1. Identification Information

1.1 Citation Information

8.1 Originator: Dr. Dennis Allen (Co-PI)
8.1 Originator: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina
8.2 Publication Date: 20100914
8.8 Publication Information:
8.8.1 Publication Place: Belle W. Baruch Marine Field Laboratory, Georgetown, South Carolina, USA
8.8.2 Publisher: Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina
8.10 Online linkage: http://links.baruch.sc.edu/data/blackseabass/blackseabass.html
8.11 Larger Work Citation

8.1 Originator: Dr. Joe Quattro (PI)
8.1 Originator: Department of Biological Sciences, University of South Carolina
8.2 Publication Date: unknown
8.4 Title: Genetic stock identification and migration in Black Sea Bass (Centropristis striata) along the western North Atlantic
8.6 Geospatial Data Presentation Form: NOAA/National Marine Fisheries Service’s MARFIN Grant

1.2 Description

1.2.1 Abstract: Snappers/Groupers have traditionally been some of the most desired demersal fishes in the South Atlantic Bight and are the most abundant and diverse group of large predatory fishes inhabiting tropical and subtropical coral reefs and rocky reef habitats in U.S. territorial waters. Included in the snapper/grouper fishery management plan is the black sea bass fishery. Black sea bass (Centropristis striata) support valuable recreational and commercial fisheries from Georgia to Cape Cod. The overarching goals of the study have been to determine genetic stock structure and test the assumption that different stocks exist north and south of Cape Hatteras, NC. The genetics work was conducted in Joe Quattro’s lab on the USC campus.

The specific goals of the substudy described here for Dennis Allen’s work on juvenile black sea bass (collected from 6 estuaries from Apalachicola, FL to Southampton, NY) have been to determine if geographic differences exist for: (1) morphometric and meristic characters, (2) age based on otolith counts, and (3) growth rates based on size and age. Tissue from each individual was provided to Dr. Quattro’s lab to compare the genetics within and between geographic locations. Together the otolith and genetic data address questions about origins of recruited juveniles relative to offshore spawning populations. Age and growth information could facilitate an understanding of the direction and time of dispersal.

1.2.2 Purpose: The initial goal of the otolith research was to compare the following measured features among individual juvenile black sea bass collected at six sites from Apalachicola, FL to Southampton (Long Island), NY: (1) body length (standard and total) and weight, (2) dorsal and anal fin counts, and (3) otolith length, weight, and ring counts (core and total). Analyses of these data yielded age and growth of individuals within and among locations. Fin clips were provided to the genetics lab so that relationships between parental stock, morphology, age, and growth rates could be explored in a broad spatial framework.
1.3 Time Period of Content:
  9.3 Range of Dates/Times
    9.3.1 Beginning Date: 20080701
    9.3.3 Ending Date: 20091014

  1.3.1 Currentness Reference: The date that the site was visited and the fish were collected=ground condition. Otolith information is based on observations after the fish were harvested.

1.4 Status:
  1.4.1 Progress: Complete
  1.4.2 Maintenance and update frequency: None planned
99.1.5.1 Description of Geographic Extent: Collections were made in the: (1) North Inlet Estuary (Georgetown County) South Carolina, (2) Little Egg Estuary (Great Bay, Ocean County) New Jersey (3) Hereford Inlet Estuary (Stone Harbor, Cape may County) New Jersey, (4) Shinnecock Bay Estuary (Southampton, Suffolk County) New York, (5) Apalachicola Bay Estuary (Franklin County) Florida, and Cedar Key (Levy County) Florida. The following Lat/Long fish collection site values were obtained by Dennis Allen and Ginger Ogburn-Matthews using Google Earth.

