

PLAN OF CONSERVATION
& OPEN SPACE

Town of Old Saybrook

PLANNING
COMMISSION
EXHIBIT #87



*"Never doubt that a small group of thoughtful,
committed citizens can change the world.
Indeed, it is the only thing that ever has."*

Margaret Mead



April 2004

Both the certainties and the uncertainties [of our environmental knowledge], then, bespeak care, caution, restraint. The overwhelming conviction of the Conservation Commission is that all the areas to be proposed as permanent open space, assuring marsh and watershed protection, are vital to Old Saybrook. These open areas have a great deal to do with the life of the Town, both the literal survival of the animal and plant life we so often take for granted and the quality of the lives of the people who reside, work, and play here."

Conservation Commission
Open Space Plan for Old Saybrook
November 3, 1969

With the conviction of a committed group of local citizens that have been poring over maps, listening to speakers, wrestling with process and follow-through, GIS and budgets, we present an open space plan for the community of Old Saybrook. The nature of such documents is that they are living and therefore represent a moment in time in the life of our town. This is intended to be a guide into the future, part of the continuum of conservation efforts rooted in the actions of commissions before us and with sincere hope that those in the future will take the stewardship torch and pass it on.

We are proud to be a part of this town, endowed as it is with abundant and exemplary natural assets. We also recognize that the threats to these resources are considerable: sprawl, over-use, introduced invasive plant and animal species, and the far less visible forms of water pollution, including non-point sources of nitrogen, toxins and the chemicals from pharmaceuticals in our wastewater that mimic hormones and disrupt wildlife life cycles. Even the climate threatens to impinge on our most beloved coastal assets, as scientists predict sea level rise as a result of global warming.

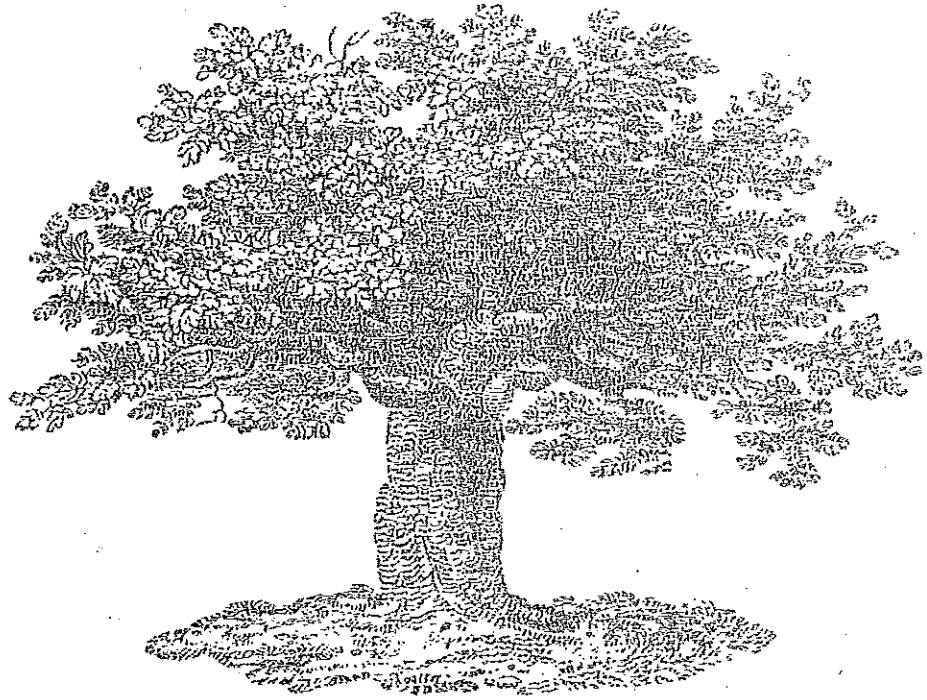
It is not just an aesthetic exercise to protect our town's – and region's natural resources. Although we could argue that the "ecosystem services" provided by clean air and water are an important element to our well-being (and in fact, survival), there is solid evidence that, in addition to the quality of life enhanced by the pro-

tection of open space, there are real economic reasons to protect a community's landscape. The costs of community services associated with developing our open spaces – roads, schools, safety, infrastructure – in many cases are higher than the costs of leaving these spaces undeveloped. The compromises of growth and preservation will continue to be an important part of our town's future. The open space plan will be an essential tool.

