User Guide: Greater Atlantic Region Section 7 Mapper

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Purpose of the Section 7 Mapper

We (NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) Protected Resources Division) are providing this endangered species mapping application (Section 7 Mapper) to aid Federal action agencies (AAs) in their section 7 consultation responsibilities under the Endangered Species Act (ESA). Using these **Consultation Areas** (data layers), AAs can better determine whether the activities they plan to authorize, fund, or carry out may affect listed species or designated critical habitat within our jurisdiction (Maine through Virginia). Within the Section 7 Mapper, Consultation Areas represent our best estimate of the spatial and temporal range of listed species' life stages, behaviors, and critical habitat in our Region. We developed these layers using the best available scientific and commercial information and our professional judgment. We plan to update the Consultation Areas regularly as new data from peer-reviewed literature, research reports, and field observations become available.

Data Limitations

Please note that due to data limitations, if your project is outside of a major waterway (e.g., in a very small tributary, or shallow area near a marsh), the polygons representing our listed species' distribution may lack the spatial resolution to capture your action area. If you follow the steps below and no listed species or critical habitat are shown to overlap with your action area, you may want to extend the action area into the nearest major waterway (e.g., main channel of a river) to be certain that we do not expect any listed species or critical habitat to be in your action area. You are welcome to ask for technical assistance to verify your findings in the Section 7 Mapper. If you know of more recent information that is not reflected in our data, please notify us so that we can make the appropriate updates (Contact Us).

We are providing the Section 7 Mapper as technical assistance; however, it does NOT replace the section 7 consultation process. Use the Mapper as a first step in determining if a proposed federal action overlaps with listed species or critical habitat presence. In cases where neither the direct nor the indirect effects of an action will extend into an area of species presence or critical habitat, and thus listed species and critical habitat will be not be exposed to any effects of the action, the AA may conclude the consultation process with a No Effect determination (see our guidance on No Effect determinations). The maps indicate locations where species and/or critical habitat may be present, and thus for projects within these areas, a section 7 consultation is likely recommended. However, based on the nature and extent of direct and indirect effects of the proposed action, it does not necessarily mean all activities within the indicated **Section 7 Service Area** need consultation. For example, a proposed action may be so minor or limited due to minimization measures, and/or of such a brief duration, and/or occur when species are not present, that the AA determines there are no effects of the proposed project on listed species. AAs must use discretion and expertise to determine if the proposed activity may affect listed species. If an AA determines that the proposed activity will not have any effect on a listed species/designated critical habitat, then no further consultation is necessary. However, if an AA determines the proposed activity may affect a listed species or designated critical habitat in any capacity, they must initiate either a formal or informal consultation.

The basemaps are for context only. They should <u>not</u> be used to infer any information about habitat or Submerged Aquatic Vegetation (SAV).

<u>Please note</u>: This is a Beta program. Please be patient if the Mapper is running slow. You'll know that the Mapper is still trying to load the data by the visible loading symbol   in the lower right-hand corner of the screen. If you have any recommendations on how to improve this App, please Contact Us.

Definitions

Action Area: according to the ESA, the Action Area is "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR § 402.02).

Consultation Areas: the collection of polygons (areas) representing our best estimate of the spatial and temporal range of listed species' life stages, behaviors, and critical habitat within GARFO jurisdiction. The Consultation Areas are organized into five datasets specific to the animals we protect under the ESA (**Atlantic Large Whales**, **Atlantic Salmon**, **Sea Turtles, Atlantic Sturgeon**, and **Shortnose Sturgeon),** as well as a sixth dataset depicting areas **In or Near Critical Habitat** designations for North Atlantic Right Whale, Atlantic Salmon, and Atlantic Sturgeon.

Critical Habitat: according to the ESA, critical habitat is defined as "(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species."

In or Near Critical Habitat Layers: Consultation Area layers that approximate the extent of critical habitat. The critical habitat layers in the Section 7 Mapper are based upon regulatory boundaries. The Atlantic sturgeon critical habitat designation (82 FR 39160) offers the following parameters to define the extent of critical habitat in designated river units: "Riverbanks are the lateral boundaries. The downriver boundary is the mouth of the river... The upriver boundary is the beginning of the named river, a manmade structure that is impassable by sturgeon, a natural feature that is impassable by sturgeon, or the upriver extent of tidal influence…" (p. 39179). We have approximated the spatial extent of each critical habitat river unit in the Mapper using double-bank river polygons found in the National Hydrography Dataset. We use the language "In or Near" to caveat the uncertainty of where the ordinary high water mark is found along the main stem river.

GARFO RKMs: a standardized river kilometer (RKM) measurement method developed by GARFO for all the rivers in our jurisdiction. We generated our own standard river kilometer measurements using the National Hydrography Dataset (NHD). See the GARFO RKMs section for more information.

Project Area: the area where the project is occurring.

Section 7 Service Area: a broad approximation of the area which includes all the waterways where you may need to undergo a section 7 consultation. (The Section 7 Service Area is only displayed when the map is zoomed out too far to display details of individual Consultation Areas.)

Source RKMs: river kilometers used in various scientific literature. Please note: there is no standardized method amongst researchers for measuring river kilometers, so the river kilometers featured in one paper might not be consistent with another paper.

Understanding the Data

We created the section 7 **Consultation Areas** using the best available scientific and commercial information (peer-reviewed journals, sightings data, trawling data, and personal communication with species experts). The critical habitat layers are based upon regulatory boundaries.

There are five feature datasets within the Section 7 Mapper specific to the animals that we protect under the ESA. The featured datasets are **Atlantic Large Whales**, **Atlantic Salmon**, **Sea Turtles, Atlantic Sturgeon**, and **Shortnose Sturgeon**. A sixth dataset depicts areas In or Near Critical Habitat designations for North Atlantic Right Whale, Atlantic Salmon, and Atlantic Sturgeon.

Atlantic Large Whales, Atlantic Salmon and Sea Turtles

The **Atlantic Large Whales**, **Atlantic Salmon**, and **Sea Turtles** datasets include individual feature classes for each species within that taxa covered by GARFO under the ESA. The **Atlantic Large Whales** dataset includes the estimated presence of the North Atlantic Right, Blue, Fin, Sei, and Sperm whale species; the **Atlantic Salmon** dataset simply covers Atlantic salmon; and the **Sea Turtles** dataset has individual layers for Green, Kemp's ridley, Leatherback, and Loggerhead sea turtles.

Atlantic and Shortnose Sturgeon

The **Atlantic** and **Shortnose Sturgeon** datasets contain individual feature classes for each waterbody where the species are present. The **Atlantic** and **Shortnose Sturgeon** datasets are more detailed because we have more data to differentiate the distribution of life stages and behaviors of these species in each body of water. By contrast, the data we have available for large whales, salmon, and sea turtles do not allow us to capture variable behavior patterns at the same spatial scale.

What are GARFO RKMs?

When you download your sturgeon presence data into Excel or view it in the printed report, you'll notice that there are two different types of **River Kilometers** (**RKMs**) mentioned: **Source**

and **GARFO**. We initially collected our RKM information on sturgeon presence by looking at published research papers. These are the **Source RKMs**. While reviewing these papers, we recognized that researchers use different methods of measuring RKMs in the rivers, and found no standardized method for the entire GARFO region.

Therefore, we developed the standardized **GARFO RKMs** using the National Hydrography Dataset (NHD). We have included a description of our methods for creating the GARFO RKMs in the metadata, accessible here.

