

# AQUATIC RESOURCE BUFFER COMPLIANCE

A riparian buffer of forest or other native vegetation along the banks of a stream or other waters is essential to preserving aquatic resource health. Buffers provide a number of [benefits](#):

- Trees, branches and other woody material create vital aquatic habitat after falling into a wetland, stream, lake, or other waters;
- Leaves, twigs and other plant parts serve as an essential nutrient link in the aquatic ecosystem food chain;
- Shading vegetation cools waters otherwise heated by the sun;
- Trees, shrubs, and other vegetation on the flat areas adjoining waterway channels retard floodwaters protecting downstream areas from damage;
- Bank and shoreline erosion is lessened by trees, shrubs and other buffer vegetation;
- Numerous wildlife species benefit from the high quality habitat and migration corridors afforded by forested buffers; and
- Buffers can filter pollutants from runoff entering from small areas but are less effective with regard to runoff from larger areas, particularly in suburban-urban settings.

Because of these many benefits buffer establishment has become a primary aquatic resource restoration tool nationwide. For example, the [Chesapeake Bay Program](#) has set the goal of restoring 900 miles of buffers annually throughout the 64,000 square mile watershed. Unfortunately, the most [recent data](#) indicates this goal is not being reached.

## How Much Buffer Is Enough

[Research](#) shows that healthy stream ecosystems require

a minimum of a 100-foot forest buffer extending out along 70% of both stream banks. Depending upon a number of factors, the minimum buffer depth needed to safeguard specific ecosystem functions can be [300- to 900-feet](#).



## Buffers Are Important, But Not A Panacea

It is important to remember that while essential, buffers alone are not enough to preserve and enhance water quality. In addition to buffers healthy aquatic systems can only be achieved and preserved if:

- A minimum of 45% of the watershed is forested,
- All buildings, streets and other impervious surfaces drain to [highly-effective BMPs](#),
- All cropfields benefit from [cover crops, high residue tillage](#), and other nutrient management practices, and
- All other pollution sources comply with clean water laws.

## Clean Water Laws & Buffers

The remainder of this factsheet will offer guidance on:

- How to audit compliance with buffer protection laws in your watershed,
- What to do when you find buffer intrusions,
- How to win adoption of better buffer laws, and
- How to expand support for land owners wishing to increase buffers along their waters.

**Buffer Protection Law Compliance Audits:** Many laws restrict activities that disturb established buffers and require buffer establishment where none exists. While agricultural activities accounted for most buffers intrusions historically, more recently shopping centers, housing projects and other development activities have

been the primary cause of buffer impacts. Most buffer protection laws apply to development projects as well as road construction, mining but not to many agricultural activities. A [number of laws](#) call for minimum 100-foot aquatic resource buffers, while some require as little as a 25-foot buffer. Usually these laws are overseen by a local planning-zoning or environmental agency, though buffer laws also exist in state and federal law.

**Proposed Development & Buffer Impacts:** If a development project is proposed for a site in your watershed obtain the plans. Examine the plans for any proposed stream crossing or other activity within 100-feet of a wetland, stream, or other waters on the site. Use websites such as [Wetlands Mapper](#) to determine if streams, wetlands or other aquatic resources were present on the site. If the plan shows a proposed intrusion then speak with agency review staff to learn if the intrusion is allowed and if they anticipate approval. For advice on working with staff see Chapter 38 in [How To Win Land Development Issues](#). If approval is likely then look for ways the applicant can achieve their goals without impacting the buffer, such as an alternate access point when the intrusion is due to a road crossing. Forward the plan to [CEDS](#) if you'd like a quick opinion about alternatives which is provided at no-cost to watershed advocates. If an alternative is found then see the [Equitable Solutions](#) webpage and [Chapter 37](#) for advice on convincing the applicant to go with the alternative. If these negotiations fail then see Chapter 39 for advice on getting your local elected officials to urge the applicant or agency to resolve the impact. If all else fails then consider contesting the permits-approval the applicant needs to carry out the intrusion using the suggestions provided in the CEDS [Smart Legal Strategies](#) webpage and [Chapter 40](#).

**Past Buffer Compliance Audit:** Compliance with buffer requirements is generally good, though there are instances where illegal intrusions occur. To get a sense of the extent of buffer intrusions in your watershed use an online aerial imagery site with current and historical photos like Google Earth. Buffer laws have existed as far back as the 1970s, but focus on the most recent development projects completed in your watershed. Use websites such as [Wetlands Mapper](#) to determine if streams, wetlands or other aquatic resources were present on the site. Examine recent aerial photos to see if a buffer was preserved along all the aquatic resources. If not then obtain the project plans to see if a buffer was

required. If it was then speak with the agency overseeing buffer requirements to learn why the buffer intrusion occurred and what action will be taken to resolve the impact. Repeating these steps for several recent development projects in your watershed will give you a strong sense of how well existing buffer requirements are being enforced. If you find enforcement lacking then use the advice in Chapters 38 and 39 in [How To Win Land Development Issues](#) to urge agency and elected officials to improve compliance. Usually, though significant compliance improvements only occur when there's widespread public awareness and support for change. See the [Expanding Public Support for Clean Water](#) factsheet for advice on mobilizing watershed residents.

**Winning Better Buffer Laws:** Compare the buffer laws applicable to your watershed with others in your state. In most states there's one county, city or other local jurisdiction which tends to have the best environmental protection laws. These jurisdictions are usually more affluent suburban-urban areas, frequently with a university. For example, in our home state of Maryland, [Baltimore County arguably has the best law](#) which has required buffers as great as 300 feet. See how the buffer laws elsewhere in your state compare with yours. If you find one you like use the advice in [Chapters 36, 39 and 41](#) to win adoption of the better law.

**Expanding Support for Buffer Establishment:** Previously we mentioned that while the Chesapeake Bay watershed goal is to establish 900 more mile of buffer per year, only two-thirds of this goal has been met in recent years. No doubt greater public awareness of the many buffer benefits would result in coming closer to, perhaps exceeding, this goal. See [Expanding Public Support for Clean Water](#) factsheet for advice on educating then mobilizing support among the residents of your watershed for buffer programs.

### **Let Us Know How It Goes**

When you have a moment contact CEDS at [Help@ceds.org](mailto:Help@ceds.org) to let us know what your buffer compliance audits show and the results of your efforts to enhance buffer laws or establishment programs. If you have questions please contact CEDS at 410-654-3021 or [Help@ceds.org](mailto:Help@ceds.org). Our advice is available free to those advocating for better aquatic resource protection. However, if extensive research or analysis is required we may need to discuss a fee.