Each generation must assume that the threats during their watch are worse than those preceding them; however there is always the beacon example of the osprey that once virtually disappeared from our shores and was brought back after our actions – in this case the use of harmful pesticides – were curtailed. We are optimistic that as current and future threats to our natural resources continue, the actions stemming from this plan and future efforts will meet the challenge.

After many hours devoted to this document and maps, we hope it will be put to good use. It is intended to guide the actions of regulatory commissions and the Land Acquisition Committee in safeguarding our natural resources and quality of life in Old Saybrook, as well as educating and inspiring residents of the town.

Old Saybrook Conservation Commission
April 2004





OLD SAYBROOK'S CONSERVATION SITES

Important Areas for Protection

The Conservation Commission has worked over the past year and a half to pull together the information and do the analysis necessary to define the following Conservation Sites.

1. NORTHWEST UPLANDS AND OYSTER RIVER

Located in the northwest area of the town, defined by open spaces bordering the town of Essex to the north, bordering the residential developments off Schoolhouse road to the west, bordering the residential developments off Bokum road to the east and to the south following the main stem of the Oyster River to its confluence.

The most rugged area of our town, the Northwest Uplands, contains our highest elevations – rocky summits, many with vernal pools interspersed between. Pequot Swamp is a vegetated marsh surrounded by ledge and upland. This area of town contains red maple and cedar swamps. The Northwest Uplands also includes the headwaters of the Oyster River – connecting cold springs, intermittent streams and narrow, winding brooks to Long Island Sound. This watershed is home to migratory fish species, including alewife and blueback herring that travel thousands of miles from their life at sea to spawn in the upper reaches of the Oyster River. The Oyster River contains a complete suite of healthy tidal marshes, from salt to freshwater, that support a great diversity of wildlife, including birds, fish and shellfish.

2. COASTAL SALT MARSHES

(Chalker, Hagar, Mud and Back River marshes)

Located south of Route One and bordering Long Island Sound; to the west beginning with the marsh north of Chalker Beach; east along the coast including Hagar and Mud Creeks, the mouth of the Oyster River, and the extensive marshes surrounding the Back River behind Great Hammock and Plum Bank.

These are the small-scale salt and brackish tidal wetlands along our town's southwestern coastline. They feed directly into Long Island Sound and are surrounded by multiple homes. Most are under stress from water quality degradation and invasive species, particularly where natural water exchange with the ocean has been blocked or reduced; there are opportunities here for restoration. Despite these pressures and the small size of these wetlands, they continue to harbor a surprising diversity of species, particularly birds, including egrets, herons, and osprey.

3. COASTAL EMBAYMENTS

(North and South Coves, Beamon Creek)

Located in the southeast area of our town, North Cove is defined by Saybrook Point to the south, Ragged Rock marsh to the north, and is bounded by the old railroad bed to the east where it opens to the Connecticut River. South Cove is defined by Lynde Point to the south and Saybrook Point to the north; Beamon Creek and its marshes feeds into South Cove from the west.



These protected coves – including North and South Cove and the inner marshes of Beamon Creek – are important migratory stopover sites for birds, as well as refuges for wintering ducks that seek protection from the rougher waters of Long Island Sound. Birders from across the state seek out these quiet coastal waters for the large rafts of wintering ducks and occasional rare bird hidden among the others. Extensive mud flats at low tide provide access to important food – clams, worms and crustaceans. These coves are popular fishing and crabbing spots, reflecting their abundance of life.

4. MATURE COASTAL HARDWOODS/AQUIFER WETLANDS

These woods are located on either side of Route 154 as it bends northeast at the start of Bokum road; to the north and south of 154 there are still large tracts of intact woodland and swamp.

A large – although threatened – area of mature coastal hardwood forest; tall, straight-trunked trees and a noticeable absence of vegetation in the understory signal rich soils and make this woodland a unique place to observe what some of the original relatively undisturbed forests along our shoreline looked like. This area includes a large red maple swamp along the northern boundary of route 154 that is in close proximity to our town's aquifer (underground water source).



