

Plant Vegetative Buffers

Overview

- Vegetation provides many ecosystem services such as erosion control, soil stability, flood prevention, heat reduction, privacy, increased property value, aesthetic value, etc.
- When vegetation is planted directly alongside water bodies, the erosion potential of the bank is reduced since the roots help to stabilize the bank.
- Vegetated buffers can also help reduce flooding by slowing and absorbing the rainwater and allowing for infiltration. Surfaces such as concrete, asphalt, and rocks do not absorb water.
- A vegetated riparian buffer can also provide shade, which can reduce local water temperatures, reduce the frequency of harmful algal bloom events, and reduce the amount of evaporation from the water body.
- Healthy vegetative buffers enhance native wildlife habitat.
- Vegetated buffers can reduce the amount of pollution that reaches the water body.
- Plant a mixture of native species including trees and shrubs in order to more effectively stabilize the soil and reduce pollution.
- Select native plant species that are well-suited for the ecosystem type of the area.

Considerations for planting:

- Soil type
- Native plant species
- Plant diversity
- Insect susceptibility
- Human activity in direct proximity to the vegetation
- Post-planting maintenance requirements



Key Takeaways

During storm events, water running off impervious surfaces can wash away stream, river, lake, or marsh banks. This continued erosion can cause an increase in flooding potential in yards or in buildings.

Flooding can cause extensive damage to the interior and exterior of structures. Additionally, pools of water can harm landscaping and provide breeding grounds for pests such as mosquitos.

To help avoid flood damage costs, plant vegetative riparian buffers alongside the water body.



I-ADAPT

Shoreline Adaptation

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Photo credit: DNREC

Estimated Costs/Benefits

*U.S. dollars (2022), estimates are subject to change

Potential Costs		Potential Benefits	
Item	Estimate	Post-Flood Recovery Actions	Estimate
Remove concrete/asphalt/stone substrate (if necessary)	\$1-\$5 per sq ft	Flood damage recovery (professional clean-up, mold removal, replacement/ repair of flood damaged items)	1 inch water \$10,800-\$53,500+
Seedlings and plants	\$50-\$250 per ½ acre		1 foot water \$29,400-\$143,500+
Landscape labor (if necessary)	\$50-\$100 per hour	Mosquito control	\$400-\$600 per treatment
		Remove standing water	\$1,300-\$5,000
ESTIMATED TOTAL COST (1/2 acre)	\$50-\$100,000+	ESTIMATED TOTAL SAVINGS	\$12,500-\$149,100+

Expected Maintenance

- Weed/remove invasive species within the buffer.
- Monitor the vegetated buffer for plant health and growth.
- Monitor the buffer after storms and precipitation events for damage. If there is damage, re-planting may be necessary.

Additional Resources

- [Green Infrastructure Fact Sheet: Riparian Buffers](#)
- [Native Plant Nurseries Serving Delaware](#)
- [USDA Riparian Forest Buffers](#)

Resources can also be found at <https://de.gov/iadapt>

Potential Funding Sources

- [Building Resilient Infrastructure and Communities Grant \(BRIC\)](#)
- [Delaware Water Pollution Control Revolving Fund](#)
- [FEMA Flood Mitigation Assistance Grant](#)
- [FWS Partners for Fish and Wildlife Program](#)

Additional Actions

- Encourage your neighbors to also plant vegetative buffers in order to further strengthen shoreline riparian buffers.
- Plant native trees in the yard.

Permitting Agencies

Contacts for permitting requirements include but are not limited to the following:

- Your city and/or county government for local flood ordinances or regulations

Who to Contact

- [811 Call Before You Dig](#)
- Landscape professional

Technical definitions and more information are located on the I-ADAPT website: <https://de.gov/iadapt>.



This information is intended to be used for planning purposes. It is not intended to substitute or take precedence over the guidance of design engineers, contractors, utility companies or regulatory agencies.

For more information, contact DNREC's Division of Climate, Coastal and Energy at DNREC_IADAPT@Delaware.gov