North Inlet Town Creek (NITC): Latitude 33° 20’ 11” N
Longitude 79° 11’ 35” W

Apalachicola (AP): Latitude 29° 47’ 00” N
Longitude 84° 46’ 16” W

Cedar Key (CK): Latitude 29° 36’ 20” N
Longitude 83° 25’ 48” W

Stone Harbor (SH): Latitude 39° 03’ 28” N
Longitude 74° 45’ 28” W

Great Bay (GB): Latitude 39° 30’ 31” N
Longitude 74° 19’ 29” W

Shinnecock Bay (SB): Latitude 40° 52’ 29” N
Longitude 72° 28’ 02” W

1.5.1 Bounding Coordinates

1.5.1.1 West Bounding Coordinate: -84.771
1.5.1.2 East Bounding Coordinate: -72.467
1.5.1.3 North Bounding Coordinate: 40.874
1.5.1.4 South Bounding Coordinate: 29.605

1.6 Keywords

1.6.1 Theme

Theme_Keyword_Thesaurus: GCMD Parameter keywords
Theme_Keyword: EARTH SCIENCE > BIOSPHERE > ZOOLOGY > FISH
Theme_Keyword: COASTAL
Theme_Keyword: ESTUARINE
Theme_Keyword: ESTUARY
Theme_Keyword: STANDARD LENGTH
Theme_Keyword: TOTAL LENGTH
Theme_Keyword: FISH BIOMASS
Theme_Keyword: NORTH INLET
Theme_Keyword: OTOLITH COUNTS
Theme_Keyword: BLACK SEA BASS FISHERY
Theme_Keyword: AGE STRUCTURE
Theme_Keyword: SAGITTAE

1.6.2 Place

1.6.2.1 Place Keyword Thesaurus: None
1.6.2.2 Place Keyword: NORTH AMERICA
1.6.2.2 Place Keyword: EAST COAST
1.6.2.2 Place Keyword: WESTERN ATLANTIC
1.6.2.2 Place Keyword: SOUTH CAROLINA
1.6.2.2 Place Keyword: NORTH INLET ESTUARY
1.6.2.2 Place Keyword: TOWN CREEK
1.6.2.2 Place Keyword: FLORIDA
1.6.2.2 Place Keyword: APALACHICOLA
1.6.2.2 Place Keyword: CEDAR KEY
1.6.2.2 Place Keyword: NEW JERSEY
1.6.2.2 Place Keyword: STONE HARBOR
1.6.2.2 Place Keyword: GREAT BAY
1.6.2.2 Place Keyword: NEW YORK
1.6.2.2 Place Keyword: SHINNECOCK BAY

1.6.3 Stratum
1.6.3.1 Stratum Keyword Thesaurus: None
1.6.3.2 Stratum Keyword: DEMERSAL

1.6.4 Temporal
1.6.4.1 Temporal Keyword Thesaurus: None
1.6.4.2 Temporal Keyword: 2008
1.6.4.2 Temporal Keyword: 2009

99.1.6.5 Taxonomy
99.1.6 Keywords/Taxon
99.1.6.1 Taxonomic Keyword Thesaurus: NONE
99.1.6.1 Taxonomic Keywords: VERTEBRATES
99.1.6.1 Taxonomic Keywords: FISH
99.1.6.1 Taxonomic Keywords: NEKTON
99.1.6.1 Taxonomic Keywords: GROUPER
99.1.6.1 Taxonomic Keywords: BLACK SEA BASS
99.1.6.1 Taxonomic Keywords: CENTROPRISTIS STRIATA

99.1.6.6 Taxonomic Classification
Taxon Rank Name: Kingdom
Taxon Rank Value: Animalia

1.7 Access Constraints:
None; however, it is strongly recommended that these data be acquired directly from the Belle W. Baruch Institute for Marine and Coastal Sciences and not indirectly through other sources which may have changed the data in some way.

1.8 Use Constraints:
Following academic courtesy standards, the PIs (originators), the University of South Carolina’s Belle W. Baruch Institute for Marine and Coastal Sciences and Grantors should be fully acknowledged in any subsequent publications in which any part of these data are used. The proper Citation of this database is: Allen, D.M. and Joe Quattro. Analyses of otoliths from juvenile black sea bass collected from estuaries in SC, FL, NJ, and NY: 2007-2009. Online URL: http://links.baruch.sc.edu/data/blackseabass/blackseabass.html by the Belle W. Baruch Marine Field Laboratory, Georgetown, South Carolina, USA. Use of the data without completely reading and understanding the metadata is not recommended. The Baruch Institute, Baruch Institute researchers, and Grantors are not responsible for the use and/or misuse of data from this database. See the section on Distribution Liability for more information.

