

Shoreline Inventory for the City of Norfolk: Shoreline Structures

Shapefile



Tags

Virginia, Little Creek, Willoughby Bay, Mason Creek, Lafayette River, Elizabeth River, Eastern branch of the Elizabeth River, Broad Creek

Summary

To inventory the City of Norfolk tidal shoreline conditions.

Description

Shoreline Situation Reports (SSR) were first generated by VIMS in the 1970's to report the condition and status of the shore lands. The SSR series were published in hardcopy on a county by county basis for each of the Tidewater Virginia localities. The reports were intended to assist planners, managers, and regulators in decisions pertaining to management of coastal areas and natural resources therein. Data collected describes conditions in the immediate riparian zone, the bank, and along the shore. The City of Norfolk was last inventoried in 2002.

Credits

There are no credits for this item.

Use limitations

These data should not be used for jurisdictional permit determinations beyond providing general shoreline condition or status information. These data have not been surveyed to property boundaries.

Extent

West -76.334190 **East** -76.177035
North 36.971107 **South** 36.821462

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata

Topics and Keywords

THEMES OR CATEGORIES OF THE RESOURCE farming, biota, environment, structure

* CONTENT TYPE Downloadable Data

EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION No

PLACE KEYWORDS Virginia, Little Creek, Willoughby Bay, Mason Creek, Lafayette River, Elizabeth River, Eastern branch of the Elizabeth River, Broad Creek

THEME KEYWORDS Land use, Shoreline Inventory, Bank cover, Shoreline Stability, Bank Height, Beach, Access Structures, Shoreline Structures

Citation

TITLE Shoreline Inventory for the City of Norfolk: Shoreline Structures

PUBLICATION DATE 2014-12-31 00:00:00

PRESENTATION FORMATS * digital map

Resource Details

DATASET LANGUAGES * English (UNITED STATES)

DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

SPATIAL REPRESENTATION TYPE * vector

SUPPLEMENTAL INFORMATION

There are four shapefiles that are part of the 2014 the City of Norfolk Shoreline Inventory database: Norfolk_lubc_2014, Norfolk_sstru_2014, Norfolk_astru_2014 and Norfolk_tm_2014. Norfolk_lubc_2014 (land use and bank cover for the City of Norfolk) is a linear shapefile containing data about land use, tree fringe, bank height, bank cover, bank stability and beach status along the shoreline. Norfolk_sstru_2014 (the City of Norfolk shoreline structures) is a linear shapefile delineating hard structures in place at the shoreline (bulkhead, dilapidated bulkhead, riprap, wharf, unconventional, debris, marina < 50 slips, marina > 50 slips, jetty, marsh toe revetment, groinfield and breakwaters). Norfolk_astru_2014 (the City of Norfolk access structures) is a point shapefile with locations of docks, dilapidated docks, boathouses, and private and public boat ramps. Norfolk_tm_2014 (the City of Norfolk tidal marshes) shows the location, size, species and type of tidal marshes. The attributes of these four shapefiles are explained in the Entity and Attribute Information section below.

* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.1.0.3035

ARCGIS ITEM PROPERTIES

* NAME Norfolk_sstru_2014

* SIZE 0.707

* LOCATION <http://ccrm.vims.edu/ccrmp/index.html>

* [ACCESS PROTOCOL](#) Comprehensive Coastal Resource Management Portal

Extents

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

* [WEST LONGITUDE](#) -76.334190

* [EAST LONGITUDE](#) -76.177035

* [NORTH LATITUDE](#) 36.971107

* [SOUTH LATITUDE](#) 36.821462

* [EXTENT CONTAINS THE RESOURCE](#) Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* [WEST LONGITUDE](#) 381238.565500

* [EAST LONGITUDE](#) 395027.875000

* [SOUTH LATITUDE](#) 4075894.118100

* [NORTH LATITUDE](#) 4092316.935714

* [EXTENT CONTAINS THE RESOURCE](#) Yes

Resource Constraints

CONSTRAINTS

LIMITATIONS OF USE

These data should not be used for jurisdictional permit determinations beyond providing general shoreline condition or status information. These data have not been surveyed to property boundaries.

