Project Summary

Applicant: Connecticut Department of Environmental Protection

Project Coordinator: Greg Chasko, CT DEP Wildlife Division

Project Title: Tidal Wetland Restoration in the lower CT River RAMSAR site

Site Location: Wetlands on the CT River in the towns of Chester, East Haddam, Essex, Haddam, Lyme, Old Lyme, and Old Saybrook.

Land Ownership:
The marshes within the project area are owned by a variety of entities: the State of Connecticut, The Nature Conservancy, the Towns of Chester, Deep River, Essex, Old Lyme, Old Saybrook, and a number of private landowners. Letters of support are attached to the narrative for the NGO and Municipal owners. A list of private landowners is an appendix to the narrative.

Implementation Start Date:
The project can begin on the ground by 15 July 2009

Jobs Created, Labor Hours, and Duration:

This project will create 27 seasonal jobs, supply work for 3 separate contractors, and provide a minimum of 6,508 hours of employment. The 27 seasonal jobs will last for 6 months.

Coastal and Marine Habitats to Benefit:
This project will restore 900 acres of tidal wetlands and 2 acres of barrier beach. A total of 42 species of Greatest Conservation Need (GCN) will benefit from this work. Among the GCN species are a total of 14 State-listed species that will directly benefit: northern harrier (E), piping plover (T), least tern (T), least bittern (T), willet (T), snowy egret (T), glossy ibis (SC), great egret (T), American bittern (E), king rail (T), black rail (T), peregrine falcon (T), sharp-shinned hawks (E), and bald eagle (T).

Project Scope:
Tasks to be completed in the implementation of this project and the techniques to accomplish and monitor these tasks are:

1. Control invasive plants on 860 acres of tidal wetland. Control will be through the use of herbicides and mulching. Restoration of tidal flow will also be employed in certain instances to remove invasive plants. Monitoring will occur through vegetation and wildlife use surveys conducted pre and post treatment. Post treatment assessment will continue after NOAA grant funds expire.
2. Remove marine debris and other man made objects from approximately 2,500 acres of tidal marsh surface. Removal will be accomplished through the use

of a barge and low ground pressure loader. We will measure our performance through the gross tonnage of debris removed and the square footage of the footprint of said debris.

3. Enhance 2 acres of barrier beach and critical shorebird nesting beach at 2 separate sites. Nourishment will occur through the mining of suitable sand from portions of the CT River within the project area and placed on the 2 receiving beaches. Assessment through wildlife surveys of nesting pairs and fledging success of those pairs, along with the actual increase in beach area will be the performance metrics for this aspect of the project.

Project Outcomes:
This project will restore 860 acres of tidal wetlands through control of invasives. An additional 1,640 acres of marsh surface will be cleaned of marine debris and other man made garbage. A total of 16 acres of tidal marsh will be enhanced through IMM and the creation of panne habitat. An additional 2 acres of barrier beach and critical shorebird nesting beach will be restored. From an economic standpoint, the immediate, direct benefit towards stimulating the local economy is in the creation of 27 seasonal jobs (invasive control, monitoring, restoration work) and immediate financial influx to barge operators (transport of equipment and people to project sites, beach nourishment) and contractors. In addition, indirect economic benefit will be realized through increased wildlife related recreational use. Ecologically, the project will directly benefit a minimum of 42 species of Greatest Conservation Need, including 16 State-listed species.

Project Time Line:
This project will commence in July 2009 and be completed by December 2010.

Permits and Approvals:
The activities proposed herein will require permitting from the U.S. Army Corp of Engineers (COE) and DEP-Office of Long Island Sound Programs (OLISP). The required permits are a Certificate of Permission from OLISP and a Programmatic General Permit from COA. Both these permitting agencies have approved similar restoration activities in Connecticut in the past, and their familiarity with not only the project area, but also the Agency staff that will be administering the project, should facilitate the permitting process in a timely and efficient manner. We anticipate having consultations completed and permits in hand by July 2009.

Federal Funds Requested and Non-Federal Match:

Federal Funds Requested:	$1,451,867.00
Non-Federal Match:	$429,055.00
Overall Project Cost:	**$1,880,922.00**

Tidal Wetland Restoration in the Lower CT River RAMSAR Site

Project Narrative

This project proposal is to restore approximately 900 acres of degraded estuarine emergent wetlands in the lower Connecticut River estuary to benefit fish and wildlife resources. The main suites of beneficiaries of this proposed work will be migratory shorebirds, waterfowl, and long-legged waders. This project proposes to restore functional value to these wetland acres through control of invasive plants, removal of man-made debris, beach enhancement, and limited panne and pool creation via Integrated Marsh Management (IMM), a technique used by the CT DEP for restoration and enhancement of tidal wetlands. The proposed project area covers the lower 10 river miles of the Connecticut River from Chester Creek, Chester, CT to the mouth of the River in Old Lyme and Old Saybrook, CT (Figure 1).

The project area is within a designated 'RAMSAR' Wetland of International Importance (1994) and one of the 40 'Last Great Places' designated by the Nature Conservancy. Additionally, the entire project area is located within the Connecticut River Focus Area, an area identified by the Atlantic Coast Joint Venture (ACJV) as critical for migratory birds. Wetland restoration and enhancement has been identified as a high priority Conservation Action (CA) in Connecticut's Comprehensive Wildlife Conservation Strategy (CWCS) and several other planning documents such as the ACJV Implementation Plan (USFWS 2006a) and the Bird Conservation Region (BCR) 30 Implementation Plan (USFWS 2008).

The wetlands in the project area were extensively grid ditched and drained in the 1930's for mosquito control. As a result, much of the ecological function of these wetlands was compromised. Subsequent invasion of altered wetlands by exotic plants such as common reed (*Phragmites*) and purple loosestrife have further negatively impacted ecological function. As the ecological function of the area has been degraded, avian use, as measured by the one long-term survey that is conducted, the Mid-winter Waterfowl Survey (USFWS 2008), has concurrently declined. Historic numbers of breeding rallids and other secretive marshbirds have also declined throughout the project area (CT DEP 2006).

The proposed project area provides important habitat throughout the year for a wide variety of rare birds and represents one of the critical migratory corridors on the east coast (USFWS 2006a). It is also an extremely important area for breeding birds. The portion of the project area encompassing Great Island constitutes the core of breeding osprey in the state. In addition, the mudflats of the estuary and Great Island provide foraging habitat for a myriad of shorebirds, including: willets, red knots, various species of sandpiper, ruddy turnstones, and piping plovers. Griswold Point at the mouth of the river hosts nesting populations of the federally threatened piping plover as well as least tern. The tidal marshes in the lower Connecticut River support globally significant populations of nesting saltmarsh sharp-tailed sparrow, listed as 'near threatened' by BirdLife International, and historic populations of nesting black rails. The lower

Connecticut River also supports nesting bald eagles and the largest concentration of wintering bald eagles in New England.

This project will benefit a variety of species identified as species of conservation concern in the CT CWCS, ACJV Implementation Plan, or the BCR 30 Plan. Species that will benefit from the proposed actions are listed below; species that will benefit directly are in **bold**)

Birds
American Bittern
American Black Duck
American Oystercatcher
Bank Swallow
Barn Owl
Belted Kingfisher
Black Rail
Black Skimmer
Black-crowned Night-heron
Blue-winged Teal
Canvasback
Clapper Rail
Common Tern
Glossy Ibis
Great Blue Heron
Great Egret
Greater Scaup
Hooded Merganser
Horned Lark
Ipswich Sparrow
King Rail
Least Bittern
Least Tern
Lesser Scaup
Little Blue Heron
Long-eared Owl
Long-tailed Duck
Marsh Wren
Northern Harrier
Northern Rough-winged Swallow
Osprey
Peregrine Falcon
Pied-billed Grebe
Piping Plover
Purple Martin
Rough-legged Hawk
Ruddy Turnstone
Saltmarsh Sharp-tailed Sparrow
Sanderling
Seaside Sparrow
Semipalmated Sandpiper
Short-eared Owl
Snowy Egret
Snowy Owl
Sora
Spotted Sandpiper
Virginia Rail
Willet
Yellow-crowned Night-heron

Mammal
Mink
Muskrat

Reptile/Amphibian
Diamond-backed Terrapin
Eastern Box Turtle
Spotted Turtle
Wood Turtle

Fish
American Eel
Atlantic Silversides
Atlantic Sturgeon
Atlantic Tomcod
Bay Anchovy
Cunner
Fourspine Stickleback
Hickory Shad
Hogchoker
Lined Seahorse
Longhorn Sculpin
Mummichog
Oyster Toadfish
Rainbow Smelt
Sheepshead Minnow
Shortnose Sturgeon
Spotfin Killifish
Striped Bass
Tautog
Windowpane Flounder
Winter Flounder

Invertebrate
Bay Scallop
Blue Crab
Blue Mussel
Channeled Whelk
Coastal Heathland Cutworm
Coastal Mud Shrimp
Common Razor Clam
Dark-bellied Tiger Beetle
Eastern Oyster
Fiddler Crabs
Flat Claw Hermit Crab
Ghost Shrimp
Grass Shrimp
Green Crab
Hairy-necked Tiger Beetle
Horseshoe Crab
Jonah Crab
Knobbed Whelk
Lady Crab
Maritime Sunflower Borer
Mud Crabs
Puritan Tiger Beetle
Rock Crab
Salt Marsh Dragonfly
Sand Shrimp
Seaside Goldenrod Stem Borer
Shore Shrimp
Soft Shell Clam
Spartina Borer Moth
Spider Crab
Spotted Dart
Starfish spp.

The proposed project will specifically address several of the conservation actions specifically mentioned in the RFP: (1) restoration of hydrologic flow, (2) marine debris removal, (3) invasive species control and removal, and, (4) beach restoration. In addition, the proposed creation of approximately 1 acre of scattered panne habitat in the lower portion of Great Island Wildlife Management Area (WMA) will directly benefit migrating shorebirds and long-legged wading birds. Direct and indirect benefit to both diadromous and anadromous fish populations will also be realized through the proposed actions, particularly for those species that rely upon tidal wetlands for portions of their life cycle (e.g., mummichog, sheepshead minnow, American eel).

Restoration/enhancement of hydrologic flow- Restoration of hydrologic flow is the first step in returning ecological function to degraded tidal wetlands. Integrated marsh management techniques control mosquitoes without using chemicals by altering mosquito breeding habitat and providing access to the area by mosquito eating fish. Biological control is achieved by fish predation on mosquito larvae. IMM has evolved into a collection of marsh management techniques that facilitate source reduction and biological mosquito control and address specific high marsh problems while improving fish and wildlife habitat. For example, some of the IMM techniques (e.g., ditch plugs and pond/panne construction) are utilized in salt marsh habitat restoration or enhancement projects. Due to the success of IMM in effective mosquito control and environmental benefit, IMM has been implemented on some of the U.S. Fish and Wildlife Services (USFWS) Region 5 coastal National Wildlife Refuges and National Park Service lands. It has been the experience in Connecticut that properly designed and functioning IMM systems result in 95-98% mosquito reduction and result in 3-4 fold increases in wading bird and shorebird use of managed areas.

