

Polluted runoff — Housatonic Estuary enemy #1

Natural runoff from rainfall or melted snow moves over and through the ground throughout the watershed, picking up oil and grease, salt and sand, fertilizers and pesticides and other pollutants and carrying them into waterways that eventually drain into the Housatonic Estuary.

The main culprits . . .

- Growing parking lots and roads**
Paved surfaces allow chemicals, silt and sand to wash directly into our waterways instead of first being filtered through the ground.
- Storm Drains**
Storm drains don't drain to sewer treatment plants. They actually lead directly to waterways such as the Housatonic Estuary and ultimately Long Island Sound.
- Human and animal waste**
Failed septic systems and pet waste can enter groundwater or wash down storm drains. This waste contains bacteria and parasites that can cause disease, and prompt beach closings and fish/shellfish consumption advisories.
- Chemicals down the drain**
Dumping household chemicals down the drain can send them to septic systems and sewers that are not designed to neutralize toxicity. These untreated chemicals, when discharged into the estuary, can destroy large numbers of aquatic life.
- Pesticides and herbicides**
The rule of thumb here is "less is definitely more." Overloading your lawns and gardens will not increase the effectiveness of your product and it will wash away in the next rain. High concentrations of these chemicals can kill aquatic plants and animals.
- Boat wakes**
Exceeding posted wake speeds — 6 mph in the Housatonic Estuary — can cause serious damage! A few knots above the limit causes enough sediment disturbance to smother submerged aquatic plants and fish beds, fill in tidal pools and deplete oxygen necessary for aquatic life.
- Floatable debris**
This happens when light-weight flyaways are not secured in your boat, trash bag, yard or car. Wildlife such as sea turtles, seals and ocean sunfish ingest floatable litter which can block their digestive systems causing them to die. Floating plastics can also damage propellers and engine pumps.
- Shoreline development**
Everyone wants to be near the water. But waterfront overdevelopment can eliminate natural soil and vegetation that filters polluted runoff before it reaches the estuary, helps stop erosion and cools the water for aquatic life. Shoreline development should always include a natural buffer along the river.
- Erosion**
Improperly managed construction sites on steep banks can increase erosion. Loose soil travels in waterways to the estuary making it uninhabitable for aquatic life.
- That perfect lawn**
Lawns that stretch down to the river with no buffering shrubs or tall grasses help funnel road runoff, lawn chemicals and erosion directly into the river where they are highly toxic to aquatic life. A nice lawn can be hazardous to the estuary's health!
- Leaves and other green stuff**
Loose leaves and yard clippings can be air lifted and transported to the estuary. The decomposing leaves change the pH of water making it more acidic and dangerous to estuary inhabitants.

Estuary invasives . . .

Invasive species are the unwanted guests that move in and forget to leave. Since these relative newcomers do not have any natural predators, they can outcompete native species and actually take over the home turf. Some of the aliens you might see in the Housatonic Estuary are:



Green crab
It has the potential of seriously disturbing the balanced food-web. It feeds on bivalves, shellfish, polychaetes, and even other crab species. The economic impact may potentially ruin current lucrative shellfish industries.

Washington Department of Fish and Wildlife
http://dfw.wa.gov/fishandwildlife/greencrab.htm



Phragmites
There are two genetic strains of phragmites, one of which has been around for thousands of years. The other — phragmites australis — is the invasive strain and forms huge monocultures that exclude native species.

Dr. M. Swearingen, www.invasive.org



Asian Shore Crab
Rocky intertidal crab; will consume juvenile mussels and oysters, green crabs, snails, polychaetes, algae, hydroids and barnacles.

Susan Park, University of Delaware
http://icm.sesuge.gov/



Dead Man's Finger
Forms extensive beds in shallow bays and harbors; called "oyster thief" or "scallop thief" because as they grow around oysters or scallops they become buoyant and drift off with shellfish attached.

Connecticut sea grant, University of Connecticut
http://www.seagrant.uconn.edu/RIWV/D1M

And remember, please do not disturb . . .

Even tip-toeing in protected areas to get a closer look at wildlife is enough to cause nest abandonment or loss of food sources. Please respect all no-trespassing areas. Even leaving behind nothing but footprints can destroy parts of this sensitive ecosystem!

