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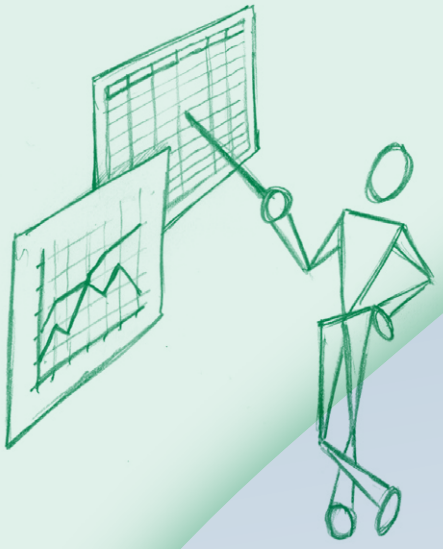
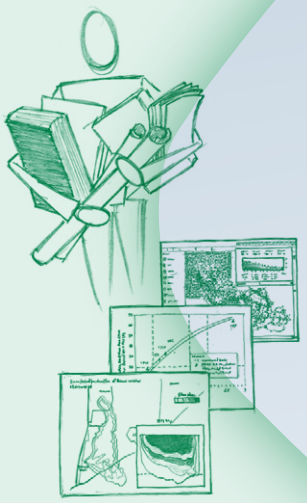
# Handbook for Developing Watershed Plans to Restore and Protect Our Waters

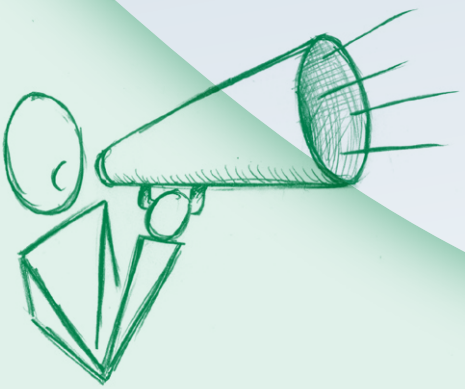
## Cover, Contents, and Acronyms and Abbreviations

*March 2008*


# Handbook for Developing Watershed Plans to Restore and Protect Our Waters





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Nonpoint Source Control Branch
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# Handbook for Developing Watershed Plans to Restore and Protect Our Waters

# Contents

## Figures

## Tables

# Acronyms and Abbreviations

There are dozens of acronyms and abbreviations used throughout this handbook. Refer back to this list to help you navigate through the alphabet soup.