We propose to work with our Municipal partners to conduct approximately 15 acres of IMM for wildlife habitat enhancement. This work will be concentrated in 5 locations within the towns of Old Lyme, Old Saybrook, and Essex (Figures 2 and 4). Additionally, we propose to create approximately 1 acre (cumulative) of panne habitat on the lower portion of Great Island WMA. Implementing IMM in the proposed areas will not only restore ecological function to the treated areas, but also result in a long-term cost savings due to source reduction and biological control of mosquitos in the affected areas and the abrogation of the need to annually treat the areas with insecticides. The DEP's Wetland Habitat and Mosquito Management program will conduct this work using their specialized low-ground pressure marsh equipment. ***We anticipate a total of 310 hours of work associated with this aspect of the project. The performance metric for this activity will be the number of acres of IMM accomplished.***

Marine debris removal- Marine debris and litter is a significant coastal and open ocean problem. Estimates of marine life endangered by debris included most of the world's turtle species, 25 percent of marine mammal species, and more than 15 percent of seabird species (Gregory and Ryan 1997). Marine debris is produced from many different sources, such as litter thrown overboard from boats, litter that gets carried into the marine environment from land or beaches, fishing equipment, and items dumped in other parts of

the world that is circulated by currents. Detrimental effects of marine debris include death or injury for wildlife, reduction in aesthetic value and pollution of marine and beach environments. Marine animals often become tangled in discarded fishing gear, plastics and other lost items, which can lead to decreased mobility, infection, amputation and direct mortality. Turtles, whales and seabirds are especially at risk of entanglement. Debris is often mistaken as prey by some marine species and if ingested, it may lead to internal injuries, digestive tract blockages and infections (Jones 1995). Ocean debris can have negative economic impacts on tourism and fisheries, cause injury to beachgoers and divers, and degrade aesthetic values (Whiting 1998).

Significant debris exists on various sites within the project area. Initial reconnaissance of the project area indicated 24 sites that contained solid and man made debris that was negatively impacting the marsh. We will utilize ground crews on foot and in low ground pressure amphibious vehicles to identify and collect marine debris at the 24 sites within the project area. ***We anticipate a total of 784 hours for reconnaissance and removal and an additional 96 hours required for ferrying of personnel, equipment, and debris. We estimate approximately a ton of debris per 10 acres of marsh/beach surface, giving a total of 249 tons of debris that might be found and removed.*** **The performance metric for this activity will be the tons of marine debris removed and the restored footprint of said removal.**

Invasive species control- Control of *Phragmites* and other invasive plant species is a critical component of this proposal. *Phragmites* invasion alters the structure and function of diverse marsh ecosystems by changing nutrient cycles and hydrological regimes (Benoit and Askins, 1999, Meyerson et al. 2000). Dense *Phragmites* stands in North America decrease native biodiversity and quality of wetland habitat, particularly for migrating waders and waterfowl species (Thompson and Shay 1989, Chambers 1997, Meyerson et al. 2000). A survey of Connecticut marshes showed that rare and threatened bird species in the area were associated with native, short-grass habitats and were excluded by *Phragmites* invasion (Benoit and Askins 1999).

The Connecticut DEP is a national leader in efforts to restore degraded tidal wetlands to healthy and productive ecosystems. Connecticut was the first state in the nation to establish a unit dedicated to wetland restoration and mosquito management. Since 1979, leveraging limited restoration funding by establishing partnerships to complete projects, DEP has worked closely with the USFWS, the federal Environmental Protection Agency, Coastal America, academic institutions, municipalities, nonprofit groups, and other federal agencies to successfully restore over 1,700 acres of tidal wetlands at over 40 sites. As an example, in2002, the DEP was successful in obtaining and implementing a smaller scale restoration project within the current proposed project area at Great Island. This previous project, funded through the North American Wetlands Conservation Act (NAWCA), resulted in the restoration of approximately 300 acres of tidal wetland at a cost of approximately $667,207.

We propose to treat 860 acres of *Phragmites* in 33 sites within the overall project area (Figures 2, 3, 4). *Phragmites* and other non-native invasive plants will be initially

sprayed with CT DEP-registered aquatic herbicides, containing the active ingredients glyphosate, imazapyr, or triclopyr. These products will be applied from a hand operated sprayer mounted on an all terrain vehicle or from boat and subsequently mowed with the use of a low ground pressure mower. The proposed work will be completed within 18 months of the execution of the approved grant, and will entail 2 full seasons of herbicide treatment and mowing. The CT DEP has previously identified the existence of native *Phragmites* in select areas of the project area (CT DEP unpub data). These stands of native *Phragmites* will be clearly delineated and preserved during the control of non-native *Phragmites*. ***We anticipate a first year total of 2,752 hours for the treatment and control of invasive plants, 144 hours for barge transportation of equipment and personnel, and an additional 714 hours for monitoring. We anticipate a 550 hour requirement for treatment and control in year 2 and a similar investment of 144 hours and 714 hours respectively in year 2 for transportation and monitoring.*** **The performance metric for this activity will be acres of invasive plants treated and the % kill in those treated acres.**

Beach restoration- Intertidal Beaches and Shores and associated coastal communities are one of the 13 most imperiled ecosystems in Connecticut (Metzler and Wagner 1998). Beach nourishment projects for flood control, beach stabilization, and wildlife habitat enhancement are increasingly being implemented throughout the U.S. (ASMFC 2002). Detrimental environmental effects of nourishment are often considered temporary (U.S. Army Corps of Engineers 2001). In a long-term study of a nourishment project in New Jersey, impacts of beach nourishment to intertidal and nearshore fauna, larval and juvenile fish assemblages, and fish food habits were minor and short-term. Suspended sediment and turbidity plumes associated with placement were limited to within a few hundred meters of the discharge pipe and concentrations were less than those experienced during storms. Borrow area animal life was significantly reduced after dredging, but most species recovered quickly, and the biomass of all species recovered within about 2 to 2.5 years. Borrow area fish showed no detectable changes in abundance, species composition, or feeding habits. Important bottom-feeding fish did not appear to rely on the borrow area for food. Beach nourishment provided suitable nesting and rearing habitat for threatened and endangered species.

We propose to enhance approximately 2 acres of beach habitat at 2 separate sites located at the mouth of the CT River. Currently, Griswold Point has a mean depth of beach (from the vegetated zone to the mean high tide line of approximately 18'. Bottom contours indicate that the mean water depths out to 30' offshore are in the range of 2'. Background erosion rates in the vicinity are less than 1 foot/year and mean wave heights are in the range of 1 foot. Additionally, bottom tidal current velocities in the proposed area are less than 10 cm/s (Signell et al. 1998). These factors make the likelihood of long-term success of the project high (Dean et al. 2008). The proposed action is to extend the existing beach at Griswold Point 30' seaward, the entire length of the point 1,730'. This will entail the placement of approximately 5,800 cubic yards of material. At the second site, the southwest corner of Great Island WMA, material will be placed on 1,800' of existing beach to a depth of 3', extending 10' from the mean high tide line.

This portion of the project will require approximately 2,000 cubic yards of material to be placed.

Per existing state regulations (CGS 22a-90 to CGS 22a-112, CGS 22a-359 to 22a-363f), borrow material will be of the same consistency and color of the existing sand at both nourishment sites. Beach nourishment will occur outside of the nesting season for both terns and piping plovers (September). Borrow areas with the appropriate grain and chemical attributes for the project occur within the project area in the shoals located in the vicinity of Essex and Brockway Island, approximately 6 miles to the north of the deposit sites.

The 2 areas to be targeted for enhancement represent 17% of the total piping plover and 12% of the least tern nesting pairs in Connecticut. Increasing the total area available for nesting through beach nourishment and enhancement will likely increase nesting numbers of these listed species. ***We estimate a total of 300 hours for this aspect of the project.*** **The performance metric for this activity will be the square footage of beach habitat restored or enhanced and continued surveys of nesting pairs of piping plovers and least terns and the fledging success of those pairs.**

Summary of Benefits

In summary, the proposed restoration activities will result in increased functional value of not only the affected wetland units, but also the entire ecosystem including the associated tidal creeks and the mainstem Connecticut River. Restoration will result in a direct positive benefit for a minimum of 42 Greatest Conservation Need (GCN) species in Connecticut. In addition, nesting and feeding habitat will be greatly improved for several GCN species that are also state-listed: northern harrier (E), piping plover (T), least tern (T), least bittern (T), willet (T), snowy egret (T), glossy ibis (SC), great egret (T), American bittern (E), king rail (T), black rail (T), peregrine falcon (T), sharp-shinned hawks (E), and bald eagle (T). Benefit to wintering short-eared owls (T) and breeding barn owls (E) may also be realized through this project.

From an economic standpoint, the immediate, direct benefit towards stimulating the local economy is in the creation of 27 seasonal jobs (invasive control, monitoring, restoration work) and immediate financial influx to barge operators (transport of equipment and people to project sites, beach nourishment) and contractors. The indirect economic stimulus to the local economy cannot be reliably ascertained at this time, however, Connecticut ranks above average nationwide with regards to active participation in outdoor activities such as wildlife watching (USFWS 2006b), with over 1.1 million active participants. These active participants in wildlife watching and other wildlife-related activities pumped an estimated 62 million dollars into the State economy (USFWS 2006b). The restoration of over 900 acres of critical wildlife habitat should result in increased wildlife related recreational use of the area, and a presumed increase in revenue generation.

Performance Measures

We propose to evaluate the success of this project in both the short-term and long-term. Short term performance metrics were previously outlined and include: number of wetland acres restored/enhanced, tons of marine debris removed and resulting footprint removal, acres of invasive plants treated and % kill rate on those treated acres, square feet of beach restored, and the number of jobs created. The projected benefit of this project towards stimulating job creation and economic growth are outlined in the table below:

Code	Business Activity	Labor Hours	# People Employed on Grant Activities	Grant Funds Allocated to the Business Activity
813312	Environment, Conservation, and Wildlife Organizations	1,428	4	$36,113.00
237990	Other Heavy and Civil Engineering Construction	5,080	23	$1,415,754.00
924120	Administration of Conservation Programs	280	2	$0.00
Other				
Total Requested Grant Funds				$1,451,867.00

Long-term evaluation of the project will occur through monitoring of wildlife resources in the project area and an evaluation of native vegetation response to treatment of invasives. Vegetation response will be monitored each year during the peak growing season (July-September) in 1m quadrats located on randomly placed transects within each treated area. Percent cover and species composition will be determined using the point-intercept method (Roman et al. 2001). Wildlife response to treatment will be evaluated through continuation of current surveys and initiation of point count surveys (Bookhout 1994) in those areas that are currently not covered by existing, operational surveys. During the course of the proposed project award we will utilize NOAA funds to conduct monitoring activities. Upon termination of the grant award (i.e., 2010), the CT DEP and its various project partners will assume the financial responsibility for long-term monitoring of the project.

Partnerships and Matching Funds

Partnerships are vital to the long-term success of conservation projects. This proposed project has broad support (see attached partner letters of support) from NGO's, local municipalities, and private organizations. Partners include: The Nature Conservancy, Audubon Connecticut, Connecticut Audubon, Connecticut Ornithological Association, Save the Sound, Ducks Unlimited, Connecticut Waterfowlers Association, Natural Resources Conservation Service (NRCS), USFWS, Silvio Conte National Wildlife Refuge (NWR), Towns of Chester, Deep River, East Haddam, Essex, Haddam, Lyme, Old Lyme, and Old Saybrook. The primary source of match is in the form of in-kind match of either staff time or equipment (see Budget Narrative).

Outreach and Education

The past and current restoration efforts conducted by the CT DEP are well publicized through a number of different avenues. Articles regarding wetland restoration efforts and the positive benefits of such efforts are routinely published in the nationally acclaimed DEP Wildlife Division magazine, CT Wildlife. The goals and results of our various restoration efforts are also disseminated to the public through other venues such as the Master Wildlife Conservationist Program, a volunteer based conservation program that trains volunteers to assist the Agency in the delivery of various conservation efforts and public outreach. Dissemination of information regarding successful restoration projects is shared amongst the scientific community through presentations at national wetland meetings and through the publication of peer reviewed articles. Feature articles in major CT newspapers and radio interviews on restoration and research projects conducted by the Agency are another often used outlet for dissemination of DEP work. We will develop and place signage at various public access points throughout the project area describing the project, its ecological benefits, and recognition of all of the partners in the project. Signage will be funded by CT DEP Wildlife Division.

