

## West Virginia State Wetland Program Summary



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### **Section A. Quick View**

#### **Description of State's Wetlands**

West Virginia's vegetated wetlands can be separated into three major types based on their dominant vegetation: (1) emergent wetlands (commonly called marshes and wet meadows) characterized by grasses, sedges, and other non-woody plants, (2) shrub wetlands (including shrub swamps and bogs) represented by low-to-medium height (less than 20 feet tall) woody plants, and (3) forested wetlands (mostly wooded swamps and bottomland forests) dominated by trees (woody plants 20 feet or taller).

#### **State Definition of Wetlands**

The state uses the federal definition of wetlands. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

#### **Historic Wetland Loss/Gain**

Original Wetland Acreage	Remaining Wetland Acreage	Acreage Lost	% Lost
134,000	102,000	32,000	24%

*Detail:* The state revisited the US Fish and Wildlife Service study (Dahl, 1989) and NWI maps. The state eliminated some wetlands from the maps. The state figures are represented in the table above (Source: Telephone verification with Danny Bennett, WV DEP).

#### **Primary State Wetlands Webpage**

West Virginia Department of Environmental Protection 401 Certification Webpage  
<http://www.dep.wv.gov/WWE/Programs/Pages/401Certification.aspx>

**State Wetland Program Plan**

West Virginia Wetland Program Plan (2011-2015)  
<http://water.epa.gov/type/wetlands/upload/wv-wpp.pdf>

**No Net Loss/Net Gain Goal**

West Virginia SWVM is built around an informal principle of “no net loss” for wetlands. The state works to achieve the federal goal of no net loss.

**State Resources for Wetland Work (2014 Estimates)**

State Name	Core element #1: Regulation	Core Element #2: Monitoring and Assessment	Core Element #3: Wetland Water Quality Standards	Core Element #4: Voluntary Wetland Restoration
<b>Agency</b>	VT DNR*	VT DNR	VT DEP	Federally funded projects only
<b>Source(s)</b>	Unavailable	Grants and NWCA	Unavailable	Federal programs
<b>Amount</b>	Unavailable	Unavailable	Unavailable	Unavailable
<b>Staffing</b>	~3 FTE (Parts of 5 staff positions)	1-3 FTE	<.25 FTE	
<b>Agency</b>	VT DEP (§401 certification)	VT DEP		
<b>Source(s)</b>	Unavailable	NWCA		
<b>Amount</b>	Unavailable	Unavailable		
<b>Staffing</b>	~2 FTE (+ mining §401 and NPDES)	Unavailable		

\*DNR has an MOU with DEP for non-co-regulated wetlands to do field regulation and comment on §404/§401 permit; also of note – staff indicate that there has been an impact on the program from recent staff retirements.

**State Permitting Fees**

State Permitting Fee	State Name
Yes/No	YES
Amount (range)	\$350
Agency	WVDEP

**Innovative Features**

- West Virginia Stream and Wetland Valuation Metric (SWVM)  
<http://www.lrh.usace.army.mil/Portals/38/docs/regulatory/West%20Virginia%20Stream%20and%20Wetland%20Valuation%20Metric%20Instructions.pdf>

**Models and Templates**

- West Virginia Stream and Wetland Valuation Metric (SWVM) – See above

## **Section B. Regulation**

### **How are Wetlands Regulated in West Virginia?**

Section 401 water quality certifications are issued by two offices within the West Virginia Department of Environmental Protection (WVDEP): the Division of Mining and Reclamation for all mining-related projects requiring §404 permits, and the Division of Water and Waste Management for all other §404 projects. Finally, the West Virginia Division of Natural Resources conducts various wetland-related activities associated with state wildlife goals and actions, including §401 certification review.

Isolated wetlands are considered “waters of the state” in West Virginia and are regulated according to §401 standards. The state uses the same ratios and assessments for isolated waters as for federal jurisdictional waters.

### **Wetland Delineation**

<b>Delineation Guidance</b>	<b>Yes</b>	<b>No</b>	<b>Detail</b>
Use State’s Own Method	X		State code also allows for delineation “by accepted methods approved by the West Virginia Division of Natural Resources.” Delineations are made for isolated wetlands in consultation with DEP (still have to meet Corps)
Use Corps’ 87 Manual and Regional Supplement	X		
Other (Please describe)			

**Description:** West Virginia delineates wetlands in accordance with the criteria outlined in the U.S. Army Corps of Engineers 1987 *Wetlands Delineation Manual*, although state code also allows for delineation “by accepted methods approved by the West Virginia Division of Natural Resources.” Formal delineation must be done by a certified wetland scientist.

