The Norwalk River Watershed Action Plan

An integral part of achieving the vision of a healthier Norwalk River Watershed is developing specific actions that focus on restoring and preserving this watershed. These actions provide a unifying "blueprint" of the activities needed to realize the vision statement of the NRWIC in Chapter 1. In this chapter, the Committee provides a map for the watershed community to follow. Participants implementing the plan can take on discrete projects knowing that each activity undertaken will bring the watershed closer to achieving the vision of the Action Plan. It is hoped that partnerships are formed whenever possible to implement these tasks.

The Norwalk River Watershed Action Plan consists of goals with corresponding objectives and an identification of tasks to support the objectives. The following pages outline each of the broad goals with its corresponding objectives followed by the supporting tasks. To better communicate the intent and relevance of the objective, an introductory statement has been provided to add clarity. Supporting tasks are listed with information to guide the reader in understanding the path of implementation. The entity likely to be responsible for executing the task is identified.

The Plan of Action is not to be viewed as an assignment for any one party, but rather a community-wide effort transcending municipal boundaries and traditional jurisdictions. Under some tasks, a date of anticipated commencement and completion is also provided. In some instances the dates are selected based on logical progression of tasks and others are simply target dates to be pushed up or back as opportunities arise. Lastly, a means to measure success is stated. Measuring the success of each task is important to communicate to the public the progress the Norwalk River Watershed Action Plan, to enable participants in the plan and others to learn from the accomplishments and failures, and to provide personal satisfaction that comes from a completed job. Documenting results is as much an organizational tool as it is a measure of success. It is the intent of the NRWIC that this plan be revisited at various time periods so as to reassess time frames and measure success.

How to Read This Chapter

Format: These action items are organized into four parts, each corresponding to specific subcommittees. Within each part you will find the goals of the subcommittees, the objectives to implement the goals, and the supporting tasks to reach the objectives. Each task is outlined in the same way:

- Implementing Group: These are leads or sponsors for the task (see naming conventions). In those cases where the tasks are being implemented, more specificity as to the implementer is given. It is important to note that the names are not an absolute assignment. All potential implementers from the community are actively encouraged to help implement the plan. Partnerships should be encouraged every step of the way.
- Time Frame: This is a potential start and end date. It also represents an implied priority.
- Measure of Success: This represents how the community will be able to determine if the task has been implemented successfully.

Naming Conventions: The Norwalk River Watershed Initiative Committee gave a tremendous amount of thought on how to be specific enough to point the way for implementers to act, while allowing for community entities to participate in implementing the plan. Naming conventions represent those who might be leads or sponsors for an activity and be responsible for its resolution. In doing so, it is expected that those leads or sponsors would ask for assistance from the community to come forth and implement. The naming conventions fall under general headings. However, under these headings, it is understood that the more specific leads would be identified by the Advisory Committee. It is anticipated that this convention will cover all potential participants in the future without excluding any. The naming conventions are as follows:

- Municipalities (i.e. planning and zoning, wetlands, conservation, public works, public health)
- Regional Agencies (i.e. regional planning organizations, Fairfield County Soil and Water Conservation District, Westchester County Planning Department)
- Private Conservation and Civic Community Organizations (i.e. Norwalk River Watershed Association, Save the Sound, Trout Unlimited, the Nature Center for Environmental Activities, League of Women Voters, garden clubs, etc.)
- State Agencies (i.e., CTDEP, CONNDOT, NYDEC)
- Federal Agencies (i.e., USDA-NRCS, EPA, USFWS, USGS, ACOE)
- Watershed Coordinator(s) (will work at the direction of the Watershed Advisory Committee)
- Watershed Advisory Committee (representatives from each municipal government, state, federal, and regional agencies, private conservation and civic community organizations), businnes and industry).

Goal 1: Preserve and improve wildlife habitat

<u>Objective 1</u>: Control or diminish the prevalence of invasive species.

Introductory Statement:

Invasive species threaten the diversity and sustainability of native floral and faunal communities. In an effort to maintain diversity, invasive species must be actively discouraged and/or eliminated.

Supporting Tasks:

1. Educate residents, landscapers, land use commissions, nurserymen, and interested groups about the detrimental effects of non-native invasive species.

Implementing Group: Municipalities and Private Conservation and Civic Community Organizations

Year Start/End: 1999-ongoing

Measure of Success: Educational brochure produced and distributed; workshops held.

 Identify sites degraded by invasive, non-native species . Implementing Group: Municipalities and Private Conservation and Civic Community Organizations Year Start/End: 1999-ongoing

Measure of Success: List of such sites in the watershed developed.

- Implement specific invasive species reduction/restoration projects. Implementing Group: Advisory Committee, Norwalk River Watershed Association Year Start/End: 1999-ongoing Measure of Success: Listed sites restored, which should result in the absence or significant reduction of targeted species.
- 4. Encourage nurseries to offer more native species and discourage the sale of invasive nonnative species.

Implementing Group: Advisory Committee, Municipalities, Private Conservation and Civic Community Organizations

Year Start/End: 1999-ongoing

Measure of Success: Occurrence of non-native species decreased and availability of native floral species increased.

Goal 1: Preserve and improve wildlife habitat

Objective 2: Minimize loss of habitat values coincident with land use practices.

Introductory Statement:

Some current and future land use practices threaten the watershed habitat by directly eliminating or reducing its value through alterations, fragmentation, pollution, and other environmentally negative consequences. This trend needs to be stopped and opportunities to reverse existing damage need to be developed or pursued.

Supporting Task:

 Make recommendations regarding habitat needs for general wildlife support. Implementing Group: Advisory Committee Year Start/End: 1999-2000 Measure of Success: Produce and distribute habitat needs recommendations.

Goal 1: Preserve and improve wildlife habitat

<u>Objective 3</u>: Support the preservation of valued habitat.

Introductory Statement:

As valued habitat is a dwindling resource, efforts to preserve remaining valued habitat need to be bolstered to address future stresses.