In order to convert from **Source** to **GARFO RKMs**, we compared the location of the **Source RKMs** (based on the maps provided in the research papers) to where our **GARFO RKMs** are located.

While we request that you use **GARFO RKMs** in your Biological Assessment, we have made the **Source RKMs** available for reference.

In or Near Critical Habitat
See Definitions section, above.

Using the Data - Creating a Table

The **Consultation Area** maps are tools to aid you in the section 7 consultation process and do not take the place of a section 7 consultation. If there are species or critical habitat present, it helps you identify the species as well as a number of other characteristics necessary for your Biological Assessment including the species' listing status and other location-specific information. The report that you can ultimately develop (an example is included in the Appendix I) summarizes the information necessary for the "ESA-Listed Species in the Action Area" section of your Biological Assessment. We encourage you to use a table similar to the one in the Appendix I in your Biological Assessment to initiate your section 7 consultation. The table succinctly and explicitly details the information needed within the ESA Species & Critical Habitat in the Action Area section of the Biological Assessment. In the subsequent steps, you will be able to find and easily access the data needed to complete this table.

Home Screen & Tool Functions

When you first open the Section 7 Mapper, you will be greeted by a splash screen that briefly discusses the data limitations and how to find this User Guide. Read the Splash Screen. Click **OK** once you finish to hide the screen. The Mapper should look like this:
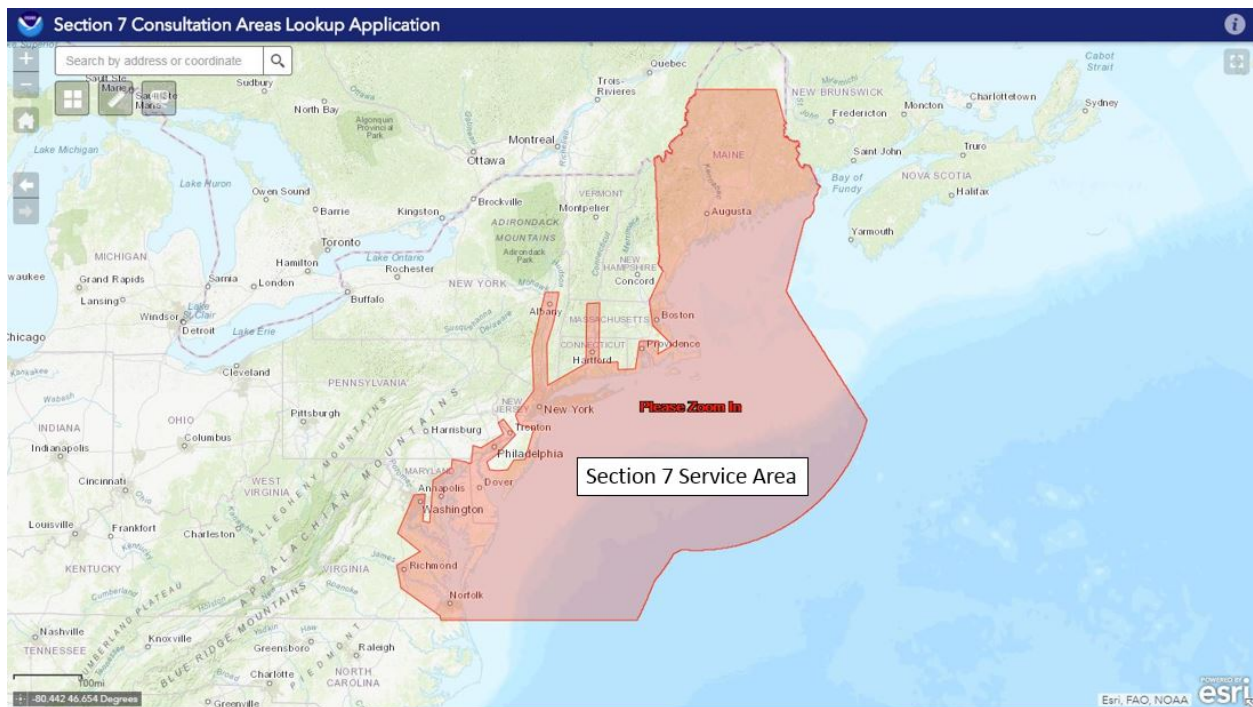
In the center of the screen is a red polygon which displays the **Section 7 Service Area**. This area includes all the waterways where you may need to undergo a section 7 consultation. Please note: we do not have jurisdiction on land, so if your project is solely on land and has no direct/indirect effects on marine/riverine habitats where listed species and/or critical habitat are present, then you do not need to consult with us.

The upper left-hand corner of the screen has the following functions:

Zoom In allows you to zoom in on the center of your data frame.

Zoom Out allows you to zoom out on the center of your data frame.

Home brings you to the default view of the entire **Section 7 Service Area**.

Previous allows you to go back to the previous map extent.

Next allows you to go forward to the next map extent.

Search Toolbar allows you to search a location by typing in the address, city, zip code, or latitude/longitude coordinate pair.

Basemap Gallery allows you to select alternative basemaps, including aerial imagery, roads, topographic maps, and nautical charts.

Measurement allows you to measure areas or distances of features on the map.

Draw Your Action Area allows you to see which species and critical habitats are in your area of interest by either drawing the area or typing in the latitude/longitude coordinates of your area.

The upper right-hand corner of the screen has the following functions:

More Information contains a condensed version of this User Guide.

Full Screen allows you to view in full-screen mode without any URL toolbars. Press the **Esc** button on your keyboard to get out of full-screen mode.
The bottom of the screen has the following functions:
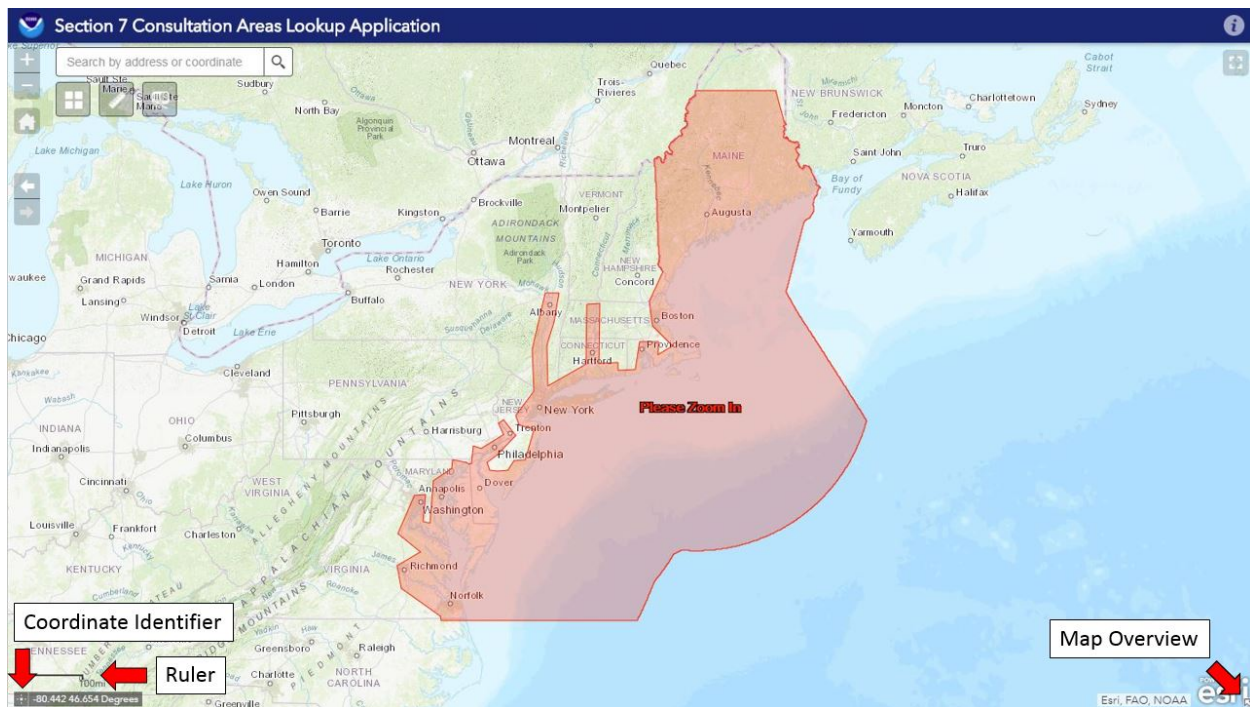
Coordinate Identifier shows a running display of the latitude and longitude of the location of your mouse pointer on the map. Alternatively, click the ⊕ icon so it turns blue, and the **Coordinate Identifier** will place a marker and hold a display of the coordinates wherever you click.

