

## What is a tributary?

A **tributary** is a stream that flows into a larger stream or other body of water.

Surface runoff and groundwater in the South Shore Estuary Reserve drains to over 100 tributaries, which then flow into the estuary's bays and marshes.

The area of land that drains into a particular body of water, such as a tributary, is a **watershed**.

*The map on the reverse side shows the locations of tributaries and watersheds in the Reserve.*



## Why are tributaries important?

- **Habitat:** Tributaries provide freshwater which mixes with saltwater from the ocean, creating a biologically productive ecosystem in the estuary. Tributaries and streamside areas are important habitat for a variety of estuarine species, including ducks and muskrats. Anadromous fishes, such as alewives and trout, spawn in freshwater tributaries and live as adults in saltwater. These fish are an important food source for other estuarine species.
- **Recreation:** Tributaries provide many opportunities for recreation, including swimming, fishing, birding, and observing nature. Tributaries act as natural connectors for boaters and paddlers to maritime centers and the bay.
- **Drainage:** Tributaries function to naturally drain upland surface runoff and groundwater.



## How do humans impact tributaries?

- **Pollution:** Non-point source pollution is the primary water quality concern in the Reserve. Stormwater runoff from roads, cesspools, parking lots and construction activity can carry pollutants including petroleum products, contaminated sediments, lawn chemicals, and nutrients into tributaries and the estuary. Pollution from point sources, such as wastewater treatment plants, also compromises tributary health.
- **Invasive Species:** Introduction of non-native and invasive species, such as Japanese knotweed and Cabomba, affects habitat quality and prevents growth of native species.
- **Barriers:** Dams, culverts and other structures can disrupt the natural flow of water in tributaries, impairing habitat. Barriers can also prevent fish from accessing their natural habitat, and negatively affect aquatic life.
- **Shoreline hardening:** Bulkheads, rock riprap, and other structures built along the banks of tributaries eliminate habitat and natural stream buffers.
- **Groundwater depletion:** Tributaries in the Reserve are fed by groundwater as well as by surface water. Over pumping water from underground aquifers lowers the water table, and can reduce water flow in tributaries. Impervious surfaces, such as roads and parking lots, reduce groundwater recharge.



## What can you do to help protect and restore tributaries?

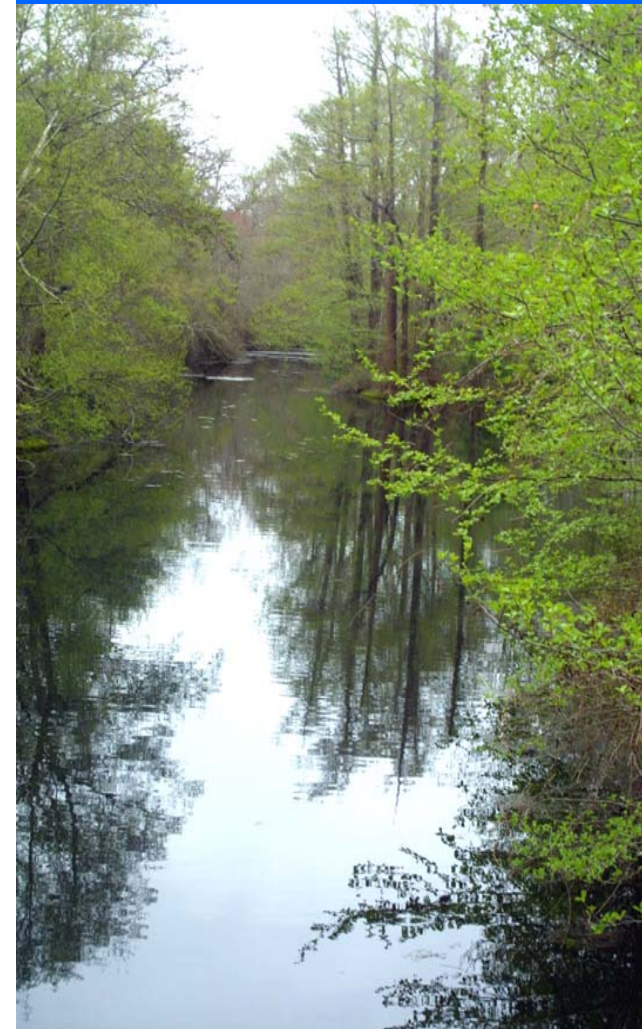
- **Prevent Polluted Runoff:** It is easy to reduce non-point source pollution by using *best management practices*, such as cleaning up pet wastes, limiting the use of pesticides and fertilizers, and using non-toxic biodegradable household cleaners.
- **Maintain and Restore Vegetation Buffers:** Adequate vegetation buffers of native woody plants along tributaries filter toxins from runoff and protect against erosion. Removal of non-native and invasive species allows growth of natural buffers.
- **Adopt a Tributary:** Learn about the watershed you live in and the tributary closest to you (see map on reverse side). Organize clean-ups and promote citizen monitoring of a tributary in your area.
- **Watershed Action Plans:** Participate in the development and implementation of watershed action plans for tributaries in your area.



Additional information on tributaries in the South Shore Estuary Reserve may be obtained by calling (516) 470-BAYS or by visiting the website at [www.estuary.cog.ny.us](http://www.estuary.cog.ny.us)

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# TRIBUTARIES of the Long Island South Shore Estuary Reserve



## What You Should Know and How You Can Help

