

Identification_Information:

Citation:

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Originator: NOAA Fisheries Service

Publication_Date: 20060215

Title:

Nekton utilization of inner marsh and marsh edge habitats in 'natural' and 'restored' marshes on Pelican Island in Galveston Bay (Texas): 1988-1997.

Description:

Abstract:

Densities of nekton were measured in three created salt marshes to examine habitat development rate. All three marshes were created from dredged material from the Gulf Intracoastal Waterway. Patterns of utilization suggest that marshes may reach its maximum habitat support function for some organisms in less than one year. However, comparisons with natural marshes suggest that created marshes function at lower levels than natural marshes in terms of supporting production of commercially important fishery species.

Purpose:

Identify and describe the relationship between fishery productivity and the coastal environment.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 19881008

Ending_Date: 19971121

Currentness_Reference: ground condition

Status:

Progress: complete

Maintenance_and_Update_Frequency: As needed

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -95.10698

East_Bounding_Coordinate: -94.67193

North_Bounding_Coordinate: 29.48015

South_Bounding_Coordinate: 29.17367

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: distribution

Theme_Keyword: abundance

Theme_Keyword: usage patterns

Theme_Keyword: estuarine dependent

Theme_Keyword: submerged aquatic vegetation

Theme_Keyword: dredge disposal

Theme_Keyword: brown shrimp

Theme_Keyword: white shrimp
Theme_Keyword: pink shrimp
Theme_Keyword: Farfantepenaeus aztecus
Theme_Keyword: Litopenaeus setiferus
Theme_Keyword: Farfantepenaeus duorarum
Theme_Keyword: macrofauna
Theme_Keyword: salt marsh
Theme_Keyword: fish
Theme_Keyword: nekton
Theme_Keyword: crabs
Theme_Keyword: invertebrates

Place:

Place_Keyword_Thesaurus: Galveston Bay
Place_Keyword: Pelican Island
Place_Keyword: Bolivar peninsula
Place_Keyword: Texas
Place_Keyword: Gulf of Mexico

Access_Constraints:

Use_Constraints:

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Point_of_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization:

NOAA Fisheries Service, formerly National
Marine Fisheries Service, Fishery Ecology Branch.

Contact_Person: Dr. Jim Ditty

Contact_Address:

Address_Type: mailing and physical
Address: Galveston Laboratory, 4700 Avenue U
City: Galveston
State_or_Province: Texas
Postal_Code: 77551-5997
Country: Unites States of America
Contact_Voice_Telephone: 409-766-3500

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

Data were entered into spreadsheets and checked against the raw data sheet to avoid entry errors.

Logical_Consistency_Report:

Completeness_Report:

Lineage:

Process_Step:

Process_Description:

Sampling Gear Description:

The cylindrical drop trap was a fiberglass enclosure with a galvanized metal skirt along the bottom. Drop traps enclosed 2.6 m² area. Traps were deployed from a front-mounted boom on a boat.

Process_Date: unknown

Process_Step:

Process_Description:

Measuring Environmental Variables:

Environmental data were collected immediately after gear deployment and before collection of animals. Water temperature, D.O. and salinity data were collected and a water sample was returned to the lab for turbidity analysis.

Field sheets were checked to ensure all required environmental data were recorded correctly.

Process_Date: unknown

Process_Step:

Process_Description:

Sampling of Nekton and Associated Plants:

The engine was turned off once the boat approached the sampling site to minimize site disturbance prior to sampling. The boat drifted or was slowly guided to the sampling site by pushing from the stern. One person in the boat either tossed or released the trap from the bow. Immediately after drop sampler deployment, field personnel pushed the sampler approximately 15 cm into the sediment to obtain a proper seal along the bottom of the trap to prevent escape of organisms or a blow-out. Vascular plants enclosed in the sampler were generally not clipped and removed from the sampler, except during May, 1993, when a 0.25 m² quadrat was placed on the substrate inside the center of the gear to determine stem density.