Supporting Task:

1. Inventory high quality sites which promote biodiversity and disseminate this information as appropriate.

Implementing Group: Advisory Committee Year Start/End: 1999 Measure of Success: Site inventory produced and distributed.

Goal 1: Preserve and improve wildlife habitat

<u>Objective 4</u>: Uniform adoption by municipal inland wetland agencies of a minimum 100 foot regulatory review area adjacent to wetlands and watercourses.

Introductory Statement:

A regulated (not prohibitory) buffer adjacent to wetlands and watercourses is essential to minimize impacts that reduce habitat quality and improve water quality.

Supporting Tasks:

1. Review each municipality's inland wetlands and watercourses regulations and develop information package to enable municipalities to compare and contrast their regulations, and to make informed decisions about the benefits of establishing a 100 foot regulatory review area adjacent to wetlands and watercourses

Implementing Group: Advisory Committee Year Start/End: 2000 Measure of Success: Regulation review document and information package developed and distributed.

Follow up with Inland Wetland/Conservation Commissions to urge or assist in the adoption
of the 100 foot regulatory review area
Implementing Group: Advisory Committee, Municipalites
Year Start/End: 2000-2005
Measure of Success: One hundred foot regulatory review area adjacent to wetlands and
watercourses is adopted by each watershed municipality.

Goal 2: Restore anadromous fish passage

<u>Objective 1</u>: Restore anadromous fish passage.

Introductory Statement:

Restoration of anadromous fish passage will provide opportunities for greater biodiversity and larger fish populations within the watercourses.

Supporting Tasks:

- Examine the historic use of the Norwalk River and its tributaries in terms of species composition and geographical limits Implementing Group: State and Federal Agencies Year Start/End: 1999-2000 Measure of Success: Document describing the historic use of the Norwalk River by various anadromous fish species produced.
- Examine the existing and potential streambed conditions for their ability to meet the habitat needs of anadromous fish.
 Implementing Group: State and Federal Agencies
 Year Start/End: 1999-2000

Measure of Success: Document describing existing and potential streambed conditions produced.

- Examine the character and potential for reversal of identified fish passage blockages if streambed conditions are acceptable.
 Implementing Group: State and Federal Agencies Year Start/End: 1999
 Measure of Success: Plan that establishes the proposed methods of fish passage blockage reversal prepared.
- 4. Make recommendations for achievable restoration, noting areas with potential to be restored, specifying method of blockage restoration, (i.e., fish ladder or dam removal), and identifying targeted species.

Implementing Group: State and Federal AgenciesYear Start/End: 1999-2000Measure of Success: Report of recommendations developed and submitted to appropriate entities.

 Oversee the implementation of management practices to restore fish passages as recommended above.
 Implementing Group: Advisory Committee Year Start/End: 1999-Ongoing Measure of Success: Fish passage(s) restored.

Goal 3: Foster cold water fisheries

<u>Objective 1</u>: Reestablish and protect riparian zones.

Introductory Statement:

Adequate riparian zones are important in maintaining cooler water temperatures, reducing nutrient loading, and reducing shoreline erosion.

Supporting Tasks:

- Implement the two demonstration riparian restoration projects at a commercial site (Perkin-Elmer in Norwalk) and at a residential site (Fox Hills in Ridgefield). Implementing Group: FCSWCD, CTDEP, NRCS Year Start/End: 1998-1999 Measure of Success: Designated sites restored.
- Seek funding to restore riparian zones to vegetated riparian corridors. Implementing Group: Advisory Committee Year Start/End: 1998-ongoing Measure of Success: Funding received.
- Document the design, implementation and outcome of restoration projects and communicate benefits to municipal boards and general public. Implementing Group: FCSWCD, Advisory Committee Year Start/End: 1998-ongoing Measure of Success: Report documenting status of projects prepared and distributed.

Goal 3: Foster cold water fisheries

<u>Objective 2</u>: Restore streambeds impacted by road sand deposition and seek solutions to reduce future road sand sedimentation.

Introductory Statement:

Accumulation of road sand within the Norwalk River and its tributaries degrades cold water fisheries habitat by eliminating suitable spawning areas and habitat to support food sources (benthic invertebrates).

Supporting Tasks:

1. In cooperation with municipal public works departments and Connecticut Department of Transportation, develop and implement the most effective methodology for reducing the deposition of road sand into watercourses.

Implementing Group: Advisory Committee, Municipalities, ConnDOT, FCSWCD Year Start/End: 1999-2004

Measures of Success: Guidelines to reduce the amount of sand deposited into watercourses, produced and implemented; subsequent reduction in sand deposition.

2. Reduce direct stream discharges of stormwater through retrofitting existing discharges and by minimizing or avoiding discharges associated with road improvement projects and new construction.

Implementing Group: Advisory Committee, Municipalities, State Year Start/End: 1998-ongoing Measures of Success: Existing discharges retrofitted and new construction with fewer or no direct storm water discharges to watercourses approved.

Goal 3: Foster cold water fisheries

Objective 3: Enhance in-stream habitat conditions.

Introductory Statement:

Historically, in-stream conditions have suffered negative impacts with respect to supporting cold water fisheries, by management and surrounding land use practices. Steps must be taken to reverse these impacts in order to recreate watercourse conditions suitable for cold water fish.

Supporting Tasks:

1. Review stream morphology and habitat characteristics to identify contiguous reaches of stream capable of sustaining a cold water fishery.

Implementing Group: DEP, NRCS Year Start/End: 1998-1999 Measures of Success: Document detailing the reaches of stream capable of sustaining cold water fisheries produced.

2. Seek funding and support to implement habitat restoration and enhancement projects in identified viable stream reaches.