5. CONNECTICUT RIVER BRACKISH TIDAL WETLANDS

(Ragged Rock, Ayers Point, Otter Cove)

These tidal wetlands are located along our town's entire eastern coastline with the Connecticut River; Otter Cove to the north, bordering Essex and Turtle Creek; further south is Ayers Point; below the train tracks is our largest brackish tidal wetland, Ragged Rock marsh.

The salt concentration of these marshes varies seasonally depending on the influences of the Connecticut River (freshwater snow-melt in the spring) and Long

Island Sound (higher salt concentrations in late summer, particularly in dry years). Consequently, the vegetation is transitional between the two conditions and represents a broad spectrum of tidal marsh plants. Ragged Rock Marsh is one of the largest brackish tidal marshes in the state; it harbors abundant wildlife, including rare and elusive bird species such as rails and bitterns.

6. CONNECTICUT RIVER ESTUARY

The Connecticut River estuary extends all the way north to its furthest tidal influence, somewhere north of Hartford! Along our town's entire eastern boundary we share brackish and salt marshes with the river.

International, national, state and local designations proclaim the biological significance of this important river estuary – the place where this New England river meets Long Island Sound. Estuaries are among the most productive ecosystems on earth, harnessing and exporting the sun's energy through myriad life forms – many of which end up on our dinner tables! The River is also an essential migratory pathway for fish and birds; in particular birds coming up the eastern coast will follow the River northward, relying on the abundance of fringing wetlands for fuel and rest.

7. LONG ISLAND SOUND

We're one of only 25 out of Connecticut's 169 towns that share a southern boundary with Long Island Sound; our coastal marshes, beaches, rocky bluffs and dunes are all a part of the Long Island Sound ecosystem.

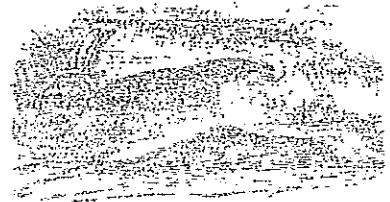
Designated in 1987 as an Estuary of National Significance, Long Island Sound supports countless species of fish, birds, mammals and invertebrates, many of which are economically significant. Just offshore Saybrook there are important shellfish beds. Our town has small but good examples of coastal beach and dune habitats, from the outer reaches of Lynde Point to the cobble beaches and glacial boulders at Cornfield Point – a uniquely preserved piece of the state's glacial history.



These seven Conservation Sites highlight the many significant natural areas worthy of protection in the town of Old Saybrook; they are our rich natural endowments. Several important points: natural communities – such as Atlantic White Cedar swamps – occur in patches throughout the town. These communities, some quite small, may be important not only in and of themselves, but in relation to one another. Species – some rare or endangered – that rely on these natural communities may also need varying stages of development within these communities; trees, for example, that range from seedling to old growth. Multiple occurrences are insurance for the future; natural disasters – such as big storms that may blow down entire tree stands – are “disasters” only if they destroy “the last one.” We are fortunate to have a number of Atlantic White Cedar swamps, as well as other natural communities, in town.

While the Commission has drawn lines around areas and defined them as important Conservation Sites, what lies outside of these boundaries is also important toward sustaining the Conservation Sites. Watercourses create natural migration corridors and patches of woodland represent important “island” habitat for both resident and migratory species. Similarly, what happens to ground and surface water outside the Conservation Sites can have direct impacts within them. Habitats occur at many scales, and continued loss of natural areas outside these Conservation Site boundaries increases the pressure for these areas to support more and more species. Hence, meaningful conservation in our backyards can go a long way toward sustaining important conservation resources throughout the town. Everything is connected.