What can you do?

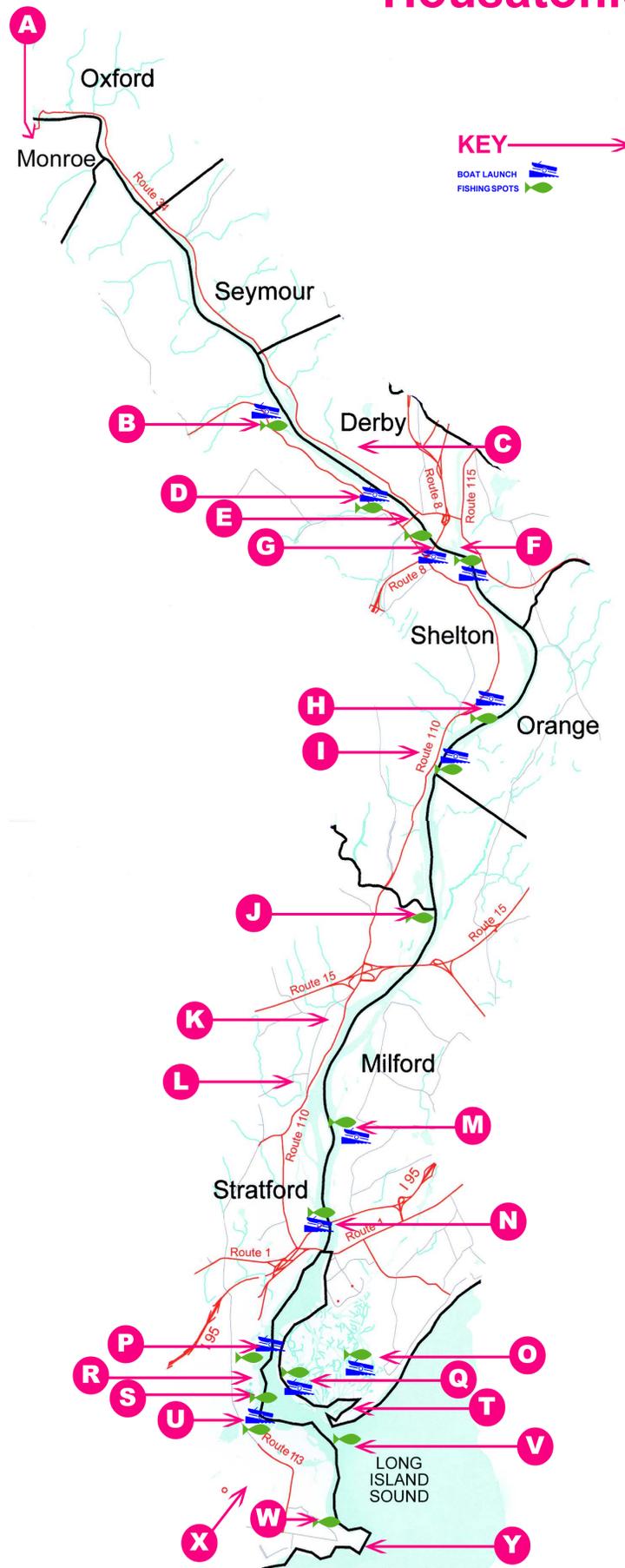
- From the Land**
- Make sure your septic system is working properly and pumped every two to three years.
 - Pave less. Use lower impact development methods. (www.lowimpactdevelopment.org and http://nemo.uconn.edu/impervious_surfaces/planning_design.htm)
 - Don't pour household chemicals down your drain. Call your town for the next Household Hazardous Waste Collection Day.
 - Keep a small lawn and maintain native shrubs, trees and plants between your lawn and the river. (www.crfc.org/riparianbuffers.htm)
 - Mulch leaves and yard waste into a compost area.
 - Use less fertilizer on your lawn.
 - Use fewer toxic pesticides less often.
 - Wash your car on the lawn and use vegetable soap.
 - Recycle used motor oil and antifreeze.
 - Change boat oil with precaution and avoid spills.
 - Properly dispose of pet waste.
 - Don't litter.
 - Always install and maintain silt and sediment controls when disturbing land along the river.
 - Never ever dump garbage, animal waste, oil, other toxic chemicals or anything else into your neighborhood storm drain.
- From the Water**
- Obey speed limits and adhere to "no-wake" zones entering the Housatonic Estuary!
 - When docked, use pump-outs and shore-side restrooms. Never, ever empty the contents of your boat's marine sanitation device (tank) into the estuary (water).
 - Use biodegradable products or products low in nitrogen and phosphorus for boat cleaning and disinfecting.
 - Secure and hold on to floatable plastics and all other materials like tennis balls that may be in your boat. Make sure what you bring into the boat does not end up in the water (unless it's bait!).
 - Minimize trash by purchasing products with minimal packaging.
 - Encourage your marina to supply recycling bins.
 - Avoid navigating and anchoring in marsh grass or over submerged vegetation.
 - Inspect your boat and trailer for invasive hitchhikers. Avoid boating in dense beds of aquatic vegetation where they are found.