Implementing Group: Advisory Committee, Municipalities, Trout Unlimited Year Start/End: 1998-ongoing

Measures of Success: Receipt of funding; implementation of restoration and enhancement projects providing fish passage, in-stream cover, bank cover, supplementing spawning gravel and riparian zone improvements.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 1</u>: No net loss of wetlands and where possible, re-establish, restore, and enhance wetlands as part of new development or renovation projects.

Introductory Statement:

Wetlands provide major environmental and economic benefits to a community. They are critical to water supply, serve to eliminate pollution, prevent and mitigate storm and flood damage, provide habitat for wildlife and fisheries, and furnish recreational opportunities.

Supporting Tasks:

1. Complete a wetlands inventory (inland and tidal) and develop an updated wetlands map (1:12000 preferred).

Implementing Group: Advisory Committee, Municipalities Year Start/End: 1999-2004 Measure of Success: Inventory completed and updated wetland maps developed.

2. Develop a no-net loss policy.

Implementing Group: Advisory Committee, CTDEP, Municipalities Year Start/End: 2000-2002 Measure of Success: Model policy developed.

- Explore feasibility of mitigation and "wetland banking" for inland wetlands only. Implementing Group: Advisory Committee, CTDEP, Municipalities Year Start/End: 2001-2002 Measure of Success: Feasibility determination made and incorporated into no net loss policy, if appropriate.
- Each municipality to adopt a no net loss policy. Implementing Group: Municipalities Year Start/End: 2002-2004 Measure of Success: No net loss policy is adopted by each municipality.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 2</u>: Identify appropriate areas for public access to the rivers and streams, and increase public access where appropriate.

Introductory Statement:

Public access will allow public enjoyment and appreciation of the Norwalk River and its tributaries.

Supporting Tasks:

1. Develop a public access areas inventory (existing and potential). Compile list and map with location, size of area, ownership, and potential active and passive uses, this list should not impact sensitive areas.

Implementing Group: Advisory Committee, Municipalities, Private Conservation and Civic Community Organizations

Year Start/End: 1999-2005

- Measure of Success: Inventory and maps produced.
- 2. Estimate the social, economic, and environmental resource values of each site in the above listing of public access areas.

Implementing Group: Advisory Committee, Municipalities, Private Conservation and Civic Community Organizations Year Start/End: 1999-2005

Measure of Success: Resource values ranked.

3. Estimate costs to improve and maintain public areas.

Implementing Group: Advisory Committee, Municipalities Year Start/End: 1999-2005 Measure of Success: Per town costs listed.

access.

 Secure funding for acquisition, construction, and maintenance of identified areas. Implementing Group: Municipalities, Private Conservation and Civic Community Organizations. Year Start/End: 1999-2005 Measure of Success: Grant applications/other instruments for attaining funding prepared and submitted, if successful, projects completed. Increased public

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 3</u>: Ensure that land use planning includes adequate water supply resources, storm water drainage systems, and wastewater treatment systems (both onsite and sewered systems).

Introductory Statement:

This watershed will continue to be impacted by the pressures to develop. It is important to consider the limitations of the watershed system when planning for drinking water supply, stormwater management, and wastewater treatment.

Supporting Tasks:

1. Coordinate land use planning with sewage treatment system capacity and public water supply resources.

Implementing Group: Municipalities, State Agencies, Public and Private Water Companies. Year Start/End: 1998-ongoing

Measure of Success: Responsible implementing group(s) plan and coordinate together. Map(s) for each municipality prepared show areas able to support growth without need for infrastructure, those with minimal addition to infrastructure, those with major investment in infrastructure, and those where onsite facilities should be discouraged.

- Hold workshops on innovative storm water management techniques and groundwater recharge. Implementing Group: Advsory Committee, NEMO Year Start/End: 1999-ongoing Measure of Success: Workshops held with adequate representation from all watershed towns and others (i.e., public works departments, land use authorities, the public, and developers).
- 3. Hold workshop of local flood control officials with the goal of adopting coordinated drainage standard.

Implementing Group: Municipalities, Advisory Committee, Federal, Regional, and State Agencies

Year Start/End: 2000-2004

Measure of Success: Workshops held with adequate representation from all watershed towns.

4. Adopt consistent storm water drainage standards into each municipality's zoning regulations which meet the requirements of different land use and habitat characteristics. Encourage groundwater recharge and discourage use of blanket zero peak increase in runoff without considering runoff volumes.

Implementing Group: Municipalities Year Start/End: 2002-2004 Measure of Success: Consistent storm water drainage standards adopted.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 4</u>: Have each town integrate the recommendations of the watershed plan into its land use regulations and design standards.

Introductory Statement:

The goals of this Action Plan need to become part of each towns' public plan of governance in order to affect local decision making about the watershed.

Supporting Tasks:

- Work with each municipality to integrate the recommendations of the Action Plan within one year of the date of the plan's formal adoption and update every 10 years thereafter. Implementing Group: Municipalities, State Agencies, Advisory Committee Year Start/End: 1998-ongoing Measure of Success: Incremental adoption of appropriate plan recommendations into the regulations of each municipality. Recommendations reviewed and updated, as necessary, every ten years thereafter.
- 2. Each municipality should designate or hire an environmental professional to pursue the objectives of this plan.

Implementing Group: Municipalities Year Start/End: 1999-ongoing Measure of Success: Environmental professional in place for each municipality.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 5</u>: Minimize loss of life and damage to property caused by flooding.

Introductory Statement:

The Norwalk River Watershed has been subject to flooding ever since the area has been settled; with the flood of 1955 the most recent. Many homes and businesses have since been built in the floodplain, and in the event of a flood of similar magnitude, damages to property of more than \$21 million would occur. If a 10-year, or 10 percent chance, flood were to occur, damages are estimated to be \$2.6 million.

