

Identification_Information:

Citation:

Citation_Information:

Originator: NOAA Fisheries Service

Publication_Date: 20061023

Title:

Site selection in Galveston Bay for beneficial use of Houston-Galveston Ship Channel dredge material for marsh creation.

Description:

Abstract:

Compared species composition, numbers and biomass per unit area of nekton and infauna among salt marsh (*Spartina alterniflora*) and open water habitats to evaluate the extent of biological gain achieved from marsh creation in open water habitat in Galveston Bay.

Purpose:

To compare densities of nekton and infauna among salt marsh and open water habitats to evaluate what significant biological gain may be achieved from marsh creation in open water habitat in Galveston Bay.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 19910917

Ending_Date: 19911008

Currentness_Reference: ground condition

Status:

Progress: complete

Maintenance_and_Update_Frequency: As necessary

Spatial_Domain:

Bounding_Coordinates:

North_Bounding_Coordinate: 29.75556

South_Bounding_Coordinate: 29.35000

West_Bounding_Coordinate: -95.05278

East_Bounding_Coordinate: -94.70944

Keywords:

Theme:

Theme_Keyword_Thesaurus:

Theme_Keyword: distribution

Theme_Keyword: abundance

Theme_Keyword: prey

Theme_Keyword: salt marsh

Theme_Keyword: 1.8 m diameter cylindrical drop sampler

Theme_Keyword: beam trawl

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: nekton

Theme_Keyword: fish

Theme_Keyword: habitat value

Theme_Keyword: crabs

Theme_Keyword: invertebrates

Place:

Place_Keyword_Thesaurus: Galveston Bay
Place_Keyword: Ash Point
Place_Keyword: Atkinson Island
Place_Keyword: Bird Island
Place_Keyword: Bolivar Peninsula
Place_Keyword: Burnett Bay
Place_Keyword: Dickinson Bay
Place_Keyword: Double Bayou
Place_Keyword: Elm Grove Point
Place_Keyword: Hog Island
Place_Keyword: Houston Point
Place_Keyword: La Porte
Place_Keyword: Moses Lake
Place_Keyword: Pelican Island Spit
Place_Keyword: Redfish
Place_Keyword: Seabrook
Place_Keyword: Smith Point
Place_Keyword: Swan Lake
Place_Keyword: Texas City Dike
Place_Keyword: Ving-et-un-Island
Place_Keyword: Texas
Place_Keyword: Gulf of Mexico

Access_Constraints:

Use_Constraints:

Data set is not for use in litigation. While efforts have been made to ensure that these data are accurate and reliable, NOAA cannot assume liability for any damages or misrepresentations caused by data inaccuracies, or as a result of these data being used for a particular purpose. NOAA makes no warranty, expressed or implied, nor does distribution constitute any such warranty.

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 minimize entry errors.

Logical_Consistency_Report:

Completeness_Report:

Lineage:

Process_Step:

Process_Description:

Sampling Gear Description:

The 1.8 m diameter cylindrical drop trap was a fiberglass enclosure with a galvanized metal skirt along the bottom. The drop trap enclosed an area of 2.6 m². Traps were deployed from a front-mounted boom on a boat and pushed into the substrate.

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, salinity, and D.O. data were collected within the sampler before fauna were collected. Water depth was taken and recorded to the nearest centimeter.

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 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 trap blow-out.

Vascular plants enclosed in the sampler were clipped at ground level to assist in animal retrieval.

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 mesh and the catch bag was detached. Samples were placed in a 1.0 mm bag, labeled, preserved, and returned to the laboratory for processing.

Process_Date: unknown

Process_Step:

Process_Description:

Care of Nekton Samples in the Field:

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. The log book served as the sample inventory and verification of sample arrival and condition. Turbidity samples were analyzed upon return to the lab and the information was transferred to the field data sheets. Field data sheets were entered into an electronic database 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:

SPECIES IDENTIFICATION and MEASUREMENT PROCEDURES:

Shrimp were measured to the nearest mm TL. Other invertebrates were grouped into 5 mm size classes and fish into 10 mm size categories. Each fish was measured after being placed flat on its side with the mouth closed. For fish, TL was the distance from the snout to the tip of the longest caudal fin ray. For shrimp, TL was 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. Subsamples of each species were weighed wet and then oven-dried (70°C for 72 hrs) to establish length-weight curves for computing biomass.

Process_Date: unknown

Process_Step:

Process_Description:

Laboratory Processing of Samples:

The sample was poured through a 0.5 mm mesh sieve under the fume hood. A smaller mesh sieve was placed underneath so that any organisms rinsed from the sample were retained on the smaller mesh sieve. Vegetation was untangled using forceps and each piece was rinsed. Contents were examined under a dissecting microscope and animals removed. Organisms were transferred to 10 percent formalin for long-term storage.

Process_Date: unknown

Process_Step:

Process_Description:

Measuring Biomass of Plants:

Plant biomass from each sample was dried in sunlight until weight change was negligible. Stem density was calculated by weighing a subsample (ca. 20 percent) and counting the number of culms.

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. 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: 20061023

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization:

NOAA Fisheries Service, National Marine 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