### **Evaluation Methodology**

- The Environmental Research Center at the University of West Virginia currently has two field crews conducting the *West Virginia Wetland Rapid Assessment Procedure (WVWRAP)* on randomly-selected wetlands across the state. This procedure, developed in conjunction with the West Virginia Division of Natural Resources (WV DNR), and funded through the U.S. Environmental Protection Agency’s (EPA) Wetland Development Program, is designed to quantify wetland condition in terms of functional capacity and biological integrity. It will be used to track the conditions and trends of wetlands across the state in accordance with the Clean Water Act’s 303(d) impaired water monitoring program, guide compensatory mitigation requirements, and evaluate created wetlands. Moreover, this field work will also be used to measure the accuracy of the National Wetland Inventory (NWI) maps in West Virginia.
- West Virginia also has an integrated evaluation/mitigation calculation tool called *West Virginia Stream and Wetland Valuation Metric v2.0 (WV SWVM)*. The state is currently integrating a more function-based element for wetlands as part of the tool. The tool provides a quick, simple and easy way to assess wetlands (which has tradeoffs for this efficiency). The tool is well-structured and provides transparency and predictability for users. To download the SWVM tool, go to:

<http://www.lrh.usace.army.mil/Portals/38/docs/regulatory/WV%20Stream%20and%20Wetland%20Valuation%20Metric.pdf>

**Exempted Activities**

Comparable to federal exemptions

**Special Provisions for Agriculture and Forestry**

The state recognizes all federal provisions.

**Penalties and Enforcement**

West Virginia relies on the Corps for all penalties and enforcement. Enforcement of state water quality certification requirements is available under West Virginia’s water quality laws. In practice, EPA takes the lead on enforcement under the §404 program. The state has special penalties for fish kills.

**Permit Tracking**

WVDEP maintains a database of permits called the Environment Resource Information System, which includes data on water quality certifications.

**State General Permit (statewide vs. regional coverage)**

Permit Coverage	Yes	No	Detail (Type of Permit)
Regional General Permit	X		The state has two regional permits: 1) abandoned minelands (an allowable suite of activities) and 2) Emergency Watershed Protection (expedited permit process)
Statewide General Permit		X	

**Assumption of 404 Powers**

Assumption Status	Yes	No	Detail
Assumed		X	
Working Toward Assumption		X	
Explored Assumption		X	

**Joint permitting**

SVWM is a tool in a joint application and review process with the Corps. SVWM is not required, but asked by the state to be used as a tool.

**Special Area Management Plans and Advanced Identification Plans**

None. However, the state does actively target areas for purchase and preservation, including Canaan Valley Meadow River Complex.

## **Buffer Protections**

The state includes buffer protection as a component in WV SVWM. There are three tiers in SVWM: 1) simple preservation, 2) enhancement, and 3) enhancement and revegetation which provide increasing levels of credit. West Virginia is in the process of reviewing opportunities to adjust wetland mitigation conditions to increase buffering in at least some cases.

## **Mitigation Policy**

Mitigation requirements are outlined in the West Virginia SVWM tool. Permittee fill out the SVWM as part of the application process to determine credits. SWVM is a credit/debit tool. The tool gives preference to mitigation bank options, requiring less credits if use a mitigation bank rather than an in lieu fee payment. Both are allowed. The tool allows developers to review different scenarios. If developers select a low quality wetland rather than a high quality wetland, less credits are required. The state uses 2:1 ratio for P&M and 3:1 ratio for scrub-shrub and forested wetlands.

## **Mitigation Database**

The state's In Lieu Fee Program has an extensive mitigation database. WV DNR does not have a permittee responsible mitigation database. All mitigation permits are entered into the RIBITS national database.

## **Section C. Monitoring and Assessment**

### **Agency Responsible for Wetland Monitoring and Assessment**

West Virginia is in the process of developing a wetland monitoring and assessment program. Currently there is no formal wetland monitoring and assessment program and project-based efforts are supported exclusively by successive EPA Program Development Grants. The work of WV DNR and WV DEP is conducted via a MOU (Memorandum of Understanding). Due to the number of employees and specialized skills of the WV DNR, field work is conducted largely by WV DNR. WV DEP combine efforts and personnel where applicable in the field as well as remain the primary reporting entity for the state.

The WV DNR started collecting data for database use in the field season of 2010. There are new grant projects related to monitoring and assessment underway. Please contact the state for more information. For a complete report on the current status of wetland monitoring and assessment in West Virginia, go to:

<http://www.dep.wv.gov/WWE/getinvolved/sos/Documents/SOPs/WVWetlandMonitoring.pdf>

### **Mapping/Inventory**

- The state revisited the US Fish and Wildlife Service study (Dahl, 1989) and NWI maps. The state eliminated some wetlands from the maps.
- The National Wetland Inventory (NWI) provides identification and delineation of WV wetland polygons. The product is somewhat dated (based on 1980-1986 color infrared imagery), only identifies wetlands larger than 1-3 acres and is not completely accurate relative of wetland polygon locations largely because of the scale of the base imagery (1:58,000).

