

Shoreline Inventory for Northumberland County

2014: Shoreline structures

Shapefile



Tags

Shoreline conditions, Shoreline structures, Hardened structures, Access structures, Riparian land use, Shoreline Inventory

Summary

To inventory Virginia's 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. Northumberland County 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 -76.600681 **East** -76.232404
North 38.030153 **South** 37.681316

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 boundaries, environment, structure

* CONTENT TYPE Downloadable Data

EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION No

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

THEME KEYWORDS Virginia, Yeocomico River, Judith Sound, Glebe River, Coan River, Hull Creek, Little Wicomico River, Great Wicomico River, Cockrell Creek, Mill Creek, Dividing Creek, Indian Creek

Citation

TITLE Shoreline Inventory for Northumberland County 2014: 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 Northumberland County Shoreline Inventory database: Northumberland_lubc_2014, Northumberland_sstru_2014, Northumberland_astru_2014 and Northumberland_tm_2014.

Northumberland_lubc_2014 (land use and bank cover for Northumberland County) is a linear shapefile containing data about land use, tree fringe, bank height, bank cover, bank stability and beach status along the shoreline.

Northumberland_sstru_2014 (Northumberland County 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). Northumberland_astru_2014 (Northumberland County access structures) is a point shapefile with locations of docks, dilapidated docks, boathouses, and private and public boat ramps.

Northumberland_tm_2014 (Northumberland County 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 Northumberland_sstru_2014
- * SIZE 2.682
- * 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 -76.600681
- * EAST LONGITUDE -76.232404
- * NORTH LATITUDE 38.030153
- * SOUTH LATITUDE 37.681316
- * EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

- * WEST LONGITUDE 359509.281300
- * EAST LONGITUDE 391335.874700
- * SOUTH LATITUDE 4171651.567100
- * NORTH LATITUDE 4209884.018800
- * EXTENT CONTAINS THE RESOURCE Yes

Resource Constraints

LEGAL CONSTRAINTS

LIMITATIONS OF USE

The Comprehensive Coastal Inventory Program (CCI) at VIMS performs a service by distributing data generated by either CCI or public agencies which offer data without restriction or charge. CCI assumes no responsibility for data accuracy or precision, metadata completeness or correctness for digital information. CCI assumes no liability for misuse of any data which may arise as a result of any alteration, conversion, or combination with other data sources. As well, the timeliness and scale of these products must be considered when evaluating appropriate use.

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 Northumberland_sstru_2014

* OBJECT TYPE composite

* OBJECT COUNT 7746

ARCGIS FEATURE CLASS PROPERTIES



FEATURE CLASS NAME Northumberland_sstru_2014

* FEATURE TYPE Simple

* GEOMETRY TYPE Polyline

* HAS TOPOLOGY FALSE

* FEATURE COUNT 7746

* 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 2014-08-01 00:00:00

DESCRIPTION A shoreline for Northumberland County 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).

SOURCE DATA



SOURCE CITATION

TITLE Virginia Base Mapping Program (VBMP)

PUBLICATION DATE 2014-01-01 00:00:00

PROCESS STEP



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

DESCRIPTION The Red Hen video data was used for QAQC.

Distribution

DISTRIBUTION FORMAT

* NAME Shapefile
VERSION Shapefile

TRANSFER OPTIONS

* TRANSFER SIZE 2.682

Fields

DETAILS FOR OBJECT Northumberland_sstru_2014

* TYPE Feature Class

* ROW COUNT 7746

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 Shoreline



* ALIAS Shoreline
* DATA TYPE String
* WIDTH 20
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Coded arc on shoreline or off-shore

DESCRIPTION SOURCE

Processor

DESCRIPTION OF VALUES Coded arc on shoreline or off-shore

FIELD Shape_Leng



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

FIELD DESCRIPTION

Length of arc in meters

DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES Length of arc in meters

FIELD STRUCTURES



* ALIAS STRUCTURES
* 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

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 Breakwater, bulkhead, dilapidated bulkhead, debris, groinfield, jetty, marina >50 slips, marina <50 slips, marsh toe revetment, riprap, unconventional and wharf

FIELD Survey



* **ALIAS** Survey
* **DATA TYPE** String
* **WIDTH** 20
* **PRECISION** 0
* **SCALE** 0

FIELD DESCRIPTION

Date of Survey

DESCRIPTION SOURCE

Processor

DESCRIPTION OF VALUES Date of Survey

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

Processor

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.

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 2015-01-08

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0

METADATA STYLE ISO 19139 Metadata Implementation Specification

STANDARD OR PROFILE USED TO EDIT METADATA ISO19139

CREATED IN ARCGIS FOR THE ITEM 2014-12-11 11:27:51

LAST MODIFIED IN ARCGIS FOR THE ITEM 2015-01-08 08:52:50

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes

LAST UPDATE 2015-01-08 08:52:50

Metadata Contacts

METADATA CONTACT

INDIVIDUAL'S NAME Sharon Killeen

ORGANIZATION'S NAME Comprehensive Coastal Inventory, Virginia Institute of Marine Science

CONTACT'S POSITION GIS Programmer/Analyst

CONTACT'S ROLE point of contact

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TYPE postal

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ADMINISTRATIVE AREA Virginia

POSTAL CODE 23062

COUNTRY US

E-MAIL ADDRESS sharon@vims.edu

Thumbnail and Enclosures

THUMBNAIL

THUMBNAIL TYPE JPG