



City of Goshen

STORMWATER TOOLBOX

Public Works & Utilities
Department of Stormwater
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Goshen, Indiana 46528
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bit.ly/goshen-stormwater

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Freshwater Salinization Syndrome

Stormwater runoff has been documented as the only growing source of water pollution in America. Stormwater runoff carries many pollutants into our waterways and one of these pollutants, salt, is getting a lot more attention.

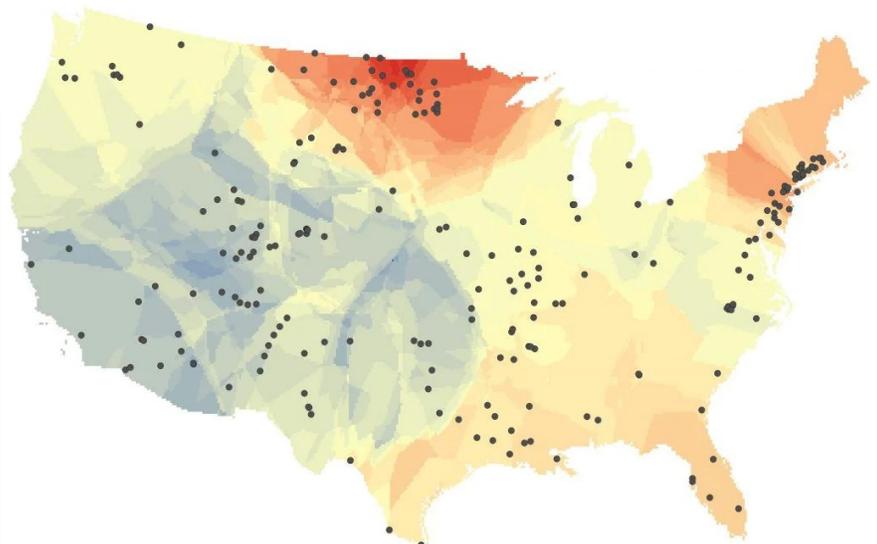
Why is salt an issue? Salt comes from many sources beyond table or road salt like mine drainage, sewage, fracking brine, and agricultural runoff. When these sources are combined, they can create big problems for drinking water supplies, urban infrastructure, and natural ecosystems.

One of the most well known instances of salt pollution creating a drinking water catastrophe comes from Flint, Michigan. The Flint River in 2014 had a high salt content and, when combined with chemical treatments, caused lead to dissolve out of the pipes into the water system.

SALT means more than just table salt, it also includes any positively or negatively charged ion that dissociates or separates in water.

The salinization, or increase in salt content, of waterways occurs because salt accumulates in soils and groundwater and takes decades to get flushed out. As these different kinds of salts combine, they create a 'cocktail' which can be more toxic than just one salt. Some of the ions in the salt can take the place of ions in soil and rock causing the release of metals like copper, cadmium, manganese, and zinc into surface water runoff & groundwater.

Finally, a connection between increased salinity of freshwater and higher pH (alkaline water) has been observed throughout the continent. Putting all of these issues together lead researchers to label this issue "Freshwater Salinization Syndrome". This only scratches the surface of the issues that salt pollution presents and to find out more you can read the research at www.cmns.umd.edu/news-events/features/4059 or visit www.goshenindiana.org/salt-pollution for more information on this issue and tips on what you can do to reduce and prevent salt pollution.



This map shows changes in the salt content of fresh water in rivers and streams across the United States over the past half-century. Warmer colors indicate increasing salinity, while cooler colors indicate decreasing salinity. The black dots represent the 232 U.S. Geological Survey monitoring sites that provided the data for a new study. (Ryan Utz/Chatham University)



