HABITAT POLY:** “Connecticut Critical Habitats feature class depicts the location and distribution of selected Critical Habitats in the state of Connecticut.” <https://tlgv.maps.arcgis.com/home/item.html?id=2126a00683e347bcb2ee28a75b24326b>

**Land Use (NLCD, 2016) MS:** “NLCD 2016 represents the latest evolution of NLCD land cover products focused on providing innovative land cover and land cover change data for the Nation.” See: <https://tlgv.maps.arcgis.com/home/item.html?id=64f450a4d17546d68ed79951fc7e6cb1>

**Shaded Relief (LiDAR) MA (MassGIS) MS:** “Statewide shaded relief from Lidar terrain data for Massachusetts, published by MassGIS as a tile service at ArcGIS Online.” See: <https://tlgv.maps.arcgis.com/home/item.html?id=8418300d72be464189882fc41eaf796e>

**Shaded Relief (LiDAR) CT (CT ECO) MS:** Shaded relief from LiDAR terrain data for Connecticut. From CT\_ECO. See: <https://tlgv.maps.arcgis.com/home/item.html?id=0585e519a9cc45fdb0702c8425e9305c> and <http://www.cteco.uconn.edu/index.htm>