

Frequently Asked Questions About Healthy Watersheds

What is a Watershed?

A watershed – the land area that drains to one stream, lake or river – affects the water quality in the water body that it surrounds. Like water bodies (e.g., lakes, rivers, and streams), individual watersheds have similarities but also differ in many ways. Every inch of the USA is part of a watershed – in other words, all lands drain into a lake, river, stream or other water body and directly affect its quality. Because we all live on the land, we all live in a watershed — thus watershed condition is important to everyone.

Watersheds exist at different geographic scales, too. The Mississippi River has a huge watershed that covers all or parts of 33 states. You might live in that watershed, but at the same time you live in a watershed of a smaller, local stream or river that flows eventually into the Mississippi. EPA's healthy watersheds activities mainly focus on these smaller watersheds.

What is a Healthy Watershed?

A healthy watershed is one in which natural land cover supports dynamic hydrologic and geomorphic processes within their natural range of variation, habitat of sufficient size and connectivity to support native aquatic and riparian species, and physical and chemical water quality conditions able to support healthy biological communities. Natural vegetative cover in the landscape, including the riparian zone, helps maintain the natural flow regime and fluctuations in water levels in lakes and wetlands. This, in turn, helps maintain natural geomorphic processes, such as sediment storage and deposition that form the basis of aquatic habitats. Connectivity of aquatic and riparian habitats in the longitudinal, lateral, vertical, and temporal dimensions helps ensure the flow of chemical and physical materials and movement of biota among habitats.

A healthy watershed has the structure and function in place to support healthy aquatic ecosystems. Key components of a healthy watershed include:

- intact and functioning headwater streams, floodplains, riparian corridors, biotic refugia, instream habitat, and biotic communities;
- natural vegetation in the landscape; and
- hydrology, sediment transport, fluvial geomorphology, and disturbance regimes expected for its location.

A stream's flow regime refers to its characteristic pattern of flow magnitude, timing, frequency, duration, and rate of change. The flow regime plays a central role in shaping aquatic ecosystems and the health of biological communities. Alteration of natural flow regimes (e.g., more frequent floods) can reduce the quantity and quality of aquatic habitat, degrade aquatic life, and result in the loss of ecosystem services.

Why Are Healthy Watersheds Important?

Healthy watersheds not only affect water quality in a good way, but also provide greater benefits to the communities of people and wildlife that live there.

Are Healthy Watersheds Very Common?

Unfortunately not. Healthy watersheds are uncommon, particularly in the eastern US as well as in most other parts of the nation that are urbanized, farmed, or mined. Large tracts of protected wildlands, mostly in the western US, are where most healthy watersheds can be found. However, some healthy

watersheds exist in many regions of the country where water pollution has been prevented or well controlled and communities maintain the benefits of their clean waterways.

Why is EPA Concerned with Healthy Watersheds?

One of EPA's most important jobs is to work with states and others to achieve The Clean Water Act's primary goal – restore and maintain the integrity of the nation's waters. Despite this law's many pollution control successes, tens of thousands of streams, rivers and lakes have been reported as still impaired. The great majority of these involve pollution sources in their watersheds – the land area that surrounds and drains into these waters. Knowing the conditions in watersheds is crucial for restoring areas with degraded water quality, as well as protecting healthy waters from emerging problems before expensive damages occur. Achieving the Clean Water Act's main goal depends on having good information about watersheds – their environmental conditions, possible pollution sources, and factors that may influence restoration and protection of water quality. EPA is investing in developing scientifically sound and consistent data sources, and making this information public and easily accessible to the wide variety of our partners working toward clean and healthy waters.

How Might Healthy Watersheds Affect Me?

You may potentially benefit from healthy watersheds in numerous ways, generally unseen and unrecognized by the average citizen. Healthy watersheds are to credit for virtually any high quality outdoor recreation sites involving the use of lakes, rivers, or streams. Great fishing opportunities are usually due to healthy watersheds surrounding the waters that people love to fish. Your drinking water, if it comes from a surface water source, might be substantially less expensive to treat if a healthy watershed around the water source filters pollution for free. Your property values may be higher, if you are fortunate enough to reside near healthy rather than impaired waters. You and your community's quality of life may be better in these and other ways due to healthy watersheds; now, imagine how unhealthy watersheds might affect you as well.

How is a Healthy Watershed Identified?

There are literally hundreds of watershed characteristics (such as environmental traits, sources of degradation, and community factors) that may influence environmental health and quality of life, for better or worse. Identifying and comparing these characteristics is known as watershed assessment. This process is the main way to compare watershed condition across large areas such as states, and find the healthy watersheds among the rest.

What is Evaluated in a Healthy Watersheds Assessment?

EPA's process for assessing healthy watersheds looks at small scale watersheds – either Catchments (which average about one square mile in area) or HUC12 watersheds (which average about 35 square miles in area). The factors for describing and comparing watersheds, called indicators, are selected specifically for the area of the country being studied. Although custom selections of indicators are made to suit the study area, all assessments develop a comparative index of watershed health and index of watershed vulnerability. These complementary indices help states and other users find out where the healthiest watersheds are, and also what their level of vulnerability might be.

How Much Healthy Watersheds Assessment has been Done in the US?

Several states have developed statewide assessments of their healthy watersheds on their own over the past decade. EPA as well has partnered with states and watershed groups in several additional locales to generate more statewide watershed assessments. However, many states remain where there are no

completed studies to identify the healthy watersheds or their vulnerability. EPA is currently working to provide these states with preliminary healthy watersheds assessments to get started.

What is Being Done to Protect Healthy Watersheds?

A very wide range of activities could be called healthy watersheds protection. These may include regulatory and non-regulatory approaches. EPA's healthy watersheds protection activities are non-regulatory. Approaches used at state and local level could be either. The private sector is also actively involved in many forms of protection. The Healthy Watersheds Protection Overview page of this website contains a substantial variety of protection approaches you may wish to review.