*Merry Christmas,
 Happy Holidays, &
 Peace to All*

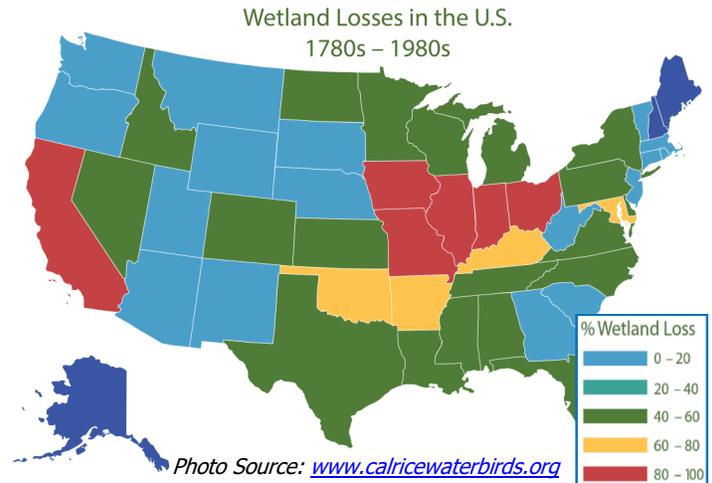


A DROP OF NEWS

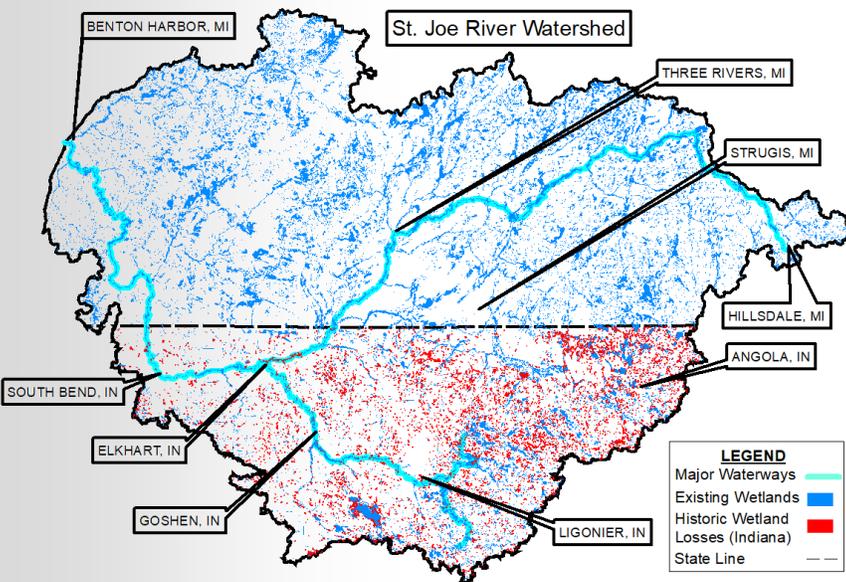
Your Stormwater Newsletter

The Importance of Wetlands

Wetlands provide many natural services to plants, wildlife, and humans. These services include protecting and improving water quality (they act as "nature's kidneys"), providing habitat for fish, plants, and other wildlife, providing storage areas for floodwaters (they act like sponges), helping maintain surface water flow during dry periods, storing carbon in the plants and soil instead of releasing it into the atmosphere, acting as a source for food (e.g. fish, shellfish, blueberries, cranberries, and wild rice), and they are a source of medicines.



As you see, wetlands are very important; unfortunately, over time, we have filled in, paved over, and damaged wetlands. The image above shows how by 1980, Indiana had lost over 80% of its wetlands. A report on "The Status of Wetlands in Indiana" further states how 85% of Indiana's historic wetlands have been lost, ranking us 4th (along with Missouri) out of 50 states for the percentage of wetlands lost.



The image to the left shows the historic wetland loss we have experienced here in northern Indiana. (The historic wetland loss data for the State of Michigan is not available at this time.) It is vital we do all we can to protect those wetlands that remain to ensure that our quality of life is not reduced by increased flooding, decreased water quality, decreased access to water, loss of recreational opportunities, & much more.

For more information visit the following websites:
 ❖ EPA—Why Wetlands Are Important: bit.ly/wtlnindsimportant
 ❖ The Status of Wetlands in Indiana: bit.ly/INwtlninds

Report an Illicit Discharge - An illicit discharge is anything other than rain that could flow or be washed into a storm drain. If you see something that doesn't look right please call 574-534-2201, send an email to jasonkauffman@goshencity.com, or submit a Stormwater Report through the City of Goshen's new "Report an Issue" button in the upper corner of the City's website (www.goshenindiana.org).