Spot a problem? Call . . .

BOATING AND SAFETY CONTACTS	
US Coast Guard	(800) 368-5647
Connecticut DEP Boating Division	(860) 434-8638
HARBORMASTERS	
Deputy Larry Bodick	(203) 874-1610
Ross Hatfield	(203) 895-7489
PUMP OUT FACILITIES	
Deputy Larry Bodick	(203) 874-1610
Ross Hatfield	(203) 895-7489
MAY-OCT (8-5)	
Town of Stratford	(203) 381-2049
Pumpout Boat	or VHF CH 68
MON-FRI (8:30-4:30)	
Stratford Boardwalk Marina	(203) 378-9300
Sat (8-noon), Sun (closed)	
YEAR ROUND (8-4:30)	
Brewer Stratford Marina	(203) 377-4477
or VHF CH 9	

POLLUTION	
OIL AND CHEMICAL SPILL REPORTING	
National Response Center (NRC)	24hrs/day (800) 424-8802
US Coast Guard Sector of Long Island Sound	(203) 468-4401
Connecticut DEP Spill Response	24hr/day (860) 424-3338
INFORMATION ON THE CLEAN MARINA NO DISCHARGE AREA AND CLEAN VESSEL ACT PROGRAMS	
Connecticut DEP Office of Long Island Sound Programs	(860) 424-3034
FISHING INFORMATION	
Stratford Bait and Tackle Shop	(203) 377-8091
Connecticut DEP Fisheries	(860) 434-6043
INTERNET SITES	
National Ocean Service, NOAA	www.noaa.gov
Weather	www.nws.noaa.gov
Nonpoint information	http://nemo.uconn.edu/publications/fact_sheets/nemo_fact_sheet_2_s.pdf

Housatonic River Estuary



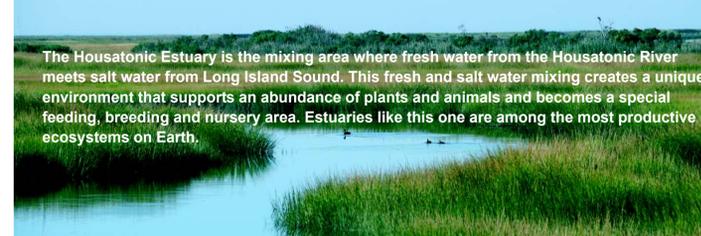
KEY	PARK/BOAT ACCESS/ INTERESTING PLACES	DESCRIPTION	BOAT ACCESS	FISHING	TRAILS	MUSEUM/ EDUCATION CENTER	PICNIC	REST-ROOMS	PARKING
A	Stevenson Dam								
B	Indian Well State Park	153 ac State Park							
C	Osbornedale State Park	350 ac park							
D	Derby Dam	fishing spot	SMALL						
E	Bridge Street	river crossing							
F	O'Sullivan Island	floodplain forest 51 ac							
G	Hull Bridge (Rt.8)	small	SMALL						
H	Sunnyside Park								SIDE STREETS LIMITED
I	Southbank Open Space	1.67 ac							LIMITED
J	Famill River								LIMITED
K	Boothe Memorial Park	30 ac park							
L	Peck's Mill Pond	14 ac park							
M	Caswell Street	fishing spot	SMALL						
N	Devon Boat Launch/ Naugatuck Avenue (I-95) Boat Ramp	Major boat ramp to LIS							
O	Court Street Boat Ramp	Nells Island access							STREET
P	Bond's Dock	small park	SMALL						
Q	Nells Island (Wheeler Wildlife Area)	840 ac salt marsh refuge			CHANNELS			FROM BOAT	
R	American Shakespeare Theatre/Connecticut Center for Performing Arts	14 ac grounds							
S	Beacon Point								
T	CT Audubon Coastal Center at Milford Point	Wildlife Refuge							
U	Birdseye Boat Ramp	Nells Island access							
V	Mouth at Breakwall to Sound								
W	Short Beach	many featured park							
X	Great Meadows Salt Marsh	400 ac salt marsh			SOON			SOON	
Y	Stratford Point Lighthouse	historic lighthouse							