Spatial Reference

ARCGIS COORDINATE SYSTEM

* [TYPE](#) Projected

* [GEOGRAPHIC COORDINATE REFERENCE](#) GCS_North_American_1983

* [PROJECTION](#) NAD_1983_UTM_Zone_18N

* [COORDINATE REFERENCE DETAILS](#)

PROJECTED COORDINATE SYSTEM

[WELL-KNOWN IDENTIFIER](#) 26918

[X ORIGIN](#) -5120900

[Y ORIGIN](#) -9998100

[XY SCALE](#) 450445547.3910538

[Z ORIGIN](#) -100000

[Z SCALE](#) 10000

[M ORIGIN](#) -100000

[M SCALE](#) 10000

[XY TOLERANCE](#) 0.001

[Z TOLERANCE](#) 0.001

[M TOLERANCE](#) 0.001

[HIGH PRECISION](#) true

LATESTWKID 26918

WELL-KNOWN TEXT

PROJCS["NAD_1983_UTM_Zone_18N",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Transverse_Mercator"],PARAMETER["False_Easting",500000.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",-75.0],PARAMETER["Scale_Factor",0.9996],PARAMETER["Latitude_Of_Origin",0.0],UNIT["Meter",1.0],AUTHORITY["EPSG",26918]]

REFERENCE SYSTEM IDENTIFIER

* VALUE 26918

* CODESPACE EPSG

* VERSION 7.9.4

Spatial Data Properties

VECTOR

* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

GEOMETRIC OBJECTS

FEATURE CLASS NAME Norfolk_sstru_2014

* OBJECT TYPE composite

* OBJECT COUNT 1807

ARCGIS FEATURE CLASS PROPERTIES



FEATURE CLASS NAME Norfolk_sstru_2014

* FEATURE TYPE Simple

* GEOMETRY TYPE Polyline

* HAS TOPOLOGY FALSE

* FEATURE COUNT 1807

* SPATIAL INDEX TRUE

* LINEAR REFERENCING FALSE

Data Quality

SCOPE OF QUALITY INFORMATION

RESOURCE LEVEL dataset

Lineage

PROCESS STEP



WHEN THE PROCESS OCCURRED 2014-06-01 00:00:00

DESCRIPTION A small draft boat was used to collect data in the field. Data is logged using a geo-referenced video camera. The Red Hen System provides hardware and software to collect geo-referenced video and photo data in the field. A standard video camera (sony ACC-HDV7) is interfaced with a GPS antennae via the Red Hen hardware device - VMS 300. VMS 300 converts GPS data into audio signals, which are sent to a video camera through its microphone input connector. As the video is recorded, GPS data are transmitted once per second to the video camera by VMS 300. Each GPS location is linked with a time code on the video. Therefore, the survey is a set of videos containing geographically referenced shoreline data.

PROCESS STEP

▶ **WHEN THE PROCESS OCCURRED** 2014-09-01 00:00:00

DESCRIPTION All processing steps for the shoreline inventory were done using ArcGis version 10. Using the latest VBMP 2013 imagery as a background, conditions visible on shore were used to code a digital shoreline created using VBMP 2009 imagery. Conditions were also verified using Bing Birds Eye and aerial imagery. For the land use/bank cover shapefile arcs were split and coded for land use, bank height, bank cover, bank stability, tree fringe and presence or absence of beach, for the access structure shapefile arcs were coded for dock, dilapidated dock, boathouse, and public and private ramps, for the shoreline structure shapefile arcs were coded for bulkhead, delapidated bulkhead, riprap, unconventional, debris, wharf, breakwater, groinfield, jetty, marsh toe revetment and marina >50 and <50 slips.

PROCESS STEP

▶ **WHEN THE PROCESS OCCURRED** 2014-09-01 00:00:00

DESCRIPTION shoreline for the City of Norfolk was created using 2009 VBMP imagery as a backdrop and using ArcGis version 10.0. Using this as a baseline the shoreline inventory was remotely generated using two sources: 2012 oblique Pictometry imagery available through Bing Maps, and 2013 high resolution imagery available from the Virginia Base Mapping Program (VBMP). The shoreline was coded for land use, bank height, bank condition, bank cover and the presence or absence of beach, access structures and hardened structures.