Ruler allows you to see the scale of the map.

Map Overview allows you to see your selected area in relation to the larger area of the map.

Switching Basemaps

The Section 7 Mapper's home screen shows the default Topographic basemap.

To change your basemap, click on the **Basemap Gallery** icon ⊞. The window displays on the map, and can be relocated for optimal viewing by dragging from the blue title bar at the top. From there, you can select from a variety of different maps, canvases, and charts.
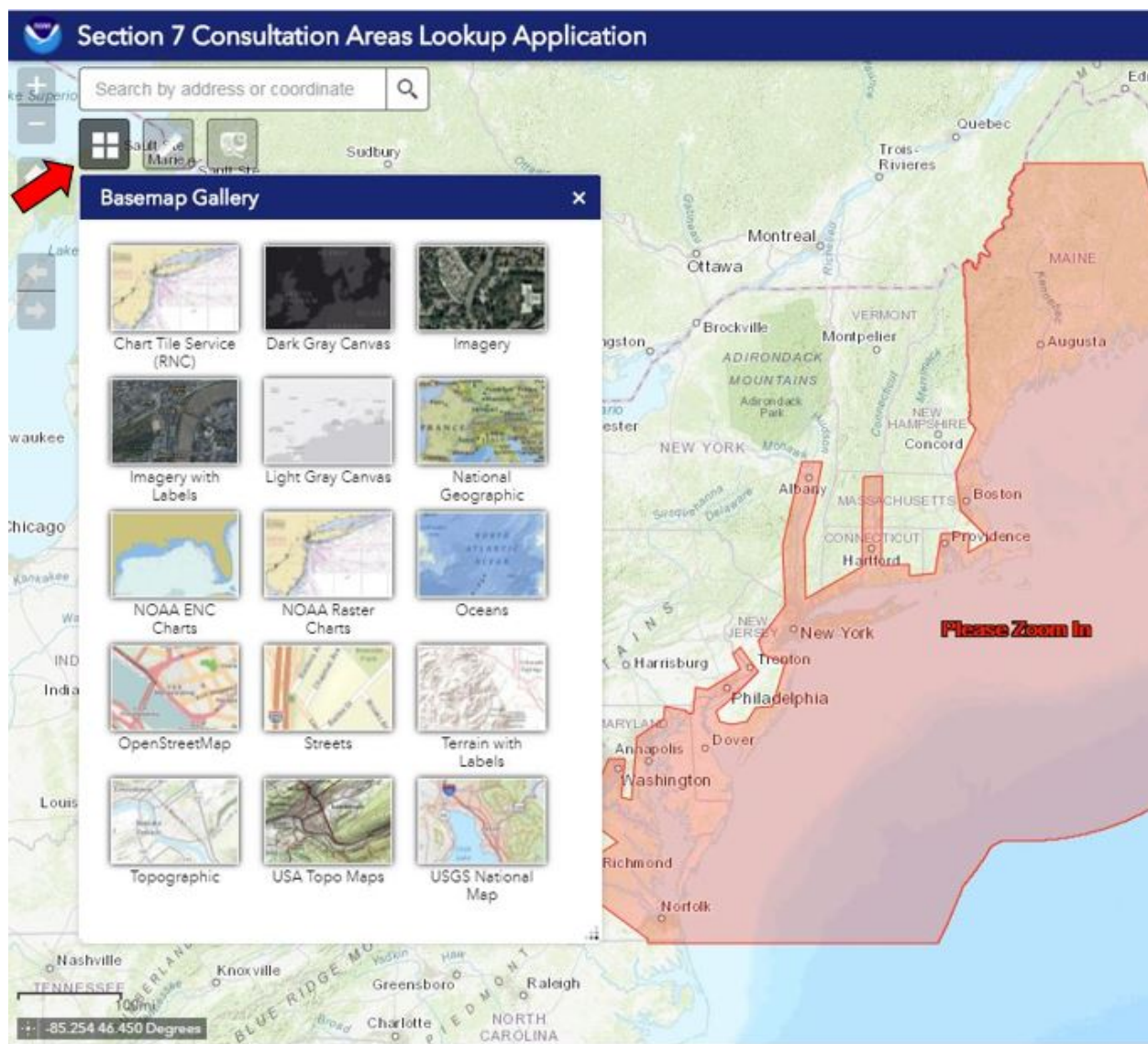
Please note: The basemaps are for context only. They should <u>not</u> be used to infer any information about habitat or Submerged Aquatic Vegetation (SAV).

Finding Your Project Area

The first step is to locate your **Project Area**. Note: In order to get the species distribution and critical habitat information, you will need to later select the Action Area.

Search by Using Coordinates

If you know the coordinates of your **Project Area**, click in the **Search Toolbar** and type them in. Remember to add the longitude coordinate first and add a negative (-) sign before it, followed by the latitude coordinate (e.g., -73.9450, 41.9830). You can also type an address into the **Search Toolbar**. When typing in the latitude and longitude, we recommend using decimal degrees as shown in the example above.

<u>Search by Zooming In: Using Arrows/Scroll Button</u>

If you do not have the coordinates for your **Project Area**, you can manually zoom to the location

by using the scroll button on your mouse or by clicking the **Zoom In** and **Zoom Out**
buttons. However, please note that it is highly encouraged that you include the coordinates of
your **Project Area** in your section 7 consultation. You can select the **Coordinate Identifier** icon
, and click in the center of your area of interest to find the coordinates of your **Project Area**.

<u>Note</u>: If you've zoomed in and still see the red **Section 7 Service Area** polygon, you'll need to
zoom in more to see the **Consultation Area** layers (in purple).

Measuring Your Action Area & Waterway

From here, you can get a look at your **Action Area** and its expanse by using the **Measurement**

tool . Select the Measurement icon and a window will appear. The window can be
relocated for optimal viewing by dragging from the blue title bar at the top.