This proposed project is the third large-scale restoration project that will occur in the lower CT River RAMSAR site. Successful implementation of this project will add to the growing body of restoration work conducted in the area, and, as our restoration history has proven, will lead to future critical restoration work in the area.

Project Implementation and Completion

Initiation of the project will occur upon receipt of project approval. Invasive species control can occur beginning in July 2009 and be completed (2 years of herbicide treatment and mowing) by December 2010. Hydrologic restoration through IMM could occur beginning in September 2009 and be completed by January 2010. Marine debris removal could begin by October 2009 and be completed by September 2010. Beach restoration and nourishment activities could begin by October 2009 and be completed by March 2010.

The CT DEP is the primary state agency tasked with natural resource conservation and management. The Agency possesses the infrastructure to manage and administer grants, and has a long history of successful grant implementation. A concerted effort to restore tidal wetlands began in 1980 under DEP's newly created Coastal Management Program. By reestablishing tidal flow, the program returns degraded wetlands to healthy habitat. Other methods of restoring wetland vegetation and related historic wildlife uses include the creation of pools and ponds, the filling of mosquito ditches, and the control of invasive plant species. Today, DEP is recognized as a national leader in tidal wetlands restoration, with over 1,700 acres of tidal wetlands in Connecticut restored through these techniques.

Permitting and Consultation Process

The activities proposed herein will require permitting from the U.S. Army Corp of Engineers (COE) and DEP-Office of Long Island Sound Programs (OLISP). Both these permitting agencies have approved similar restoration activities in Connecticut in the

past, and their familiarity with not only the project area, but also the Agency staff that will be administering the project, should facilitate the permitting process in a timely and efficient manner. Below is a potential schedule for the consultation and permitting process:

April 2009	Initial consultation with OLISP, COE
	Permit application submitted by CT DEP
July 2009	Issuance of Certificate of Permission (COP) from OLISP
	Issuance of Programmatic General Permit (PGP) from COE

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Tidal Wetland Restoration in the Lower CT River Ramsar Site

Budget Justification

We will accomplish this project through the use of existing staff and the hiring of seasonal employees and contractors. The cost of personnel can be broken down into planning/design, implementation, and monitoring. Permanent staff will be providing administration of the project and planning and design of the project on the ground. Contractors, by and large, will be responsible for conducting the work on the ground (invasive control, debris removal, beach enhancement, IMM activities). We will also hire seasonal employees to conduct on the ground invasive control and seasonal employees will be used exclusively to conduct monitoring activities. **We expect that this proposed project will result in a minimum of 6,508 hours of new employment over the course of the project.**

Personnel (Federal Share), $23,336.00
This is salary cost for 6 individuals. Two of these positions will assist with the IMM (tidal channel and panne creation) work. The other 4 positions will be for ecological monitoring of the project. Salary cost for the IMM work is $20.00/hour for 310 hours of work. Salary cost for the monitoring work is $12.00/hour for 1,428 hours of work.

Personnel (Non-Federal Share), $12,230.00
This is salary cost for 4 weeks of work (140 hours) from the Wetlands Habitat Management biologist and an additional 4 weeks of work (140 hours) from the Mosquito Management biologist. Their duties in conjunction with this project will be project administration and oversight of the activities of the project. A large portion of this time will be devoted to working with the permitting agencies (OLISP and COE) on developing the permits for the activities proposed herein.

Fringe (Federal Share), $9,568.00
The fringe rate is 41% of salary. This is the current State of Connecticut fringe rate. A total of $2,542.00 covers the OMWM personnel and $7,026.00 covers the 4 monitoring positions.

Fringe (Non-Federal Share), $5,014.00
The current State of Connecticut fringe rate is 41% of salary. This fringe covers FICA, medical and dental insurance, retirement and disability.

Indirect (Federal Share), $6,599.00
The current State of Connecticut indirect rate is 28.28% of salary costs. A total of $1,753.00 of this is for the IMM work and $4,846.00 is for the monitoring personnel.

Indirect (Non-Federal Share), $3,459.00
The current State of Connecticut indirect rate is 28.28% of salary costs. This indirect covers the above permanent staff salary.

Contractual (Federal Share)

Marine Debris Removal	**$147,576.00**
Invasive Control	**$879,828.00**
Beach Nourishment	**$388,350.00**

Contractors will be hired to conduct the control of invasive species, marine debris removal, and beach nourishment aspects of the proposed project. Contractors to be hired have vast experience in conducting the types of work described herein. The cost estimates above include personnel, transport, supplies, and equipment rentals.

The estimates of cost for each of the contractual portions of the proposed project are as follows:

Marine Debris Removal-We estimated that the potential existed for 1 ton of debris per 10 acres of marsh surface. Our disposal costs are $400/ton. Due to the likely clumped distribution of debris, we estimated that 50 acres of marsh could be surveyed and debris removed per day by a crew of 2 people on the ground with heavy machinery. A barge operator would be utilized as well during this operation. This cost may be lower once bids are actually sent out.

Invasive Control-The current contractor price of invasive control is $446/acre. Control and mowing can occur at a rate of approximately 5 acres/day for each activity. Transportation costs of barging equipment from site to site, daily set-up fees charged by the contractor of $600/day were also calculated for the total cost of this activity.

Beach Nourishment-This estimated cost was derived through an analysis of recent contracted hydraulic dredge and fill projects conducted in New England. The estimated cost for the dredging, transport, and deposit of the approximate amount of material in this proposal comes to $50/cubic yard. This cost may be lower once bids are actually sent out.

Other (Non-federal Share), $430,832.00

Nearly half of this match ($201,947.00) is state match that was used in the delivery of 441 acres of marsh restoration in the proposed project area from 2007 to 2008. This 441 acre restoration occurred at 4 different sites and was a mix of invasive species control and tidal restoration. A portion of the match ($138,182.00) is inkind match for the rental of a Posi-Track Low Ground Pressure Loader at $351/hour. A total of $20,703.00 is for 4 weeks of permanent staff time for 2 biologists from the CT DEP's Wetlands Habitat Management Program. A total of $10,000.00 will be used to develop and place signage at various access points within the project area to describe the project and recognize all of the partners in the project. The remaining $30,000.00 is a mix of CT State Duck Stamp funding ($5,000.00) and a $25,000.00 donation from a private benefactor for restoration work specifically to be conducted at Great Island and Upper Island (Van Winkle Fund).

Total Direct Charges:	**Federal:**	**$1,448,658.00**
	Non-Federal:	**$17,244.00**
Total Indirect Charges:	**Federal:**	**$12,958.00**
	Non-Federal:	**$3,459.00**
State/Partner Match:		**$410,129.00**
Total Charges:	**Federal:**	**$1,455,257.00**
	Non-Federal:	**$430,832.00**

CT River Ramsar Site
Budget

Salary	23,336.00	12,230.00	35,566.00
Fringe	9,568.00	5,014.00	14,582.00
IDC	6,599.00	3,459.00	10,058.00
Other		410,129.00	
Contractual	1,415,754.00		1,825,883.00
	1,455,257.00	430,832.00	1,886,089.00

Appendix A. Figures

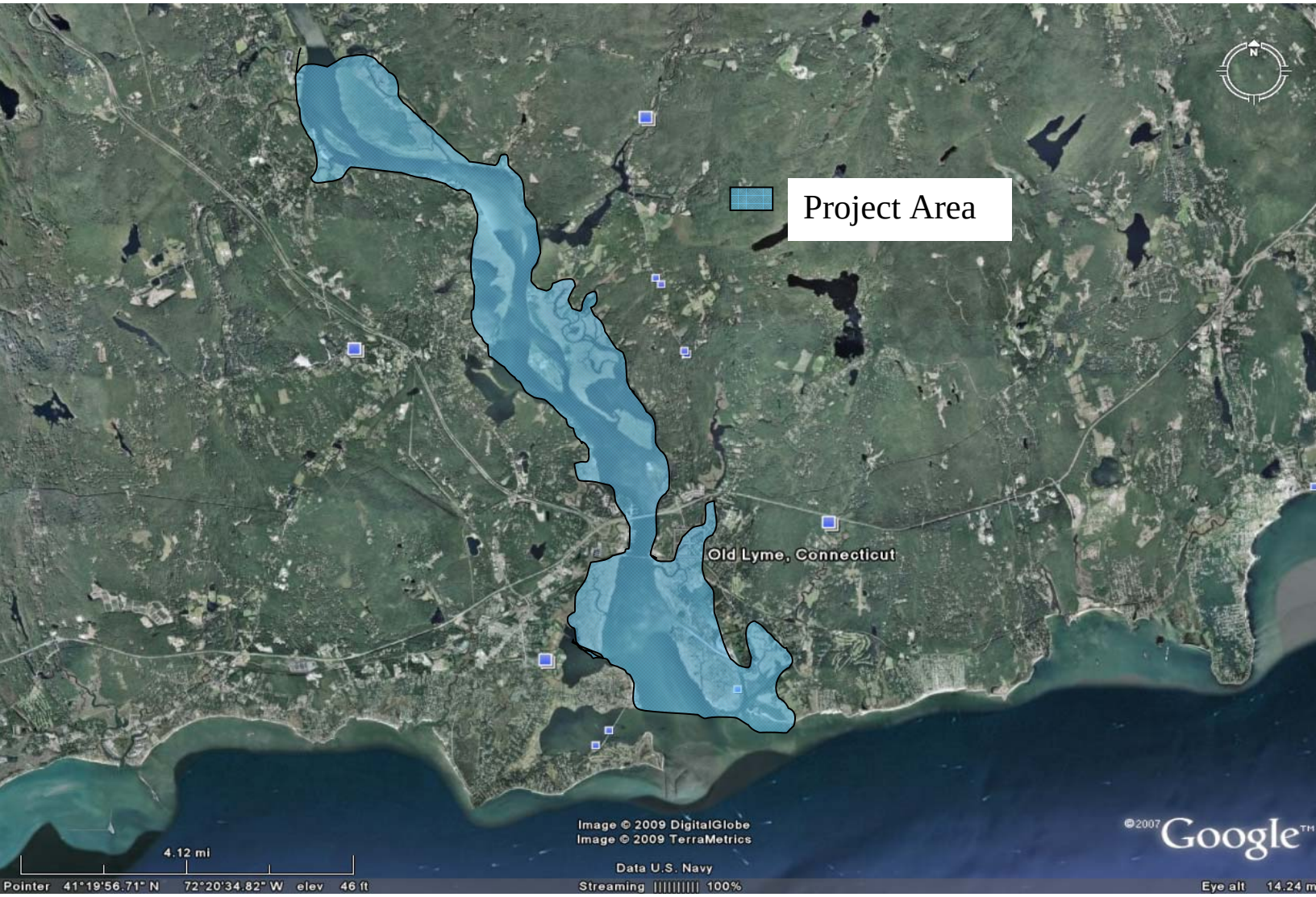


Figure 1. Proposed project area.

