Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:

Nassau grouper critical habitat for use in ESA/FIFRA consultations

1.2. Summary description of the data:

This geodatabase provides the Final Critical Habitat designations for Nassau grouper, Epinephelus striatus (January 2, 2024). NMFS designates critical habitat for the threatened Nassau grouper pursuant to section 4 of the Endangered Species Act (ESA). Areas designated as critical habitat contain approximately 2,384.67 sq. kilometers (920. 73 sq. miles) of aquatic habitat located off the coasts of southeastern Florida, Puerto Rico, Navassa, and the United States Virgin Islands (USVI). The NMFS identified habitats that include features essential to the conservation of Nassau grouper, including areas for spawning and for recruitment and development.The Nassau grouper is a reef fish, and is a member of the family Serranidae, which includes groupers valued as a major fishery resource such as the gag grouper and the red grouper. These large fish are associated with hard structures like reefs (both natural and artificial), rocks, and ledges. They are late-maturing, long-lived, top-level predators found in tropical and subtropical waters of the western North Atlantic. This includes Bermuda, Florida, Bahamas, the Yucatan Peninsula, and throughout the Caribbean to southern Brazil. Nassau Grouper undergo ontogenetic shifts in habitat utilization: larvae settle in nearshore habitats and then as juveniles move to nearshore patch reefs (Eggleston, 1995), and eventually recruit to deeper waters and reef habitats (Sadovy and Eklund, 1999). As adults, individuals are sedentary except for when they aggregate to spawn - the timing of which appears to be linked to both lunar cycles and water temperature (Kobara et al., 2013). Maximum age has been estimated as 29 years, based on an ageing study using sagittal otoliths (Bush et al., 2006). Maximum size is about 122 cm total length (TL) and maximum weight is about 25 kg (Heemstra and Randall, 1993).Nassau grouper used to be one of the most common species of grouper in the United States. It was easy for commercial and recreational fisherman to catch Nassau grouper and it soon became scarce. The remaining stocks are overexploited. In some cases, Nassau grouper is commercially extinct through much of its geographical range. Currently, all harvest of Nassau grouper is prohibited in the United States. Nassau grouper is listed as threatened under the Endangered Species Act. NOAA Fisheries is dedicated to the conservation of

Nassau grouper.For more information, please see the official definition and complete description at: https://www.federalregister.gov/documents/2024/01/02/2023-28483/endangered-and-threatened-species-designation-of-critical-habitat-for-the-nassau-grouperThis section provides the Simplified Geographic Description for each unit designated as Nassau Grouper Critical Habitat.The 20 Designated Critical Habitat Units for Nassau Grouper include: Navassa Island Unit. Waters surrounding Navassa Island. Area = 2.46 sq. km.Puerto Rico Unit 1 - Mona Island and Monito. Waters surrounding Mona Island and Monito to the 50m contour. Area = 30.65 sq. km.Puerto Rico Unit 2 - Desecheo Island. Waters surrounding the island to the 50m contour. Area = 4.28 sq. km. Puerto Rico Unit 3 - Southwest. Waters off the southwest coast of the Puerto Rico main island. Area = 112.39 sq. km.Puerto Rico Unit 4 - Northeast. Waters off the northeast coast of the Puerto Rico main island. Area = 48.75 sq. km.Puerto Rico Unit 5 - Vieques Island. Waters off the west and northeast, east, and southeast coasts of the island. Area = 9.49 sq. km.Puerto Rico Unit 6 - Culebra/Culebrita Islands. The Culebra area consists of waters off the southeastern Culebra coastline. The Culebrita area consists of waters off the western and southern coasts of the island. Area = 4.15 sq. km.United States Virgin Island Unit 1- St Thomas. Waters off the east coast of St. Thomas Island and waters off the southwest, south, and southeast coast of the Water Island. Area = 9.18 sq. km.United States Virgin Island Unit 2- St. John. Waters off the east coast of the island. Area = 6.55 sq. km.United States Virgin Island Unit 3- St. Croix. Waters off the east end of St. Croix Island and waters off the north coast of Buck Island. Area = 50.35 sq. km.Florida Unit 1 – Biscayne Bay/Key Largo. Waters south of Rickenbacker Causeway, including portions of waters from the coastline into Biscayne Bay, and waters off the eastern coastline to 80° 29'21" W, 25° 01' 59" N. Area = 1,279.69 sq. km.Florida Unit 2 - Marathon. Waters off the southern shoreline approximately between Knights Key to 80°55'51"W, 24° 46' 26" N. Area = 172.38 sq. km.Florida Unit 3 - Big Pine Key to Geiger Key. Waters off the south side of coastline and US 1 from approximately Geiger Key to Big Pine Key. Area = 372.37 sq. km.Florida Unit 4 - Key West. Shoal waters south of Woman Key. Area = 127.09 sq. km.Florida Unit 5 - New Ground Shoal. New Ground Shoal waters. Area = 31.04 sq. km. Florida Unit 6 - Halfmoon Shoal. Halfmoon Shoal waters. Area = 33.62 sq. km.Florida Unit 7 - Dry Tortugas. Waters encompassing Loggerhead Key and waters surrounding Garden Key and Bush Key. Area = 4.43 sq. km.Spawning Site Unit 1 - Bajo de Sico. All waters encompassed by 100m isobath bounded in the Bajo de Sico spawning area bound within the following coordinates: A) 67°26’13”W, 18°15’23”N, B) 67°23’ 08”W, 18°15’26”N, C) 67°26’ 06”W, 18°12’55”N, and D) 67°26’ 13”W, 18°12’56”N. Area = 10.74 sq. km. Spawning Site Unit 2 - Grammanik Bank/Hind Bank. All waters which make up the Hind Bank and the Grammanik Bank, interconnecting waters between these banks, and waters extending out to the 200 fathom line directly south from Grammanik Bank. Area = 59.69 sq. km. Spawning Site Unit 3 - Riley's Hump. All waters encompassing Riley's Hump (centroid 83.1085642°W 24.4948905°N) out to the -35m isobath on the north, west, and east side of the hump, and extending out to the 50m isobath on the south side of the hump to include the escarpment on the southern face of the bank. Area=15.35 sq. km. Source of Base Data for Unit Boundaries: The shoreline was created using the existing Acropora critical habitat designation (from NOAA NCCOS Benthic Habitat Mapping 2000-