1.9 Point of Contact:
10.2 Contact Organization Primary
10.2.1 Contact Organization: Univ. of South Carolina’s Baruch Institute
10.2.2 Contact Person: Dr. Dennis Allen, PhD
10.3 Contact Position: BMFL Director

10.4 Contact Address
10.4.1 Address Type: Mailing Address
10.4.2 Address: USC Baruch Marine Field Laboratory
10.4.2 Address: P.O. Box 1630
10.4.3 City: Georgetown
10.4.4 State or Province: South Carolina
10.4.5 Postal Code: 29442
10.4.6 Country: USA

10.5 Contact Voice Telephone: (843) 546-6219
10.7 Contact Facsimile Telephone: (843) 546-1632
10.8 Contact Electronic Mail Address: dallen@belle.baruch.sc.edu
10.9 Hours of Service: 8:30 am to 4:30 pm Local Time Monday – Friday
1.11 Data Set Credit:

1.13 Native Data Set Environment
All paper forms of database were entered into multiple Microsoft (MS) Excel spreadsheets. Graphics and statistics were created in Excel, using the finalized data. The final rescued data for publication, archival and dissemination are in MS Excel (.xlsx) version 2007 and comma separated value (CSV) formats. Metadata records are MS Word (.docx) version 2007 format and Adobe reader (pdf). And the excel graphics were exported as JPG images.

2. Data Quality Information
2.1 Attribute Accuracy
2.1.1 Attribute Accuracy Report:
Both sites, GB & SB, had fish collected over several months placed in the same bag. So no fish at these sites report a collection date for them in the FINAL database. But there is a range of dates from the time of 1st collection to the time they were picked up or shipped. For GB, the date of first collection is 28 April 2009 and continues through 14 July 2009 when Dr. Dennis Allen picked them up. SB’s collection dates range from September 5 through Oct 14, 2009.

Use caution when using the whole otolith counts for the largest fish because the technician went past the annulus and the rings in the annulus are so close together, they cannot be counted accurately. Therefore the age or spawn date of the fish cannot be determined. These fish cannot be accurately identified from the database because the technician did not flag these individuals, but they are few in number (approximately 3). Core Ring Counts are not affected by this issue.

2.1.2 Quantitative Attribute Accuracy Assessment
2.1.2.1 Attribute Accuracy Value

<table>
<thead>
<tr>
<th>Variable (format)</th>
<th>Type</th>
<th>Number of Decimal Places</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length (TL)</td>
<td>Integer</td>
<td>± 1millimeters</td>
</tr>
<tr>
<td>Standard Length (SL)</td>
<td>Integer</td>
<td>± 1millimeters</td>
</tr>
<tr>
<td>Weight (W)</td>
<td>Real</td>
<td>± 0.1 gram</td>
</tr>
<tr>
<td>Left sagittae length (LSL)</td>
<td>Real</td>
<td>± 0.01 mm</td>
</tr>
<tr>
<td>Left sagittae weight (LSW)</td>
<td>Real</td>
<td>± 0.0001 grams</td>
</tr>
<tr>
<td>Right sagittae length (RSL)</td>
<td>Real</td>
<td>± 0.01 mm</td>
</tr>
<tr>
<td>Right sagittae weight (RSW)</td>
<td>Real</td>
<td>± 0.0001 grams</td>
</tr>
<tr>
<td>Mean whole otolith counts</td>
<td>Real</td>
<td>± 0.1 days (average of 3 counts)</td>
</tr>
<tr>
<td>Mean Otolith core counts</td>
<td>Real</td>
<td>± 0.1 days (average of 3 counts)</td>
</tr>
</tbody>
</table>

2.1.2.2 Attribute Accuracy Explanation
Total length (TL) and Standard length (SL) were measured using a meter stick. Accuracy was within ± 1 mm. Weight (W) was measured using a digital scale and accuracy between frozen and thawed specimens was roughly 5%, to the nearest 0.1 gram. Left sagittae length (LSL) and Right sagittae length (RSL) were measured using a digital caliper and accuracy was roughly ± 0.01 mm. Left sagittae weight (LSW) and Right sagittae weight (RSW) were measured on the same digital scale as weight for the whole fish. However, there was some inaccuracy using this scale due to the small size of the sagittae.

