

## Analysis Name: WV Degraded Stormwater System Restoration

*Map and score those areas where the natural hydrologic system is compromised and which are probably contributing to excessive runoff and inadequate recharge. These areas present opportunities to incorporate best management practices.*

### Absolute

- 1 cannot be a wetland
- 2 cannot be in a forested floodplain or forested wetland
- 3 cannot be in open water
- 4 cannot be in the floodway
- 5 cannot be in the forested base zone cells of the Active River Area

### Relative

- 1 is an NPDES outfall within 200 feet of a stream (extra points because that's more valuable)
- 2 is in a flood plain (100-year or 500-year)
- 3 is in a karst or slippery loam area
- 4 is in a watershed scoring B1-B3 (1 point) or B4-B6 (1/2 point), as indicated by the WV "Biodiversity Ranks of HUC12 Watersheds"
- 5 is in an area of greater than 4% slope
- 6 is in an impaired watershed as indicated by §303(d) of CWA
- 7 is in an MS4 area
- 8 is in area of relatively higher impervious surface area, where percentage is between 20% and 100% (generally corresponds to developed uses in NLCD (low, medium and high)
- 9 is near (1 point within 100 feet; 1/2 point within 300 feet) an existing or potential wetland area
- 10 is within a §319-approved watershed plan area, indicating that funding for restoration might be available
- 11 is within a sewer area
- 12 nearness to stream, as measured by NHD streams, with full point for within 100' and 1/2 point up to 300

## Analysis Name: WV Natural Stormwater Preservation

*Map and score those natural areas where current landscape condition supports a healthy hydrologic system. In general, groundwater recharge is maximized, runoff is minimized and sediments and nutrients are removed prior to entering waters. Permanently preserve those areas.*

### Absolute

- 1 cannot already be protected
- 2 cannot be a mine land as indicated by WV land use data
- 3 must be in a primarily natural condition (e.g., forested, meadow, wetland)

### Relative

- 1 is forested
- 2 is in a catchment that drains directly to a CWA §303(d) listed stream (catchments)
- 3 is in a forested area within an MS4 area
- 4 is in a forested riparian buffer with 1 full point if within 200' of the stream, 2/3 point if within 400' of the stream and 1/3 point if within 600 feet of a stream
- 5 is in a High Quality Stream watershed as designated by the state
- 6 is in a karst or slippery loam area
- 7 is in a primarily natural condition (e.g., forested, meadow, wetlands)
- 8 is in a watershed scoring B1-B3 (1 point) or B4-B6 (1/2 point), as indicated by the WV "Biodiversity Ranks of HUC12 Watersheds"
- 9 is in an area of greater than 4% slope
- 10 is in an important area for protecting water supply (forest to faucets)
- 11 is in an MS4 area
- 12 is in area with well-drained soils or moderately well drained soils
- 13 is in the Active River Area
- 14 is near (1 point within 100 feet; 1/2 point within 300 feet) an existing or potential wetland area
- 15 is within 200' of vulnerable streams and springs
- 16 is within a "high priority" watershed as indicated on the Division of Forestry Prioritization plan

## Analysis Name: WV Stream / Riparian Preservation

*Map and score areas near, but not in the stream, that are contributing positively to stream health. Examples include areas that are heavily wooded or have other woody vegetation near the stream. The goal is to maintain stream stability, to prevent erosion, to maintain thermal health, or promote a connected corridor for habitat.*

### Absolute

- 1 cannot already be protected
- 2 must be in a primarily natural habitat, defined as forested, marshes and wetlands, or scrub/shrub
- 3 must be in or within 100 feet of the "Active River Layer"

### Relative

- 1 is a 'good stream' in a §319 watershed
- 2 is a High Quality stream
- 3 is a stream in an economically value flood risk areas (FEMA total loss areas)
- 4 is adjacent to a "Tier III" stream catchment
- 5 is in a "Natural Streams Preservation Act" watershed
- 6 is in a Aquatic Habitat of concern area
- 7 is in a stream that intersects a "high functioning" wetland
- 8 is in a stream that intersects an "Exemplary Wetland"
- 9 is in a watershed scoring B1-B3 (1 point) or B4-B6 (1/2 point), as indicated by the WV "Biodiversity Ranks of HUC12 Watersheds"
- 10 is in a West Virginia Active Public Water Source Protection Zone
- 11 is in an area with relatively high score (greater than 748) for landscape integrity
- 12 is in area where native fish biodiversity is high
- 13 is in one of the two federally-listed endangered species or two state-vulnerable species Crayfish stream
- 14 Is riparian area for a State Mussel stream (indicated as "R" in database)

## Analysis Name: WV Stream / Riparian Restoration

*Map and score areas near but not in the stream where the natural condition of the riparian zone has been compromised. Examples include areas where the stream quality is impaired, where agricultural uses extend right up to the stream, where woody vegetation has been removed, etc.*