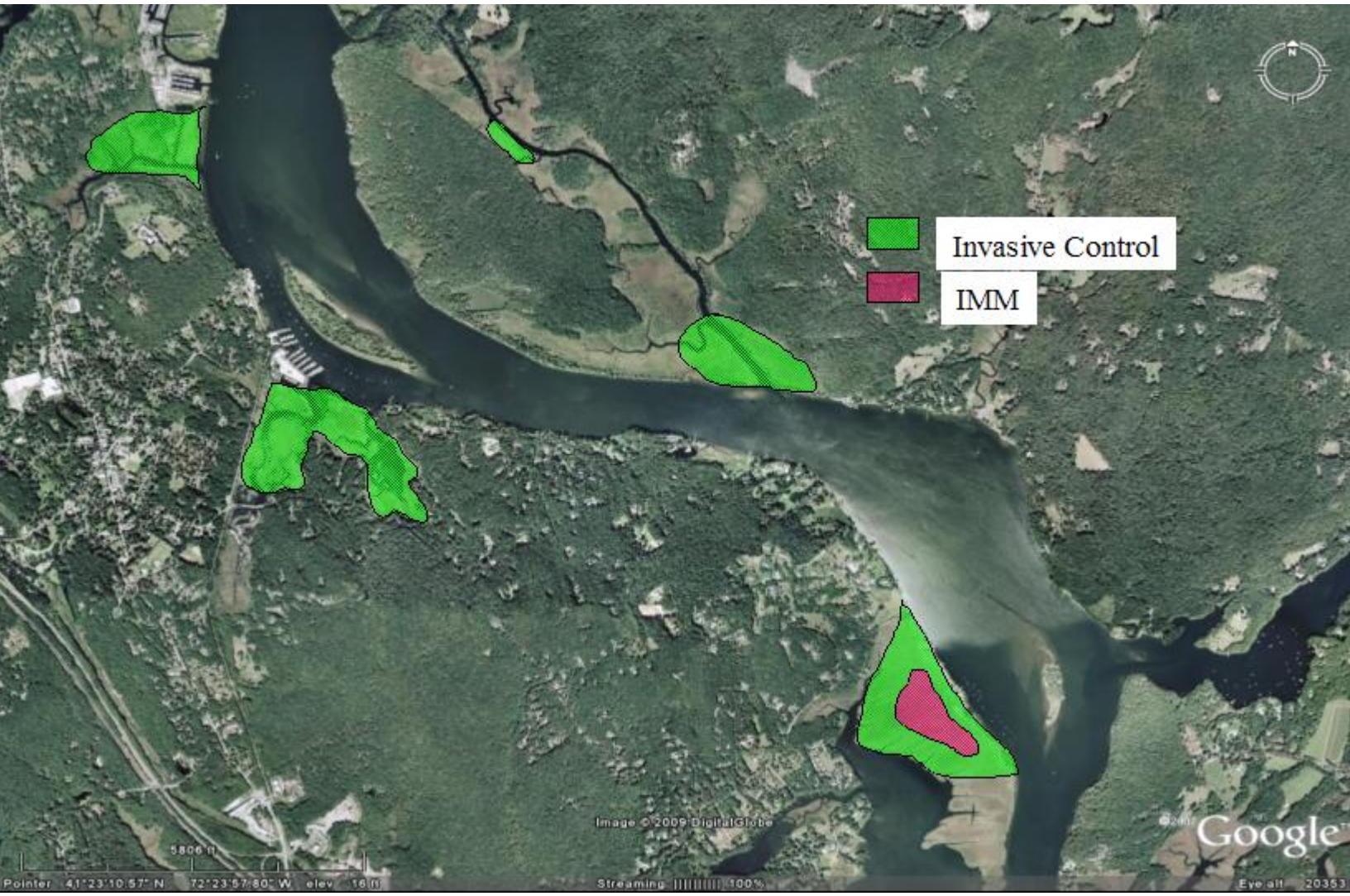


Figure 2. Northern extent of project area and proposed activities.

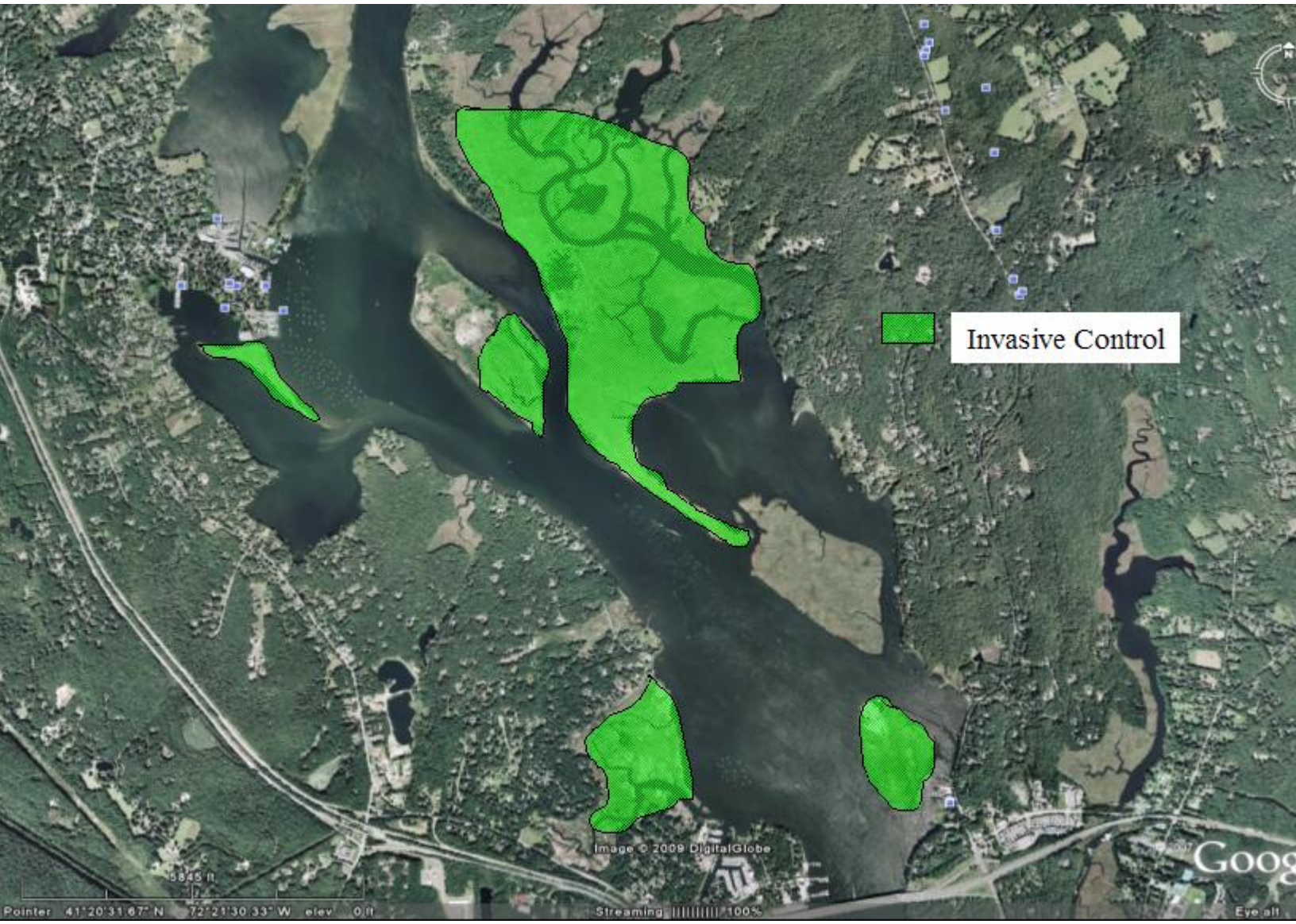


Figure 3. Central extent of project area and proposed activities.

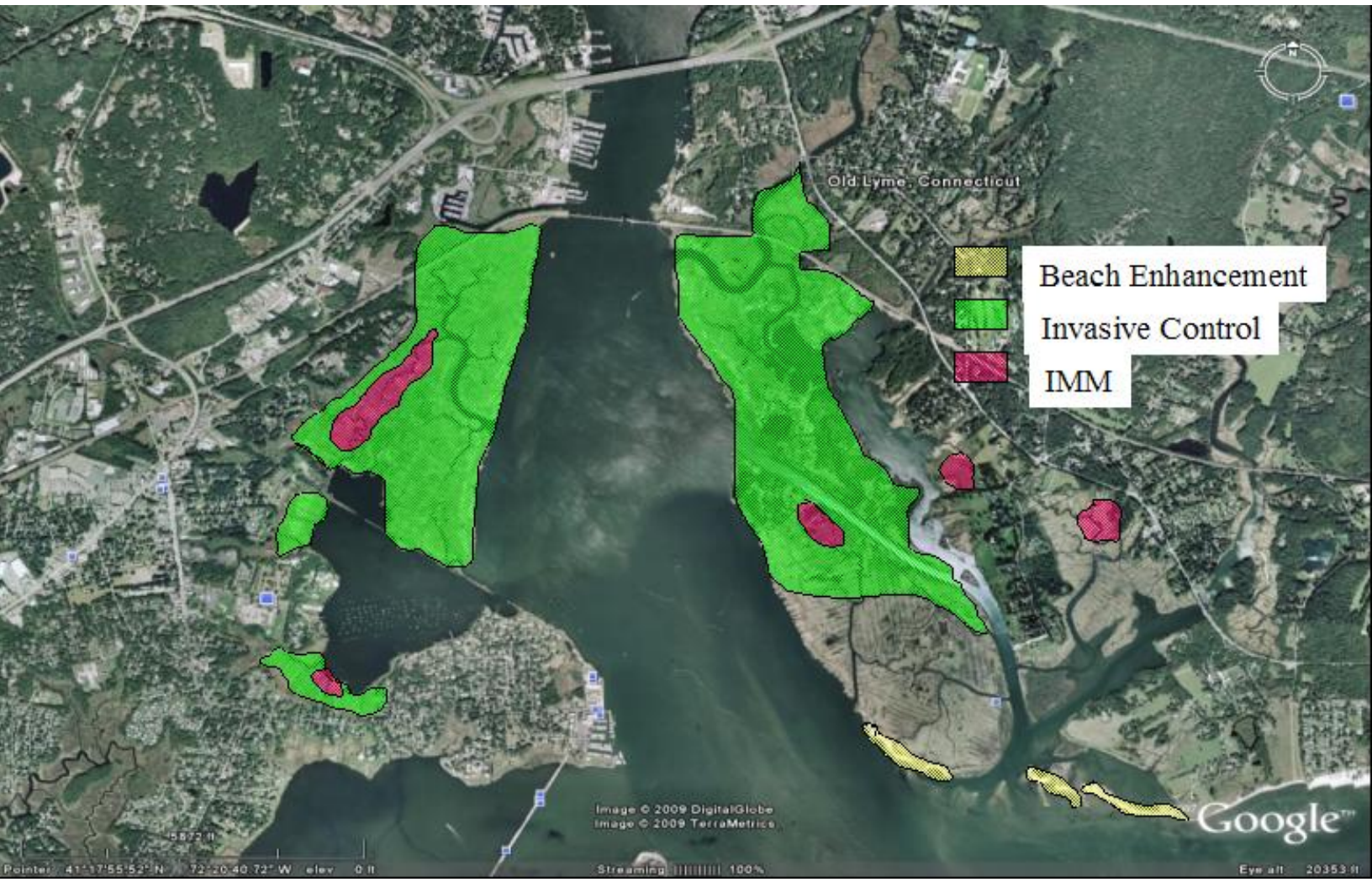
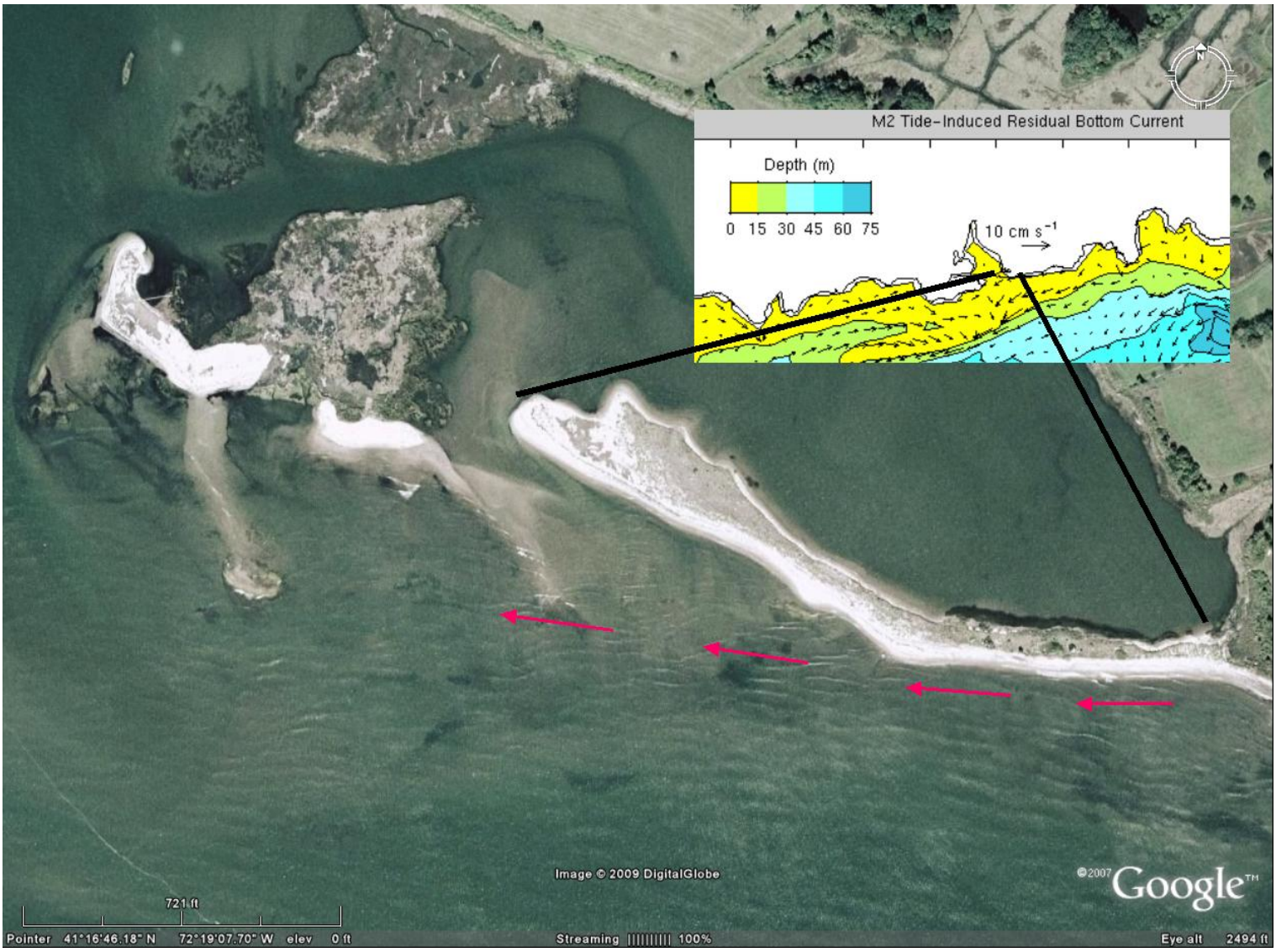