Otolith counts and core counts were conducted 3 times each for accuracy, with an estimated accuracy of ± 15 rings (days) for each whole count and ± 5 rings (days) for each core count. Whole Otolith Standard Deviations and C.V.s ranged from 0.5 to 19.3 and 0.2 to 9.1 for each sample, with a median of 4.5 and 3.0, respectively. Core Otolith Standard Deviations and C.V.s ranged from 0.0 to 2.5 and 0.0 to 9.2 for each sample, with a median of 0.9 and 4.6, respectively. Counts became more accurate with experience.

The accuracy of species identification was 100%. Only black sea bass were used for this project.

2.2 Logical Consistency Report: not applicable
2.3 Completeness Report: Sampling Irregularities, Additional Sampling, Missing Data, and Anomalous Data

**Anomalous Data:**
In the early days of otolith processing, three otolith samples had anomalous ring counts which made the SD and CV greater than 10.0. During the Data Rescue & Archival, Baruch’s data manager removed the triplicate count which was the most out of range of the other two. Sample/otolith 17L, 21R, and 22L (all in the NITC site collection) now have a sample size of 2 not three. The mean, SD, and CV were recalculated and placed in the final database.

**Missing Data:**
Missing data are represented by blank spaces in all Process data files associated with the black sea bass database. On paper, missing data have lines drawn through them. Final data files have periods representing the missing values. Missing data are derived from insufficient data, lost samples or data sheets and by otoliths not processed. An average of 5 sagittae was lost from each site during the polishing process. There is only a subset of core otolith values; there will not always be a core count corresponding to each whole otolith count.

**Missing Collection Date Data:**
Both sites, GB & SB, had fish collected over several months placed in the same bag. So no fish at these sites report a collection date for them in the FINAL database. Data Sheet A8 for location AP did not have a day written down in the collection information; therefore, the collection date is missing in the final database for fish/otolith samples 124-126.

**Missing Length and Weight Data:**
Sagittae length and weight data for the first 12 samples were not recorded. These were used as practice samples to get familiar with the polishing process. Missing total length, standard length, and total weight data were due to the condition of the samples, mostly those samples in bad condition. Missing sagittae length and weight data were due to processing errors, whether lost when extracting, broken when extracting, or broken when measuring.