**State Wetland Mapping Public Portal**

Data are being consolidated, linked or otherwise made available for use by a wider audience. Progress in that direction comes from development of a web-based tool (Tool) to provide various levels of access to additional federal and state agencies, the environmental consultant industry and the general public.

**Wetland Classification and Assessment**

The WV DNR has recently completed the West Virginia Wetland Rapid Assessment Procedure (WV WRAP) for wetlands which can be used statewide. Calibration with intensive assessments and GIS remote assessments on same wetland sites gives us high confidence in data to be generated in future rapid assessments. The WV Rapid Assessment Method (WVRAM) is designed to quantify wetland condition in terms of functional capacity and biological integrity. It is used to track the conditions and trends of wetlands across the state in accordance with the Clean Water Act’s 303(d) impaired water monitoring program, guide compensatory mitigation requirements, and evaluate created wetlands. Its implementation will be used to measure the accuracy of the National Wetland Inventory (NWI) maps in the state. To download the WVRAM, go to:

[http://erc.davis.wvu.edu/projects/research/west\\_virginia\\_wetland\\_rapid\\_assessment\\_procedure](http://erc.davis.wvu.edu/projects/research/west_virginia_wetland_rapid_assessment_procedure)

The state is currently looking to integrate a more function-based approach to assessment, looking at developing functional indices for wetlands related to flood attenuation, water quality, wildlife, aesthetics, and recreational purpose.

A second tool, West Virginia’s Planting Tool, has been adapted from North Carolina’s similar tool. It provides more data on location, soil types, aspect and other measures. Queries National Heritage Sites and provides a species list to identify what *should* be on the site. The list is customizable for specific restoration sites.

**Statewide Wetland Monitoring Plan**

The state’s wetland monitoring and assessment goals are documented in the state’s EPA-approved Wetland Program Plan. DEP also has a monitoring strategy. The state’s Wildlife Action Plan also includes monitoring and assessment goals for wetlands, a document that is currently being revised.

A report on current wetland monitoring and assessment plans in West Virginia can be found at:

<http://www.dep.wv.gov/WWE/getinvolved/sos/Documents/SOPs/WVWetlandMonitoring.pdf>

**Overall Wetland Gain and Loss Tracking System**

None. The state has not been able to track non-reported wetland gains and losses.

**Wetland Monitoring and Assessment Characteristics**

Level	None	Level 1	Level 2	Level 3
<i>West Virginia</i>		X (project-specific only)	X (project-specific only)	X (project-specific only)

Type	None	IBI	Condition	Functional
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<i>West Virginia</i>		(Stream only, not wetlands)	X WVRAP and WV SVWM	X Functional component of SVWM
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Frequency	None	Project Specific	Ongoing
<i>West Virginia</i>		X	There are some plans considering developing an ongoing program at the end of the grant cycle (~2018)

**Description:**

- WV Wetland Rapid Assessment Procedure (WVWRAP) was developed in 2008 to collect wetland ecological integrity and provision of function information.
- WVDNR has conducted wetland assessments for decades to classify wetlands by community types and by their level of ecological integrity. While these data provide insight into wetland condition and for use in validating larger scope assessments, their limited focus (spatially and because of their emphasis on plant species and communities) provides little information to validate either the recently developed *West Virginia Wetland Rapid Assessment Procedure*.
- Functional assessments are being developed under two scenarios. The first relies on descriptive landscape metrics used to develop indices of wetland integrity and function. The second level incorporates these landscape descriptors and adds field data collected using the WVWRAP. Level 3 functional assessment validation data will be collected beginning in 2011 to provide support for the Level 1 and 2 assessments.
- West Virginia also has GIS data layers of “Exemplary Wetlands”, which are used when reviewing certifications.

**Participation in National Wetland Condition Assessment**

NWCA Study Type	Yes	No
National Study	X	
State Intensification Study		X

**Section D. Water Quality Standards**

**Wetland and Water Quality Standards**

Type	None	Use Existing WQ Standards	In Process	Adopted	Future Direction
<i>Wetland-specific Designated Uses</i>		X			
<i>Narrative criteria in the standards to protect designated wetland uses</i>		X			
<i>Numeric criteria in the standards based on wetland type and location to protect the designated uses</i>		X			
<i>Anti-degradation policy includes wetlands</i>		X			