**ADB** . . . . . Assessment Database

**ADID** . . . . . advance identification

**AFO** . . . . . animal feeding operation

**AGNPS** . . . . . Agricultural Non-Point Source model

**AnnAGNPS** . . . . . Annualized Agricultural Non-Point Source model

**AIEO** . . . . . American Indian Environmental Office

**ARS** . . . . . Agricultural Research Service

**ASIWPCA** . . . . . Association of State and Interstate Water Pollution Control Administrators

**AU** . . . . . assessment unit

**AVIRIS** . . . . . airborne visible/infrared imaging spectrometer

**AVS** . . . . . acid-volatile sulfide

**BASINS** . . . . . Better Assessment Science Integrating Point and Nonpoint Sources

**BEACH** . . . . . Beaches Environmental Assessment and Coastal Health

**BEHI** . . . . . Bank Erosion Hazard Index

**BLM** . . . . . [U.S.] Bureau of Land Management

**BMP** . . . . . best management practice

**BOR** . . . . . [U.S.] Bureau of Reclamation

**CADDIS** . . . . . Causal Analysis/Diagnosis Decision Information System

**CAEDYM** . . . . . Computational Aquatic Ecosystem Dynamics Model

**CAFO** . . . . . concentrated animal feeding operation

**CBOD** . . . . . carbonaceous biological oxygen demand

**C-CAP** . . . . . Coastal Change Analysis Program

**CCMP** . . . . . comprehensive conservation and management plan

**cfs** . . . . . cubic feet per second

**CH3D IMS** . . . . . Curvilinear grid Hydrodynamics 3D—Integrated Modeling System

**CH3D SED** . . . . . Curvilinear Hydrodynamics 3D—Sediment Transport

**CN** . . . . . curve number

**CNE** . . . . . curve number equation

**CNMP** . . . . . conservation nutrient management plan

**COD** . . . . . chemical oxygen demand

**CRC** . . . . . Cooperative Research Center

**CREM** . . . . . Council for Regulatory Environmental Modeling

**CREP** . . . . . Conservation Reserve Enhancement Program

**CRM** . . . . . crop residue management

**CRP** . . . . . Conservation Reserve Program

**CSC** . . . . . Coastal Services Center

**CSO** . . . . . combined sewer overflow

**CSP** . . . . . Conservation Security Program

**CSREES** . . . . . Cooperative State Research, Education, and Extension Service

**CSTR** . . . . . continuously stirred tank reactor

**CTG** . . . . . composite theme grid

**CTIC** . . . . . Conservation Technology Information Center

**CWA** . . . . . Clean Water Act

**CZARA** . . . . . Coastal Zone Act Reauthorization Amendments

**DEM** . . . . . digital elevation model

**DIAS/IDLMAS** . . . . Dynamic Information Architecture System/Integrated Dynamic Landscape Analysis and Modeling System