Process_Date: unknown

Process_Step:

Process_Description:

Removal of Animals:

After the drop trap was pushed into the substrate, dip nets were used to sweep the bottom of the trap and remove the nekton. Enclosed water was pumped from the trap and filtered through a 1.0 mm mesh plankton net. As the water level dropped, the sampler was continually swept with dip nets because the efficiency of animal capture increases with reduced water depth. Once drained, the sediment was visually and manually inspected for animals remaining on or burrowed into the substrate. Animals taken in dip nets or found during substrate inspection were added to the drop trap catch. Animals and other material (i.e., vegetation, macro-algae, shell hash, and detritus) pumped into the cod end of the plankton net were rinsed and the catch bag was detached. Samples were placed in a 1.0 mm mesh bag, labeled, preserved and returned to the laboratory for processing.

Process_Date: unknown

Process_Step:

Process_Description:

Care of Nekton Samples in the Field:

Labeled, waterproof shipping tags were placed inside of each 1.0 mm mesh sample bag. Samples were stored in 3 or 5 gallon buckets containing 10 percent formalin. Ten percent formalin was made by mixing one part full-strength formaldehyde with nine parts water. If animals were too large to fit into the sample bag, the specimen was identified to the lowest taxon, measured, recorded, and released.

Process_Date: unknown

Process_Step:

Process_Description:

Initial Processing of Field Data and Samples:

After returning from the field, samples were recorded in the laboratory log book, which served as a sample inventory and to verify sample arrival and condition.

Turbidity samples were analyzed upon return to the lab and the information transferred to the field data sheets.

Field data sheets were entered into an electronic data base or a database manager. Copies of the original

field data sheets were provided to the primary investigator (PI).

Entered data were checked and verified against field sheets.

Process_Date: unknown

Process_Step:

Process_Description:

SAMPLE SORTING:

Samples were strained through a sieve and a portion of the rinsed sample was then placed into a white porcelain sorting tray (40-cm x 24-cm x 6-cm) partially filled with water.

After the samples were sorted, the sample and specimen jars were filled with 2-3 percent formalin (i.e., mixture of 0.25-part of full-strength formalin and 9.75-parts water).

Process_Date: unknown

Process_Step:

Process_Description:

SPECIES IDENTIFICATION AND MEASUREMENT:

Organisms were measured to the nearest millimeter to determine total length (TL) for penaeids and total carapace width (CW) in crabs.

Fish were measured after being placed flat on their side with the mouth closed. TL in fish was the distance from the snout to the tip of the longest caudal fin ray. TL in shrimp was measured from the tip of the rostrum to the tip of telson. If the rostrum was broken,

TL was not measured. Carapace width (CW) of crabs was measured across the widest part of the carapace (from tip to tip of the lateral spines if present). If lateral spines were broken,

CW was not measured. Hermit crabs were not measured. Fish were recorded in 10-mm TL and non-penaeids in 5-mm size intervals.

Process_Date: unknown

Process_Step:

Process_Description:

Organism Data Entry and Validation:

Laboratory and field data were entered into the computer using a spreadsheet or database manager. A text file was created that described these data and any abbreviated

variables. The data were printed out and checked against ID sheets to ensure all information was correct. Data corrections were made at this time. Hard copies of the file were given to the PI and stored in the project folder along with the original field and laboratory data sheets. A code was assigned to each species using the Fishery Ecology Branch revised species code list. Species not found on the code list were assigned a new code, which was also added to the master code file.

Process_Date: unknown

Metadata_Reference_Information:

Metadata_Date: 200602415

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA Fisheries Service, Fishery Ecology Branch, Galveston, Texas

Contact_Person: Dr. Jim Ditty

Contact_Address:

Address_Type: mailing and physical

Address: Galveston Laboratory, 4700 Avenue U

City: Galveston

State_or_Province: Texas

Postal_Code: 77551-5997

Country: Unites States of America

Contact_Voice_Telephone: 409-766-3500

Metadata_Standard_Name: FGDC Content Standard for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001.1-1999