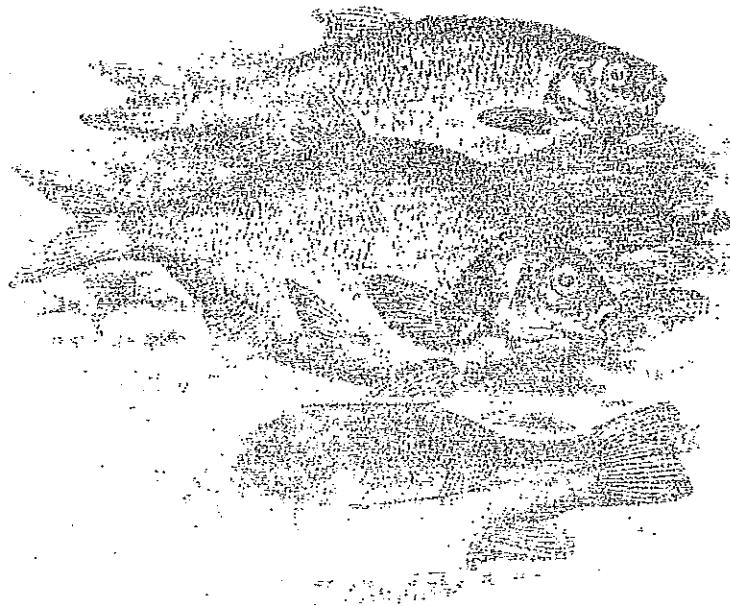
And finally, it would be a mistake to acknowledge the exemplary natural resources in our community and put blinders on beyond our town boundaries. The Oyster River is largely contained within Old Saybrook, however, its connection and contribution to Long Island Sound – like that of countless river systems along the Connecticut coastline – is collectively significant. Similarly, keeping our forested areas intact completes the patchwork of refuges for migrating birds from the shore to Cockaponsett State Forest and beyond, while maintaining the integrity of Ragged Rock Marsh provides refuge for migratory fish, some of which travel many thousands of miles and rely on this – and many other marsh systems – for critical stages in their life cycle. Our stewardship of Old Saybrook has implications that extend far beyond our town boundaries.



