

User Guide: Greater Atlantic Region Consultation Areas for Section 7 of the Endangered Species Act (ESA)

We are providing this endangered species geodatabase and accompanying “Consultation Areas” to aid Federal action agencies (AAs) in their section 7 consultation responsibilities under the Endangered Species Act (ESA). Using these data layers, AAs can better determine whether activities they plan to authorize, fund, or carry out may affect listed species or designated critical habitat¹ under our jurisdiction (NOAA Fisheries Greater Atlantic Regional Fisheries Office). Within the geodatabase, there are layers representing spatial and temporal distribution of listed species’ life stages and behaviors that we developed by using the best available scientific and commercial information and our professional judgment. Critical habitat layers, though not stored within the geodatabase, are also available to download on our [website](#). We plan to regularly update the spatial and temporal distribution data reflecting life stages and behaviors as we gain access to new data from peer-reviewed literature, research reports, and field observations.

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. You are welcome to ask for technical assistance to verify your findings from Consultation Areas in this geodatabase. If you know of more recent information that is not reflected in our data, please notify us so that we can make appropriate updates ([Contact Us](#)).

We are providing the geodatabase as technical assistance; however, it does NOT replace the section 7 consultation process. Use the geodatabase and critical habitat layers 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](#)). Maps indicate locations where species presence and/or critical habitat have been identified and thus section 7 consultation is likely recommended. However, based on the nature and extent of direct and indirect effects of the proposed action, does not necessarily mean all activities within indicated Consultation Areas 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 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 area, 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.

¹ According to the ESA, critical habitat is “(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.”

General Instructions for GARFO Map Users

In order to access GARFO's mapping data, you must have ArcGIS Desktop.

To get started on your map, you will need to download the geodatabase and critical habitat layers found here. The data are in a zip file. Once downloaded, open the zip file, and copy the files to an accessible location.

Understanding the Data

We created the section 7 Consultation Area species' distribution layers (life stages and behaviors) using the best available scientific and commercial information (peer-reviewed journals, sightings data, trawling data, and personal communication with species experts). Critical habitat layers are based upon regulatory boundaries.

There are five feature datasets within the geodatabase and each dataset is specific to the animals that we protect under the ESA. The feature datasets are **Atlantic Large Whales**, **Atlantic Salmon**, **Atlantic Sturgeon**, **Sea Turtles**, and **Shortnose Sturgeon**.

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 extent of Blue, Sei, Sperm, Fin, and North Atlantic Right Whales, 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.

The **Atlantic** and **Shortnose Sturgeon** datasets contain individual feature classes for each waterbody where the species is present. The Atlantic and Shortnose 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.

In addition to showing the extent of each species, the Consultation Areas contain information on the various species' life stages, behaviors, and the times of year when they are active within a specific location.

Using the Data

As explained earlier, these Consultation Areas maps are a tool to aid you in the section 7 consultation processes and does not take the place of a consultation. If there is a species 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 location-specific information.

The table, found in the appendix, 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 below in your biological assessment to initiate 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.

Finding & Measuring Your Action Area

Before beginning, make sure that you have defined an action area for your project. Your project 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). For more information on how to determine the scope of the action area, please consult the definition of “effects of the action” (50 CFR § 402.02). The action area should include the maximum distance of the acoustic behavior threshold for the species ([see table](#)), the distance of any turbidity plumes ([see 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 document](#)). For further guidance on establishing the parameters of your action area, refer to the [Technical Guidance website](#).

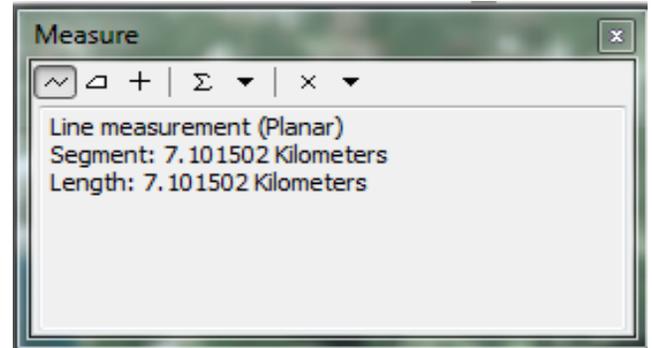
Once you have established a proposed action area and have downloaded the GARFO geodatabase, it is time to get started by opening all of the data in ArcGIS Desktop.

If you know the coordinates of your project area, enable your Tools toolbar and use the **Go to XY** tool, represented by this symbol . When typing in the latitude and longitude, you can change the units based on your preference although decimal degrees is the most compatible with our geodatabase. Remember to add the longitude coordinate first and add a negative (-) sign before it, followed by the latitude coordinate. You can **zoom to**  the location on the map or mark the coordinates with a point using the **add point**  option and manually zoom to the project area by using the scroll button on your mouse. Adding a point will make it easier for you to return to the project area every time you open the map.

