

Watersheds

The importance of these unique ecosystems

Overview

Watersheds are areas of land that channel rainfall, runoff, and any other kind of excess water into a larger body of water. Watersheds provide many ecosystem services and have huge impacts on the environment. While some might not live close to a large body of water, everyone still lives in a watershed. They can be big or small and include everything from the Nile River to the Calumet River.



Knowing that everyone lives in a watershed should emphasize the importance of maintaining and taking care of watersheds. Many different factors, both natural and human, go into the health of a watershed. For example, how people dispose of waste can affect watersheds, but also a heavy storm can have effects on watersheds.

Importance

Watersheds provide many ecosystem services. Ecosystem services are the wide variety of benefits provided by prosperous and healthy ecosystems. They can have many critical impacts such as cleaning our drinking water by filtering point and nonpoint pollution sources. They can act as carbon storage points which helps lessen the impact of greenhouse gas emissions. Watersheds also can provide many recreational activities and aesthetics. Being able to access watersheds for people to go on a run, take their dog for a walk, or go kayaking with friends all encourage

physical activity. This provides opportunities for the general public to have fun while also staying active which benefits peoples' health. Another major benefit of water is its use in agriculture and growing our food. Whether it be watering plants for humans, plants to feed animals, or giving the animals water to drink, 70% of freshwater is used for agriculture. It is extremely important for humans to take care of the environment, and watersheds, in order to keep benefitting from these services.

To take care of the watersheds, it is important to know the things that cause negative impacts on the watersheds. The most direct way a human has negative impacts on a watershed is by polluting and producing lots of waste. Over or improper use of pesticides, herbicides, insecticides, and fertilizers on crops in order to grow large amounts of crop without it being eaten away by bugs or other plants. In the same way, people can over or improperly use fertilizers and sometimes pesticides on their yards and gardens to have a well managed lawn. However, when it rains, excess chemicals can runoff into streams and rivers. Chemicals can cause many issues in watersheds and rivers, one of which being eutrophication. Eutrophication occurs when there is an excessive amount of nutrients in a body of water, causing plant life to overgrow. The plant life the uses too much oxygen making both the plants and animals struggle to stay alive. A common occurrence and example of eutrophication is algal blooms.

Changes to the hydrology of a river and land development can also impact the function of watersheds. Both of these events can cause a change in the water flow (either flooding or drying up). Specifically for land development, an increase in roads and paved areas causes water to filter and absorb into the ground differently, which can affect how clean the water is and how much water is in the river. The reason paved areas do not let water absorb into the ground is because they are what is known as impervious surfaces. Impervious surfaces, such as concrete and asphalt, can lead to surface water pollution and flooding. Pervious surfaces, on the otherhand, allow water to flow through them and absorb into the ground. This allows water to be properly filtered and find its way back to the water table.

Lastly, a theme that not only affects watersheds, but also the whole world, is climate change. More extreme weather conditions is a product of climate change. For example, strong storms can uproot trees and alter water patterns. While small changes in weather patterns are normal, climate change is causing rapid changes, such as an increase in the amount and severity of storms, which makes it hard for wildlife to adapt. Watersheds themselves actively help with climate resiliency. A healthy watershed is able to take in and remove carbon from the atmosphere, helping to maintain the greenhouse effect and reducing climate change. As the importance of watersheds is stated above, humans should be doing everything they can to decrease their waste, carbon footprint, and developmental changes.

Management

Watershed management describes the processes of putting land use and water management practices in place in order to sustain, protect, and improve the quality of the water and other natural resources found within a watershed. Management is important because it helps control pollution levels by determining the pollution type and source and finding ways to get rid of said pollution. It is mentioned earlier that even things such as adding a sidewalk on the side of a road or expanding a parking lot can cause a change in the watershed. Because the watershed is so dependent on human and natural factors, it is part of our job to combat the negative impact we have by finding ways to amend negative human effects. Some forms of management include providing and attending educational programs, improving waste management and infrastructure, and prioritizing the many opportunities to better the watershed and its wildlife. One way that you can help out is by conserving water and making sure to dispose of waste properly.

Shirley Heinze takes great pride in its work to manage and protect local watersheds. For example, the East Branch Little Calumet River Watershed. This watershed is one of many that can be found in Shirley Heinze geography. Since 2021, Shirley Heinze has been running a water quality monitoring program at this watershed. Both volunteers and staff go out and test for nutrients and bacteria, and record and document the data so Shirley Heinze can track the water quality. With help from Porter County SWCD, IN Department of Agriculture, and the National



Shirley Heinze Land Trust

109 West 700 North

Valparaiso, IN 46385

219-242-8558

www.heinzetrust.org

Socials: @heinzetrust

October 2023

Version 1

Park Service, the data is tested and used to quantify the nutrient and bacteria levels in this local watershed. By doing so, Shirley Heinze is able to promote agriculture conservation practices, wetland restoration, and farmland protection.

Notes/References

[Document with Links](#)



Shirley Heinze Land Trust
109 West 700 North
Valparaiso, IN 46385

219-242-8558
www.heinzetrust.org
Socials: @heinzetrust

October 2023
Version 1