**DLG** . . . . . digital line graphs

**DO** . . . . . dissolved oxygen

**DOI** . . . . . [U.S.] Department of the Interior

**DOT** . . . . . [U.S.] Department of Transportation

**DQO** . . . . . data quality objective

**DRG** . . . . . digital raster graphic

**ECOMSED** . . . . . Estuary and Coastal Ocean Model with Sediment Transport

**EDAS** . . . . . Ecological Data Application System

**EDNA** . . . . . Elevation Derivatives for National Application

**EFDC** . . . . . Environmental Fluid Dynamics Code

**EMAP** . . . . . Environmental Monitoring and Assessment Program

**EMC** . . . . . event mean concentration

**EPA** . . . . . [U.S.] Environmental Protection Agency

**EPIC** . . . . . Erosion Productivity Impact Calculator

**EQIP** . . . . . Environmental Quality Incentives Program

**ESA** . . . . . Endangered Species Act

**ETM** . . . . . enhanced thematic mapper

**FEMA** . . . . . Federal Emergency Management Agency

**FGDC** . . . . . Federal Geographic Data Committee

**FHWA** . . . . . Federal Highway Administration

**FSA** . . . . . Farm Service Agency

**GAP** . . . . . Gap Analysis Project

**GIRAS** . . . . . Geographic Information Retrieval and Analysis System

**GIS** . . . . . geographic information system

**GISPLM** . . . . . GIS-Based Phosphorus Loading Model

**GLEAMS** . . . . . Groundwater Loading Effects of Agricultural Management Systems

**GLLVHT** . . . . . Generalized, Longitudinal-Lateral-Vertical Hydrodynamic and Transport

**GPS** . . . . . global positioning system

**GRP** . . . . . Grasslands Reserve Program

**GSSHA** . . . . . Gridded Surface Subsurface Hydrologic Analysis

**GWLF** . . . . . Generalized Watershed Loading Functions

**HBI** . . . . . Hilsenhoff Biotic Index

**HCP** . . . . . habitat conservation plan

**HEC-6** . . . . . Hydraulic Engineering Center-Scour and Deposition in Rivers and Reservoirs

**HEC-6T** . . . . . Hydraulic Engineering Center-Sedimentation in Stream Networks

**HEC-HMS** . . . . . Hydraulic Engineering Center-Hydrologic Modeling System

**HEC-RAS** . . . . . Hydraulic Engineering Center-River Analysis System

**HSCTM-2D** . . . . . Hydrodynamic, Sediment and Contaminant Transport Model

**HSPF** . . . . . Hydrologic Simulation Program–Fortran

**HUC** . . . . . hydrologic unit code

**IBI** . . . . . index of biotic integrity

**IDEAL** . . . . . Integrated Design and Evaluation Assessment of Loadings

**I/E** . . . . . information/education

**IMP** . . . . . integrated management practices

**IPM** . . . . . integrated pest management

**kg/ha/yr** . . . . . kilograms per hectare per year

**kg/yr** . . . . . kilograms per year

**KINEROS2** . . . . . Kinematic Runoff and Erosion Model, v2

**lb/d** . . . . . pounds per day

**LID** . . . . . low impact development

**LIDAR** . . . . . light detection and ranging

**LSPC** . . . . . Loading Simulation Program in C++

**LULC** . . . . . land use/land cover

**MDC** . . . . . minimal detectable change

**mg/L** . . . . . milligrams per liter

**MINTEQA2** . . . . . Metal Speciation Equilibrium Model for Surface and Ground Water

**MQO** . . . . . measurement quality objective

**MRLC** . . . . . Multi-resolution Land Characteristics

**MS4** . . . . . municipal separate storm sewer systems

**MSGP** . . . . . multi-sector general permit

**MUIR** . . . . . map unit interpretation record

**MUSIC** . . . . . Model for Urban Stormwater Improvement Conceptualization

**MVUE** . . . . . Minimum Variance Unbiased Estimator

**NASA** . . . . . National Aeronautics and Space Administration

**NAWQA** . . . . . National Water-Quality Assessment

**NCDC** . . . . . National Climatic Data Center

**NDVI** . . . . . normalized difference vegetation index

**NED** . . . . . National Elevation Dataset

**NEIPCC** . . . . . New England Interstate Pollution Control Commission

**NEMI** . . . . . National Environmental Methods Index

**NEP** . . . . . National Estuary Program

**NGO** . . . . . non-governmental organization

**NHD** . . . . . National Hydrography Dataset

**NIR** . . . . . near-infrared

**NLCD** . . . . . National Land Cover Dataset

**NLFA** . . . . . National Listing of Fish Advisories

**NOAA** . . . . . National Oceanic and Atmospheric Administration

**NPDES** . . . . . National Pollutant Discharge Elimination System

**NPS** . . . . . nonpoint source

**NRCS** . . . . . Natural Resources Conservation Service

**NRI** . . . . . National Resources Inventory

**NSFC.** . . . . . National Small Flows Clearinghouse

**NSI** . . . . . National Sediment Inventory

**NTTS** . . . . . National TMDL Tracking System

**NTU** . . . . . nephelometric turbidity unit

**NWI.** . . . . . National Wetlands Inventory

**NWIS** . . . . . National Water Information System

**O&M** . . . . . operation and maintenance

**OMB** . . . . . [U.S.] Office of Management and Budget

**ORSANCO** . . . . . Ohio River Valley Water Sanitation Commission

**OSM** . . . . . Office of Surface Mining

**P8-UCM** . . . . . Program for Predicting Polluting Particle Passage through Pits, Puddles, and Ponds—Urban Catchment Model