If you do not have the coordinates for your project or action area, you can manually zoom to the location by using the scroll button on your mouse and move to the next section. However, please note that it is highly encouraged that you include the coordinates of your project and action area in your section 7 consultation. You can use the **Identify** tool , also located on the Tools toolbar, to find the coordinates of your project area as well as your action area by simply turning on the tool and clicking on the locations within the map. If you would like to create a point for your project area, use the coordinates you found using the **Identify** tool and follow the steps in the above paragraph.

From here, you can get a look at your action area and its expanse using the **Measure tool**  located on the Tools toolbar. Select the tool and a pop-up will appear, click the down arrow  to change the units to your preference. Select the **Measure Line**  option to assist in determining the physical distance of your action area to measure turbidity plumes/acoustic radius. To use the tool, you click on the point in the map to start drawing the line and double-click to end the line. The pop-up will display the length of the line you drew.

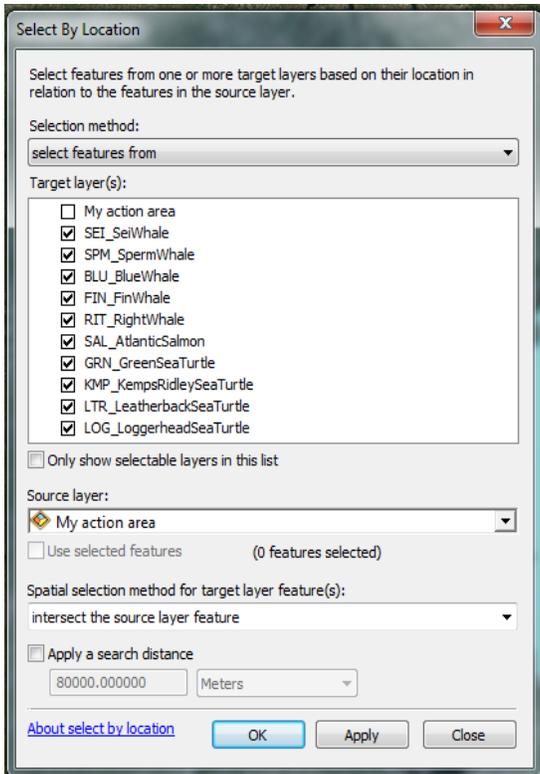
Once you have found the extent of the acoustic, turbidity, and vessel traffic effects, you can find the total action area size by selecting the **Measure tool**  and then the **Measure An Area**  option. You draw your polygon the same way as the line, begin by clicking the map to start making your shape continue clicking to create the vertices and for the last vertex, double-click to close the shape. The shape will disappear, but the pop-up will now display information on the perimeter and area of the polygon that you drew so you can know the exact size of your action area.



Selecting Your Action Area

Once you have established the coordinates of your action area and fully displayed it on your map, you can start to select data. Although you may be very confident in your knowledge of your action area, to be certain you have the most up-to-date information, use the entirety of our geodatabase by selecting all five of the feature datasets within the **Table of Contents** pane by making sure all layers are checked .