**Missing data by site:**

1. Site, NITC; date, 10/10/08: no otolith data for samples 1-12; no L/W for sample 6; no L/W and LSL/LSW for sample 15; no LSL/LSW for sample 16; no LSL/LSW for sample 21; no LSL/LSW for samples 28, 29.
2. Site, NITC; date 09/12/08: no LSL/LSW for samples 32,33; no LSL/LSW, RSL/RSW for sample 34; no LSL/LSW, RSL/RSW for sample 36; no LSL/LSW for samples 37,38; no LSL/LSW for sample 53; no LSL/LSW for sample 55; no RSL/RSW for sample 58; no LSL/LSW, RSL/RSW for sample 64; no LSL/LSW for sample 65; no LSL/LSW for sample 68; no LSL/LSW for sample 71; no LSL/LSW for sample 74; no LSL/LSW for samples 76,77,79,80.
3. Site, AP; date, 08/08: no LSL/LSW, RSL/RSW for samples 85, 86.
4. Site, AP; date, 09/08: no LSL/LSW for samples 85, 86.
5. Site, AP; date, 08/07: no LSL/LSW for sample 114.
6. Site, AP; date, 08/08: no RSL/RSW for sample 133.
7. Site, AP; date, 06/07/08: no RSL/RSW for sample 135.
8. Site, AP; date, 08/11/08: no LSL/LSW for sample 140.
9. Site, CK; date, 07/22/08: no RSL/RSW for sample 160.
10. Site, CK; date, 08/05/08: no TL for sample 176; no LSL/LSW, RSL/RSW for sample 175.
11. Site, CK; date, 07/22/08: no TL for sample 180; no RSL/RSW for sample 182.
12. Site, CK; date, 08/08: no LSW for sample 196; no LSL/LSW for sample 197.
13. Site, CK; date, 08/08: no LSL/LSW for sample 199.
14. Site, CK; date, 08/08: no TL for sample 216; no LSL/LSW for sample 220.
15. Site, CK; date, 07/08: no RSL/RSW for sample 245.
16. Site, CK; date, 07/08: no LSL/LSW for sample 247; no TL for sample 251.
17. Site, CK; date, 07/08: no RSL/RSW for sample 261; no LSL/LSW for sample 262; no LSL/LSW for sample 278.
18. Site, CK; date, 07/08: no LSW for sample 301.
19. Site, CK; date, 07/08: no LSL/LSW for sample 307.
20. Site, CK; date, 07/08: no LSL/LSW for sample 308.
21. Site, SH; date, 07/13/09: no RSL/RSW for sample 330; no RSL/RSW for sample 382.
22. Site, GB; date, 04/28/09: no TL for sample 409.
23. Site, SB; date, 09/17/09: no RSL/RSW for sample 441; no LSL/LSW for sample 455; no RSL/RSW for sample 465.
2.5 Lineage

2.5.1 Methodology

2.5.1.1 Methodology Type: FIELD COLLECTIONS

2.5.1.3 Methodology Description: FISH COLLECTION:
Samples were collected from each site using differing sampling techniques. All Town creek samples were collected using hook and line (HL). All Apalachicola and Cedar Key samples were collected using trawl nets (gear codes 300, 301) and seine nets (gear codes 20 & 160). All Stone Harbor samples were collected using hook and line (HL). All Great Bay samples were collected using chevron trap (TRAP). All Shinnecock Bay samples were collected using seine net (Seine).

2.5.1 Methodology

2.5.1.1 Methodology Type: LABORATORY

2.5.1.3 Methodology Description: BLACK SEA BASS PROCESSING:
Each fish was measured for total length (TL), standard length (SL), weight (W), and fin counts (rays and spines) for dorsal and anal fins. Collection dates and processing dates were also recorded. A fin clip from the dorsal rays was extracted and placed into sample vials, labeled with a sample number, date collected, latitude/longitude coordinates, collection site, and preserved in ethanol. Each fish was then given a corresponding sample number and placed in a separate Ziploc bag for further processing of otoliths.

2.5.1 Methodology

2.5.1.1 Methodology Type: LABORATORY

2.5.1.3 Methodology Description: BLACK SEA BASS OTOLITH PROCESSING:
Using a No. 10 disposable scalpel, the sagittae bones were removed from each sample and cleaned using a 1:10 bleach/water solution. Upon removal of sagittae, fish carcasses were disposed of. After air drying, each left and right sagittae were measured for length to the nearest 0.01 mm using an INOX waterproof IP54 caliper (LSL, RSL). Each sagittae were also measured for weight to the nearest 0.0001 gm using a Mettler AM100 scale (LSW, RSW). Left and right sagittae were labeled with the appropriate sample number (1L, 1R, 2L, 2R, etc...) and stored separately in a 24 well Falcon brand tissue culture plate, covered with a cotton ball, and taped around the lid to prevent mixing. Each tissue culture plate was labeled on top with sample numbers found in each plate (1-12, 13-24, etc...) . Approximately 40-42 sagittae were used from each site for polishing. Of those 40-42, only 30 sagittae were chosen for each site, the extras were backups for use in case of polishing error. When possible, only the left sagittae were used in the polishing process. Also, when possible, only the sagittae from fish approximately 90mm SL or less were used in the polishing process. Each sagittae were then placed into a Pelco 105 mold using West System 105 Epoxy Resin and 206 Hardener. After hardening, each sample was processed for ring counting using guidelines set forth in the Manual for Otolith Removal and Preparation for Microstructural Examination (Secor et al. 1991). After polishing, samples were counted using an Olympus BX50 light microscope at 60X magnification.