PROCESS STEP

▶ **WHEN THE PROCESS OCCURRED** 2014-11-01 00:00:00

DESCRIPTION This Red Hen data was used as part of the QAQC.

Distribution

DISTRIBUTION FORMAT

* **NAME** Shapefile

VERSION Shapefile

TRANSFER OPTIONS

* **TRANSFER SIZE** 0.707

Fields

DETAILS FOR OBJECT [NORFOLK_SSTRU_2014](#)

* [TYPE](#) Feature Class

* [ROW COUNT](#) 1807

DEFINITION

A collection of geographical features with the same geometry type (such as point, line or poly), same attributes, and the same spatial reference.

DEFINITION SOURCE

ESRI

FIELD [FID](#)



* [ALIAS](#) FID

* [DATA TYPE](#) OID

* [WIDTH](#) 4

* [PRECISION](#) 0

* [SCALE](#) 0

* [FIELD DESCRIPTION](#)

Internal feature number.

* [DESCRIPTION SOURCE](#)

ESRI

* [DESCRIPTION OF VALUES](#) Sequential unique whole numbers that are automatically generated.

FIELD [SHAPE](#)



* [ALIAS](#) Shape

* [DATA TYPE](#) Geometry

* [WIDTH](#) 0

* [PRECISION](#) 0

* [SCALE](#) 0

* [FIELD DESCRIPTION](#)

Feature geometry.

* [DESCRIPTION SOURCE](#)

ESRI

* [DESCRIPTION OF VALUES](#) Coordinates defining the features.

FIELD [ID](#)



* [ALIAS](#) Id

* [DATA TYPE](#) Integer

* [WIDTH](#) 9

* [PRECISION](#) 9

* [SCALE](#) 0

[FIELD DESCRIPTION](#)

ID #

DESCRIPTION SOURCE
ESRI

DESCRIPTION OF VALUES ID #

FIELD SHAPE_LEN



* ALIAS Shape_Leng
* DATA TYPE Double
* WIDTH 19
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Length of structure.

DESCRIPTION SOURCE
Data Processor

DESCRIPTION OF VALUES Length of structure

FIELD STRUCTURE



* ALIAS STRUCTURE
* DATA TYPE String
* WIDTH 50
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Erosion control conditions at the shoreline: breakwater, bulkhead, dilapidated bulkhead, debris, groinfield, jetty, marina >50 slips, marina <50 slips, marsh toe revetment, riprap, unconventional and wharf.

DESCRIPTION SOURCE
Data Processor

LIST OF VALUES

VALUE Bulkhead

DESCRIPTION Bulkheads are traditionally treated wood or steel "walls" constructed to offer protection from wave attack. More recently, plastics are being used in the construction. Bulkheads are vertical structures built slightly seaward of the problem area and backfilled with suitable fill material. They function like a retaining wall, as they are designed to retain upland soil, and prevent erosion of the bank from impinging waves.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Breakwater

DESCRIPTION Breakwaters are structures that sit offshore and generally occur in a parallel series along the shore. Some breakwaters are attached to the land and are referred to as

headland breakwaters. Their purpose is to attenuate and deflect incoming wave energy, protecting the fastland behind and between the structures.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Debris

DESCRIPTION Debris represents nonconforming materials and rubble dumped along the shoreline in a haphazard manner. Debris can include tires, bricks, broken concrete rubble, and railroad ties as examples. The inventory maps Unconventional instead of Debris when the material is deliberately placed for shoreline protection in a manner similar to riprap, bulkhead, and other shoreline protection structures.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Dilapidated Bulkhead

DESCRIPTION A bulkhead which has failed due to deterioration from age or storm damage is called a dilapidated bulkhead. In many cases the structure may not be able to perform erosion control functions any longer.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Groinfield

DESCRIPTION Groins are low profile structures that sit perpendicular to the shore. They can be constructed of rock, timber, or concrete. They are frequently set in a series known as a groinfield, which may extend along a stretch of shoreline for some distance. Unless only a single groin can be detected, this inventory does not delineate individual groins in a groinfield. The groinfield is mapped as one linear feature parallel to the shoreline running along the length of the groin series. When effective, groins will trap sediment moving alongshore.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Jetty

