

What is a Wetland?

A wetland is just like it sounds, it is land that is wet. There are three very important criteria that an area of land has to have to be considered a wetland:

1)Wetland Hydrology– ground is wet/saturated with water during the growing season. In Delaware this is mainly during the spring and early summer.

2)Hydrophytic Plants– plants that have adapted to survive and grow when their roots are flooded. Some examples are water lilies, bald cypress trees, and salt marsh grasses.

3)Hydric Soils– soils that are saturated with water and become “anaerobic”, lacking oxygen. These soils are dark and dull in color and often have streaks of red and orange.



Why are Wetlands Important?

WETLAND VALUES



1. Slow the flow of runoff
2. Improve water quality
3. Control erosion
4. Provide fish and wildlife habitat
5. Provide recreation
6. Supply groundwater
7. Absorb floodwaters and reduce flooding
8. Protect the coast from storms

What you can do:

- **Plant native trees in a wetland buffer on your property or install a rain garden to increase your buffer.** For information on rain gardens visit: raingardensforthebays.org
- **Manage invasive species on your property by removal and only plant native species.** A great place to purchase native plants is at the University of Delaware during their spring and fall native plant sales. For information on dates and times visit: <http://ag.udel.edu/udbg/events/annualsale.html>
- **Participate in the annual Christina River Clean Up held by the Partnership for the Delaware Estuary, DNREC, and the Christina Conservancy.** For more information visit: <http://www.delawareestuary.org/cleanup>.
- **Use a rain barrel to collect rainwater to reuse around your home, helping to reduce runoff into the watershed.** For more information on rain barrels contact Sharon.Webb@state.de.us or visit <http://delawarewatersheds.org/>.



To learn more about how you can help wetlands in Delaware visit: <http://de.gov/howyoucanhelpwetlands>

How are Wetlands Monitored?

In summer 2011 staff from the Department of Natural Resources and Environmental Control (DNREC) assessed 74 non-tidal wetland sites in the watershed. In addition to the assessment of non-tidal sites the Partnership for the Delaware Estuary assessed 30 tidal sites. Using monitoring protocols developed for use in Delaware (DERAP) and the Mid-Atlantic (Mid-TRAM) biologists looked for living and non-living indicators of wetland health. After the sites were assessed an overall grade was assigned to each type of wetland.

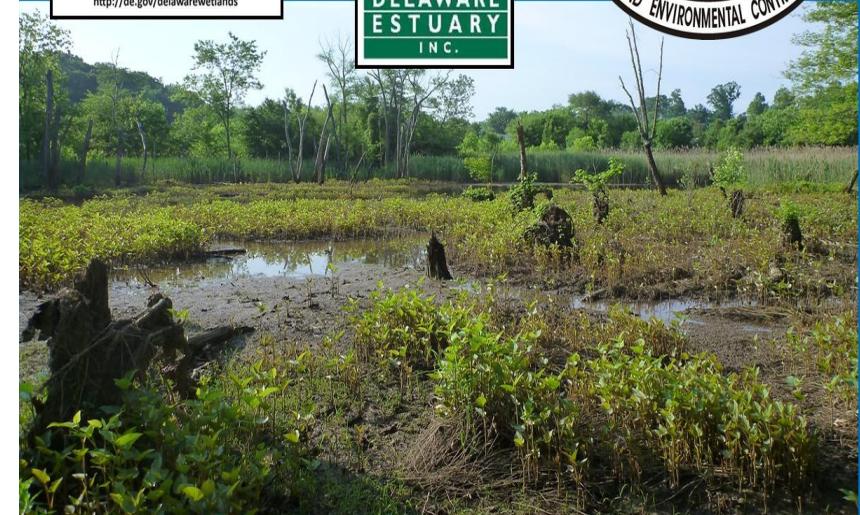
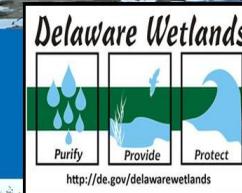
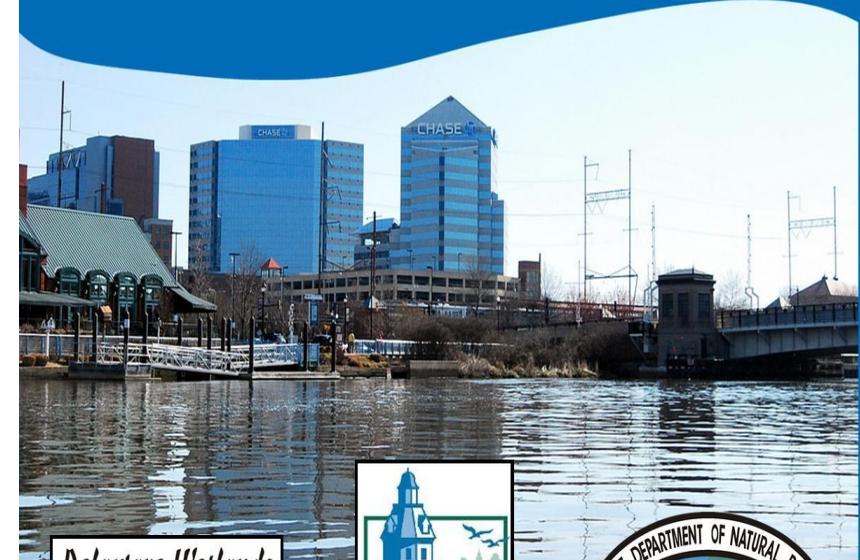
For a full description of the protocols and results visit: <http://de.gov/wmap>