2.5.1.4 Methodology Citation:
8. Citation Information
8.1 Originator: David H. Secor
8.1 Originator: John M. Dean
8.1 Originator: Elisabeth H. Laban
8.2 Publication Date: 1991
8.4 Title: Manual for Otolith Removal and Preparation for Microstructural Examination
8.6 Geospatial Data Presentation Form: Manual
8.8 Publication Information:
8.8.1 Publication Place: unknown
8.8.2 Publisher: Electric Power Research Institute and the Belle W. Baruch Institute for Marine Biology and Coastal Research
8.9 Other Citation Details: Technical Publication number 1991-01 of the Belle W. Baruch Institute for Marine Biology and Coastal Research.

2.5.1 Methodology

2.5.1.1 Methodology Type: Study Archival and Storage

2.5.1.3 Methodology Description: BLACK SEA BASS OTOLITHS:
All otolith samples are stored at the BMFL in 24 well Falcon brand tissue culture plates and labeled according to sample number. Extra samples that were unused during the counting process have been previously embedded and are stored with the loose samples in the correct sample number well. All storage plates are labeled on top with the corresponding samples found in each plate and on bottom with the specific sample number. All storage plates, slide cases, and processing equipment are boxed up and labeled accordingly in BMFL room 131.
2.5.2 Process Step:
2.5.2.1 Process Description
Three Excel files were created from the original hardcopy datasheets. Data were hand-entered and verified visually several times by the research technician. Data were also error-checked via graphic representations. In the early days of otolith processing, three otolith samples had anomalous ring counts which made the SD and CV greater than 10.0. During the Data Rescue & Archival, Baruch’s data manager removed the triplicate count which was the most out of range of the other two. Sample/otolith 17L, 21R, and 22L all in the NITC site collection now have a sample size of 2 not three. The mean, SD, and CV were recalculated and placed in the final database. The data manager also detected other value and consistency errors in the database, especially the Date Collected and Presumed Spawn Date, and corrected them in the final merged database, BlackSeaBassOtoliths.

DATA RESCUE, FINALIZATION, AND ARCHIVAL PROCESS:
The final database, called BlackSeaBassOtoliths, is organized by sample# and location. This database was created by merging the three excel files mentioned above: two files, otolith core counts and otolith counts with the main excel file called black sea bass data. BlackSeaBassOtoliths was used to create the final graphics. All of the data files were archived in text format. All graphics were created in Excel and exported as jpg files. Document files were saved in MS Word and duplicates were archived in text and pdf format. All of the raw, processed, and final files were archived on the Field Lab’s Rescue Server, & on CD which are stored in the Data manager’s fireproof cabinet at the BMFL. See Resource Description below for directory names and their contents.

2.5.2.3 Process Date: 20100903

5. Entity_and_Attribute_Information:
5.2 Overview_Description:
5.2.1 Entity_and_Attribute_Oversview:

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<tr>
<th>Variable (format)</th>
<th>Type</th>
<th>Range Description &amp; Units</th>
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<td>Sample</td>
<td>Integer</td>
<td>1 to 468, sequential number in ascending order</td>
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<tr>
<td>Location</td>
<td>Alpha/Integer</td>
<td>AP, CK, GB, NITC, SB, SH</td>
</tr>
<tr>
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<td>Integer/Integer</td>
<td>29/83, 29/84, 30/84, 33/74, 39/74, 40/72 degrees</td>
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<tr>
<td>Gear</td>
<td>Alpha or Integer</td>
<td>20, 160, 300, 301, HL, Seine, Trap</td>
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<td>Date collected</td>
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<td>Standard Length (SL)</td>
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<td>Weight (W)</td>
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<td>Fin Count</td>
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<td>Left sagittae weight (LSW)</td>
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<td>Right sagittae length (RSL)</td>
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<td>Right sagittae weight (RSW)</td>
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<td>Core Otolith C.V</td>
<td>Real</td>
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<tr>
<td>Comments</td>
<td>Alpha</td>
<td>Text verifying that sp id &amp; broken otolith, etc</td>
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</table>