<u>Measure by Distance</u>

This method can help determine the width of the waterway. Click on the **Distance** icon .
Click the drop-down arrow to change the units to your preference (we recommend meters). To
use the tool, click an area on the map to start drawing the line and double-click to end the line.
The window will display the length of the line you drew.
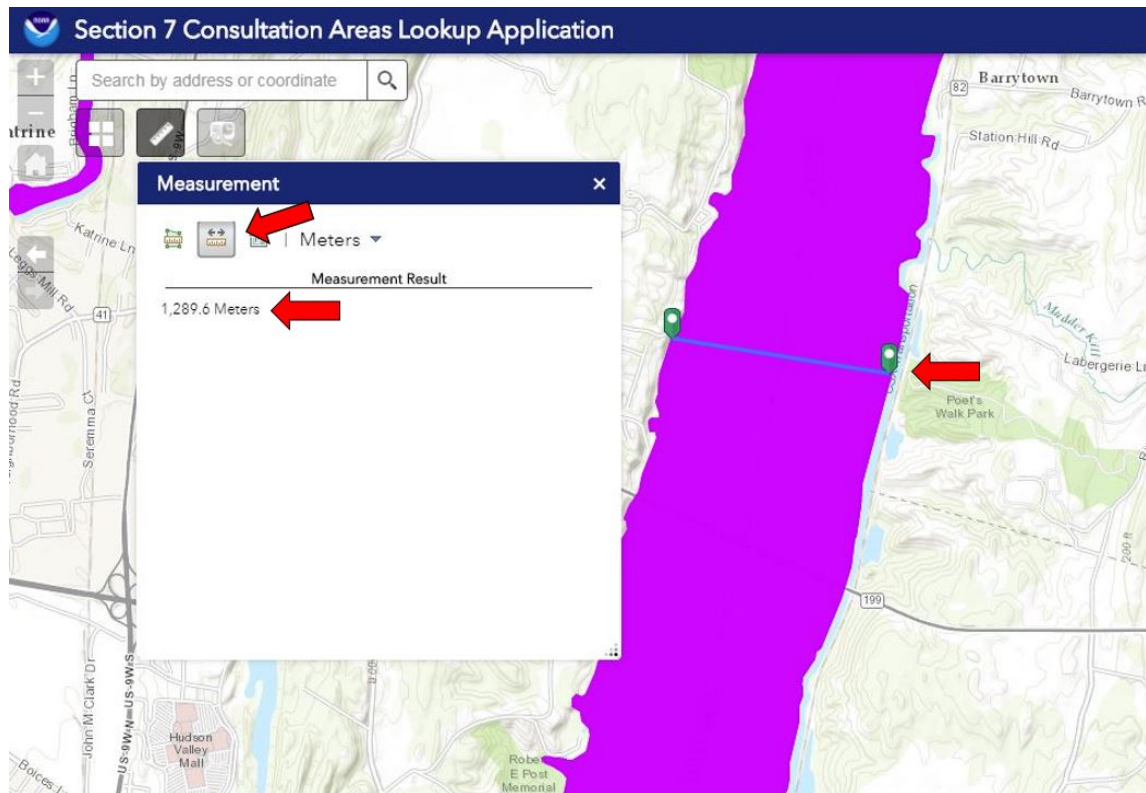
Measure by Area

This function is useful for measuring the size of your **Project Area.** Start by selecting the **Area**

icon [icon]. Click the drop-down arrow to change the units to your preference. Draw your polygon by clicking on the map to start making your shape and continue clicking to create additional area corners. For the last corner, double-click to close the shape. The window will display the size of the area that you drew.
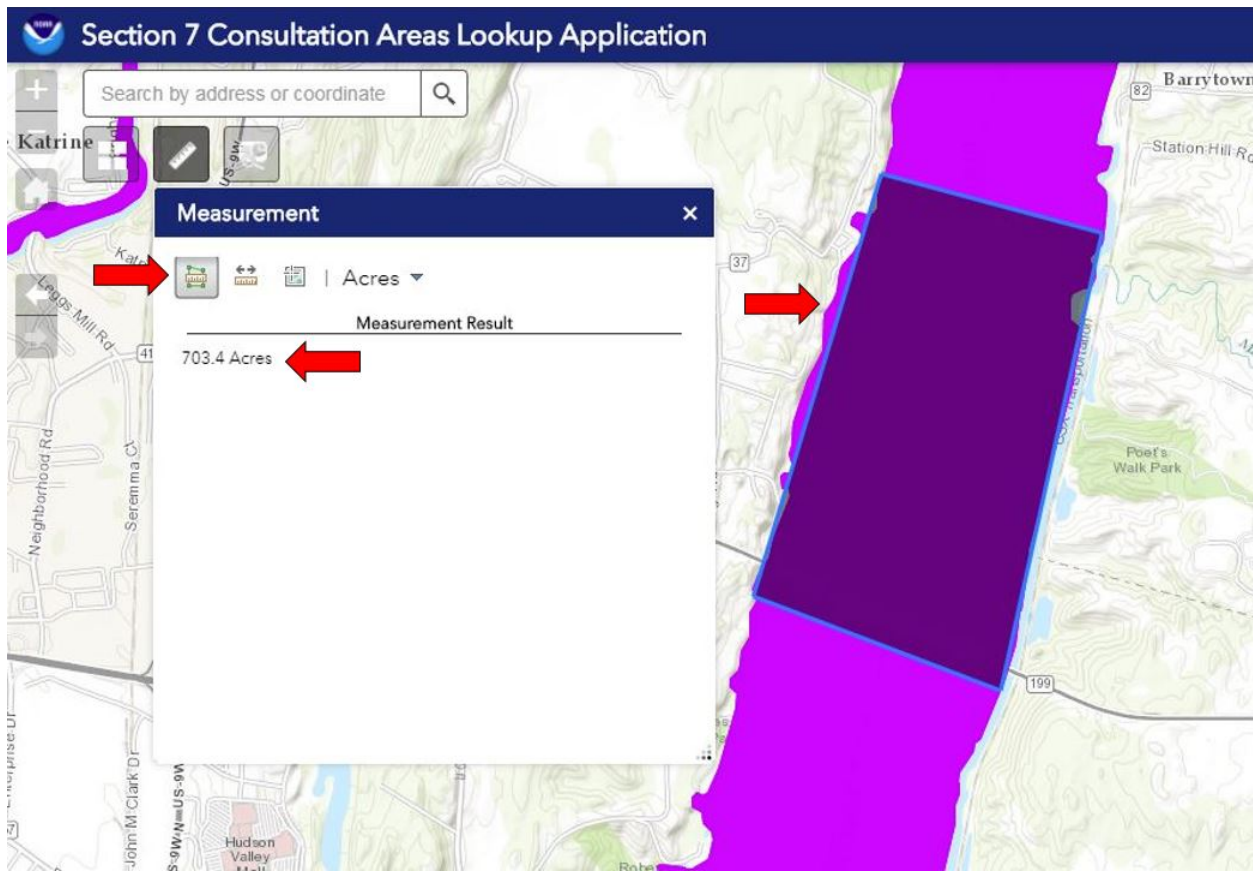
Selecting Your Action Area

Before you begin, make sure you have identified an **Action Area** for your project. The **Action Area** is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR § 402.02). The **Action Area** should include the maximum distance of the acoustic behavior threshold for the species (see Acoustic Tool), the distance of any turbidity plumes (see Turbidity table) or the area within the turbidity curtain or cofferdam, and the routes taken by any additional vessels added as a result of the project (see Vessel Traffic website). For further guidance on establishing the parameters of your **Action Area**, refer to the Technical Guidance website. Once you have established a proposed **Action Area** and have opened the Section 7 Mapper, it is time to select your **Action Area** on the map. Again, make sure your polygon is an estimate of your full **Action Area** and not just your **Project Area**, as the indirect, interrelated, and interdependent effects of your action may extend further than the project footprint. The Mapper uses the area you draw as your Action Area, plus any buffer applied (see Buffer Distance section below), to select all of the underlying Consultation Areas, and then reports which ESA-listed species and critical habitat to include in your Biological Assessment (Finding Species and Critical Habitat in Your Action Area).