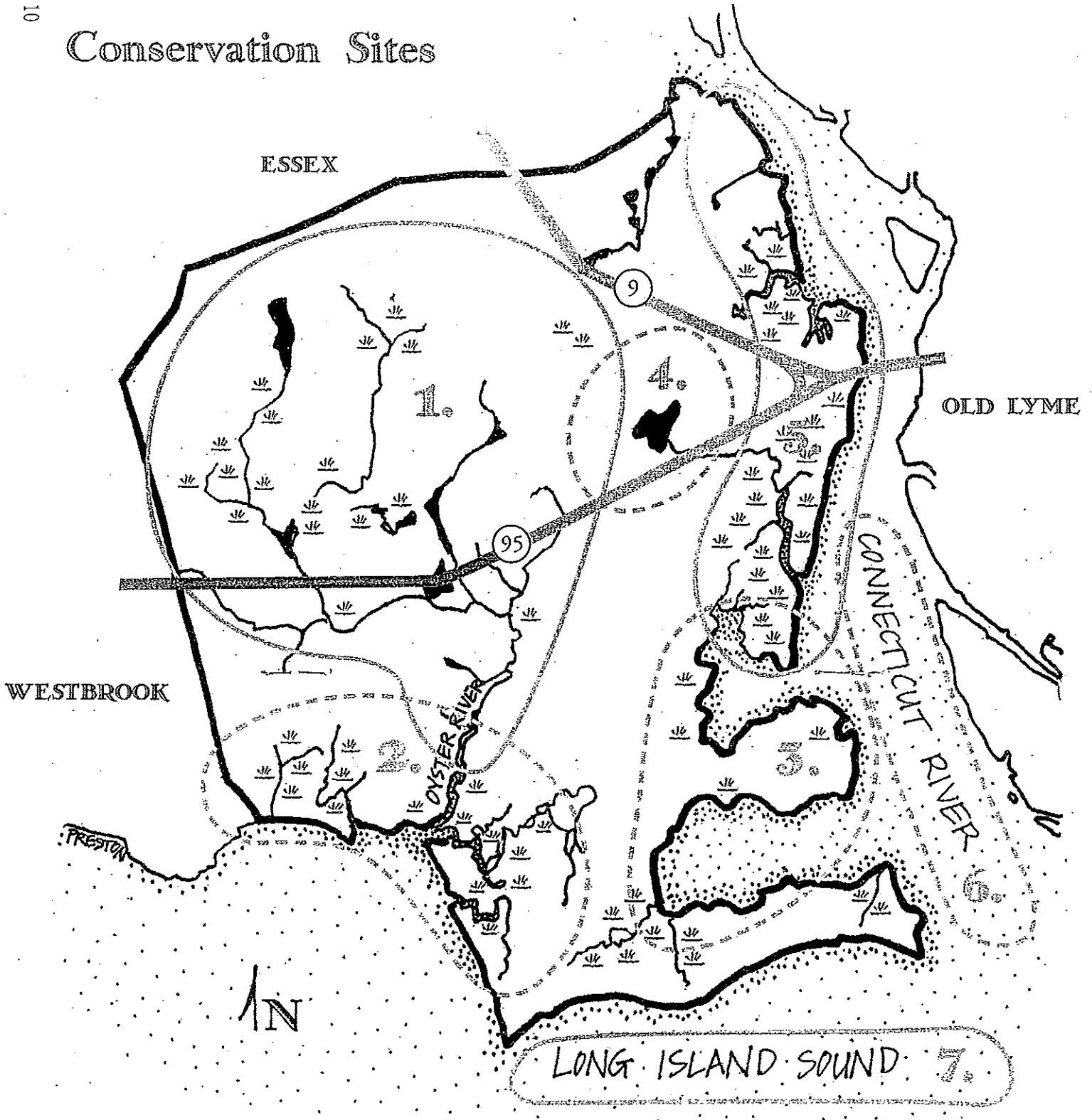
M APS

Two detailed maps are part of this plan. There is a Natural Resources map that includes the general locations of important natural resources in town, as well as notes of interest, watersheds, wetlands and some of our unique natural communities. This map is not included in this booklet because of our inability to show important details at this size. We encourage the public to contact the Land Use office in the Old Saybrook Town Hall (395-3131) to access this map.

The second Conservation Sites map defines the seven Conservation Site boundaries within the context of town infrastructure (streets, etc.), and wetlands and watercourses. The boundaries of the Conservation Sites have been defined using inventory maps, aerial photographs (year 2000), and the knowledge of the Commission. *Private lands identified within the boundaries of Conservation Sites represent important natural resources within the town, not the intent of the town to necessarily acquire or in any way restrict private use.* Private lands within Conservation Site boundaries, rather, represent opportunities for private residents or businesses to see their properties in a larger environmental context, learn more about what is special about their backyard, and, if interested, how to protect it. A scaled-down version of this map is included in this booklet. The larger Conservation Sites map is available in the Old Saybrook Land Use office.



Conservation Sites



1. Northwest Uplands and Oyster River
2. Coastal Salt Marshes
3. Coastal Embayments
4. Mature Coastal Hardwood/Aquifer Wetlands
5. Connecticut River Brackish Tidal Wetlands
6. Connecticut River Estuary
7. Long Island Sound

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HREATS & WHERE THEY COME FROM

DESTRUCTION OF HABITAT

The greatest threats to the natural resources of Old Saybrook come, not surprisingly, from the activities of its human residents. Chief among them are the destruction of habitat – the natural homes of plants and animals – from the activities associated with development infrastructure; home and business construction, roads, and in waters, from the construction of docks, bulkheads and other forms of shoreline hardening. Once destroyed, habitat is seldom successfully recreated, although good efforts are being made in this realm, particularly concerning wetlands.

FRAGMENTATION

Fragmentation results from division or truncation of natural corridors by non-natural barriers; roads, railroads, power lines and dams are examples. Any development that creates a lot of boundaries between forest and clearing – such as residential lawns next to woodlands, can also fragment previously intact forest systems. Barriers can lead to increased mortality – amphibians crossing a busy street; or prevent access to needed breeding areas – fish encountering a dam; or, in the case of some migratory bird species that need undisturbed forest area to nest (such as the wood thrush), fragmenting features can introduce troublesome plant and animal species that prey on or otherwise reduce the productivity of these birds' forested home.