Variable Definitions
Data Sheet = the field collection datasheet which contains information about the capture of the processed fish. Only locations AP and CK had these sheets, and the sheet number changed when the gear or date changed. NDS = no data sheet available for that fish.
Sample = sample number for each black sea bass processed for otoliths counts. The first sample fish was assigned 1, then 2, and so forth in ascending order until the end of the project. The fish were processed by Location.

Location = physical collection site where black sea bass were collected. Abbreviated as NITC (North Inlet Town Creek); Apalachicola (AP); Cedar Key (CK); Great Bay (GB); Stone Harbor (SH); Shinnecock Bay (SB).

Latitude & Longitude = the degrees of latitude and longitude where the sea bass was captured. Numbers are separated by a /.

Gear = types of gear used to collect black sea bass samples. Codes 20 & 160 denote seine nets, and 300 and 301 denote trawl nets used at sites Apalachicola (AP) and Cedar Key (CK). Other gear types were HL = Hook & Line and Trap= Chevron Trap.

Date collected = the calendar date that black sea bass were collected at each location. Both sites, GB & SB, had fish collected over several months placed in the same bag. So no fish at these sites have a collection date for them.

Date Processed = the calendar date that the black sea bass and its otoliths were processed for counting.

Total length = total length of each black sea bass sample, in millimeters, measured from tip of mouth to end of tail.

Standard length = standard length of each black sea bass sample, in millimeters, measured from tip of mouth to precaudal fork.

Weight = total weight of each black sea bass sample to the nearest tenth of a gram.

Fin Count = DX,11 AIII,7= D=Dorsal fin spine, ray count, A=Anal fin spine, ray count. Roman numerals = spine count, Arabic numbers = ray counts.

Left sagitta length = total length, in millimeters, of each left sagitta collected.

Left sagitta weight = total weight, in grams, of each left sagitta collected.

Right sagitta length = total length, in millimeters, of each right sagitta collected.

Right sagitta weight = total weight, in grams, of each right sagitta collected.

# Sagittae = number of sagittae collected and condition when removed from the sea bass for otoliths counts. Letter abbreviation gives condition: L=Lost or B=Broken during processing.

Whole Otolith Mean count = geometric mean of growth rings counted for ENTIRE polished sagitta, based on 3 counts. Whole Otolith counts included the core counts past the annulus, if it occurred. Based on the technician who did the counts, rings outside the annulus were only counted in a few of the largest fish. The majority of the fishes’ otoliths did not have an annulus.

Core Otolith Mean counts = geometric mean of growth rings counted from sagitta core to settlement ring, based on 3 counts.

Standard deviation = deviation from mean for counts.

Coefficient of variation = standard deviation divided by the mean count multiplied by 100.

Presumed spawn date = estimation of actual spawning date for black sea bass samples, calculated by taking the mean count for each polished sample and back calculating from the date collected.

Comments= text describes broken otolith(s).

5.2.2 Entity and Attribute Detail Citation:
Definitions were developed by the University of South Carolina Baruch Institute’s researchers, data managers, and technicians; no published standards for entity definitions were used to define the entities used in this dataset. However, some of the entity type definitions are standard for the field of fishery ecology.
6.2 Resource Description:
North-South Black Sea Bass Stock Assessment Project
Black Sea Bass Otoliths Database

IDENTIFICATION OF FILE & DIRECTORY ARCHIVES

COMPACT DISK: Black Sea Bass 2008-09 Archive (20 Folders & 136 Files: 105 Mb)

DIRECTORY: Black Sea Bass RAW (Contains 2 Folders & 57 Files: 95 Mb)
Field Collection datasheets from sites AP and CK were scanned for archive as JPG images. No other field collection sheets were available. Lab datasheets for sea bass processing and otolith counts were not found. No scans made.

