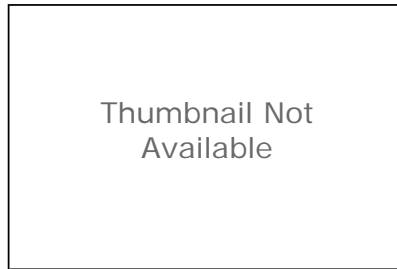


Jefferson/George Washington National Forest Stream Assessment Program



Tags

WADEABLE STREAMS, Habitat, Watersheds, Streams, BENTHOS, WATER QUALITY, biota, environment, Biology, Ecology, Ecosystem, Environment, Indicator, Marine, Monitoring, Quality, Surface Water, Water, Benthos, Macro Invertebrates, Water Quality

Summary

The vital sign selection process of the NPS Inventory and Monitoring Program (I&M) identified fish, macroinvertebrates, and physical habitat characteristics as a critical need for the parks of the National Capital Region Network (NCRN). The National Capital Region Inventory and Monitoring Network (NCRN) initiated a long-term water quality and quantity monitoring program, funded in part by the Water Resources Division. The program is carried out through monthly sampling at more than 50 sites within 10 of the NCRN parks. The data collected using this protocol will provide much needed baseline information on the stream biological resources in the NCRN, particularly in terms of community structure and composition. The information will also be used to determine long term trends in community composition, as well as trends in the abundance and distribution of individual species. This protocol includes monitoring of three related vital signs: fish, macroinvertebrates, and physical habitat. The protocol is based on the Maryland Department of Natural Resources (MDDNR) Maryland Biological Stream Survey (MBSS). 21 standard Operating procedures (SOPs) document the methods used to collect the relevant data. The protocol was developed by Faculty and staff of UMCES-AL who perform sampling and data analysis as part of the MBSS, so that data collected will be compatible with that of the rest of the state to provide a wider context for trends in the NCRN parks.

Description

The sample frame for Biological Stream Sampling consists of perennial wadeable streams (Strahler stream orders 1-4) in 10 NCRN parks: Antietam National Battlefield, Catoctin Mountain Park, George Washington Memorial Parkway, Harpers Ferry National Historical Park, Manassas National Battlefield, Monocacy National Battlefield, National Capital Parks-East, Prince William Forest Park, Rock Creek Park, and Wolf Trap National Park for the Performing Arts. Streams in these parks are influenced by agriculture, urban development and light industry. Monitoring sites were chosen without randomization because the sampling universe of streams is not large for any of the parks, the number of samples necessary for reliable statistical inference about temporal trends is prohibitively expensive to obtain on an annual basis, and substantial inter-annual variability in streams requires either a large sample size each year or fixed-station monitoring through time. Most streams in National Capital Region parks reside on park property for only a short section of their length and the majority of catchments upstream are not on park property, it was important that streams for potential monitoring sites be of special interest to the parks, have sufficient stream lengths on the park to justify management, and preferably not be highly degraded or otherwise impaired. Selection of sites for either inventory or monitoring was based on the 1:24,000 scale National Hydrography Dataset (NHD) digital stream reach file. The water resources monitoring protocols are sampling several distinct populations: 1) benthic invertebrates population are sampled during March and April; 2) for fish populations are between June and September; 3) water quality analytes are measured in March and April concurrent with benthos 4) sampling for physical habitat consists of in-stream and near-stream habitat measures are recorded between June and September concurrent with fish sampling. All sampling is conducted in first through fourth-order streams. Each site is sampled twice annually. Water chemistry analytes and aquatic invertebrates are sampled in the spring index period. Physical habitat and the fish community are sampled during the summer index period along with the in situ water chemistry variables pH, water temperature, dissolved oxygen, and specific conductance.

Credits

There are no credits for this item.

Use limitations

Use at your own risk

ArcGIS Metadata ►

Citation ►

TITLE Jefferson/George Washington National Forest Stream Assessment Program

[Hide Citation ▲](#)

Resource Details ►

CREDITS

[Hide Resource Details ▲](#)

Resource Constraints ►

CONSTRAINTS

LIMITATIONS OF USE

Use at your own risk

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Metadata Details ►

* LAST UPDATE 2010-04-21

ARCGIS METADATA PROPERTIES

METADATA FORMAT ESRI-ISO

CREATED IN ARCGIS 2010-03-30T13:19:05

LAST MODIFIED IN ARCGIS 2010-04-21T12:23:16

AUTOMATIC UPDATES

HAVE BEEN PERFORMED No

[Hide Metadata Details ▲](#)

FGDC Metadata (read-only) ►

Identification ►

CITATION

CITATION INFORMATION

ORIGINATOR United States Forest Service

ORIGINATOR Dawn Kirk

PUBLICATION DATE 2013-04-24

TITLE

Jefferson/George Washington National Forest Stream Assessment Program

PUBLICATION INFORMATION

PUBLICATION PLACE Annapolis, MD

PUBLISHER Chesapeake Bay Program (CBP)