POLLUTION

Less visible, and perhaps then most insidious, is the threat of pollution – water, air, light, even sound pollution that can alter habitats significantly, therefore favoring the success of more generalist species – such as raccoons, starlings, even rats, at the expense of our more diverse native flora and fauna. Much of our water pollution comes from stormwater drainage – the water leaving our built landscapes loaded with oil and toxins from our vehicles, fertilizers from our landscaping and excessive pathogens and nutrients from failing septic systems. Nitrogen, for example, has been identified as a key threat to Long Island Sound; it comes from our inland-polluted runoff and ultimately robs freshwater and marine species of healthy habitat.

HABITAT ALTERATION

Another important element of habitat alteration is related to our redistribution of water on the landscape; where rainwater would have naturally filtered through

trees and other vegetation, our increasingly built environment redistributes this important part of the hydrologic cycle, robbing water from some parts of the landscape while creating excess water in others. This can impact sensitive life cycles of many of our wetland-dependent species.

INVASIVE SPECIES

Invasive Species result from the introduction, both intentional and unintentional, of plants and animals that did not evolve in our native ecosystem, or are opportunistically responding to the changes that humans create, such as fields and forest openings. Non-native species often out-compete native flora and fauna for food and shelter, and can therefore replace the complexity of our native diversity with single species populations. The ripple effect of this happening can be immense in some cases, and of as yet unknown import in others. Domestic pets, particularly free roaming cats, also impact local wildlife populations, particularly birds. Mute swans, bittersweet, barberry and purple loosestrife are examples of undesirable invaders that are all found in Old Saybrook.

SUMMARY OF THREATS IMPACTING THE NATURAL RESOURCES OF OLD SAYBROOK

LOSS OF HABITAT	development, road construction, bulkheads, docks, hydrologic changes
ALTERATION OF HABITAT	bio-hydrologic changes (how water moves through the landscape)
FRAGMENTATION	development, roads, dams
POLLUTION	water quality (nutrients, nitrogen, pathogens, toxins), thermal, light pollution, sound pollution
INVASIVE SPECIES	phragmites, bittersweet, honeysuckle, Japanese knotweed, barberry, purple loosestrife, euonymus, mute swans
DEPLETION	over-harvest (fish, shellfish)
DISTURBANCE	sound, off-road vehicles, light, boat wakes

Conservation Site	Greatest Threat(s)	Urgency	Priority	Sources
NORTHWEST UPLANDS AND OYSTER RIVER	Loss of habitat	High	High	Development (predominantly residential)
	Alteration of habitat			Watershed hydrologic modifications
	Fragmentation			Roads, openings in forested canopies, dams
COASTAL SALT MARSHES (SW MARSHES, BACK RIVER)	Invasive Species	Low	Medium	Phragmites overtaking native salt marsh diversity
	Loss of habitat			Docks, shoreline hardening (bulkheads) impact or replace marsh
	Alteration of habitat			Watershed hydrologic modifications; stormwater-modifications as watershed develops
COASTAL EMBAYMENTS (NORTH AND SOUTH COVES)	Alteration of habitat	Low	Medium	Phragmites replacing native salt marsh plant diversity in fringing marshes
	Pollution			Nitrogen from non-point source pollution; origins include fertilizer, septic outflow from bordering development
	Disturbance			Wildlife habitat disturbance from water-based recreational activities
MATURE COASTAL HARDWOODS/AQUIFER WETLANDS	Loss of Habitat	High	High	Development (residential and commercial)
	Invasive Species			Increasing edge habitats; domestic pets
CONNECTICUT RIVER BRACKISH TIDAL WETLANDS	Invasive species	Medium	Medium	Phragmites
	Habitat alteration			Docks, shoreline hardening
	Pollution			Nitrogen and other toxins from bordering septic and stormwater

ASSESSMENT OF THREATS TO CONSERVATION SITES

Conservation Site	Greatest Threat(s)	Urgency	Priority	Sources
CONNECTICUT RIVER ESTUARY	Pollution	Low	Medium	Nitrogen from non-point source pollution; origins include fertilizer, septic outflow
	Invasive species			Predominantly phragmites; also mute swans
	Disturbance			Water-based recreational activities
LONG ISLAND SOUND	Pollution	Medium	Medium	Nitrogen from land use; sewage, septic, landscaping
	Disturbance			Endocrine disrupters; pharmaceuticals from sewage that interfere with biological development of marine species