Supporting Tasks:

- 1. Improve flood monitoring by establishing and funding an early flood warning system (ALERT) in
 - Ridgefield, Redding, Wilton, and Norwalk. Implementing Group: Municipalities, CTDEP Year Start/End: 1998-1999 Measure of Success: ALERT system in place.
- Identify non-structural flood control measures for existing floodprone structures. Implementing Group: Municipalities, CTDEP, NRCS Year Start/End: 1998-1999 Measure of Success: Listing of nonstructural flood control measures for each existing floodprone structure in the watershed.
- Implement non-structural flood control measures (including the acquisition of homes in high hazard areas and undeveloped lands).
 Implementing Group: Municipalities, CTDEP
 Year Start/End: 1999/ongoing
 Measure of Success: Highest threat properties purchased and others at risk implement flood proofing measures.
- Establish an inspection/maintenance program for the floodway. Implementing Group: Municipalities, CTDEP Year Start/End: 2000-ongoing Measure of Success: Inspection/maintenance program established, with timetable to conduct inspections.
- Provide education regarding damage caused by floods. Implementing Group: Advisory Committee, Municipalities, CTDEP, NRCS Year Start/End: 1999-ongoing Measure of Success: Educational kits and programs developed and disseminated. Have information in hands of the public, municipal officials, and those insuring homes.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 5</u>: Minimize loss of life and damage to property caused by flooding (continued).

- Adopt a long-term goal of no flood-prone buildings in the watershed. Implementing Group: Municipalities Year Start/End: 2000-ongoing Measure of Success: Planning and zoning commissions of each municipality adopt this goal.
- Incorporate and involve the Norwalk River Watershed community into CTDEP's municipal flood plain management and mitigation workshops. Implementing Group: Advisory Committee, CTDEP, NRCS Year Start/End: 1999-ongoing Measure of Success: Workshops held in the Norwalk River Watershed; attendees represent many watershed interests.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 6</u>: Ensure that all local regulations remain in compliance with FEMA regulations and investigate higher standards in response to high damage hazard.

Introductory Statement:

The federal standards established provide a minimum level to protect life and property from the devastation of floods. Until such time as the flood prone areas within the watershed are free of structures, more stringent regulatory measures will provide a greater level of protection for affected residents.

Supporting Tasks:

1. Work with municipalities in the watershed, regional planning agencies, and councils of government to encourage development of more restrictive and consistent flood plain management regulations.

Implementing Group: CTDEP, NYDEC, Federal Emergency Management Agency (FEMA)

Year Start/End: 1999-ongoing

Measure of Success: Each watershed town adopts more restrictive regulations.

2. Conduct an inventory of present floodplain zoning and determine where inconsistencies lie as a basis for developing future watershed-wide standards.

Implementing Group: Advisory Committee, Municipalities, CTDEP, NRCS Year Start/End: 1999-2000

Measure of Success: Inventory completed . Based on this inventory, consistent watershed-wide flood plain zoning standards drafted and adopted by each municipality.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 7</u>: Recognize, maintain, and increase open space to ensure the proper functioning of the watershed.

Introductory Statement:

Land contributing to the proper functioning of a watershed, such as wetlands, aquifers, riparian zones, and floodplains, need special protection. These lands can be protected in many ways, including purchase, easements, and tax breaks.

Supporting Tasks:

1. Identify, list and map, and then protect and/or acquire open space immediately adjacent to the Norwalk River and other critical areas within the watershed as recommended by local plans of conservation and development.

Implementing Group: Municipalities, CTDEP, NYDEC, Private Conservation and Civic Community Organizations

Year Start/End: 1999-ongoing Measure of Success: Lands with watershed protection value protected and/or acquired.

 Identify, protect, and/or acquire critical land needed to accomplish no net increase in runoff. Implementing Group: Municipalities, CTDEP, NYDEC, NRCS Year Start/End: 1999-ongoing Measure of Success: Lands with watershed protection value protected and/or acquired.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 8</u>: Recognize that the streams, streambanks, and riparian areas within the Norwalk River Watershed are fragile places which should be conserved, restored, and protected.

Introductory Statement:

Streams, streambanks, and riparian areas in the watershed are important to protect or enhance water quality and provide wildlife corridors.

Supporting Tasks:

 Create a regional open space plan and seek funds for open space purchase. Implementing Group: Advisory Committee, Municipalities, Regional Agencies, State and Federal Agencies, Private Conservation and Civic Community Organizations

Year Start/End: 1999-2005

Measure of Success: One or more workshop/facilitated session for municipal planning, conservation, and wetland commissioners convened to discuss opportunities for coordinated open space plans and funding. Plan created and funds obtained.

2. Support state funding and seek grants for a "Norwalk River Valley Linear Park," greenways, uplands, flood hazard areas and linking parcels.

Implementing Group: Advisory Committee, Municipalities, CTDOT, CTDEP, Regional Agencies, Private Conservation and Civic Community Organizations Year Start/End: 1999-ongoing

Measure of Success: Funding acquired to purchase land and/or interest in lands which create linear parks, and greenways, or protect uplands and flood hazard areas.

3. Identify incentives or mechanisms for acquiring open space and encourage municipalities to adopt them.

Implementing Group: Advisory Committee, Municipalities, CTDEP, NYDEC, NRCS, Private Conservation and Civic Community Organizations

Year Start/End: 1999-ongoing

Measure of Success: Incentives identified and presented to appropriate governing bodies. Material which provides legal enabling legislation and example language for ordinances prepared and distributed to each municipality.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 8</u>: Recognize that the streams, streambanks, and riparian areas within the Norwalk River Watershed are fragile places which should be conserved, restored, and protected (continued).

4. Designate open space parcels as per Section 12-107(e) of the Connecticut General Statutes, classification of land as open space lands.

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Implementing Group: Municipalities, landowners, Private Conservation and Civic
Community Organizations
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Year Start/End: 1999-ongoing

Measure of Success: Parcels designated. Successful response to letters sent to property owners who might qualify for the reduced tax rate for agricultural, open space, or forestry lands.