Click the **Draw Your Action Area** icon to open it. The window displays on the map, and can be relocated for optimal viewing by dragging from the blue title bar at the top.

To define an Action Area, use one of the provided tools:

Draw

After selecting the **Draw** option, you will have several options.

Point [icon] : Click once on the map at the central location of the **Project Area**.

Polyline [icon] : In some situations (i.e., rivers), you may want to draw a line to represent your area. Click the map to start drawing the line, click to add turning points, and double-click to place the endpoint of the line.

Extent [icon] : This method can be used to draw a rectangular area. Hold-click to start a corner of your area, drag to your desired shape and size, and release your mouse to place the opposite corner of the rectangle.

Polygon [icon] : To draw the **Project Area** by using the polygon method, click a point on the

map to place the first corner of your shape, click to place additional corners in sequence, and double click to place the final corner and finish drawing the polygon.

Regardless of which draw tool you use, you will need to make sure that you draw an Action Area that accounts for all of the direct, indirect, or interrelated/interdependent effects of your action, as well as any uncertainty you may have about the extent of your project (e.g., depending on the planning stage of your project, the quality of your project data). As noted above, depending on the size and location of your project, it is also possible that Consultation Areas lack the spatial resolution to fully capture your action area. To account for all of the effects of your action, as well as any project uncertainty and the limited resolution of the Consultation Areas, you should use the **Buffer Distance** feature.

Applying a **Buffer Distance** extends the area you have drawn equally in all directions. We recommend using the Draw tools to first approximate your project footprint. You can then choose a buffer distance that will expand your drawn area to include the max extent of all direct, indirect, and interrelated/interdependent effects of your action (e.g., turbidity plume distance, vessel traffic routes). You may choose to further increase the size of the buffer to account for any uncertainty you may have regarding the size/location of your project, or the spatial resolution of the underlying Consultation Areas.
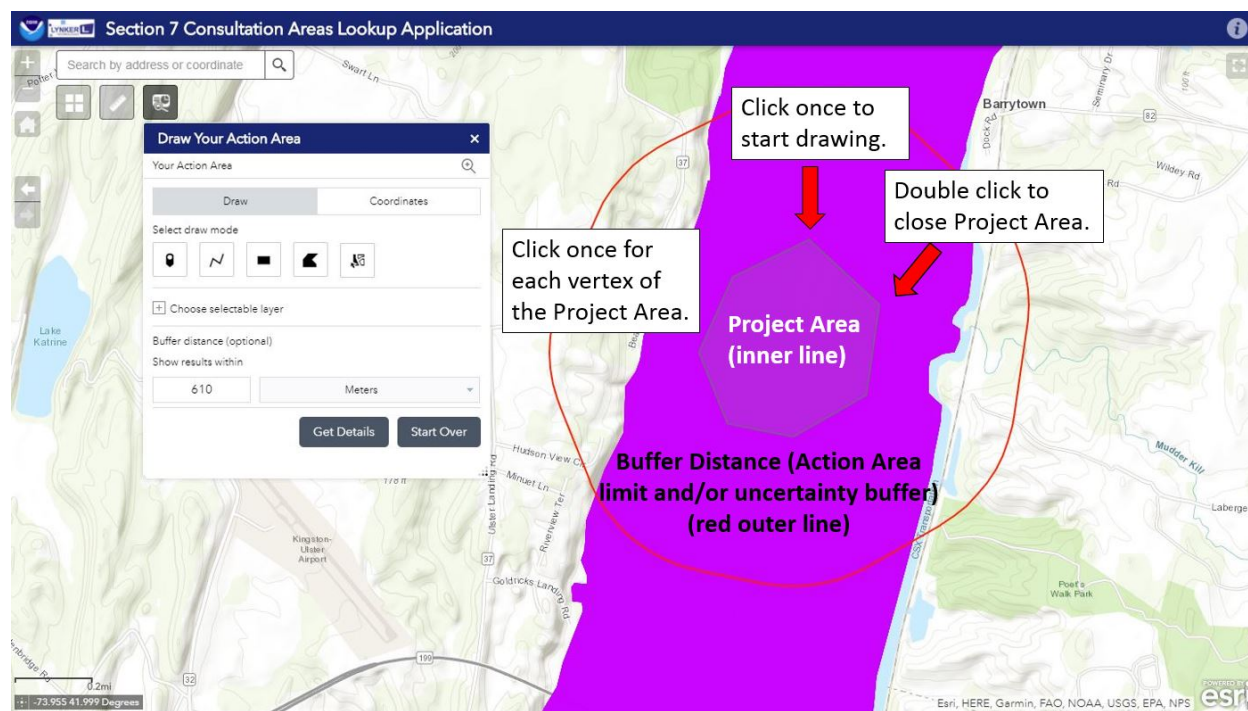
To learn how to select your Action Area by using coordinates, see Appendix II.

Your Selection

For all options, once you make your selection, any buffers set will appear as a solid red outline (See image in the Draw section). This area should encompass the **Action Area**.

If you find that you have made an error in your selection area, simply click the **Start Over** button and the selection will disappear so you can start again. To learn how to interpret the results, see Finding Species by Drawing Your Action Area.

## Finding Species and Critical Habitat in Your Action Area

The main purpose of the Section 7 Mapper is to determine which protected species and critical habitat are present in your **Action Area.** This information will be needed for your Biological Assessment/Verification Form. If you are looking for technical assistance to verify your findings from the Mapper, please Contact Us.

Finding Species by Drawing Your Action Area

Once you have finished Selecting Your Action Area by using the **Drawing Your Action Area** tool, click on **Get Details** to determine the species and critical habitat present within the **Action Area**.
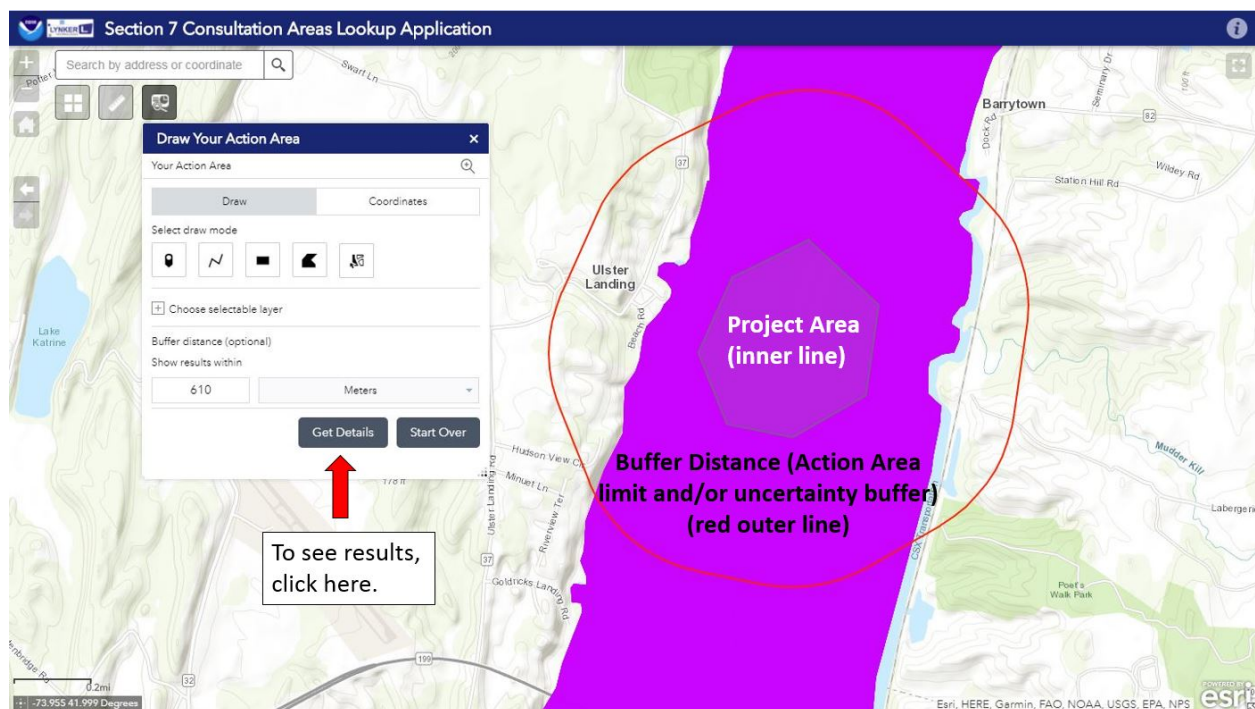