ONLINE LINKAGE http://data.chesapeakebay.net/?DB=CBP_NTBEADB

ONLINE LINKAGE

http://www.chesapeakebay.net/data/downloads/watershed_wide_benthic_invertebrate_database

DESCRIPTION

ABSTRACT

The sample frame for Biological Stream Sampling consists of perennial wadeable streams (Strahler stream orders 1-4) in 10 NCRN parks: Antietam National Battlefield, Catoctin Mountain Park, George Washington Memorial Parkway, Harpers Ferry National Historical Park, Manassas National Battlefield, Monocacy National Battlefield, National Capital Parks-East, Prince William Forest Park, Rock Creek Park, and Wolf Trap National Park for the Performing Arts. Streams in these parks are influenced by agriculture, urban development and light industry. Monitoring sites were chosen without randomization because the sampling universe of streams is not large for any of the parks, the number of samples necessary for reliable statistical inference about temporal trends is prohibitively expensive to obtain on an annual basis, and substantial inter-annual variability in streams requires either a large sample size each year or fixed-station monitoring through time. Most streams in National Capital Region parks reside on park property for only a short section of their length and the majority of catchments upstream are not on park property, it was important that streams for potential monitoring sites be of special interest to the parks, have sufficient stream lengths on the park to justify management, and preferably not be highly degraded or otherwise impaired. Selection of sites for either inventory or monitoring was based on the 1:24,000 scale National Hydrography Dataset (NHD) digital stream reach file.

The water resources monitoring protocols are sampling several distinct populations: 1) benthic invertebrates population are sampled during March and April; 2) for fish populations are between June and September; 3) water quality analytes are measured in March and April concurrent with benthos 4) sampling for physical habitat consists of in-stream and near-stream habitat measures are recorded between June and September concurrent with fish sampling. All sampling is conducted in first through fourth-order streams. Each site is sampled twice annually. Water chemistry analytes and aquatic invertebrates are sampled in the spring index period. Physical habitat and the fish community are sampled during the summer index period along with the in situ water chemistry variables pH, water temperature, dissolved oxygen, and specific conductance.

PURPOSE

The vital sign selection process of the NPS Inventory and Monitoring Program (I&M) identified fish, macroinvertebrates, and physical habitat characteristics as a critical need for the parks of the National Capital Region Network (NCRN). The National Capital Region Inventory and Monitoring Network (NCRN) initiated a long-term water quality and quantity monitoring program, funded in part by the Water Resources Division. The program is carried out through monthly sampling at more than 50 sites within 10 of the NCRN parks. The data collected using this protocol will provide much needed baseline information on the stream biological resources in the NCRN, particularly in terms of community structure and composition. The information will also be used to determine long term trends in community composition, as well as trends in the abundance and distribution of individual species. This protocol includes monitoring of three related vital signs: fish, macroinvertebrates, and physical habitat. The protocol is based on the Maryland Department of Natural Resources (MDDNR) Maryland Biological Stream Survey (MBSS). 21 standard Operating procedures (SOPs) document the methods used to collect the relevant data. The protocol was developed by Faculty and staff of UMCES-AL who perform sampling and data analysis as part of the MBSS, so that data collected will be compatible with that of the rest of the state to provide a wider context for trends in the NCRN parks.

TIME PERIOD OF CONTENT

TIME PERIOD INFORMATION

RANGE OF DATES/TIMES

BEGINNING DATE 2000-05-18
ENDING DATE 2003-05-08
CURRENTNESS REFERENCE
Ground condition

STATUS

PROGRESS Complete
MAINTENANCE AND UPDATE FREQUENCY None Planned

SPATIAL DOMAIN

BOUNDING COORDINATES
WEST BOUNDING COORDINATE -79.13022
EAST BOUNDING COORDINATE -78.565069
NORTH BOUNDING COORDINATE 38.967753
SOUTH BOUNDING COORDINATE 38.43139

KEYWORDS

THEME
THEME KEYWORD THESAURUS None
THEME KEYWORD WADEABLE STREAMS
THEME KEYWORD Habitat
THEME KEYWORD Watersheds
THEME KEYWORD Streams
THEME KEYWORD BENTHOS
THEME KEYWORD WATER QUALITY

THEME

THEME KEYWORD THESAURUS ISO 19115 Topic Category
THEME KEYWORD biota
THEME KEYWORD environment

THEME

THEME KEYWORD THESAURUS EPA GIS Keyword Thesaurus
THEME KEYWORD Biology
THEME KEYWORD Ecology
THEME KEYWORD Ecosystem
THEME KEYWORD Environment
THEME KEYWORD Indicator
THEME KEYWORD Marine
THEME KEYWORD Monitoring
THEME KEYWORD Quality
THEME KEYWORD Surface Water
THEME KEYWORD Water