2002 - land and mangrove attribute combined for shoreline). For PR and USVI units, shoreline data using The NCCOS Benthic Habitat Mapping program provides baseline data and maps at https://coastalscience.noaa.gov/project/benthic-habitat-mapping-puerto-rico-virgin-islands/. For the Continental US, this shoreline is consistent with the US Medium Resolution Shoreline. Contours were derived from the National Geophysical Data Center's 2004 U.S. Coastal Relief Model https://www.ngdc.noaa.gov/mgg/coastal/crm.html. The NCCOS Benthic Habitat Mapping program provides data and maps at http://products.coastalscience.noaa.gov/collections/benthic/default.aspx, which was used to pull in substrate data. For the Florida Units, benthic substrate and bathymetry data were pulled from the FWC Florida Unified Reef Tract at https://myfwc.com/research/gis/fisheries/unified-reef-map/. Benthic data was also used from The Nature Conservancy and can be downloaded here: https://sites.google.com/view/caribbean-marine-maps. For Spawning Site Unit 3 - Riley's Hump, bathymetry contours (i.e. isobaths) were pulled from the NCEI's CUDEM, or Continuously Updated Digital Elevation Models. (https://noaa.maps.arcgis.com/home/item.html?id=bf72d32c6a00407bb67a285845a7fa32) The CUDEM Raster was downloaded (Global Mosaic Elevation Values) and clipped to the site in ArcPro. The Contour Tool was set to 5m intervals. The CUDEM is built in 10m increments, as noted using the 1/3 arcseconds. Did not use the 1/9 arc second model, which corresponds to 3 meter increments. The CUDEM uses LiDAR data and is an orthometric vertical datum, and compiles data from NGDC, NOS, USGS, NMFS, etc. For more information, please vist: https://www.ncei.noaa.gov/products/coastal-relief-model. Riley's Hump (the geographic feature, not the critical habitat unit) was identified as the fully enclosed -30m hump located at 83.1085642°W 24.4948905°N (centroid). Standardized metadata has been prepopulated for the Fields and Values and the standard spatial reference is the World Geodetic System 1984 geographic coordinate system (GCS_WGS_1984, EPSG well-known identifier 4326).Attribute Values:Shape = Feature Class, Polygon Data.ID = Species IDScientific Name = Genus speciesCommon Name = Common Name of speciesListing Status = Federal status of a taxon under the federal Endangered Species Act. Critical Habitat Status = Status of Critical Habitat Designation (i.e. Proposed or Designated)Unit = Location of Identified Critical HabitatTaxon = TaxonLead Office = NMFS Regional OfficeFederal Register Notice = Public official notice of RulePublication Date = Publication Date of Federal Register Notice Effective Date = Effective Date of RuleArea SqKm = Area of Unit in Square KilometersCreate Date = Last Date Polygon and Attribute Data were ModifiedNotes = notesInPort URL = MetaData URL Link (InPort)Habitat Type = general location of critical habitatseCFR = Electronic Code of Federal RegulationsShape_Length = dynamic geodatabase field. Automatically calculated in the units of the output coordinate system specified by the Spatial Reference parameter by ESRI. Shape_Area = dynamic geodatabase field. Automatically calculated in the units of the output coordinate system specified by the Spatial Reference parameter by ESRI.

1.3. Is this a one-time data collection, or an ongoing series of measurements?

1.4. Actual or planned temporal coverage of the data:

1.5. Actual or planned geographic coverage of the data:
W: -82.9275, E: -64.562313, N: 25.7482, S: 17.686503
W: -82.997943, E: -64.512661, N: 25.770676, S: 17.6237

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Map (digital)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
Karrin Goodman

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:
karrin.goodman@noaa.gov

2.5. Phone number:

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:
Karrin Goodman

3.2. Title:
Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Process Steps:

- 2023-03-30 00:00:00 - As described above, this species' HUC-based critical habitat dataset was modified from the polygon-based species "agency-official" NMFS critical habitat data. This HUC-based critical habitat file represents the HUC-12 watersheds (USGS Watershed Boundary Dataset; https://www.usgs.gov/national-hydrography/watershed-boundary-dataset) that intersect with the "agency-official" critical habitat polygon-based data. The data were reviewed and revised to add any additional HUC-12 watersheds that were determined to have hydrologic connectivity to the critical habitat.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:

- 1.3. Is this a one-time data collection, or an ongoing series of measurements?
- 1.4. Actual or planned temporal coverage of the data
- 1.7. Data collection method(s)

- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.2. Name of organization of facility providing data access
- 7.2.1. If data hosting service is needed, please indicate
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.2. Data storage facility prior to being sent to an archive facility
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

https://www.fisheries.noaa.gov/inport/item/72757

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:

7.3. Data access methods or services offered:

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.