The window will display a table of the Endangered species for this region, the number of life stages/behaviors, and the critical habitat that occurs within the Action Area. If a loading symbol

is shown, the Mapper is still collecting information for that Species or Critical Habitat. We appreciate your patience.

There are 7 life stages and/or behaviors present for Atlantic sturgeon.

There is critical habitat present.
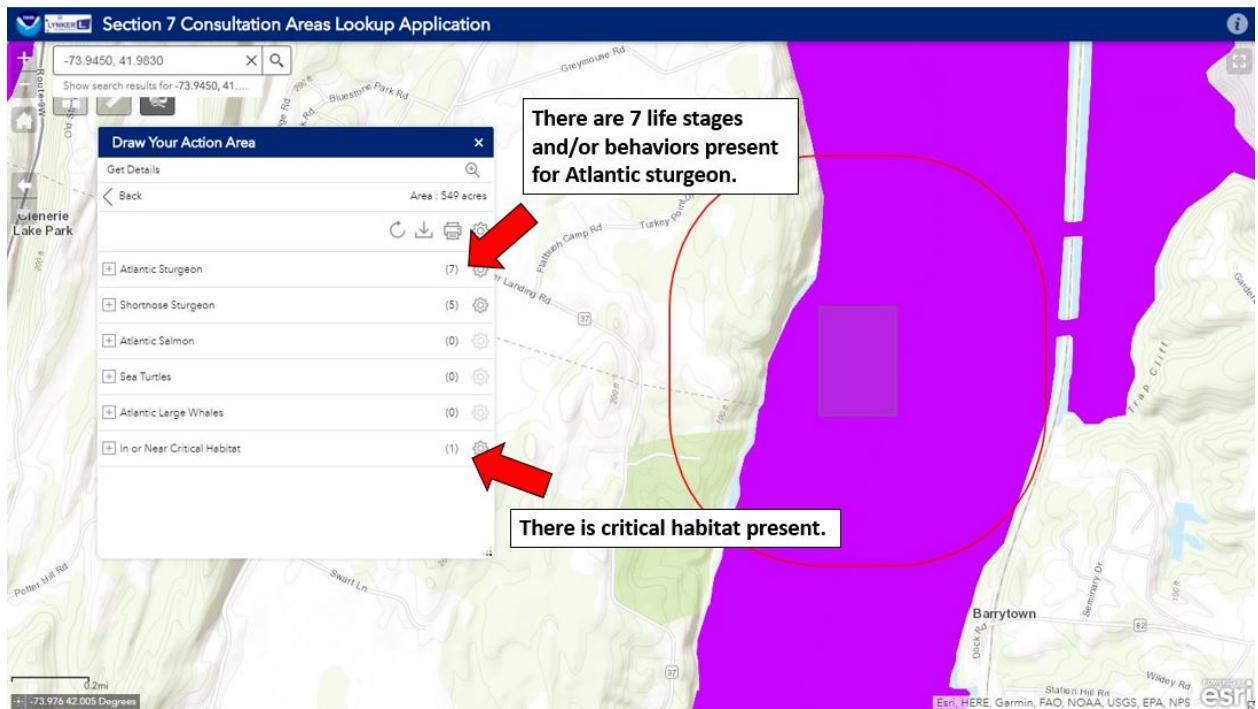
Click on the plus symbol [+] next to the species name to expand the table. Expand the window to display more information by dragging the lower right-hand corner.
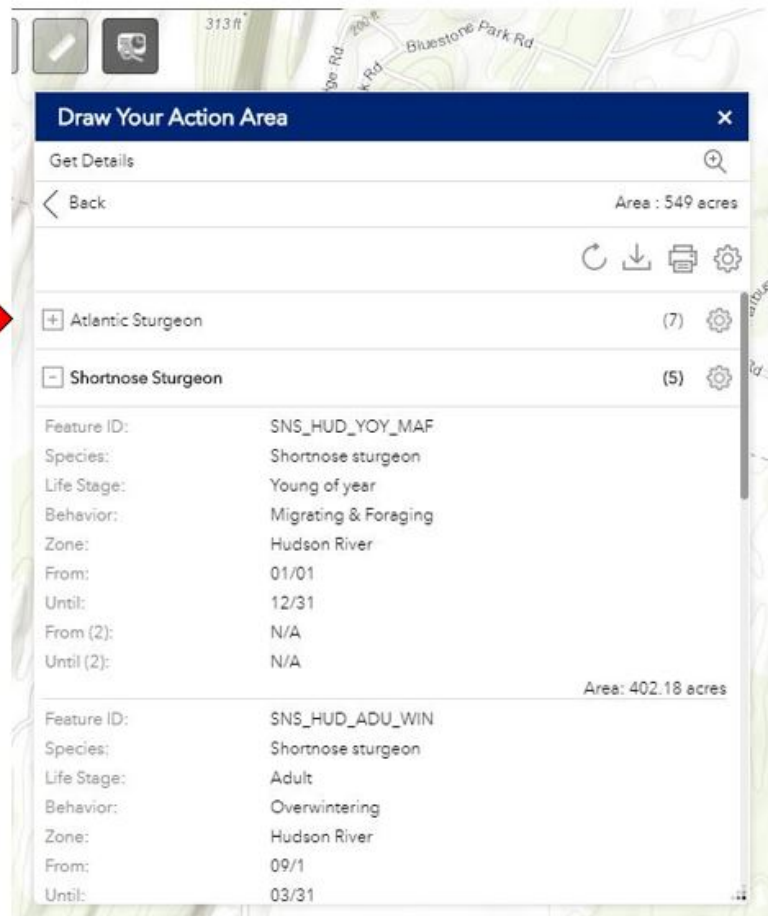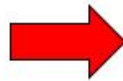

In the expanded table, you will see information on the **Life Stages**, **Behaviors**, the **Waterbody (Zone)**, and the **Time of Year** that the species will be present. Note: There may be two sets of time of year for species that perform behaviors at two different times in the year (e.g., Atlantic sturgeon spring and fall spawning). Be sure to click on the other plus signs to see the information for all of the species. For more information on time of year and references, see Using this Information for Your Biological Assessment.

Further Exploration of your Action Area (optional)

You can find out which species/critical habitat units are in a specific portion of your Action Area by clicking directly on the purple polygons.