Supporting technical reports can be found on the following websites:

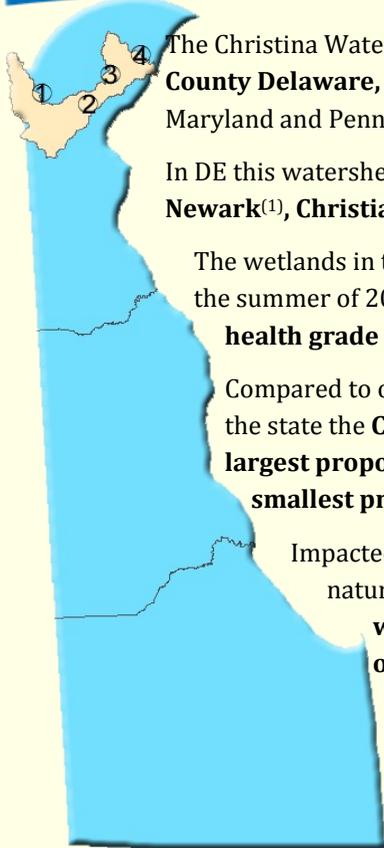
The Partnership for the Delaware Estuary <http://www.delawareestuary.org/>
302.655.4990

DNREC, Division of Watershed Stewardship <http://de.gov/delawarewetlands>
302.739.9939

Christina River Watershed Wetland Health Report Card



The Christina Watershed Story



The Christina Watershed is located in **New Castle County Delaware**, extending North and West into Maryland and Pennsylvania.

In DE this watershed includes the cities and towns of **Newark⁽¹⁾, Christiana⁽²⁾, Newport⁽³⁾, and Wilmington⁽⁴⁾**.

The wetlands in the watershed were visited in the summer of 2011 and found to have an **overall health grade of "F"**.

Compared to other previously assessed wetlands in the state the **Christina River Watershed has the largest proportion of degraded wetlands and the smallest proportion of undisturbed wetlands.**

Impacted wetlands are able to provide some natural benefits such as **flood storage, water purification, and educational opportunities, but at a reduced rate.**



Christina Wetland Impacts

- **Tree clearing on or near wetlands.**
- **Houses or buildings up to the edge of wetlands.**
- **The presence of the non-native invasive common reed (*Phragmites australis*).**
- **Polluted runoff inputs from developed areas into wetlands.**
- **Covering of wetlands with fill dirt, which suffocates and destroys wetlands.**
- **Straightening and deepening of streams next to wetlands.**

Management Recommendations

Preserve Remaining Delmarva Bays. Also known as a Coastal Plain Pond, these areas have been identified as unique and irreplaceable habitats to the natural heritage of Delaware. These areas lack protection on both a state and federal level and are vulnerable to impacts from development. Implementing easements and additional planning in communities will help preserve these important spaces.



Utilize clean dredge material for wetland creation/restoration.

With the current increases in sea level marshes are having difficulty keeping pace and are disappearing in Delaware at an alarming rate. Reusing sediments dredged from waterways builds marsh elevation, provides nutrients for plants and reduces the need for traditional upland disposal sites for dredge material.



Control the extent and spread of the non-native invasive common reed (*Phragmites australis*). Like other invasive species the common reed is capable of spreading rapidly and outcompeting native vegetation in wetlands. The loss of native species leads to altered habitats and food sources for wildlife. Assistance is available through DNREC's *Phragmites* Control Program for private and public properties, for more information contact Bill Jones (302) 284-4795 or william.jones@state.de.us.

Encourage alternate shoreline protection designs. Traditional hardened shorelines made from rip rap or bulkhead limit aquatic habitat and the ability for marshes to expand. Living shorelines are installed using natural materials which provide erosion control, enhanced aquatic habitat for fish and are attractive.



For more information on living shorelines visit: http://delawareestuary.org/Living_Shorelines



Additional Management Recommendations

- **Update tidal wetland regulatory maps.** To maximize DNREC's ability to protect Delaware's tidal/coastal wetlands regulatory maps need to be updated to reflect changes due to sea level rise and development.
- **Develop incentives and encourage maintaining natural buffers along riverine and tidal wetlands.** Natural, wide buffers along wetlands help them to remove excess pollutants, store flood waters, and provide space for wetlands to expand into as sea levels rise.
- **Incorporate wetland creation and restoration into urban planning.** In Wilmington many communities are faced with flooding on an annual basis and urban wetlands would help decrease the threat of these floods. These spaces also provide educational opportunities and greenspaces, which promote health and happiness for city residents.

For more information about these recommendations and to view the entire report: <http://de.gov/christinawatershed>