### Absolute

- 1 must be in or within 100 feet of the "Active River Layer"

### Relative

- 1 is in a CWA §319 watershed
- 2 is in an area with a relatively low score for landscape integrity
- 3 is in or adjacent to area with well-drained or moderately well drained soils
- 4 is the riparian zone for a CWA §303(d)-listed stream
- 5 Is within a non-forested riparian area
- 6 Is within a TMDL catchment
- 7 is within pasture, mining, or crop farming land use

## Analysis Name: WV Terrestrial Habitat Preservation

*Map and score those areas where the upland and terrestrial habitat is substantially intact and healthy. Addresses twin goals of preserving terrestrial diversity and native species, while also enhancing the aquatic resources that the area might drain to.*

### Absolute

- 1 cannot already be protected
- 2 cannot be a wetland
- 3 cannot be in open water
- 4 must be in a primarily natural habitat, defined as forested, marshes and wetlands, or scrub/shrub

### Relative

- 1 is adjacent to a catchment that drains to a "Natural Streams Preservation Act" stream
- 2 is adjacent to a catchment that drains to a 'good quality' stream, as defined elsewhere in WV Analyses
- 3 is in a 'core' forest, as mapped by WV 2011 Forest Fragmentation GIS dataset
- 4 is in a watershed scoring B1-B3 (1 point) or B4-B6 (1/2 point), as indicated by the WV "Biodiversity Ranks of HUC12 Watersheds"
- 5 is in a Wetland Breeding Bird area (Scored 1/3 point for moderate value, 2/3 for high value and full point for very high value)
- 6 is in an area of less common habitat
- 7 is in an area with relatively high score (greater than 748) for landscape integrity
- 8 is in area that is important for bat populations
- 9 is not in areas that cannot be maintained in essentially 'natural' condition. (e.g., National Pipeline Mapping System)
- 10 is within 200 feet of but not in a protected area, including public lands
- 11 is within the Active River Area but not in wet areas

## Analysis Name: WV Terrestrial Habitat Restoration

*Map and score those areas where the natural system has been degraded. Prime areas could include fragmented forests, areas with lots of impervious surfaces, agricultural fields that could be planted in meadow or forest, areas adjacent to roadway corridors.*

### Absolute

- 1 cannot be a developed land cover
- 2 cannot be a wetland
- 3 cannot be in open water

### Relative

- 1 is in a 'high priority for restoration' (scoring  $\geq 19$ ) watershed in the WV State Forest Action Plan (SFAP)
- 2 is in an area for red spruce restoration
- 3 is in an area that drains to a CWA §303(d) impaired stream
- 4 is in an important area for protecting water supply
- 5 is within 200 feet of but not in a protected area, including public lands
- 6 is within 200 feet of but not in the "Riparian Zone" as defined in WV WRR Spatial Analyses

## Analysis Name: WV Wetland Preservation

*Map and score those wetlands that are in great or pristine shape but which are not already permanently preserved via public or conservation organization ownership, easement or deed restriction. This analysis is primarily for finding really exceptional wetlands to preserve, but could also be used to find existing wetland areas to enhance (look for 1s, 2s, and 3s)*

### Absolute

- 1 cannot already be protected
- 2 must be a wetland

### Relative

- 1 is a wetland of size larger than 2.17 acres (larger than average)
- 2 is in a 'core' forest, as mapped by WV 2011 Forest Fragmentation GIS dataset
- 3 is in a Wetland Breeding Bird area (Scored 1/3 point for moderate value, 2/3 for high value and full point for very high value)
- 4 is in a WVDEP TMDL watershed
- 5 is in an "Exemplary Wetland"
- 6 is near an existing mitigation project, as mapped on RIBITs
- 7 is within 120 feet of a stream with Aquatic Habitat Classification
- 8 is within an MS4 area
- 9 is within the "Stream / Riparian Area"

## Analysis Name: WV Wetland Restoration (Re-establishment)

*Find those areas that are not currently wetlands but which were likely to have been wetlands in the past. Restore the site to a healthy, functional wetland. In the WRR, 'wetland restoration' does not include wetland enhancement or wetland rehabilitation.*

### Absolute

- 1 cannot be a wetland
- 2 must show some evidence of having been a wetland, as indicated by DEP's Restorable Wetlands Site Restoration analysis, "Viability" component

### Relative

- 1 is in a 319 watershed, indicating that funds might exist to support restoration
- 2 is in a West Virginia Active Public Water Source Protection Zone
- 3 is in the Active River Area but not within the open water
- 4 is within 200 feet of protected (Public) Lands
- 5 is within 200' of an "Exemplary Wetland"
- 6 is within 300' of a stream or water body
- 7 is within a §303d watershed
- 8 is within a catchment that contains a wetlands bank or in-lieu fee project
- 9 is within a local TMDL watershed