A pop-up window will appear showing how many Consultation Areas are present along with some basic information including the Critical Habitat unit or Species name, Life Stage, Behavior, Time of Year and a brief description. Remember to click on the right arrow to see pop-ups for ALL of the species, life stages, behaviors, and critical habitat present. Note: There may be two

sets of time of year for species that perform behaviors at two different times in the year (e.g., Atlantic sturgeon spring and fall spawning).
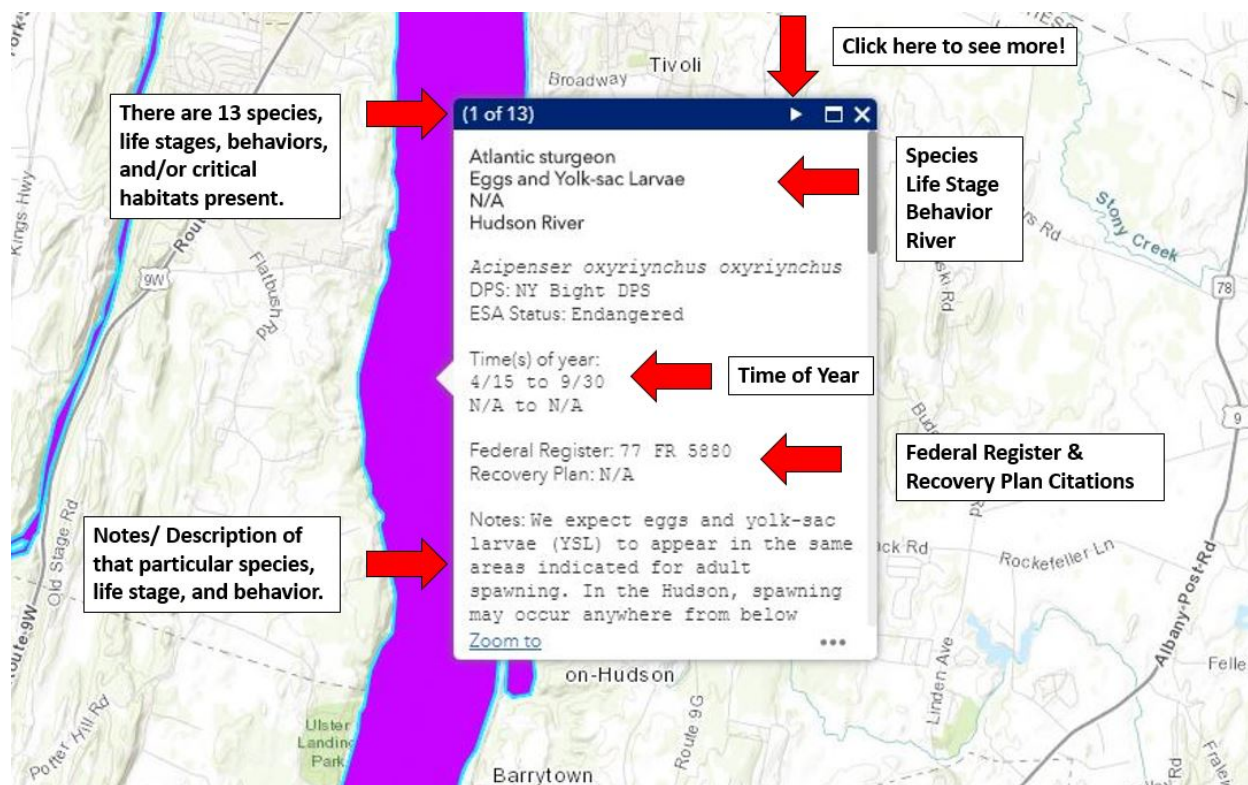
Using this Information for Your Biological Assessment

Once you have used the **Draw Your Action Area** (see Finding Species by Drawing Your Action Area) and **Get Details** tools to identify the **Consultation Areas** overlapping your **Drawn Action Area**, there are two options for exporting this information from the Section 7 Mapper for use in your Biological Assessment.,

Printable Report

To generate a report for your action area, click on the 🖨 **Print** icon within the Get Details window. Select your desired page size and click **Print**. Please refer to the example report in Appendix I with information specific to the Connecticut River. Currently, the printable report feature is not always functioning well in coastal/offshore environments, and may not be able to generate a map. We are aware of the problem and are working on solutions to address it.

Table Form

Alternatively, to download a table of the overlapping Consultation Area details, click the ⬇ **Download** icon, "CSV" will be your only option, then click **Download** again. This will download a separate table for each species or critical habitat with Consultation Areas

overlapping your Drawn Action Area. The table format is comma separated values (.CSV), which can be opened in Excel.
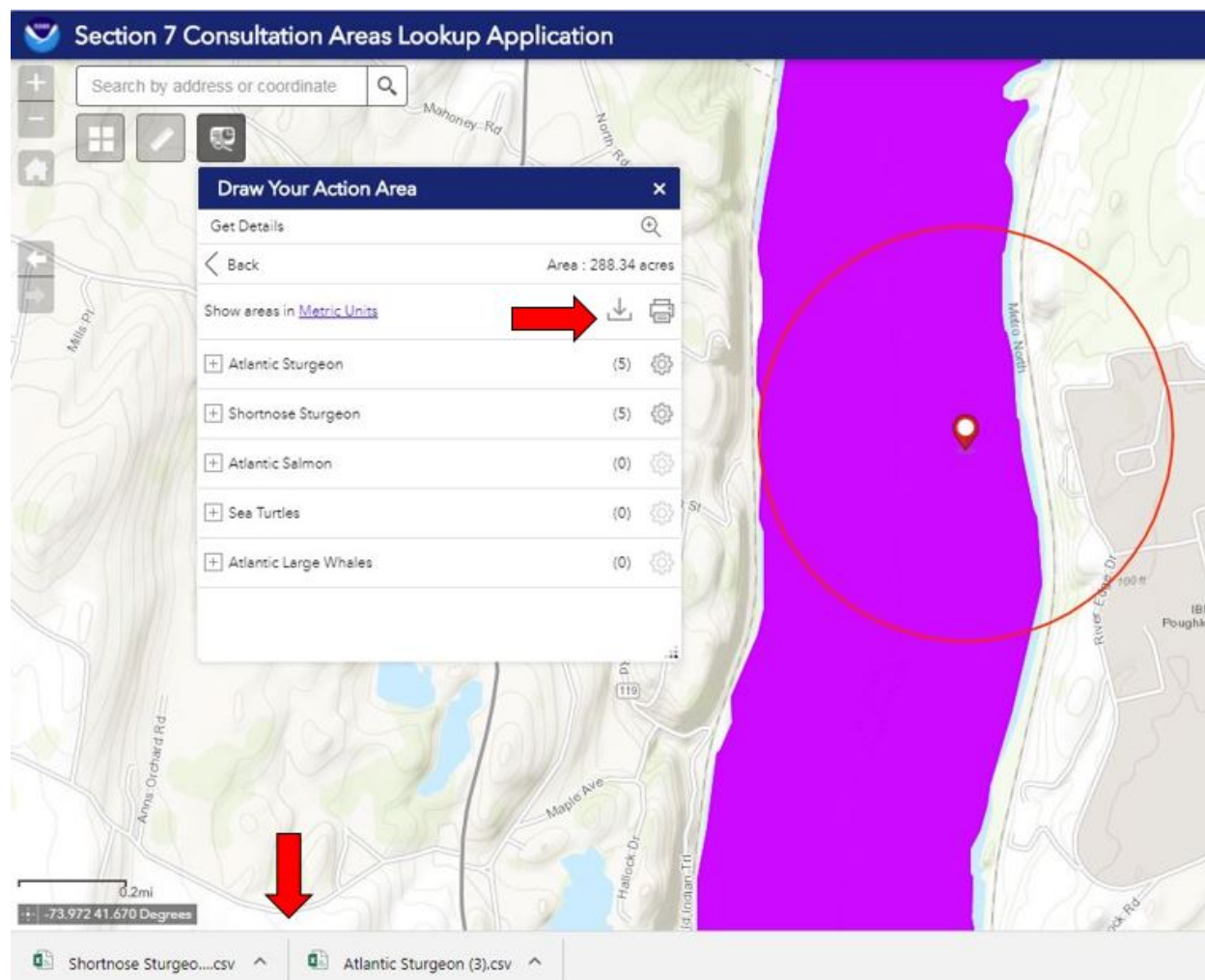
Transfer each species/critical habitat row from your report or the CSV tables into your Biological Assessment. We suggest summarizing the data in a table and placing that in the "Status of the Species/Critical Habitat in the Action Area section. Once you have completed rows for each species/critical habitat within your action area (including behaviors and times of year, as applicable), you will be prepared to write the effects analysis for your Biological Assessment. You should analyze how each in-water stressor may affect the unique life stages, behaviors, and critical habitat features in your action area. For assistance in preparing your effects analysis, visit the Technical Guidance page on our website.