DESCRIPTION A jetty is a structure generally constructed of stone which is perpendicular to the shoreline and generally located at the entrance of tidal creeks and tributaries or marina boat basins. The function of a jetty is to prevent sediment transported alongshore from accumulating in the inlet.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Marinas: < and > 50 slips

DESCRIPTION Marinas are denoted as line features in this survey. The infrastructure associated with the marina (e.g. bulkheading, docks, wharfs, etc) are not digitized individually. However, if a boat ramp is noted it will be surveyed separately and coded as private. Marinas are generally commercial operations. However, smaller scale community docks offering slips and launches for residences are becoming more popular. To distinguish these facilities from commercial marinas, the user could check the riparian land use delineation. If "residential" the marina is most likely a community facility. The survey estimates the number of slips within the marina and classifies marinas as those with less than 50 slips and those with more than 50 slips.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Marsh Toe Revetment

DESCRIPTION (aka Marsh sill) –A low revetment placed offshore from an existing marsh or new planted marsh is classified as marsh toe revetment. The structure may include tidal openings to allow for the easy exchange of free swimming organisms during tidal cycles. Marsh toe revetments are mapped as offshore linear features running along the length of the structure. Marsh toe revetments are distinguished from breakwaters by the linear placement and presence of a tidal marsh instead of a sand beach landward from the structure. The classification can include best professional judgment.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Riprap

DESCRIPTION (aka Revetments) - Sloped structures constructed with large, heavy stone or other materials placed against the upland bank for erosion protection are classified as riprap. Riprap is mapped as a linear feature along the shoreline. Riprap is also used next to failing bulkheads (bulkhead toe revetments). The inventory maps only riprap when this type of structure is co-located with bulkheads. A similar structure is used to protect the edge of eroding marshes. This use is mapped as marsh toe revetment, not riprap.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Unconventional

DESCRIPTION Unconventional features represent segments along the shore where alternative material has been deliberately placed for shoreline protection. Unconventional features may include unique materials placed in a similar manner as riprap or bulkheads, such as engineered pre-cast concrete products. It may also include unique placement or arrangement of conventional materials like riprap that does not fit other structure definitions. The inventory maps Debris instead of Unconventional when the material is haphazardly scattered and not providing any shoreline protection value.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

VALUE Wharf

DESCRIPTION Typically describes a shore parallel structure where boats are tied. In this inventory, Wharf is generally associated with large industrial, public or commercial facilities.

[ENUMERATED DOMAIN VALUE DEFINITION SOURCE](#) Glossary of Shoreline Features Defined, Center for Coastal Resources Management, VIMS

DESCRIPTION OF VALUES Erosion control conditions at the shoreline: breakwater, bulkhead, dilapidated bulkhead, debris, groinfield, jetty, marina >50 slips, marina <50 slips, marsh toe revetment, riprap, unconventional and wharf.

BEGINNING DATE OF VALUES 2014-09-01

Metadata Details

* METADATA LANGUAGE English (UNITED STATES)
* METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA * dataset
SCOPE NAME * dataset

* LAST UPDATE 2015-01-07

ARCGIS METADATA PROPERTIES
METADATA FORMAT ArcGIS 1.0
STANDARD OR PROFILE USED TO EDIT METADATA ISO19139

CREATED IN ARCGIS FOR THE ITEM 2014-08-19 09:31:43
LAST MODIFIED IN ARCGIS FOR THE ITEM 2015-01-07 08:45:19

AUTOMATIC UPDATES
HAVE BEEN PERFORMED Yes
LAST UPDATE 2015-01-07 08:45:19

Metadata Contacts

METADATA CONTACT
INDIVIDUAL'S NAME Sharon Killeen
ORGANIZATION'S NAME Comprehensive Coastal Inventory, Virginia Institute of Marine Science (VIMS)
CONTACT'S POSITION GIS Programmer/Analyst
CONTACT'S ROLE point of contact

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Thumbnail and Enclosures

THUMBNAIL
THUMBNAIL TYPE JPG