**PAH** . . . . . polycyclic aromatic hydrocarbon

**PBMS** . . . . . Performance-Based Methods System

**PCS** . . . . . Permit Compliance System

**PGC-BMP** . . . . . Prince George's County Best Management Practice Module

**POTW** . . . . . publicly owned treatment works

**PSA** . . . . . public service announcement

**QAPP** . . . . . quality assurance project plan

**QA/QC** . . . . . quality assurance/quality control

**QHEI** . . . . . Qualitative Habitat Evaluation Index

**QUAL2E** . . . . . Enhanced Stream Water Quality Model

**RBP** . . . . . Rapid Bioassessment Protocol

**REMM** . . . . . Riparian Ecosystem Management Model

**RF1** . . . . . Reach File Version 1

**RF2** . . . . . Reach File Version 2

**RF3-Alpha** . . . . . Reach File Version 3 - Alpha

**RMP** . . . . . resource management plan

**RPD** . . . . . relative percent difference

**RSAT** . . . . . Rapid Stream Assessment Technique

**RUSLE** . . . . . Revised Universal Soil Loss Equation

**SAMP** . . . . . Special Area Management Plan

**SAP** . . . . . sampling and analysis plan

**SAR** . . . . . synthetic aperture radar

**SCS** . . . . . Soil Conservation Service

**SDWA** . . . . . Safe Drinking Water Act

**SED3D** . . . . . Three-dimensional Numerical Model of Hydrodynamics and Sediment Transport in Lakes and Estuaries

**SEM** . . . . . simultaneously extracted metals

**SET** . . . . . Site Evaluation Tool

**SLAMM** . . . . . Source Loading and Management Model

**SOP** . . . . . standard operating procedure

**SPARROW** . . . . . Spatially Referenced Regression on Watershed Attributes

**SRF** . . . . . State Revolving Fund

**SSO** . . . . . sanitary sewer overflow

**SSURGO** . . . . . Soil Survey Geographic Database

**STATSGO** . . . . . State Soil Geographic Database

**STEPL** . . . . . Spreadsheet Tool for Estimating Pollutant Load

**STORET** . . . . . Storage and Retrieval

**STORM** . . . . . Storage, Treatment, Overflow, Runoff Model

**SVAP** . . . . . Stream Visual Assessment Protocol

**SWA** . . . . . source water assessment

**SWAP** . . . . . Source Water Assessment Program

**SWAT** . . . . . Soil and Water Assessment Tool

**SWCD** . . . . . Soil and Water Conservation District

**SWCP** . . . . . soil and water conservation plan

**SWMM** . . . . . Storm Water Management Model

**SWP** . . . . . source water protection

**SWPP** . . . . . source water protection plan

**SWPPP** . . . . . stormwater pollution prevention plan

**TCEQ** . . . . . Texas Commission on Environmental Quality

**TDS** . . . . . total dissolved solids

**TIGER** . . . . . Topologically Integrated Geographic Encoding and Referencing

**TKN** . . . . . total Kjeldahl nitrogen

**TM** . . . . . thematic mapper

**TMDL** . . . . . Total Maximum Daily Load

**TOC** . . . . . total organic carbon

**TP** . . . . . total phosphorus

**TSI** . . . . . Carlson's Trophic Status Index

**TSP** . . . . . technical service provider

**TSS** . . . . . total suspended solids

**USACE** . . . . . U.S. Army Corps of Engineers

**$\mu$S/cm** . . . . . microsiemens per centimeter

**USDA** . . . . . U.S. Department of Agriculture

**USFWS** . . . . . U.S. Fish and Wildlife Service

**USGS** . . . . . U.S. Geological Survey

**USLE** . . . . . Universal Soil Loss Equation

**UTM** . . . . . universal transverse mercator

**VAFSWM** . . . . . Virginia Field Scale Wetland Model

**VFSMOD** . . . . . Vegetative Filter Strip Model

**VSAP** . . . . . Visual Stream Assessment Protocol

**WAMView** . . . . . Watershed Assessment Model with an ArcView Interface

**WARMF** . . . . . Watershed Analysis Risk Management Framework

**WASP** . . . . . Water Quality Analysis Simulation Program

**WATERS** . . . . . Watershed Assessment, Tracking and Environmental Results System

**WATERSHEDSS** . . WATER, Soil, and Hydro-Environmental Decision Support System

**WBD** . . . . . watershed boundary dataset

**WCS** . . . . . Watershed Characterization System

**WEPP** . . . . . Water Erosion Prediction Project

**WHP** . . . . . wellhead protection

**WinHSPF** . . . . . Interactive Windows Interface to HSPF

**WMS** . . . . . Watershed Modeling System

**WQS** . . . . . water quality standard

**WRAS** . . . . . Watershed Restoration Action Strategy

**WRDA** . . . . . Water Resources Development Act

**WWTP** . . . . . wastewater treatment plant