- Work with Connecticut state legislators to amend Section 12-107(e) to provide municipalities and the state with the right of first refusal for properties designated as open space. Implementing Group: Municipalities, State agencies Year Start/End: 1999-ongoing Measure of Success: Legislation drafted, submitted to, and passed by state legislature.
- 6. Work with municipalities to amend zoning, and subdivision regulations, if necessary, to conserve, restore, and protect the streams, streambanks, and riparian areas of the watershed.

Implementing Group: Municipalities, Private Conservation and Civic Community Organizations Year Start/End: 1999-ongoing Measure of Success: Regulations amended where appropriate.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 9</u>: Establish conservation as an integrated functional part of the regulatory system of each watershed community, with each community supporting the same objectives and protecting the watershed from its origin in Ridgefield to its base where the Norwalk River meets Long Island Sound in Norwalk.

Introductory Statement:

Each of the watershed's municipalities allow for some form of alternative development. This may range from cluster housing to conservation developments. Innovative approaches should be considered to lessen negative impacts often associated with traditional developments.

Supporting Tasks:

- Establish a conservation planning task force for each town, through its conservation and planning commission, to review the town's plan of development and evaluate those parts of the plan which address conservation issues and the state of the environment. Implementing Group: Municipalities Year Start/End: 1998-1999 Measure of Success: A conservation task force is set in place.
- Prepare an inventory (with maps) of existing natural resources and open spaces within each community that would benefit from long-term conservation and environmental protection. Implementing Group: Municipalities (Conservation Planning Task Force)
 Year Start/End: 1999-2001
 Measure of Success: Inventory of conservation sites and maps for each town is completed.
- 3. Recommend language and conservation specific components for incorporation in the town plan of development. The task force would anticipate the environmental impact of future development, establish guidelines for evaluation of conservation proposals, and document conservation land use policy.

Implementing Group: Municipalities (Conservation Planning Task Force) Year Start/End: 2000-2001 Measure of Success: Each town's plan of development is updated to include

conservation-specific components.

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

<u>Objective 9</u>: Establish conservation as an integrated functional part of the regulatory system of each watershed community, with each community supporting the same objectives and protecting the watershed from its origin in Ridgefield to its base where the Norwalk River meets Long Island Sound in Norwalk (continued).

4. Review all zoning, wetland, and flood control regulations for each municipality to determine which (if any) regulations are in conflict with the land conservation purposes of the town plan, and whether conservation specific regulations are needed to make the plan effective as part of review. Consider cluster zoning, alternate development plans, and conservation lots as part of review.

Implementing Group: Municipalities, Private Conservation and Civic Community Organizations

Year Start/End: 2000-2001

Measure of Success: List of conflicting regulations completed, and draft revisions are ready for review and adoption at public hearing(s) called to consider changes in regulations.

Publish and implement fully integrated conservation zoning regulations to guide land use applicants and those regulatory commissions called upon to process land use applications. Implementing Group: Municipalities (Regulatory Commissions)
 Year Start/End: 2001-2002
 Measure of Success: Integrated regulations are published and land use applications are considered in conformity with workable regulations that fully support the environment.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 1</u>: Determine if the extensive pond/lake eutrophication observed in the watershed is affecting instream water quality.

Introductory Statement:

Many of the ponds and impoundments in the watershed exhibit extensive algal growth at an early date. There is little information available as to the extent and impact of these algal blooms on water quality in the watershed.

Supporting Tasks:

1. Develop a pond/lake eutrophication assessment criteria and a plan to assess eutrophication in selected water bodies and determine the role of impoundments in attenuating nutrient loads to Norwalk Harbor and Long Island Sound.

Implementing Group: Federal and State Agencies Year Start/End: 2000-2000 Measure of Success: Assessment criteria and assessment plan completed.

2. Select two or three watershed ponds for assessment by CTDEP personnel, other appropriate parties (e.g., municipal health departments). Use volunteer groups (neighborhood or school) to collect data; provide training in data collection, as needed.

Implementing Group: Advisory Committee, Private Conservation and Civic Community Organizations

Year Start/End: 2000-2002 Measure of Success: Assessment completed; report with recommendations drafted.

- If eutrophication is found to affect water in the Norwalk River Watershed and/or Norwalk Harbor, develop recommendations to reduce pollutant loading. Implementing Group: Advisory Committee, Federal, State Agencies Year Start/End: 2000-2002 Measure of Success: Specific recommendations identified.
- Distribute information concerning recommendations. Implementing Group: Advisory Committee, Municipalities, Private Conservation and Civic Community Organizations Year Start/End: 2001-2002 Measure of Success: Informational materials (e.g., brochure) prepared and distributed to appropriate individuals/groups.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

Objective 2: Ensure adequate maintenance of septic systems.

Introductory Statement:

Surface and ground water can be contaminated by septic systems. A septic system, like other technology, needs maintenance to operate successfully throughout its life. Typically, septic systems last 20 to 30 years before needing replacement. The Norwalk River Watershed has experienced tremendous growth in the last 20-30 years; many systems may be nearing their functional lifetime or may have a reduced lifetime due to lack of maintenance. Proper maintenance will keep the environment healthy and prolong the life of the systems, thereby reducing replacement costs and the need for sewer extensions.

Supporting Tasks:

- Create an incentive-based model ordinance for septic system inspection and maintenance. Implementing Group: Municipal Health Departments, Advisory Committee, NRWA Year Start/End: 1998-2002 Measure of Success: Model ordinance(s) drafted.
- Review model ordinance with municipal health departments for feedback, change, acceptability, and course of action and urge its adoption by all towns within the watershed. Implementing Group: Advisory Committee, NRWA, Municipal Health Departments Year Start/End: 1999-2000 Measure of Success: Model ordinances reviewed and continued on an ongoing basis.
- Develop an education program for septic system maintenance and the model ordinance. Implementing Group: Municipal Health Departments, NRWA Year Start/End: 1999-2005 Measure of Success: Septic system maintenance education program established and continued on an ongoing basis.
- Adopt septic system ordinance within each watershed municipality. Implementing Group: Municipalities Year Start/End: 2000-2005 Measure of Success: Septic system inspection and maintenance ordinance adopted by each municipality.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 3</u>: Reduce the impact of road sand on water quality and stream habitat.