Figure 4. Southern extent of project area and proposed activities.

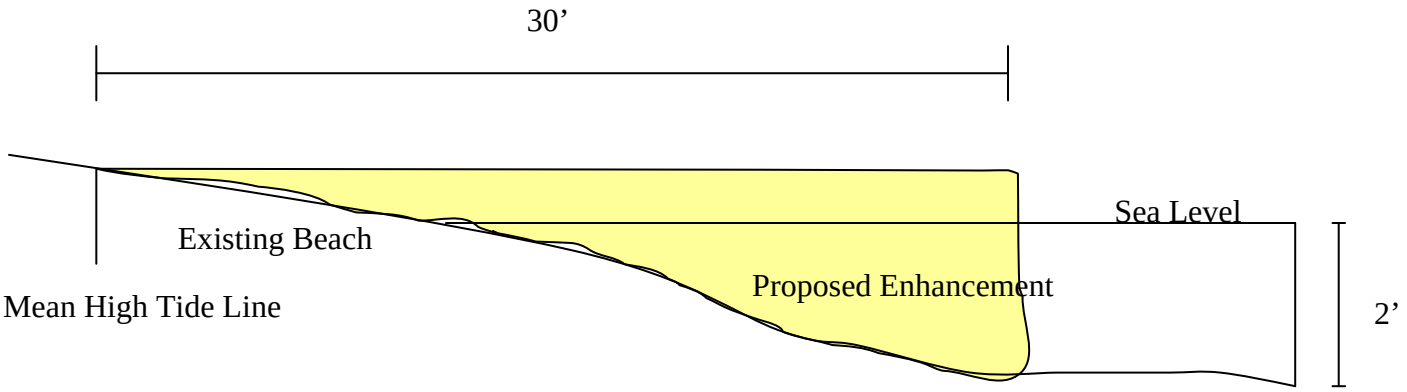
Appendix B. Design Plans



Tidal currents at Griswold Point, Old Lyme CT.

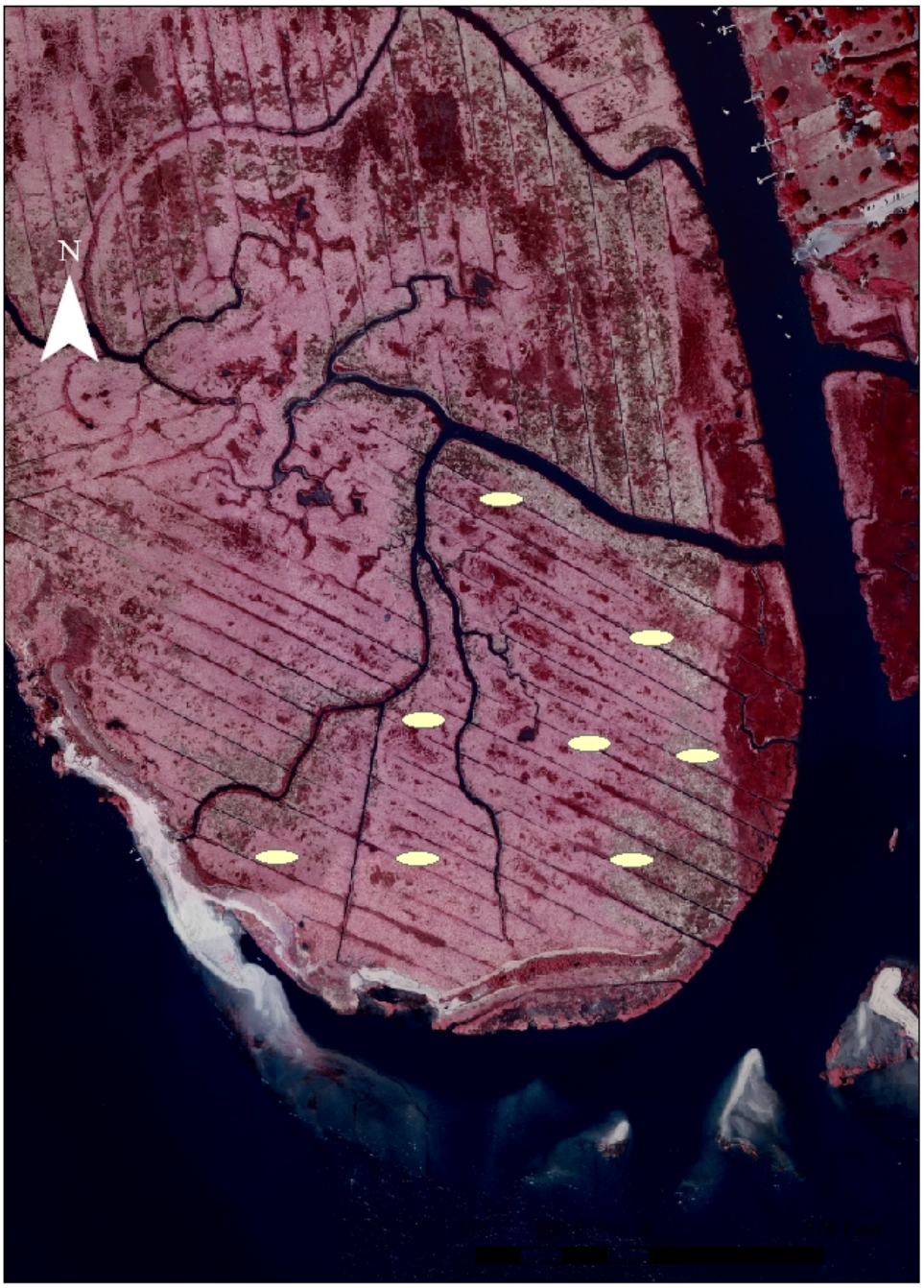
Tidal Currents at Great Island, Old Lyme, CT

Griswold Point Beach Profile



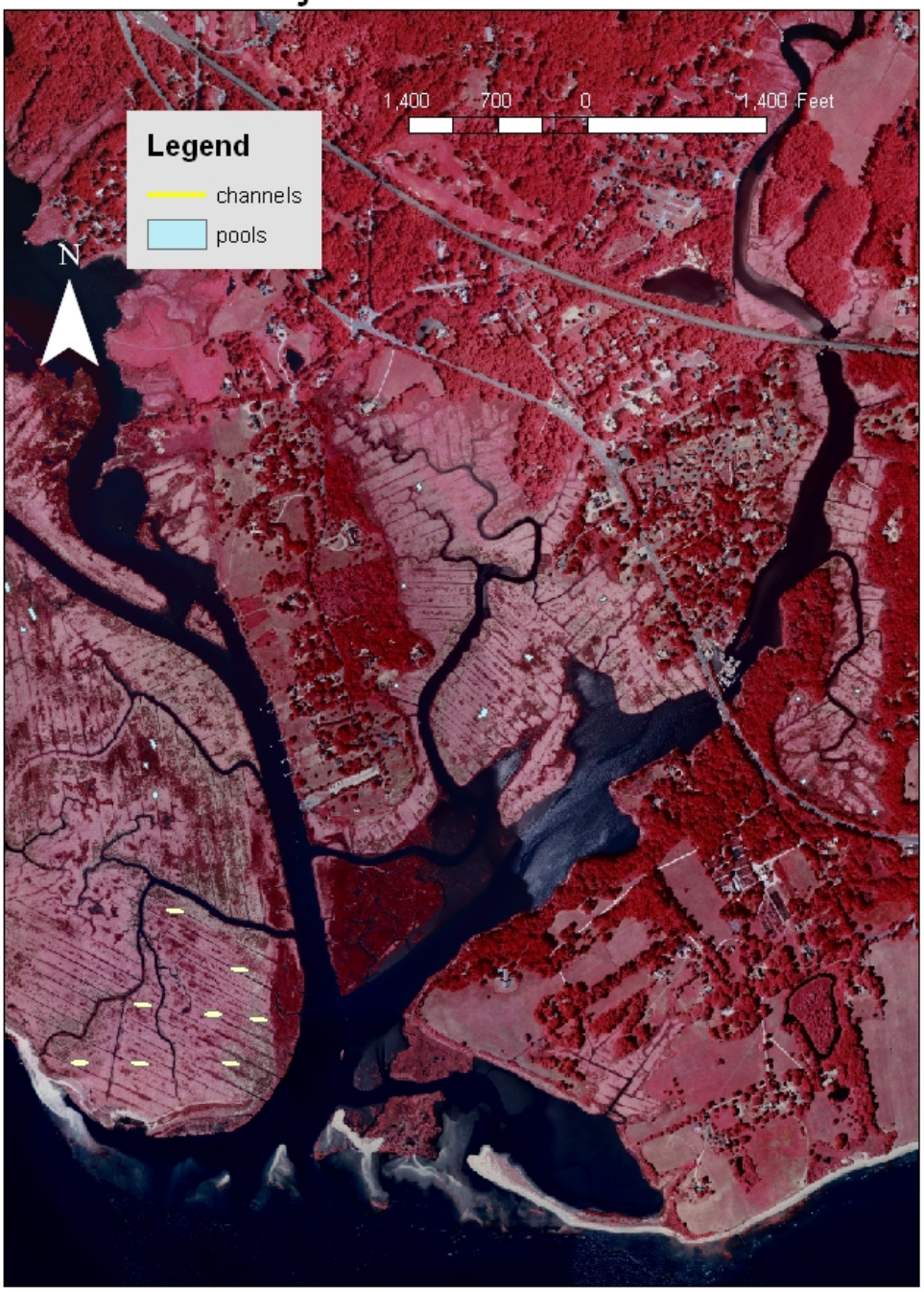
Proposed beach nourishment project at Griswold Point.