FISH IN THE HOUSATONIC RIVER ESTUARY

- STRIPED BASS**
Prefer living near coastlines and will travel up into the estuary, some as far as the Stevenson Dam. These powerful fish can handle strong surf and are most active at sunrise and sunset. Fishing for striped bass is more successful at night when their preferred diet, sea worms, emerge from burrows to swim.
- BROWN TROUT**
Stocked in the Naugatuck River, these fish move down into the estuary toward the Salt Wedge (near the Merritt Parkway). They feed on small minnow or killifish that are soft with no spines and will travel back and forth along the river from fresh to salt to fresh water.
- BLUE FISH**
Generally found offshore and in the ocean, however bluefish will chase prey up the estuary past the Interstate 95 Bridge. They travel in schools reaching large numbers, feeding mostly on herring. They prefer warm water and will migrate further south when water temperatures reach near 60 degrees.
- WHITE PERCH**
These are open water fish and in certain areas, such as Lake Housatonic, they are now land locked. They feed on insects, smaller fish and midge larvae.
- LARGE AND SMALL MOUTH BASS**
Abundant year round at the Stevenson Dam and more moderately north of the Derby Dam with fewer found south of the Derby Dam. Large mouth bass prefer weedy areas, and small mouth bass prefer rocky areas. They prefer to feast on shiners and young yellow perch.
- SEA BASS**
Unlike striped bass, sea bass are confined to salt water and travel close to shore in depths of a few feet. They prefer rocky bottoms and feed on crabs, lobsters, shrimp, mollusks, snail and squid.
- SCUP/PORGY**
Located inshore from early May but will head offshore in October. They travel in schools and are bottom feeders preferring smooth rocky bottoms. They feed on crustaceans, annelid worms, sand-dollars and young squid.
- WINTER FLOUNDER**
Travel from the sea up into the brackish Housatonic Estuary. They prefer to bury themselves in muddy, sandy areas with broken patches of sea grass. They feed on smaller invertebrates and fish fry, small crabs, shrimp, amphipods and seed clams.
- FLUKE (AKA SUMMER FLOUNDER)**
Usually stay offshore, however these fish will come closer to shore during the warmer months. They spend most of their lives on the sandy or mud bottoms burying themselves up to their eyes. When disturbed or chasing prey, they are fierce swift swimmers and will follow schools of prey up to the water's surface.