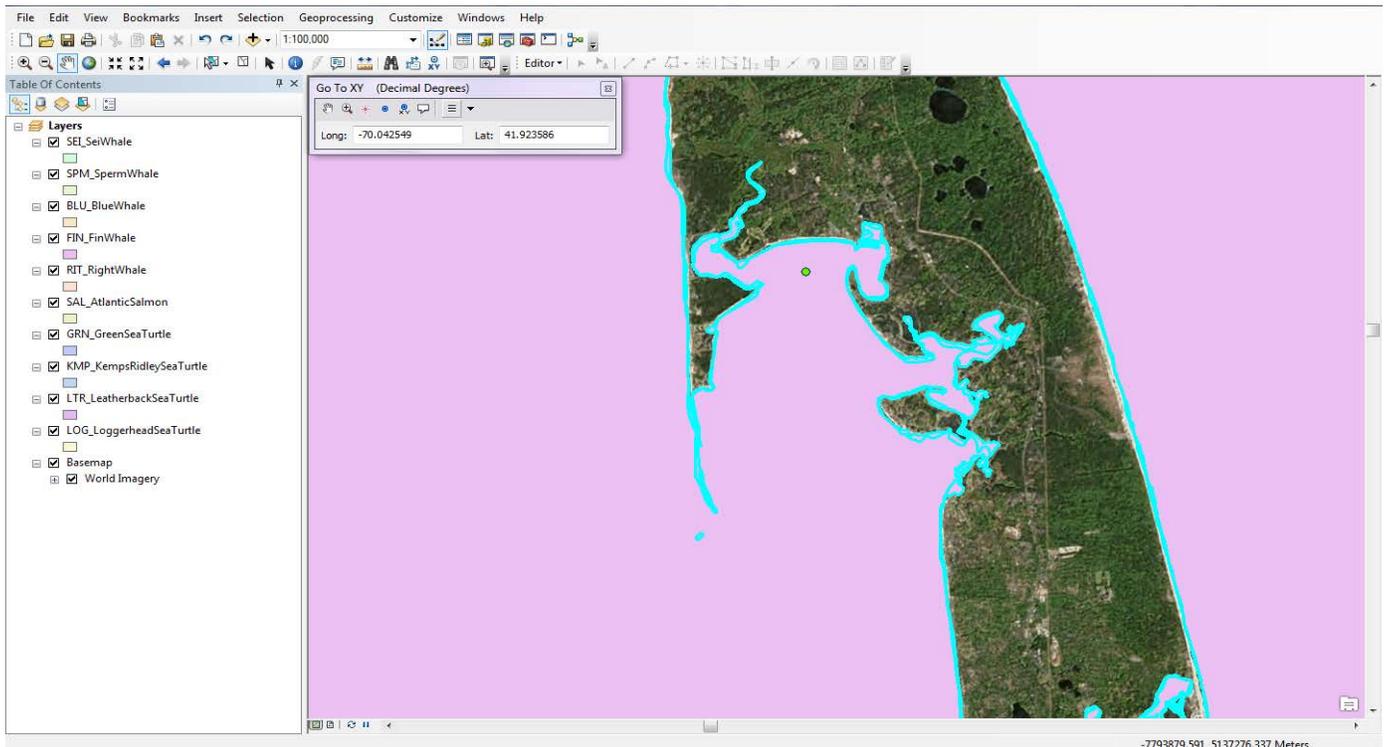
An efficient way to find which datasets overlap your action area is to use the **Select Features**  option found in the Tools toolbar. To select features choose the shape that best fits your action area by clicking the dropdown arrow next to the **Select Features** tool. If your action area is more rectangular use, **Select by Rectangle** ; if circular, use the **Select by Circle**  option. To use the tool, simply click which shape selection tool you would prefer. For **Select by Rectangle**, click where you would like one of the corners to be, and drag the shape over the area you would like to select. For **Select by Circle**, click where you would like the center of the area to be and drag the shape over the desired selection area. If the area of your project is not easily-defined by these shapes, you can create your own polygon to follow the outline of your action area using the **Select by Polygon**  tool. To draw the polygon, click the map to create the vertices of your shape and to finish the polygon double click when creating the last vertex. The shape will disappear but the feature(s) will be selected and are, by default, highlighted in a light blue color (this is shown below in our example study area of Wellfleet, Massachusetts).



If you have a shapefile of your action area, add this layer to the map. Within the **Selection** tab click, **Select by Location** and a dialog box will open (see image on the left). Select all the files except your action area file within the “Target layer(s)”. For the “Source layer”, select your action area layer. For the “Spatial selection method for target layer feature(s)” select “intersect the source layer feature”. This will show you which layer(s) overlap with your action area. If you would like to set a parameter to see species for a specific distance outside your action area, you can set a buffer by selecting the option to “Apply a search distance”. For example, if we set the search distance to 1 mile, it would include your search plus a mile on all sides to show what layers intersect.

If you find that you have made an error in your selection area, simply click the **Clear Selected Features**  tool and the highlighting will disappear and you can start again. For some species, especially for the whale, sea turtle, and salmon species, features will be highlighted that extend much farther than your action area; this is because those species exhibit the same behaviors

throughout the entire highlighted section, not just in your action area. For Atlantic and shortnose sturgeon, your selected features will be much smaller, you might have multiple features highlighted for one species within your action area, and this is because there are many different life stages and behaviors within the area you are selecting.



Remember, effects are not limited to the immediate project footprint (i.e., 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).

Finding Species Attributes in Your Action Area

Within the **Table of Contents**, located directly to the left of your map, select the **List By Selection**  mode to see the layers that overlap with your action area. These layers can be species-specific or for sturgeon and Atlantic salmon may be lifestage-specific layers.

For our example in Wellfleet, this is what the **List By Selection** tab looks like. The first heading, **Selected**, tells you what layers are present in your action area. For the example, Fin and North Atlantic Right Whales may be present as well as Atlantic Salmon and Green, Kemp's ridley, Leatherback, and Loggerhead sea turtles. The **Selectable (no features selected)** heading shows you which other species are found throughout the greater Atlantic region but not within the parameters of this action area. After noting what layers have been selected, do not clear your selection until you have finished reviewing the attribute tables as described in the below steps.