Introductory Statement:

Within the watershed, road sand moves easily into the river system and reduces water quality, degrades fish habitat, and ultimately may increase the need for dredging in the Norwalk Harbor, and the removal of sediments behind dams along the river. While road sand is an integral part of each community's safety network in winter, opportunities exist to improve conditions by setting priorities for clean-out frequency, timing, and location of catch basin pump outs and street sweeping.

Supporting Tasks:

1. Obtain and review municipal (and if possible, state) sand and salt application records and policies, and estimates of amounts recovered each year.

Implementing Group: FCSWCD, Municipalities Year Start/End: 1999-2000 Measure of Success: Records and policies are reviewed. Report recommending modifications to current sand/salt application rates and clean-up schedules produced.

- Reduce application rates to only what is necessary to maintain safety. Implementing Group: Municipalities, CONNDOT Year Start/End: 2000-2002 Measure of Success: Recommendations of report accepted and sand/salt application rates reduced to minimum necessary to maintain safety. Instream sedimentation from road sand visibly reduced from baseline conditions identified by 1996 Streamwalk.
- 3. Prioritize catch basin pump-outs and street sweeping based on proximity to receiving waters and sensitive habitats and rate of sand accumulation, and accelerate pump-out and street sweeping schedule to as early as possible after winter.

Implementing Group: Municipalities, CONNDOT Year Start/End: 2000-2002 Measure of Success: Catch basin pump-out and str

Measure of Success: Catch basin pump-out and street sweeping schedules modified by all watershed towns to focus on catch basins/roads closest to surface waters and as early after winter as possible.

4. Replace or retrofit storm water catch basins to provide oil and sediment removal prior to discharge to receiving waters in critical areas and sensitive habitats (in conjunction with normal infrastructure improvement planning and implementation), and ensure proper maintenance.

Implementing Group: Municipalities, CONNDOT Year Start/End: Ongoing Measure of Success: Storm water catch basins with oil and sediment removal or other appropriate treatment systems incorporated into each municipality's capital improvement plan and installed as appropriate.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 4</u>: Maintain and increase riparian buffer areas.

Introductory Statement:

Riparian buffer areas filter polluted runoff. The Norwalk River Watershed's streamside conditions exhibit extensive loss of riparian vegetation, thereby increasing water quality degradation.

Supporting Tasks:

1. Educate streamside/wetland property owners about the value of riparian buffers.

Implementing Group: Advisory Committee, Watershed Coordinator(s), NRWA,

FCSWCD

Year Start/End: 1998-2005

Measure of Success: Informational materials (e.g., brochure) on the value of riparian buffers and the importance of maintaining and restoring them developed and made available to all streamside/wetland property owners.

2. Educate municipal commissions about the value of riparian buffers.

Implementing Group: Advisory Committee, Watershed Coordinator(s), NRWA, CTDEP, UCONN/CES (NEMO), FCSWCD

Year Start/End: 1999/2005

- Measure of Success: Workshop on the value of riparian buffers presented to appropriate municipal commissions; timetable for ongoing training established for each town.
- 3. Develop a guidance manual on riparian buffers for municipal commissions with detailed examples of residential and commercial applications.

Implementing Group: CTDEP

Year Start/End: 1999-2001

Measure of Success: Guidance manual drafted and disseminated.

4. Implement habitat restoration projects using the priority list of sites established by the NRWIC's habitat restoration subcommittee.

Implementing Group: Advisory Committee, FCSWCD, Watershed Coordinator(s), Federal and State Agencies

Year Start/End: Ongoing

Measure of Success: Impaired sites identified through the 1996 Streamwalk and prioritized by the habitat restoration subcommittee restored as opportunities arise. Existing riparian buffers maintained and riparian areas currently devoid of vegetation restored as opportunities arise.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 5</u>: Improve solid and liquid waste management watershed businesses and municipal facilities.

Introductory Statement:

Many watershed businesses and municipal facilities are located adjacent to streams. Improper storage and disposal of solid and liquid wastes pose a potential threat to water quality and public health.

Supporting Tasks:

1. Ensure management (housekeeping) practices follow local, state, and federal regulations that emphasize education, appropriate storage and waste management, and pollution prevention practices.

Implementing Group: Municipalities, Private Conservation and Civic Community Organizations

Year Start/End: 2000-2005

Measure of Success: Watershed businesses and municipal facilities furnished with information on how to comply with local, state, and federal ordinances/regulations for solid and liquid waste management. Solid and liquid wastes properly stored and disposed of by watershed businesses and municipal facilities.

2. Develop an "Adopt a Stream" program to engage riverside/streamside businesses and property owners in improving stream conditions.

Implementing Group: Advisory Committee, Municipalities, Private Conservation and Civic Community Organizations, NRWA

Year Start/End: 2000-2005

Measure of Success: Fifty percent of riverside/streamside businesses and property owners participate in the "Adopt-A-Stream" program.

3. Develop business and municipal facility workshops yearly on special topics related to Objective 5 and hold such workshops annually.

Implementing Group: Advisory Committee, CTDEP Year Start/End: 2000-2005 Measure of Success: Workshops developed and delivered on an annual basis.

 Establish a citizens "hotline" to report pollution incidents to state and/or local authorities. Implementing Group: Advisory Committee, Federal and State Agencies Year Start/End: 2000-2002 Measure of Success: "Hotline" established and information on how to use it disseminated.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 6</u>: Evaluate the cumulative effect of discharges permitted by both the Connecticut Department of Environmental Protection and the New York Department of Environmental Conservation.

Introductory Statement:

Permitted discharges have an effect on water quality in the watershed. The cumulative impacts are unknown at this time and need to be further evaluated.