Lower CT River NOAA Grant
Total of 1 acre of New Pannes on Great Island

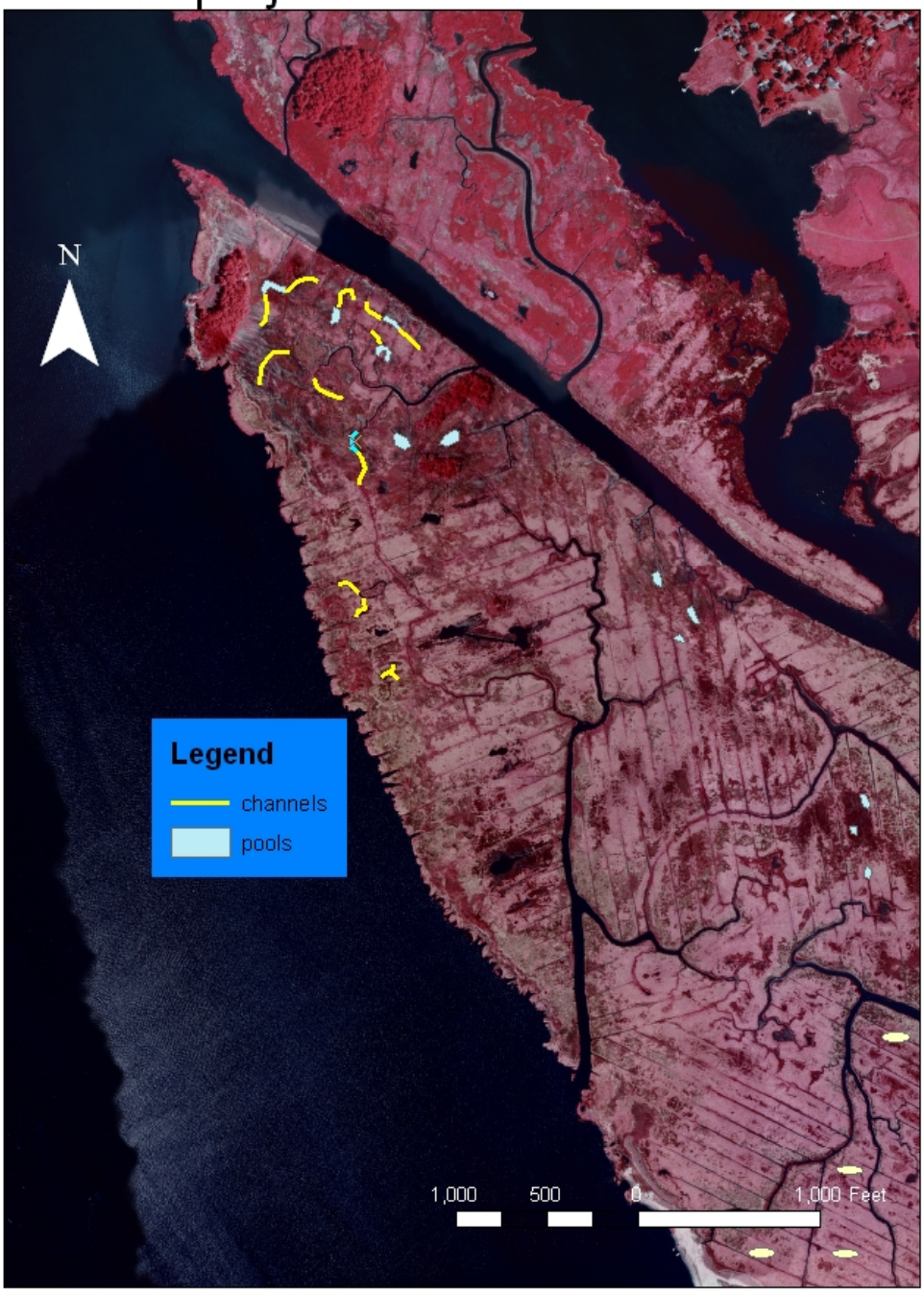


Lower CT River NOAA Grant
IMM Project Ayers Point Marsh

Lower CT River NOAA Grant
IMM Project Black Hall River



Lower CT River NOAA Grant
IMM projects



Lower CT River NOAA Grant
IMM Project Great Meadows Marsh

Lower CT River NOAA Grant
IMM Project Ragged Rock

Appendix C. List of private landowners where restoration work will occur in the proposed project area.

Area	Town	Landowner	Adress
DUCK RIVER	Old Lyme	Richard Dillenbeck	18 Liberty Ln. Old Lyme, CT 06371
		Duck Pond Assoc.	6 Dunns Ln. Old Lyme, CT 06371
GRISWOLD POINT	Old Lyme	Evan Griswold	PO Box 0509; Old Lyme, CT 06371 (alt) 24 Osprey Road, Old Lyme, CT 06371
NORTH COVE /SOUTH COVE	Old Saybrook	Joan Berkey & David Eddington	
		Maryam Elahi	
		Bill & Carol Motylewski	
		Leo & Maryanne Calarella	
		Larry Tucker	
NORTH COVE	Old Saybrook	Janice Holland	PO Box 9; Old Saybrook, CT 06475
FENWICK	Old Saybrook	Charles Chadwick	PO Box 126; Old Saybrook, CT 06475
		Francis & Carol Adams	48 Sequassen Ave; Old Saybrook, CT 06475
		David Savin	37 Sequassen Ave; Old Saybrook, CT 06475
AYERS POINT	Old Saybrook	George Boujockes	88 Ayers Point Road; Old Saybrook, CT 06475
		John & Cindy Gibbs	15 First Avenue; Old Saybrook, CT 06475
		Mitchel & Regina Strand	173 Ayers Point Road; Old Saybrook, CT 06475
OTTER COVE	Old Saybrook	Chuck Wiltsie	45 Otter Cove Road, Old Saybrook, CT 06475
		Fritz Spindler	
GREAT MEADOWS	Essex	Mary Bunge	822 Jeronimo Dr. Coral Gables, FL 33146
		Pettipaug Yacht Club	36 Great Meadows Road, Essex, CT 06426
		Essex Land Conservation Trust	PO Box 373, Essex, CT 06426
		Dorothy Davis	PO Box 156, Essex, CT 06426
BROCKWAY ISLAND	Essex	David Hyde	16 Maple Ave. Essex, CT 06426
FALLS RIVER	Essex	Essex Land Conservation Trust	PO Box 373, Essex, CT 06426
PRATT COVE	Deep River	Brewer Deep River Marina	50 River Lane, Deep River, CT 06417
POST COVE	Deep River	Brewer Deep River Marina	50 River Lane, Deep River, CT 06417

United States Department of the Interior

FISH AND WILDLIFE SERVICE
300 Westgate Center Drive
Hadley, MA 01035-9589

National Marine Fisheries Service (NOAA Fisheries),
National Oceanic and Atmospheric Administration,
Department of Commerce

Attn: Craig Woolcott, Melanie Gange

March 23, 2009

re: FFO Number: NOAA-NMFS-HCPO-2009-2001709

The Connecticut Department of Environmental Protection (DEP), Bureau of Natural Resources, Wildlife Division is submitting a project proposal through a grant from the NOAA Coastal and Marine Habitat Restoration Project under the American Recovery and Reinvestment Act for the restoration of nearly 900 acres of coastal wetland habitats in the lower Connecticut River.

The DEP's proposal will seek to restore wetland habitats that include tidal marshes, shorelines and beaches in order to recover threatened or endangered species and benefit species of concern such as American black duck, piping plover and numerous native plant species. This will be accomplished through a combination of beach and dune restoration, control of exotic and invasive plants such as *Phragmites*, limited creation of shallow pools and pannes on the marsh surface, restoring hydrological connections of tidal systems, and the removal of many years of marine debris accumulated in the marshes. This effort will truly support NOAA's mission to restore marine and coastal habitats, while also resulting in near immediate stimulation of the local economy through jobs created to conduct the restoration work and support the public's use and appreciation of wildlife and coastal/marine resources that benefit from it. According to the 2001 National Survey of Fishing, Hunting and Wildlife-Related Recreation in the US, approximately 46 million people spent $32 billion in retail sales watching birds, which resulted in $85 billion in economic output and created approximately 863,405 jobs. According to the U.S. Fish and Wildlife Service survey, Connecticut ranked above the national average for bird watching among state residents, and the Northeast Region ranked the second highest in the nation for regional participation.

On behalf of the U.S. Fish and Wildlife Service, I support the efforts of the Connecticut DEP as they seek to implement this project. We recognize the continued importance of partnerships in conserving our vanishing natural resources and important migratory bird habitats, and look upon this project as a critical step in strengthening the foundation of conservation and economic growth in Connecticut and the Northeast.

Sincerely,

Chris Dwyer
Wildlife Biologist
Division of Migratory Birds

TAKE PRIDE® IN AMERICA

Atlantic Coast Joint Venture
300 Westgate Center Drive, Hadley, MA 01035
www.acjv.org

March 25, 2009

National Marine Fisheries Service (NOAA Fisheries),
National Oceanic and Atmospheric Administration,
Department of Commerce

Attn: Craig Woolcott, Melanie Gange

re: FFO Number: NOAA-NMFS-HCPO-2009-2001709

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The Atlantic Coast Joint Venture is a partnership of federal, regional and state agencies and organizations focused on the conservation of habitat for native birds in the Atlantic Flyway of the United States from Maine south to Puerto Rico. The joint venture coordinates planning and delivery of bird habitat conservation, resulting in more effective and efficient conservation and the ability to focus limited resources on continental, national, flyway and regional bird conservation priorities. The entire Connecticut DEP project described above is located within the Connecticut River Focus Area of the Atlantic Coast Joint Venture (ACJV), an area identified as critical for migratory birds. We strongly support this project.

Please let me know if you have any questions.