**Description:**

- West Virginia’s water quality standards (WQS) do not identify criteria specific to wetlands and the state has no immediate plans to develop wetland-specific standards.
- The state surface WQS are both narrative and numeric in nature and include chemical and biological criteria for water quality.
- State regulations do not identify designated uses or anti-degradation standards for wetlands specifically, defaulting to water use categories and anti-degradation provisions for surface waters. They are applied to wetlands, however.
- The state does have some specific measures for wetlands, including Iron, Oxygen and threshold odor. The remainder of the measures are the same as for other waters.
- It should also be noted that, in the absence of wetland-specific WQS, WVDEP staff consider impacts on water resources, fish and wildlife, recreation, critical habitats, and state resources for §401 decision-making.
- West Virginia formally started evaluation of wetland components in Water Quality Standards in 2014. The state is working to “develop standard measures for wetland integrity, the final set of functions adopted and for stressor levels. Reference conditions for these metrics will allow comparisons to be made between specific wetlands and the broad spectrum of conditions existing in WV wetlands. Water quality standards provisions relative to wetlands will be evaluated in the next scheduled triennial review.

**Section E. Voluntary Wetland Restoration**

**Types of Wetland Restoration Work Funded by the State:**

Type of Work	YES	NO	Description
Fund Wetland Restoration (may include easement agreements)	X		Specific projects are conducted in management areas (especially waterfowl and woodcock management) from taxes on hunting and fishing in the state
Private Land Restoration		X	
Public Land Restoration	X		
Technical Assistance		X	Some informal technical assistance may be provided by DNR if requested
Tax Incentives		X	
Other		X	

**Description:** West Virginia Department of Environmental Protection does not operate a formal restoration program, but does coordinate to some extent with the U.S. Department of Agriculture Natural Resources Conservation Service and Soil Conservation Districts on restoration activities.

**Voluntary Wetland Restoration Program Components**

Wetland Restoration Efforts	Nothing in the Works	Planning	In Progress	Mature/Complete
Program has a set of restoration goals	N/A			
Coordinate with relevant agencies that outline restoration/protection goals and strategies and timeframes	N/A			
Developed multi-agency body to coordinate restoration/protection efforts	N/A			
Set restoration goals based on agency objectives and available information	N/A			

**Goals for Restoration Projects\***

Goal	Yes	No	Description
No Net Loss		X	
Reverse Loss/Net Gain		X	
Nonpoint Source Pollution (NPS)/WQ		X	
Total Maximum Daily Load (TMDLs)		X	
Habitat	X		Waterfowl and woodcock habitat
Coastal Protection		X	

Floodwater Protection		X	
Groundwater		X	
Other (please describe)		X	

**Landowner Guides and Handbooks to Assist with Voluntary Wetland Restoration Efforts**

None.

**Section F. Innovative and/or Highly Effective Education and Outreach**

West Virginia has been working to increase the wetland emphasis within the WV Master Naturalist Program and develop a wetland “trunk” for elementary schools. The wetland program is encouraged to do education and outreach when time is available.

**Section G. Climate Change and Wetlands**

The state wetland program mostly addresses climate change issues indirectly, although climate change work is still “on the table” in West Virginia. Specifically, the state is interested in projects that address culvert issues, replacing culverts with larger options that have been impacted by storms.

**Section H. Integration**

Entity/Program Area	Yes/No	Description of the Connection
NPDES/Stormwater	~	Not a lot, a handful of counties work on wetland issues related to stormwater post-construction efforts; starting to work informally on Chesapeake Bay issues, stream restoration as a component of stormwater post-construction projects (that have impacts on wetlands); new chapter in the state stormwater BMP manual for stream management, likely to be chapter on wetlands in the future (silt fences, etc.)
303(d)	NO	
305(b) reporting on wetlands	YES	Small wetland element is integrated into the report
Total Maximum Daily Load (TMDLs)	NO	
Climate Change/ Resiliency	~	Informally, esp. culvert work
Land Use /Watershed planning	NO	
Flood/Hazard Mitigation	~	County-specific at this time; will be integrated into the new SWVM tool.
Coastal Work	N/A	Although there is some coordination around the watershed of Chesapeake Bay and the Eastern Panhandle
Wildlife Action Plan	YES	Plans are being renewed for certain specific, which involve wetland considerations
Statewide Comprehensive Outdoor Recreation Plan (SCORP)	NO	Local plans, not statewide

Other – Transportation	YES	Actively coordinate with DOT through quarterly meetings that include discussion of wetland-related issues
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**State Wetland Program Development Continuum**

Continuum Stage		Core Element 1: Regulation	Core Element 2: Monitoring & Assessment	Core Element 3: Wetland Water Quality Standards	Core Element 4: Voluntary Restoration
Mature Stage	High	401 Certification and Isolated Wetland Program	X	X (Non-wetland-specific; but considered in existing)	X
Initial Implementation Stage	↑				
Development Stage					
Early Stage	Low				

**State Wetland Program Contact and Other Relevant Contacts**

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**Section J. Useful Websites**