Supporting Tasks:

1. Assess and evaluate the cumulative effects of CTDEP and NYDEC permitted industrial, municipal, and stormwater discharges.

Implementing Group: Federal and State Agencies Year Start/End: 2000-2001 Measure of Success: Evaluation system established; data collected, assessed and evaluated; and results compiled.

2. Publish and disseminate a fact sheet on the cumulative impact of permitted discharges. Implementing Group: Advisory Committee, Watershed Coordinator(s), CTDEP, NYDEC

Year Start/End: 2002 Measure of Success: Fact sheet published and distributed to appropriate audience.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 7</u>: Maintain adequate base flows in the Norwalk River and its major tributaries.

Introductory Statement:

Stream flows are reduced during summer months in some segments of the Norwalk River Watershed. Stream flow comprises base flow (ground water), overland flow (runoff), interflow (runoff that leaches into the stream through soil), and in portions of the watershed, discharge from sewage treatment plants. The adequacy of existing stream flows to protect water quality and aquatic resources is unknown at this time and needs to be evaluated.

Supporting Tasks:

1. Conduct site-specific instream flow study of the river to determine appropriate flow conditions that will support healthy fish habitat for species currently present and those planned for restoration. The study should use obligate stream species or life stages (including appropriately sited study transects), consider appropriate flows, and include decision criteria agreed to prior to conducting the study.

Implementing Group: Federal and State Agencies Year Start/End: 2000-2002 Measure of Success: Site-specific instream flow study completed.

2. Evaluate results of instream flow study to determine an appropriate range of flows necessary to support state water quality standards, including whether "flushing" flows are necessary to support healthy riparian areas.

Implementing Group: Federal and State Agencies
Year Start/End: 2002-2003
Measure of Success: Appropriate range of stream flows identified and the necessity of "flushing" flows determined.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 8</u>: Reduce the cumulative impacts of development and improve storm water management.

Introductory Statement:

Storm water runoff from developed areas (i.e., impervious surfaces from commercial and industrial areas and residentially altered landscapes) is a significant threat to continued water quality improvement in the watershed. Cumulatively, storm water runoff results in visible degradation of water quality as water moves downstream towards the mouth of the river. Improvements to storm water quality need to be made and maintained.

Supporting Tasks:

1. Educate municipal land use commissions about the design of effective storm water management systems and required maintenance programs.

Implementing Group: Advisory Committee, Federal, Regional, and State Agencies, UConn (NEMO)

Year Start/End: 1998-2000 Measure of Success: Educational/training programs delivered to all seven watershed municipalities.

2. Reduce the cumulative impacts of current and future development on water quality by implementing best management practices.

Implementing Group: Municipalities Year Start/End: Ongoing Measure of Success: Municipal land use commissions use knowledge gained through NEMO/CTDEP training to improve development proposals by reducing impervious surfaces and storm water runoff.

3. Encourage CONNDOT and municipal land use commissions to conduct comprehensive evaluations of storm water management system design and their long-term maintenance plan in the review of permit applications.

Implementing Group: Advisory Committee Year Start/End: Ongoing Measure of Success: Improved designs and maintenance schedules on all applications.

4. Ensure state and federal storm water discharge permits have been applied for by compiling a list of sites that appear to require permits and comparing it with the list of existing permits.

Implementing Group: Advisory Committee, CTDEP, NYDEC, EPA, Watershed Coordinator
Year Start/End: 2000-2002
Measure of Success: All facilities/activities subject to storm water permits in the

watershed have applied for, and are in compliance with the conditions of the appropriate permit.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 8</u>: Reduce the cumulative impacts of development and improve storm water management (continued).

5. Educate watershed property owners about storm water problems and nonpoint source pollution and urge compliance with permit requirements. Conduct workshops to assist businesses with permit compliance.

Implementing Group: Advisory Committee, Watershed Coordinator(s), Private Conservation and Civic Community Organizations

Year Start/End: 2000-2002

Measure of Success: All property owners made aware of problems caused by storm water, and all facilities/activities subject to storm water permits have applied for and are in compliance with the conditions of the appropriate permit.

6. Educate homeowners, golf course operators, school groundskeepers, and municipal park maintenance staff about the impact of excessive fertilizer use and associated nutrient enrichment on water quality and the benefits of environmentally sound groundskeeping practices.

Implementing Group: Advisory Committee, Watershed Coordinator(s), Municipalities, Private Conservation and Civic Community Organizations Year Start/End: 1999-2000

Measure of Success: Educational materials (e.g., brochures, fact sheets, and workshops,) developed and delivered through mailings, workshops, and other appropriate mechanisms.

7. Continue or initiate storm drain stenciling programs in each town in the watershed with message reading, "Don't Dump: Drains to Norwalk River." Implementing Group: Advisory Committee, Watershed Coordinator(s), Municipalities, Private Conservation and Civic Community Organizations Year Start/End: Ongoing Measure of Success: Storm drains discharging to surface waters within the watershed stenciled.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 9</u>: Continue water quality monitoring and data collection and assessment.

Introductory Statement:

Continued monitoring of the river's water quality is necessary to support state, municipal, and citizen actions to improve and maintain conditions. Monitoring will establish a baseline for measuring further improvements in water quality and will help identify chronic pollution problems.

Supporting Tasks:

- Continue water quality monitoring program by Harbor Watch/River Watch. Publish yearly summary and conclusions. Evaluate trends and modify procedures as needed. Implementing Group: Advisory Committee, CTDEP, HW/RW Year Start/End: 1998-ongoing Measure of Success: High quality data collected, analyzed, and disseminated to appropriate agencies/organizations.
- 2. Develop a hot spot response plan to notify appropriate local and state agencies when obvious pollution is observed.

Implementing Group: Advisory Committee, CTDEP, HW/RW, Watershed Coordinator(s), NRWA Year Start/End: 1998-1999

Measure of Success: "Hot spot" response plan endorsed by state and watershed towns.