NOTE: If you have trouble downloading multiple CSV files (i.e., it appears that multiple ESA-listed species are in your action area, but only the Atlantic sturgeon CSV file downloads), you may have to adjust your pop-up settings. In Google Chrome:

1. Go to your Chrome Browser
2. Type in: chrome://settings/

3. Scroll to the bottom and click "Advanced"
4. Scroll down to the "Privacy and Settings" section
5. Click on "Content Settings"
6. Click on "Pop-ups"
7. And then Allow Pop-ups and/or add the following sites under "allowed":

Contact Us

For more information, please visit our website. If you have any further questions or recommendation on how to improve the Section 7 Mapper, please Contact Us.

Appendix I: ESA-Listed Species & Critical Habitat in the Action Area: (Connecticut River Example)

*Note: We are experiencing some technical difficulties with this report printing feature in coastal and offshore areas. A report generates, but it fails to generate a map of the drawn Action Area. We are working to find a solution, and in the meantime, appreciate your patience.
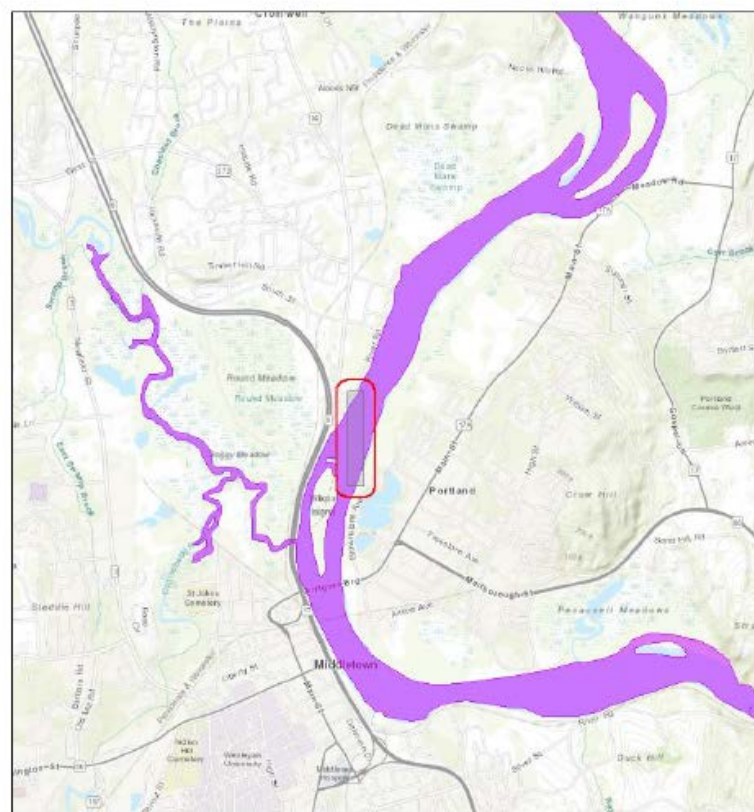
Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	7	427.79	N/A
Shortnose Sturgeon	6	366.68	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	0	0	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	1	61.11	N/A

Atlantic Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	ANS_CND_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	Connecticut River
2	ANS_CND_ADU_SPN	Atlantic sturgeon	Adult	Spawning	Connecticut River
3	ANS_CND_EYL_NON	Atlantic sturgeon	Eggs and Yolk-sac Larvae	N/A	Connecticut River
4	ANS_CND_JUV_MAF	Atlantic sturgeon	Juvenile	Migrating & Foraging	Connecticut River
5	ANS_CND_PYL_MAF	Atlantic sturgeon	Post Yolk-sac Larvae	Migrating & Foraging	Connecticut River
6	ANS_CND_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	Connecticut River
7	ANS_CND_YOY_MAF	Atlantic sturgeon	Young of year	Migrating & Foraging	Connecticut River

#	From	Until	From (2)	Until (2)	Area(acres)
1	04/15	11/30	N/A	N/A	61.11
2	04/15	08/31	N/A	N/A	61.11
3	04/15	09/30	N/A	N/A	61.11
4	01/01	12/31	N/A	N/A	61.11
5	04/15	10/31	N/A	N/A	61.11
6	04/15	11/30	N/A	N/A	61.11
7	01/01	12/31	N/A	N/A	61.11

Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	SNS_CND_JUV_MAF	Shortnose sturgeon	Juvenile	Migrating & Foraging	Connecticut River
2	SNS_CND_JUV_WIN	Shortnose sturgeon	Juvenile	Overwintering	Connecticut River
3	SNS_CND_PYL_MAF	Shortnose sturgeon	Post Yolk-sac Larvae	Migrating & Foraging	Connecticut River
4	SNS_CND_YOY_MAF	Shortnose sturgeon	Young of year	Migrating & Foraging	Connecticut River
5	SNS_CND_ADU_WIN	Shortnose sturgeon	Adult	Overwintering	Connecticut River
6	SNS_CND_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	Connecticut River

#	From	Until	From (2)	Until (2)	Area(acres)
1	01/01	12/31	N/A	N/A	61.11
2	11/15	04/15	N/A	N/A	61.11
3	04/15	07/31	N/A	N/A	61.11
4	01/01	12/31	N/A	N/A	61.11
5	11/15	04/15	N/A	N/A	61.11
6	01/01	12/31	N/A	N/A	61.11

In or Near Critical Habitat

#	Species	In or near Critical Habitat Unit	Area(acres)
1	Atlantic Sturgeon	New York Bight Unit 1: Connecticut River	61.11

Appendix II: Alternative Method to Select Your Action Area

Coordinates

Select the **Draw Your Action Area** icon. Select **Coordinates**, type the coordinates into the **Latitude** and **Longitude** search boxes, and select **Locate**. You can also have it circle the **Action Area** (including the turbidity plume or turbidity curtain area, acoustic distances, and/or vessel routes) by entering in the **Buffer Distance**. When typing in the latitude and longitude, decimal degrees is the most compatible with our App.