For more information visit www.gma.org

Welcome to the Housatonic River Estuary



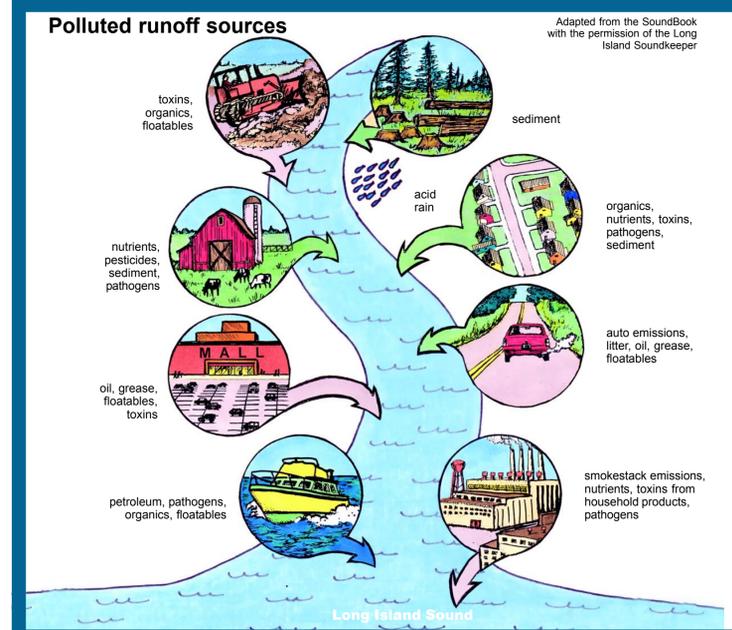
The Housatonic Estuary is the mixing area where fresh water from the Housatonic River meets salt water from Long Island Sound. This fresh and salt water mixing creates a unique environment that supports an abundance of plants and animals and becomes a special feeding, breeding and nursery area. Estuaries like this one are among the most productive ecosystems on Earth.

HVA
Protecting Your Backyard
HOUSATONIC VALLEY ASSOCIATION
160 Kent Road, P.O. Box 28
Cornwall Bridge, CT 06754
860-472-6878
E-Mail: ct@hvatoday.org
www.hvatoday.org



Did you know . . .

- The Housatonic River is 149 miles from the source (Washington, Mass.) to the Sound.
- Tides deliver brackish water and affect flow direction from the mouth of the Housatonic River upstream to Derby. There are two high and two low tides each day.
- Wheeler Marsh and Milford Point located within the estuary are considered one of the last healthiest remaining tidal marsh and barrier beach systems in Connecticut.
- The estuary habitat stretches from the mouth of the river upstream to the Merritt Parkway.
- The Housatonic River adds 11 percent of the fresh water that enters the Sound.
- The Housatonic oyster beds are Connecticut's major producers of seed oysters (40 percent) and one of the largest north of Chesapeake Bay. A bit of history:
 - In the mid 1700s oyster harvesting thrived between Milford and Stratford.
 - In the 1800s oystermen discovered that free swimming oyster larvae (spat) attach to empty oyster shells within two weeks of birth and remain there for the rest of their lives, and that spreading oyster shells would encourage spat growth. The oystermen's demand for shells encouraged a unique operation known as "shelling" and Nell's Island was a favorite spot to store shells for sale.
 - In the 1970s pollution, over-harvesting, predators, disease and hurricanes drastically reduced local oyster beds.
 - Through the combined efforts of the Connecticut Department of Agriculture, Connecticut Department of Environmental Protection and the Stratford Shellfish Commission, oyster beds are rebounding.
 - Today two-year-old seed oysters grown in the Housatonic Estuary are transplanted offshore in Long Island Sound to grow in cleaner water for two to three years before they are harvested.



Did you know . . .

- The Housatonic Estuary collects surface and groundwater that drains from the entire 2,000-square-mile Housatonic Watershed.
- Polluted runoff is the number one threat to our rivers, streams and estuaries.
- Activities that take place miles away — even as far as Massachusetts — can impact the quality of the Housatonic Estuary.

You can protect your river estuary with a three-zone buffer system.

Streamside
From the water to the top of the bank. Protects the bank and offers habitat. The best buffer has mature forest but large shrubs may be a better choice where trees have collapsed a bank. Let it grow and let it go for the best protection.

Middle Zone
From the top of the bank inland. Protects stream water quality and offers habitat. Varies in width depending on size of stream and the soil type, slope and use of nearby land. The best buffer has trees, shrubs and perennial ground plants. It can accommodate some clearing for recreational use.

Outer Zone
Includes the yard, garden, or woods between your home and the rest of the buffer. Traps sediment. Play areas, gardens, compost piles and other common residential activities are suitable here.

Illustration and caption provided by Adair Mulligan
The Connecticut River Joint Commissions
www.crfc.org