3. Summarize and publish data periodically.

Implementing Group: Advisory Committee, HW/RW Year Start/End: 1998-ongoing Measure of Success: Data reports published periodically.

4. Repeat Streamwalk in 2003.

Implementing Group: Advisory Committee, FCSWCD, Private Conservation and Civic Community Organizations

Year Start/End: 2003 Measure of Success: Streamwalk conducted and report published and disseminated.

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that Norwalk supports its designated uses (e.g., fishing, swimming, drinking water)

<u>Objective 10</u>: Ensure proper functioning of wastewater treatment plants.

Introductory Statement:

Wastewater treatment plants in the watershed meet municipal and environmental needs. Properly operated and maintained systems will not further degrade the water quality watershed and will help the river achieve its designated uses. Continued monitoring of wastewater treatment plans and the sanitary sewers system will be necessary to ensure proper operation. Municipalities need to ensure that growth plans do not exceed treatment plant capabilities.

Supporting Tasks:

- Publish an annual report card showing wastewater treatment plant proficiency. Implementing Group: Advisory Committee, CTDEP Year Start/End: 2000-ongoing Measure of Success: Annual report card published.
- 2. Ensure future land use development is compatible with current and projected treatment plant capacities.

Implementing Group: Advisory Committee, Municipalities Year Start/End: Ongoing Measure of Success: Capacity of existing sewage treatment plants is not exceeded, and the sewer system is not expanded without a comprehensive analysis to determine whether there are more environmentally sound solutions.

IV. STEWARDSHIP AND EDUCATION ACTION ITEMS

Goal: To educate citizens about the boundaries and functions of the Norwalk River Watershed, the specific needs for protection of and improvement to the river system, the benefits of a healthy watershed to individuals and communities, and the opportunity for the public to speak out on issues, and to participate in the stewardship of the watershed

<u>Objective 1</u>: Develop a mechanism to monitor "The Plan," implement such a mechanism, and foster watershed stewardship.

Introductory Statement:

The implementation of this Action Plan needs to be a coordinated, locally-based, watershed-wide activity that continues the work of the Initiative. The development of a watershed advisory committee made up of representatives from each municipality, ensures the plan will be implemented. A coordinator is necessary to follow through with the focus of the advisory committee.

Supporting Tasks:

1. Assemble an "Advisory Committee" to include representatives from the local governments of each of the seven watershed towns and representatives from regional, state, federal, and local environmental organizations.

Implementing Group: Initiative Committee Year Start/End: 1998-ongoing Measure of Success: Advisory Committee established.

2. Hire part-time "Watershed Action Plan Coordinator(s)," as a facilitator responsible to the above advisory committee.

Implementing Group: Advisory Committee Year Start/End: 1999-ongoing Measure of Success: Position filled. Plan action items start to be implemented. Focus of Advisory Committee maintained.

3. Hold bi-annual workshop of Chief Elected Officials to maintain support of plan implementation.

Implementing Group: Advisory Committee Year Start: 2000-ongoing Measure of Success: Plan implementation continues with official support of all watershed towns.

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Objective 2: Develop methods to provide information and education about the Norwalk River Watershed.

Introductory Statement:

Citizens, school systems and municipal decisionmakers need to understand the functions of the Norwalk River Watershed system. Information and education needs to be continuous and to become a permanent way of doing business.

Supporting Tasks:

1. Develop a pamphlet/brochure about the boundaries and functions of the Norwalk River Watershed, with a focus on "what a watershed does for you," and its relation to the public drinking water supply.

Implementing Group: Initiative Committee, Advisory Committee Year Start/End: 1998-1999 Measure of Success: Brochure published.

- Conduct watershed education assessment survey. Compile and distribute results to
 participants, Boards of Education and appropriate town agencies.
 Implementing Group: Initiative Committee
 Year Start/End: Completed
 Measure of Success: Watershed schools furnished with summary information that
 provides an overview of watershed-related education.
- Organize meeting of teachers/educators to share ideas about watershed education (1/2 day workshop with presentations and informal gatherings). Share classroom activities. Implementing Group: Advisory Committee, Watershed Coordinator(s) Year Start/End: Spring 1999 Measure of Success: Meetings held with watershed educators.
- 4. Establish yearly meetings of teachers/educators (similar to above). Investigate Continuing Education Credits.

Implementing Group: Watershed Coordinator(s), Advisory Committee Year Start/End: 2001 Measure of Success: Working groups established. Plan developed.

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Objective 2: Develop methods to provide information and education about the Norwalk River Watershed (continued).

5. Establish environmental education working group of teachers/educators to share existing watershed curriculum and develop new ideas to teach watershed education.

Implementing Group: Watershed Coordinator(s), Advisory Committee, 6-Town River Board Year Start/End: 2000-2004

Measure of Success: Education working groups established.

- Develop "tool kits" of watershed activities, with videos demonstrating their use. Implementing Group: Watershed Coordinator(s), Advisory Committee Year Start/End: 1999-ongoing Measure of Success: Tool kits completed.
- 7. Develop watershed-based outreach program to disseminate stewardship message and provide knowledge of the watershed, its boundaries, and the functions and values of its resources. Actions for consideration of the Advisory Committee include, but are not limited to:
 - School competitions
 - Watershed Awareness Day
 - Information kiosks throughout the basin
 - Develop a web site for the basin with links to towns and other stakeholders
 - Develop a regular column about the watershed and its resources in the watershed newspapers
 - Develop a video library of natural resource information.

Implementing Group: Watershed Coordinator(s), Advisory Committee, Private Conservation and Civic Community Organizations

Year Start/End: Ongoing. Priorities set by Advisory Committee and availability of groups.

Measure of Success: Increased watershed activities regarding watershed awareness.

8. Write a detailed history of the basin.

Implementing Group: Advisory Committee Year Start/End: 2001 Measure of Success: History written.