DIRECTORY: Black Sea Bass PROCESS (Contains 6 Folders & 39 Files: 1.6 Mb)
The directory contains intermediate processed data files in three main folders: data, graphics, and metadata. Data contents: 3 data entry files, otolith core counts and otolith counts and the main excel file called black sea bass data. Baruch’s data manager created data files: Otolith.GOMMerge.MeanSDCounts and OtolithCountsGOM.Edited from the 2 original otolith count files. Note: the original 3 data files in this folder have incorrect collection and spawn dates in them. Graphics contents: the original graphics which were created by D. Wilkinson in Excel 2007 (some of these are not correct); Metadata contents: all metadata versions, notes and correspondences.

DIRECTORY: Black Sea Bass FINAL (Contains 3 Folders & 14 Files: 4 Mb) Created & verified by Data Manager.

Folder: DATA Contains 4 Files (MS Excel 2007 & .csv)
  BlackSeaBassOtoliths
  Otolith.FinalMeanSDCounts

Folder: GRAPHICS Contains 6 files (Final sorted Excel file for Graphing, SigmaPlot 10.0 & JPG Files)
  Contains black sea bass morphometric data & plots for fish and otoliths

Folder: METADATA Contains 3 Files (MS Word 2007 (docx), rich text, & .pdf Files)
  BlackSeaBass.Metadata

DIRECTORY: ForWeb.Clearinghouse (Contains 5 Folders & 26 Files: 5.4 Mb)
The directory contains graphics, documentation, and data in formats required for their publication to Federal Clearinghouses & Baruch’s Website.

6.3 Distribution Liability:
The datasets are only as good as the quality assurance and quality control procedures outlined in the Metadata. The user bears all responsibility for its subsequent use in any further analyses or comparisons. No warranty expressed or implied is made regarding the accuracy or utility of any data collected, managed, or disseminated for general or scientific purposes by the Belle W. Baruch Institute for Marine and Coastal Sciences. This disclaimer applies both to individual use of the data and aggregate use with other data. It is strongly required that these data be directly acquired from the Belle W. Baruch Institute for Marine and Coastal Sciences and not indirectly through other sources which may have changed the data in some way. It is strongly recommended that careful attention be paid to the contents of the metadata file associated with these data. Neither the Belle W. Baruch Institute for Marine and Coastal Sciences nor the National Oceanic and Atmospheric Administration (NOAA) shall be held liable for the use and/or misuse of the data described and/or contained herein.

6.4 Standard Order Process
6.4.2. Digital Form
6.4.2.1 Digital Transfer Information
  Format Name: Data are in comma separated (.csv) and documentation is in Adobe Reader (pdf) format.
  Format Version Number: Adobe Reader 8.0
  File Decompression Technique: self-extracting zip files
6.4.2.2 Digital Transfer Option
  Computer Contact Information
  Network Address
  Network Resource Name: http://links.baruch.sc.edu/data/blackseabass/blackseabass.html
6.4.3 Fees: None

7. Metadata Reference Information
7.1 Metadata Date: 20090917
7.2 Metadata Review Date: 20100928
7.4 Metadata Contact:
   10.2 Contact Organization Primary
      10.1.2 Contact Organization: Univ. of South Carolina’s Baruch Institute
      10.1.1 Contact Person: Ginger Ogburn-Matthews
      10.3 Contact Position: Research Data Manager & Analyst
      10.4 Contact Address
         10.4.1 Address Type: Mailing Address
         10.4.2 Address: USC Baruch Marine Field Lab
         10.4.3 City: Georgetown
         10.4.4 State or Province: South Carolina
         10.4.5 Postal Code: 29442
         10.4.6 Country: USA
      10.5 Contact Voice Telephone: (843) 546-6219
      10.7 Contact Facsimile Telephone: (843) 546-1632
      10.8 Contact Electronic Mail Address: ginger@belle.baruch.sc.edu
      10.9 Hours of Service: 8:30 am to 4:30 pm Local Time Monday - Friday

7.5 Metadata Standard Name:
Content Standard for Digital Geospatial Metadata, Part 1: Biological Data Profile