Request for Proposals

NORTH ATLANTIC
LANDSCAPE CONSERVATION COOPERATIVE
PRIORITY SCIENCE PROGRAM

The North Atlantic Landscape Conservation Cooperative (NALCC) is pleased to announce a Request for Proposals (RFP) for grants under the 2012 NALCC Priority Science Program.

Please Read This Entire RFP, Including the Frequently-Asked-Questions Section, Before Submitting An Application for NALCC Grant Funds.

The Wildlife Management Institute (WMI) Coordinates and Administers the NALCC Priority Science Program on Behalf of the NALCC.

Background:

The Department of the Interior and the U.S. Fish and Wildlife Service have developed a coordinated network of landscape conservation cooperatives to provide the science necessary to undertake strategic conservation efforts across large geographic areas, in part to address major environmental and human-related factors that limit fish and wildlife populations at the broadest of scales.

To protect the natural and cultural resources of the Northeast, natural resource managers and partners have formed the North Atlantic Landscape Conservation Cooperative (NALCC). The North Atlantic LCC partnership includes: States, Tribes, Federal agencies, non-governmental organizations, and other species-specific partnerships like migratory bird joint ventures and fish habitat partnerships.

The North Atlantic LCC partners work together to identify common science needs, shared scientific capacity and information and coordinate natural resource conservation actions across the region. The objective of the NALCC Priority Science Program is to address landscape-scale conservation issues by combining resources, leveraging funds, and prioritizing conservation actions identified by the best available science.

2012 NALCC PRIORITY SCIENCE NEEDS

NALCC Topic 1: *Quantify and Map Habitats, Threats, and Current Range Distribution for Aquatic (Including Coastal) Species to Assess Species-Habitat Relationships, and Identify Priority Areas and Corridors for Conservation*

Background: Healthy waterways and vigorous populations of fish and other aquatic organisms are vital to millions of people in the North Atlantic LCC region. They provide clean water, sustainable fisheries, and myriad recreational opportunities. To better protect these resources across large areas, there is a pressing need to assemble and synthesize spatial information about distribution, habitat, and threats for aquatic species. Information developed to meet this need could be used in prioritizing coastal, estuarine, and freshwater habitats for management and restoration; quantifying threats to aquatic species; and identifying species-habitat relationships that serve as a foundation for species conservation and management. This need has been identified as being a high priority for the Atlantic Coastal Fish Habitat Partnership.

The potential scope of this project is the entire North Atlantic LCC (Nova Scotia to Virginia), from headwaters streams to estuaries and coastal waters, and the upland landscape that is linked to the aquatic environment. Project efforts may need to extend beyond the NALCC boundary where watersheds extend into adjacent LCCs. A list of 135 high priority species identified by NALCC partners is attached to assist in focusing the scope of the project (Appendix). Not all of these species must be addressed, and the project is not restricted to these species, but its relevance will be enhanced to the extent that multiple species on the list are considered.

Tasks and Deliverables:

a) Identify data to be assembled: review existing efforts and databases (more information provided in the next section), identify gaps, and identify data to be collected. This task should include an assessment of the needs of decision makers to understand the type, scope, and resolution of data most useful to resource managers. *Note:* the project is to be directed at assembling existing data, not collecting new field data.
b) Collect, synthesize, and analyze existing data, particularly spatial data. Information gathered could include species occurrence data, such as presence or absence, relative abundance, and species condition. It also could include data on habitat distribution and condition, temporal distribution, threats to species or habitats, and potential for restoration. Data should be useful at both state and subregional scales.
c) Create a new database or augment existing databases to organize and make widely available the data described under task b. Data are to be incorporated into an NALCC information system (under development) and compatible with or incorporated into fish habitat partnership information management systems.
d) Create new or augment existing maps and geospatial products that depict and summarize collected data. Examples include maps (or spatially-explicit datasets that can be viewed by users) of species occurrence (identified by particular life cycle needs, if applicable), habitat condition, threats, and restoration potential.
e) Create new or augment existing decision support tools to assist in applying the data and spatial products in decision making by resource managers.