Sincerely,

Andrew Milliken
Atlantic Coast Joint Venture Coordinator

Connecticut Audubon Society

2325 Burr Street
Fairfield, CT 06824

Phone: 203-259-6305
Fax: 203-254-7673

National Marine Fisheries Service (NOAA Fisheries)
National Oceanic and Atmospheric Administration
Department of Commerce

Attn: Craig Woolcott, Melanie Gange

Date: 23 March 2009

re: FFO Number: NOAA-NMFS-HCPO-2009-2001709

With this letter we would like to express our support for the CT-DEP proposed habitat restoration project focusing on degraded estuarine emergent wetland habitat in the lower Connecticut River estuary. The target area for this habitat improvement project is of the utmost importance for many migratory birds and is a crucial breeding ground for waterfowl, wading birds as well as many other species of plants and animals. Biological functionality of this area has been compromised since local saltmarsh habitat was drastically altered to facilitate mosquito control decades ago. These changes in the area's hydrology and the subsequent invasion of non-native plant species led to a reduction in the diversity and density of local biota. Removal of invasive plant species, restoration of the native vegetation cover, as well as locally improving hydrology as outlined in the CT-DEP proposal, will benefit the biodiversity in the area and provide increased habitat for a substantial number of species included in the Connecticut Endangered Species Act.

The Connecticut Audubon Society recognizes the importance of biologically functional salt marsh and estuarine habitats. Restoration of such threatened habitat should be considered a high conservation priority in the state and we support the CT-DEP proposal to improve the quality of some of the most important estuarine habitats in the state.

Please feel free to contact us for additional information.

Sincerely,

Milan Bull
Senior Director, Science and Conservation

Anton (Twan) Leenders
Conservation Biologist

DUCKS UNLIMITED

GREAT LAKES ATLANTIC REGIONAL OFFICE
1220 Eisenhower Place
Ann Arbor, MI 48108
(734) 623-2000 Fax (734) 623-2035
www.ducks.org

March 24, 2009

Craig Woolcott and Melanie Gange
National Marine Fisheries Service (NOAA Fisheries)
NOAA, Department of Commerce

Re: FO Number: NOAA-NMFS-HCPO-2009-2001709

It has come to my attention that the Connecticut Department of Environmental Protection (DEP), Bureau of Natural Resources, Wildlife Division is proposing an ambitious and exciting project for the restoration of nearly 900 acres of coastal wetland habitats in the lower Connecticut River. I understand the DEP will be seeking funding through a grant from the NOAA Coastal and Marine Habitat Restoration Project under the American Recovery and Reinvestment Act.

The DEP's proposal will seek to restore wetland habitats including tidal marshes, and shorelines and beaches, in order to recover threatened or endangered species or benefit species of concern such as American black duck, piping plover and numerous native plant species. This will be accomplished through a combination of beach and dune restoration, control of exotic and invasive plants such as Phragmites, limited creation of shallow pools and pannes on the marsh surface, restoring hydrological connections of tidal systems, and removal of years of marine debris accumulation on the marshes. This ambitious effort will truly support ongoing and future conservation activities that will provide employment, education and training through the restoration of our coastal and marine habitats.

On behalf of Ducks Unlimited, Inc., I support the efforts of the Connecticut DEP as they seek to implement this project. We envision opportunities to partner with the DEP on various aspects of the project and as the proposed project comes to fruition we anticipate being able to assist through both direct and indirect matching funds. We recognize the continued importance of partnerships in conserving our vanishing natural resources and look upon this project as a critical step in strengthening the foundation of conservation efforts here in Connecticut.

Sincerely,

Robert D. Hoffman

Robert Hoffman
Director, Great Lakes/Atlantic Region

Connecticut Waterfowl Association

To: National Marine Fisheries Service (NOAA Fisheries), National Oceanic and Atmospheric Administration, Department of Commerce
Attn: Craig Woolcott, Melanie Gange
Date: March 23, 2009
re: FFO Number: NOAA-NMFS-HCPO-2009-2001709

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On behalf of the Connecticut Waterfowlers' Association, I support the efforts of the Connecticut DEP as they seek to implement this project. We envision opportunities to partner with the DEP on various aspects of the project and as the proposed project comes to fruition we anticipate being able to assist through both direct and indirect matching funds. We recognize the continued importance of partnerships in conserving our vanishing natural resources and look upon this project as a critical step in strengthening the foundation of conservation efforts here in Connecticut.

Sincerely,

David J. Proulx
President

CONNECTICUT ORNITHOLOGICAL ASSOCIATION
314 Unquowa Road
Fairfield, CT 06824
www.ctbirding.org

March 25th, 2009

National Marine Fisheries Service (NOAA Fisheries), National Oceanic and Atmospheric Administration, Department of Commerce Fisheries, Office of Habitat Conservation (F/HC3), 1315 East West Highway, Silver Spring, MD 20910.

Attn: Craig Woolcott, Melanie Gange

Re: FFO Number: NOAA-NMFS-HCPO-2009-2001709

Dear Ms. Gange and Mr. Woolcott:

The Connecticut Ornithological Association strongly supports the Connecticut DEP proposal to obtain funding through NOAA to restore tidal wetlands in the lower Connecticut River. The tidelands of the Connecticut provide some of the most important bird habitat in the state, supporting our largest wintering concentrations of Bald Eagles, large numbers of wintering and migrating waterfowl, untold numbers of migratory shorebirds, rails and other birds and a significant population of nesting Saltmarsh Sparrows and other wetland birds. Infestations of the non-native genotypes of *Phragmites* have become a serious problem in this system. The non-native form of this invasive species of grass can dominate a marsh system and result in significantly reduced avian and general biodiversity.

We are thrilled at this opportunity for the State of Connecticut to work together with Federal and other partners to enact a well-planned restoration of these critical habitats to restore and enhance their ecological function. This restoration is especially important in the face of rising sea levels. The Connecticut River system may present unique opportunities for the landward migration of salt marsh habitats in the face of such changes because of the abundance of wetlands present well up river from the estuarine interface. Setting the table through these restoration efforts will allow for healthier populations of tidal marsh dependent wildlife that will have increased resilience to changing conditions and allow for colonization of new habitats as salinity and water levels adjust. As such the lower Connecticut River is worthy of continued focus for habitat restoration and enhancement.

In addition to its ecological functions, the estuarine reaches of the River offer tremendous opportunities for birders and other members of the public to learn about and enjoy our

natural resources. These features have introduced thousands of people to the enjoyment of wild birds, from winter eagle cruises and festivals to the amazing spectacle of the swallow roost at Goose Island, a phenomena that Roger Tory Peterson said "eclipsed any other avian spectacle I had ever seen". We are happy to hear that Goose Island is not going to be a part of this restoration efforts because of the potential impact to the swallow roost, which we view as a sign that the DEP is carefully considering the impact of this work on existing resources and that the restoration will be well planned and executed.

Since increased stewardship of the Connecticut River Estuary will further both our mission to protect birds and to promote interest in our state's birds and we wholeheartedly endorse this proposal.

Sincerely,

Patrick M. Comins, President

CC: Dale May, Director, Connecticut Department of Environmental Protection Wildlife Division.
Min Huang, Migratory Gamebird Program Leader, Connecticut Department of Environmental Protection Wildlife Division.

Audubon CONNECTICUT

Audubon Greenwich
613 Riversville Road
Greenwich, CT 06831
Tel: 203-869-5272
Fax: 203-869-4437
www.audubon.org

March 24, 2009

National Marine Fisheries Service (NOAA Fisheries), National Oceanic and Atmospheric Administration, Department of Commerce Fisheries, Office of Habitat Conservation (F/HC3), 1315 East West Highway, Silver Spring, MD 20910.

Attn: Craig Woolcott, Melanie Gange

Re: FFO Number: NOAA-NMFS-HCPO-2009-2001709

Dear Mr. Woolcott and Ms. Gange:

This letter is to express Audubon Connecticut's strong support of the above referenced proposal by the Connecticut Department of Environmental Protection (DEP) to restore approximately 900 acres of wetlands in tidal reaches of the Connecticut River. The lower Connecticut River is an extremely important ecological resource in the heavily populated northeastern United States. This river is one of the few large river systems in North America that lacks a large city and port at its mouth. The result is a remarkable network of tidal wetlands, ranging from freshwater tidal marshes dominated by wild rice to high and low brackish wetlands dominated by *Spartina patens* and *alterniflora*. These wetlands have been recognized as 'Wetlands of International Importance' under the Ramsar Convention and several Audubon Important Bird areas have been identified, but not yet publicly announced within this system. The *Spartina* marshes at the mouth of the river support Connecticut's largest nesting population of Saltmarsh Sparrows, a system that easily exceeds the threshold for being a globally significant Important Bird Area under the criteria set forth by BirdLife International.

Unfortunately, non-native strains of *Phragmities* have seriously degraded many areas within this estuarine ecosystem and reduced its ability to support nesting marsh birds as well as migrating and wintering waterfowl and shorebirds. These invasive strains of *Phragmites* have dominated marsh systems, crowding out native vegetation and forming a monoculture to which our native birds and wildlife are not adapted. While in some cases, such as Goose Island, the *Phragmites* can provide an important function by supporting large numbers of roosting Tree Swallows in migration, these monocultures are a generally a serious

impediment to biological diversity and ecosystem function. That the DEP is excluding Goose Island from their restoration plan shows that they have carefully weighed the current usage of these wetlands against the benefits of restoration and are focusing their efforts on the areas that will provide the greatest impact.

Restoring these globally significant tidal wetlands to native vegetation will greatly benefit the greater Long Island Sound ecosystem and the fish and wildlife that depend on it. Audubon Connecticut strongly supports the efforts of the Connecticut DEP to obtain funding to complete this important restoration work which will greatly improve habitat for migratory birds, finfish and other wildlife in the Connecticut River Long Island Sound Ecosystem.

We respectfully request your favorable review of this proposal. Thank you very much for the opportunity to support this important endeavor.

Sincerely,

Thomas R. Baptist

Thomas R. Baptist
Vice President and Executive Director

cc: Dale May, Director, Connecticut Department of Environmental Protection Wildlife Division.
Min Huang, Migratory Gamebird Program Leader, Connecticut Department of Environmental Protection Wildlife Division.

Audubon Connecticut, the state organization of the National Audubon Society with more than 12,000 members statewide, works to protect birds, other wildlife and their habitats using education, science and conservation, and legislative advocacy for the benefit of humanity and the earth's biological diversity. Through our network of nature centers, wildlife sanctuaries, and local volunteer Chapters, we seek to connect people with nature and inspire the next generation of conservationists.

To: Min T. Huang, Migratory Gamebird Program Leader
391 RT 32
North Franklin CT 06254

From: Friends of Pondicherry
515 Bailey Road
Jefferson, NH 03583

Subject: Letter of Support for the 900 acre CT River Restoration project

The Friends of Pondicherry is a support group for the US Fish and Wildlife Service refuge in Jefferson and Whitefield, NH. We are in the CT River watershed and part of the Silvio O. Conte National Fish and Wildlife Refuge. As such we have an interest in issues related to the entire CT River. Many of the birds that visit our refuge stage in the lower CT River in spring and fall.

We have reviewed the proposal by the CT DEP for restoration work on 900 acres of wetland. We support this proposal and urge that funding be authorized for such a purpose.

Please let me know if we can be of further assistance.

Sincerely,

David Govatski, Chairman
Friends of Pondicherry

pondicherry@wildblue.net

OLD SAYBROOK LAND TRUST Inc.
Preserving & Protecting

March 23, 2009

To: National Marine Fisheries Service (NOAA Fisheries), National Oceanic and Atmospheric Administration, Department of Commerce

Attn: Craig Woolcott, Melanie Gange

Date:

re: FFO Number: NOAA-NMFS-HCPO-2009-2001709

It has come to my attention that the Connecticut Department of Environmental Protection (DEP), Bureau of Natural Resources, Wildlife Division is proposing an ambitious and exciting project for the restoration of nearly 900 acres of coastal wetland habitats in the lower Connecticut River. I understand the DEP will be seeking funding through a grant from the NOAA Coastal and Marine Habitat Restoration Project under the American Recovery and Reinvestment Act.