SOLUTION PRIMER; A STARTING POINT FOR ACTION

There is a lot of land worthy of protection and good stewardship in Old Saybrook. The Conservation Commission is charged with inventorying and protecting these natural resources, but every resident of the town is caretaker for these natural assets and as such can and hopefully will participate. Here are some suggestions:

HOME STEWARDSHIP

A great deal of information exists to guide homeowners about best conservation practices in their own backyard. Maintaining septic systems, reducing or eliminating fertilizer use or switching to organic practices, learning about invasive species and not planting them, and planting and maintaining vegetated wetland buffers are all good starts. Given the density of residences in Old Saybrook, particularly along the shore, *every family's efforts count*. A number of local, state and federal partners can assist and provide information. (Contact your Conservation Commission through the Town Hall.)

GET INVOLVED

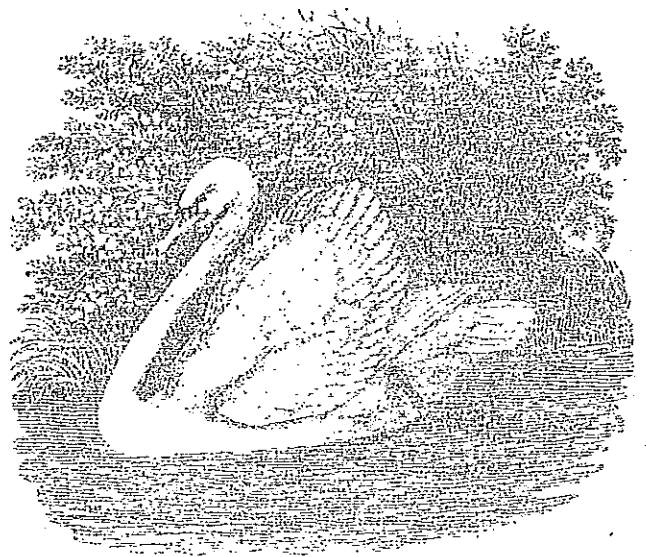
Join or assist a town land use commission, join your land trust, become a scout volunteer and get kids involved in conservation. This is a great way to learn more about the issues, see some of these natural areas in town and meet like-minded and energetic members of your community.

DONATE

Donate money or professional services or equipment to local groups that are working hard to protect the town's natural beauty: the land trust, town land use department, or local parks. Attorneys are needed for land transactions, artists for fundraising benefits, and biologists to help do inventory work. Perhaps the greatest donation possible is that of land to the town or land trust to be protected for the future. Ask your land trust board members about the tax benefits of charitable contributions of land.

INITIATE

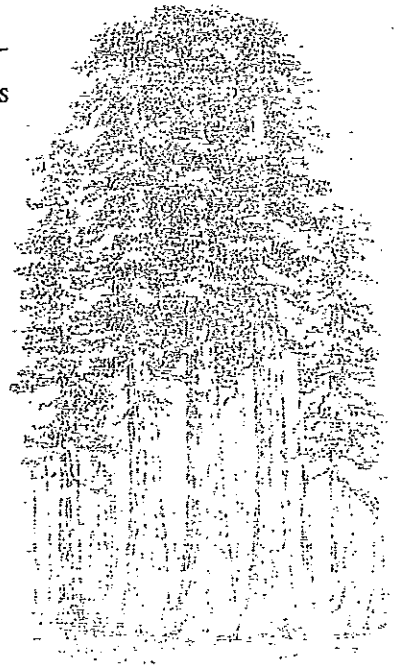
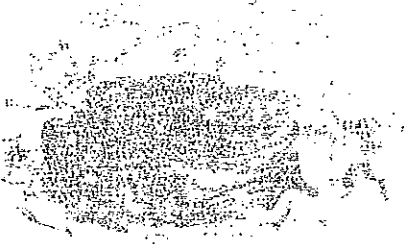
Initiate a new project (see the Appendix); the Conservation Commission can get you started. For example, the state of Connecticut has a list of priorities for marsh restoration along the coast of Connecticut – at Beamon Creek, Lynde Point, and Ragged Rock. But the list is larger than the services available, and the state will respond to willing and receptive local communities that wish to steward a restoration project at the local level. Start a town invasive species swat team – an idea that has taken root in the northeastern part of Connecticut. Solicit authors to write weekly editorials for local papers on issues of conservation concern. Engage local high school students to do water quality testing, inventory aquatic insects or learn about aquaculture to create oyster sanctuaries that will benefit water quality. Grant monies are available to fund good local environmental projects.