THEME

THEME KEYWORD THESAURUS User
THEME KEYWORD Benthos
THEME KEYWORD Macro Invertebrates
THEME KEYWORD Water Quality

PLACE

PLACE KEYWORD THESAURUS None

PLACE KEYWORD Virginia
 PLACE KEYWORD Jefferson/George Washington National Forest

ACCESS CONSTRAINTS
 None

USE CONSTRAINTS
 Use at your own risk

POINT OF CONTACT

CONTACT INFORMATION

CONTACT PERSON PRIMARY

CONTACT PERSON Dawn Kirk

CONTACT ORGANIZATION George Washington & Jefferson National Forest, USFS

CONTACT POSITION Forest Fisheries Biologist

CONTACT ADDRESS

ADDRESS TYPE mailing address

ADDRESS PO Box 10

ADDRESS 27 Ranger Lane

CITY Natural Bridge Station

STATE OR PROVINCE Virginia

POSTAL CODE 24579

CONTACT VOICE TELEPHONE 540-291-5211

CONTACT FACSIMILE TELEPHONE 540-291-1759

CONTACT ELECTRONIC MAIL ADDRESS dkirk@fs.fed.us

CONTACT INSTRUCTIONS

Not Available

SECURITY INFORMATION

SECURITY CLASSIFICATION SYSTEM FIPS Pub 199

SECURITY CLASSIFICATION No Confidentiality

SECURITY HANDLING DESCRIPTION Standard Technical Controls

Hide Identification ▲

Data Quality ►

LOGICAL CONSISTENCY REPORT

Not applicable-Data voluntarily reported

COMPLETENESS REPORT

Unknown

POSITIONAL ACCURACY

HORIZONTAL POSITIONAL ACCURACY

HORIZONTAL POSITIONAL ACCURACY REPORT

Data were collected using methods that are accurate to within 26-100 meters (EPA National Geospatial Data Policy [NGDP] Accuracy Tier 4). For more information, please see EPA's NGDP at <http://epa.gov/geospatial/policies.html>

LINEAGE

PROCESS STEP

PROCESS DESCRIPTION

Metadata imported.

PROCESS DATE 2010-03-30

PROCESS STEP

PROCESS DESCRIPTION

Data was loaded into the CBPO Non-Tidal Benthic Data base.

PROCESS DATE 2010-03-30

Hide Data Quality ▲

Spatial Reference ►

HORIZONTAL COORDINATE SYSTEM DEFINITION

GEOGRAPHIC

LATITUDE RESOLUTION 0.000001

LONGITUDE RESOLUTION 0.000001

GEOGRAPHIC COORDINATE UNITS Decimal degrees

GEODETTIC MODEL

HORIZONTAL DATUM NAME North American Datum of 1983

ELLIPSOID NAME Geodetic Reference System 1980

SEMI-MAJOR AXIS 6378137.000000

DENOMINATOR OF FLATTENING RATIO 298.257222

Hide Spatial Reference ▲

Distribution Information ►

DISTRIBUTOR

CONTACT INFORMATION

CONTACT PERSON PRIMARY

CONTACT PERSON Dawn Kirk

CONTACT ORGANIZATION George Washington & Jefferson National Forest

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POSTAL CODE 24579

CONTACT VOICE TELEPHONE 540-291-5211

CONTACT ELECTRONIC MAIL ADDRESS dkirk@fs.fed.us

CONTACT INSTRUCTIONS

unavailavle

RESOURCE DESCRIPTION Downloadable Data

DISTRIBUTION LIABILITY

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Metadata Reference ►

METADATA DATE 2013-04-24

METADATA FUTURE REVIEW DATE 2017-04-24

METADATA CONTACT

CONTACT INFORMATION

CONTACT ORGANIZATION PRIMARY

CONTACT ORGANIZATION U.S. Environmental Protection Agency, Chesapeake Bay Program

CONTACT PERSON Peter Tango

CONTACT POSITION Monitoring Coordinator

CONTACT ADDRESS

ADDRESS TYPE mailing and physical address

ADDRESS 410 Severn Ave, Suite 109

CITY Annapolis

STATE OR PROVINCE MD

POSTAL CODE 21403

CONTACT VOICE TELEPHONE 410-267-9875

CONTACT FACSIMILE TELEPHONE 410-267-5777

CONTACT ELECTRONIC MAIL ADDRESS Ptango@chesapeakebay.net

CONTACT INSTRUCTIONS

<http://www.chesapeakebay.net>

METADATA STANDARD NAME NBII Content Standard for National Biological Information Infrastructure Metadata

METADATA STANDARD VERSION FGDC-STD-001-1998

METADATA SECURITY INFORMATION

METADATA SECURITY CLASSIFICATION SYSTEM None

METADATA SECURITY CLASSIFICATION Unclassified

METADATA SECURITY HANDLING DESCRIPTION

None

Hide Metadata Reference ▲