The DEP's proposal will seek to restore wetland habitats including tidal marshes, and shorelines and beaches, in order to recover threatened or endangered species or benefit species of concern such as American black duck, piping plover and numerous native plant species. This will be accomplished through a combination of beach and dune restoration, control of exotic and invasive plants such as Phragmites, limited creation of shallow pools and pannes on the marsh surface, restoring hydrological connections of tidal systems, and removal of years of marine debris accumulation on the marshes. This ambitious effort will truly support ongoing and future conservation activities that will provide employment, education and training through the restoration of our coastal and marine habitats.

On behalf of the Old Saybrook Land Trust, I support the efforts of the Connecticut DEP as they seek to implement this project. We envision opportunities to partner with the DEP on various aspects of the project and as the proposed project comes to fruition we anticipate being able to assist through both direct and indirect matching funds. We recognize the continued importance of partnerships in conserving our vanishing natural resources and look upon this project as a critical step in strengthening the foundation of conservation efforts here in Connecticut.

Sincerely,

Janice Holland
President

GRANTS.GOV*

Grant Application Package

Opportunity Title:	Coastal and Marine Habitat Restoration Project Grants -
Offering Agency:	National Oceanic and Atmospheric Administration
CFDA Number:	11.463
CFDA Description:	Habitat Conservation
Opportunity Number:	NOAA-NMFS-HCPO-2009-2001709
Competition ID:	2141924
Opportunity Open Date:	03/06/2009
Opportunity Close Date:	04/06/2009
Agency Contact:	Craig Woolcott or Melanie Gange at (301) 713-0174, or by e-mail at Craig.Woolcott@noaa.gov or Melanie.Gange@noaa.gov. Prospective applicants are invited to contact NOAA staff before submitting an application to discuss

This electronic grants application is intended to be used to apply for the specific Federal funding opportunity referenced here.

If the Federal funding opportunity listed is not the opportunity for which you want to apply, close this application package by clicking on the "Cancel" button at the top of this screen. You will then need to locate the correct Federal funding opportunity, download its application and then apply.

This opportunity is only open to organizations, applicants who are submitting grant applications on behalf of a company, state, local or tribal government, academia, or other type of organization.

*** Application Filing Name:** Recovery Act - CT River Ramsar Site

Mandatory Documents

Move Form to Complete

Move Form to Delete

Mandatory Documents for Submission

- Application for Federal Assistance (SF-424)
- Project Narrative Attachment Form
- Budget Narrative Attachment Form
- CD511 Form
- Assurances for Non-Construction Programs (SF-42
- Budget Information for Non-Construction Program

Optional Documents

- Disclosure of Lobbying Activities (SF-LLL)

Move Form to Submission List

Move Form to Delete

Optional Documents for Submission

- Other Attachments Form

Instructions

1 Enter a name for the application in the Application Filing Name field.

- This application can be completed in its entirety offline; however, you will need to login to the Grants.gov website during the submission process.
- You can save your application at any time by clicking the "Save" button at the top of your screen.
- The "Save & Submit" button will not be functional until all required data fields in the application are completed and you clicked on the "Check Package for Errors" button and confirmed all data required data fields are completed.

2 Open and complete all of the documents listed in the "Mandatory Documents" box. Complete the SF-424 form first.

- It is recommended that the SF-424 form be the first form completed for the application package. Data entered on the SF-424 will populate data fields in other mandatory and optional forms and the user cannot enter data in these fields.

- The forms listed in the "Mandatory Documents" box and "Optional Documents" may be predefined forms, such as SF-424, forms where a document needs to be attached, such as the Project Narrative or a combination of both. "Mandatory Documents" are required for this application. "Optional Documents" can be used to provide additional support for this application or may be required for specific types of grant activity. Reference the application package instructions for more information regarding "Optional Documents".

- To open and complete a form, simply click on the form's name to select the item and then click on the => button. This will move the document to the appropriate "Documents for Submission" box and the form will be automatically added to your application package. To view the form, scroll down the screen or select the form name and click on the "Open Form" button to begin completing the required data fields. To remove a form/document from the "Documents for Submission" box, click the document name to select it, and then click the <= button. This will return the form/document to the "Mandatory Documents" or "Optional Documents" box.

- All documents listed in the "Mandatory Documents" box must be moved to the "Mandatory Documents for Submission" box. When you open a required form, the fields which must be completed are highlighted in yellow with a red border. Optional fields and completed fields are displayed in white. If you enter invalid or incomplete information in a field, you will receive an error message.

3 Click the "Save & Submit" button to submit your application to Grants.gov.

- Once you have properly completed all required documents and attached any required or optional documentation, save the completed application by clicking on the "Save" button.
- Click on the "Check Package for Errors" button to ensure that you have completed all required data fields. Correct any errors or if none are found, save the application package.
- The "Save & Submit" button will become active; click on the "Save & Submit" button to begin the application submission process.
- You will be taken to the applicant login page to enter your Grants.gov username and password. Follow all onscreen instructions for submission.

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424

Version 02

* 1. Type of Submission:
- [X] Preapplication
- [ ] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [X] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify)

* 3. Date Received: Completed by Grants.gov upon submission.

4. Applicant Identifier:

5a. Federal Entity Identifier:

* 5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: State of Connecticut

* b. Employer/Taxpayer Identification Number (EIN/TIN): 86-1151463

* c. Organizational DUNS: 108352811

d. Address:

* Street1: 79 Elm St
Street2:
* City: Hartford
County:
* State: CT: Connecticut
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 06106

e. Organizational Unit:

Department Name: Environmental Protection

Division Name: Wildlife

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:
* First Name: Greg
Middle Name:
* Last Name: Chasko
Suffix:

Title: Assistant Director

Organizational Affiliation:

* Telephone Number: 860-424-3494
Fax Number:

* Email: greg.chasko@ct.gov

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424

Version 02

9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

National Oceanic and Atmospheric Administration

11. Catalog of Federal Domestic Assistance Number:

11.463

CFDA Title:

Habitat Conservation

*** 12. Funding Opportunity Number:**

NOAA-NMFS-HCPO-2009-2001709

* Title:

Coastal and Marine Habitat Restoration Project Grants - Recovery Act

13. Competition Identification Number:

2141924

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

*** 15. Descriptive Title of Applicant's Project:**

Recovery Act - Tidal Wetland Restoration in the lower CT River Ramsar site.

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

* a. Applicant: CT 1-5
* b. Program/Project: CT 2

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 07/15/2009
* b. End Date: 01/14/2011

18. Estimated Funding ($):

* a. Federal	1,455,257.00
* b. Applicant	0.00
* c. State	430,832.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	1,886,089.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

- [ ] a. This application was made available to the State under the Executive Order 12372 Process for review on
- [x] b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- [ ] c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**

- [ ] Yes
- [x] No

Explanation

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

- [x] ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:	Ms.
* First Name:	Susan
Middle Name:	
* Last Name:	Frechette
Suffix:	
* Title:	Deputy Commissioner
* Telephone Number:	860-424-3005
Fax Number:	
* Email:	susan.frechette@ct.gov
* Signature of Authorized Representative:	Completed by Grants.gov upon submission.
* Date Signed:	Completed by Grants.gov upon submission.

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424 Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

Project Narrative File(s)

*** Mandatory Project Narrative File Filename:** NOAA Stimulus Proposal-CT DEP-CT River (3).pdf

Add Mandatory Project Narrative File | Delete Mandatory Project Narrative File | View Mandatory Project Narrative File

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File | Delete Optional Project Narrative File | View Optional Project Narrative File

Budget Narrative File(s)

*** Mandatory Budget Narrative Filename:** NOAA Stimulus Proposal Budget Justification-CT DEP

Add Mandatory Budget Narrative | Delete Mandatory Budget Narrative | View Mandatory Budget Narrative

To add more Budget Narrative attachments, please use the attachment buttons below.

Add Optional Budget Narrative | Delete Optional Budget Narrative | View Optional Budget Narrative

FORM **CD-511**
(REV 1-05)

U.S. DEPARTMENT OF COMMERCE

CERTIFICATION REGARDING LOBBYING

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, 'New Restrictions on Lobbying.' The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over $100,000 or a loan or loan guarantee over $150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying.' in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying,' in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure occurring on or before October 23, 1996, and of not less than $11,000 and not more than $110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

* NAME OF APPLICANT

State of Connecticut

* AWARD NUMBER

* PROJECT NAME

Recovery Act - CT River Ramsar Site

Prefix: Ms.

* First Name: Susan

Middle Name:

* Last Name: Frechette

Suffix:

* Title: Deputy Commissioner

* SIGNATURE: Completed by Grants.gov upon submission.

* DATE: Completed by Grants.gov upon submission.

OMB Approval No.: 4040-0007
Expiration Date: 07/30/2010

ASSURANCES - NON-CONSTRUCTION PROGRAMS

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C.§§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U. S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	* TITLE
Completed on submission to Grants.gov	Deputy Commissioner
* APPLICANT ORGANIZATION	* DATE SUBMITTED
State of Connecticut	Completed on submission to Grants.gov

OMB Approval No. 4040-0006
Expiration Date 07/30/2010

BUDGET INFORMATION - Non-Construction Programs

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Habitat Conservation	11.463	$	$	$ 1,455,257.00	$ 430,832.00	$ 1,886,089.00
2.						
3.						
4.						
5. Totals		$	$	$ 1,455,257.00	$ 430,832.00	$ 1,886,089.00

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1)	(2)	(3)	(4)	Total (5)
	Habitat Conservation				
a. Personnel	$ 23,336.00	$ 12,230.00	$	$	$ 35,566.00
b. Fringe Benefits	9,568.00	5,014.00			14,582.00
c. Travel					
d. Equipment					
e. Supplies					
f. Contractual	1,415,754.00				1,415,754.00
g. Construction					
h. Other		410,129.00			410,129.00
i. Total Direct Charges (sum of 6a-6h)	1,448,658.00	427,373.00			$ 1,876,031.00
j. Indirect Charges	6,599.00	3,459.00			$ 10,058.00
k. TOTALS (sum of 6i and 6j)	$ 1,455,257.00	$ 430,832.00	$	$	$ 1,886,089.00
7. Program Income	$	$	$	$	$

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Standard Form 424A (Rev. 7- 97)
Prescribed by OMB (Circular A -102) Page 1A

SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program		(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8.	Habitat Conservation	$	$	$	$
9.					
10.					
11.					
12. TOTAL (sum of lines 8-11)		$	$	$	$

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$ 1,455,257.00	$ 363,814.25	$ 363,814.25	$ 363,814.25	$ 363,814.25
14. Non-Federal	$ 430,832.00	107,708.00	107,708.00	107,708.00	107,708.00
15. TOTAL (sum of lines 13 and 14)	$ 1,886,089.00	$ 471,522.25	$ 471,522.25	$ 471,522.25	$ 471,522.25

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program		FUTURE FUNDING PERIODS (YEARS) (b)First	(c) Second	(d) Third	(e) Fourth
16.	Habitat Conservation	$	$	$	$
17.					
18.					
19.					
20. TOTAL (sum of lines 16 - 19)		$	$	$	$

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:

22. Indirect Charges:

23. Remarks:

Other Attachment File(s)

*** Mandatory Other Attachment Filename:** NOAA Stimulus Proposal Figures-CT DEP-CT River.pdf

Add Mandatory Other Attachment | Delete Mandatory Other Attachment | View Mandatory Other Attachment

To add more "Other Attachment" attachments, please use the attachment buttons below.

Add Optional Other Attachment | Delete Optional Other Attachment | View Optional Other Attachment

NOAA Stimulus Proposal - Figures