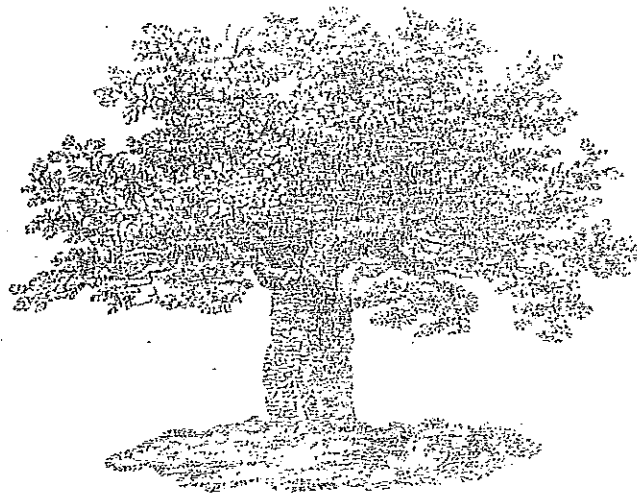
For more information, call the Town Hall (860)395-3131.

SUGGESTED FUTURE INVENTORY AND PROJECT NEEDS

1. A town-wide vernal pool inventory; map and gps locations; amphibian surveys.
2. Aquatic invertebrate survey of the Oyster River using DEP, River Watch or other similar established protocol, to create baseline of existing water quality and habitat conditions.
3. Invertebrate atlas (a systematic, volunteer based inventory of selected invertebrates such as butterflies or dragonflies), especially for Great Cedars Conservation Area and the largest tidal marsh systems in town.
Established protocols already exist through UConn.
4. Botanic inventory, especially of particular areas of interest (Great Cedars, etc.).
5. Bird census routes established with annual spring and fall migration records taken, as well as summer residents; bird call-back surveys in our larger marshes – using tape recordings to “call in” birds and record their numbers (work with state DEP wildlife division).
6. Archaeology inventory map of town, working with state archaeologist and town historical society. Identify sensitive areas for protection.
7. Tree inventory (with tree commission/warden); in addition to notable trees, make note of natural communities of trees, or trees representing our unique coastal location, such as pockets of sassafras, tupelo, and sweet-gum.
8. Natural Communities: inventory pocket wetlands (such as the exchange club pond that acts like a draw-down wetland), the peat bog at Great Cedars, the wet meadow behind the Obed reservoir dam, and the dune systems at Lynde point and the town beach. Each represents a unique aspect of our town’s natural heritage and may require specific stewardship.
9. Gather information on the state listed species in town, their locations and identities, from the Heritage program at DEP in Hartford.



10. Fish inventory (including records of fish using fish ladders).
11. Create Management Plans for the Conservation Sites identified in this plan, including stewardship recommendations.
12. Create an Invasives Work Team to remove or control invasive species that threaten unique town natural resources; enlist this work team to adopt and maintain town trail systems.
13. Create a brochure on alternatives to invasives and sources of native plants; reducing the use of fertilizers, herbicides and pesticides on landscaping and lawns; oysters and water quality; migratory birds that visit Old Saybrook; docks and their potential biological impacts; a homeowners guide to controlling the invasive phragmites.
14. Address EPA Phase II Stormwater needs, including, for example, labeling storm-drains that carry runoff to Long Island Sound.



ACKNOWLEDGEMENTS

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Former Conservation Commission members Robert Boody for his historic information, and Terri Kinney for creating a recreational information map and summary.

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All present members of the Conservation Commission contributed a great deal to the completion of this document. We wish to acknowledge in particular the outstanding effort by Judy Preston in authoring the text and guiding the development of the maps.

2003 CONSERVATION COMMISSION MEMBERS

Bob Fish, Chair

Walter Harris, Vice Chair

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Charlie Cobb

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