Please note remember, that due to data limitations, if your project is outside of a major waterway, it is possible that the polygons representing our listed species' distribution lack the spatial resolution to capture your action area. If, when you follow the steps above 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 are in your action area. If you are looking for technical assistance to verify your findings from this geodatabase, please [contact us](#).

Information for Your Biological Assessment

In the previous section, you identified which layers are relevant to your action area. You will need to complete the following procedure for each layer that was present within your action area. Right click on one of the species-specific layers (or waterbody for the Atlantic and shortnose sturgeon) and a menu similar to the one below will appear.

Click **Open Attribute Table** (the option highlighted in the left image) and a table will open with data specific to that layer. This table will include a lot of information including the species' name, ESA listing and other biologically relevant information. If you used the selection tool in the last section, this will make viewing the table and recording more simple as all the attributes pertaining to your action area will also be selected within the attribute table and will be highlighted in the same light blue. You can select the tab at the bottom of the attribute table to **Show selected records** , to view only the selected attributes. To transfer selected attributes to Excel, you can export them to a .dbf file. Alternatively, you can right click on the furthest right column (gray boxes with no text in them) and select "Copy Selected" to copy the selected records and paste them into Excel.

Refer back to the example table in the [Using the Data](#) section of this guide. Fill out the table in correspondence with the selected layers you have found intersect with your action area. With a new row added for each species and sub-row for life stage.

Below is a sample of what an attribute table looks like for North Atlantic Right Whale and the selections are pertaining to our example area in Wellfleet, Massachusetts.



OBJECTID	Shape	UNIQUEID	SPGROUP	SPNAME	SPLATIN	DPS	ESASTATUS	LIFESTAGE	BEHAVIOR	WATERSHED
1	Polygon	RIT_WRN_AJV_FOR	Whales	North Atlantic right whale	Eubalaena glacialis	<Null>	Endangered	Adults and juveniles	Foraging	<Null>
2	Polygon	RIT_WRN_AJV_WIN	Whales	North Atlantic right whale	Eubalaena glacialis	<Null>	Endangered	Adults and juveniles	Overwintering	<Null>
3	Polygon	RIT_WRS_AJV_MIG	Whales	North Atlantic right whale	Eubalaena glacialis	<Null>	Endangered	Adults and juveniles	Migrating	<Null>

All of the information necessary for your for ESA-Listed Species & Critical Habitat in the Action Area table is contained within the attribute table for each species just make sure to scroll all the way through to ensure all the necessary information is found. Please refer to the example table in the appendix with information specific to Wellfleet, Massachusetts.

Once you have completed rows for each species/critical habitat within your action area, 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.

APPENDIX:

ESA-Listed Species & Critical Habitat in the Action Area: Wellfleet, MA (Example)

Species/ Critical Habitat	ESA Status (E/T)	Federal Register Citation	Recovery Plan (if applicable)	Expected Life Stages	Expected Behaviors	Expected Time of Year (TOY)
Atlantic Sturgeon (All DPSs)	E & T (GOM DPS)	77 FR 5880 and 77 FR 5914	NA	Adult	Migrating and foraging	01/01-12/31
				Subadult	Migrating and foraging	01/01-12/31
Shortnose Sturgeon	E	32 FR 4001	NMFS 1998	Adult	Migrating and foraging	04/01-11/30
Green Sea Turtle (North Atlantic DPS)	T	81 FR 20057	NMFS & USFWS 1991	Adults and juveniles	Migrating and foraging	06/01-11/30
Kemps Ridley Sea Turtle	E	35 FR 18319	NMFS <i>et al.</i> 2011	Adults and juveniles	Migrating and foraging	06/01-11/30
Loggerhead Sea Turtle (Northwest Atlantic DPS)	T	35 FR 18319	NMFS & USFWS 2008	Adults and juveniles	Migrating and foraging	06/01-11/30
Leatherback Sea Turtle	E	35 FR 849	NMFS & USFWS 1992	Adults and juveniles	Migrating and foraging	06/01-11/30
Fin Whale	E	35 FR 18319	NMFS 2010	Adults and juveniles	Foraging	1/1-12/31
					Overwintering	11/1-3/31
North Atlantic Right Whale	E	73 FR 12024	NMFS 2005	Adults and juveniles	Foraging	1/1-12/31
					Overwintering	11/1-1/31
North Atlantic Right Whale Critical Habitat	N/A	81 FR 4838	NMFS 2016	N/A	N/A	N/A