Pre-existing Activities and Tools Related to this Project: It is important that this project build upon but not duplicate prior and existing efforts to compile, analyze, and publicize data about aquatic species and habitats. These efforts include (but are not limited to):

- Work of the Atlantic Coastal Fish Habitat Partnership (ACFHP), including the *Species-Habitat Matrix Project*; the *Assessment of Existing Information on Atlantic Coastal Habitats*; and *Conservation Strategic Plan 2012-2016.* High priority threats identified by this partnership include: Obstructions to Fish Movement/Habitat Connectivity; Dredging and Coastal Maintenance; Water Quality Degradation and Eutrophication, Consumptive Water Withdrawal, Sedimentation, Vessel Operation Impacts, Contamination of Water (ground and surface) and Sediments, Invasive Species, and Climate Change.
- Work of the Eastern Brook Trout Joint Venture, including mapping products and *Conserving the Eastern Brook Trout: Action Strategies*.
- Work of the National Fish Habitat Action Partnership, including the *National Fish Habitat Action Plan*.
- Work of the U.S. Fish and Wildlife Service Northeast Region Fisheries Program.
- Efforts by states of the region, including State Wildlife Action Plans, the Association of Fish and Wildlife Agencies, and the Northeast Association of Fish and Wildlife Agencies.
- Work to classify aquatic species habitat, including the *Northeast Aquatic Habitat Classification* (coordinated by The Nature Conservancy); classification used in the ACFHP *Species-Habitat Matrix*; and work underway by TNC and others to classify habitats using the Coastal and Marine Ecological Classification System (CMECS).

- Ecoregional assessments prepared by The Nature Conservancy (Northwest Atlantic Marine Ecoregional Assessment, North Atlantic Coast Ecoregional Assessment)
- Species distribution and occurrence data and maps compiled by NatureServe.
- NOAA Essential Fish Habitat Mapper.
- NALCC-sponsored projects, led by the University of Massachusetts, that are developing enhanced hydrography datasets and models of flow and stream temperature.
- Efforts and examples of other regional, national, and international organizations to compile data and present maps. A representative example is the StreamNet Mapper available for the Pacific Northwest (www.sreamnet.org).

Funding: A maximum of $250,000 is available to fund Theme 1 projects.

NALCC Topic 2: *Evaluation of restoration methods that allow salt marshes to adapt to sea-level rise*

Background: Salt marshes and associated habitats form critical, productive coastal systems along the coast of the North Atlantic LCC. These salt marsh systems have long been threatened by filling, ditching for mosquito control, encroachment by adjacent development and other stressors. They are now and will increasingly be threatened by sea level rise, increased storminess and other climate change related impacts. There are a variety of standard and newly developed salt marsh restoration techniques that can be applied to increase resilience to climate change stressors such as accelerated sea level rise. Because climate-adapted restoration is a relatively new concept, these restoration techniques have yet to be evaluated in field demonstrations for actual resilience conferred or calibrated in a meaningful way to different starting points (e.g. different "marsh capital" levels, tidal ranges, salinities, nutrient inputs) commonly found in salt marshes along the North Atlantic coast. In order for restoration to be successful in the long term, project designs need to plan for future accelerated sea level rise and a range of other climate-induced changes. Determining adjustments required to quantifiably increase marsh resilience given different starting conditions will greatly benefit practitioners and resource managers in raising the quality and longevity of our coastal salt marshes. Partnering with existing or proposed restoration efforts would provide an opportunity to develop, implement, monitor and evaluate techniques that increase a salt marsh's resilience to climate change stressors. The field demonstration would be for a restoration technique that is already part of a management portfolio (e.g. removing tidal restrictions, adding sediment to a degrading marsh surface, restoring tidal channel hydrology) and the choice of technique would depend on the opportunity to collaborate with a partner project, as well as the transferability of the proposed experimental methods. While field implementation is the optimal test, proposals that combine detailed modeling with mesocosm hypothesis testing constitute acceptable submissions for funding consideration.

Project Outcomes: This project will result in specific quantifiable recommendations on how salt marsh restoration technique(s) can be implemented to increase resilience to climate change stressors in the North Atlantic LCC area. These specific recommendations will be based on monitoring and evaluating the implementation of in-the-field restoration projects or modeling

and mesocosm hypothesis testing. Addressing the science need should include the following components:

1. A research framework for evaluating salt marsh restoration techniques under different salt marsh state conditions (such as tidal range, status of marsh capital etc.);
   For a chosen technique, the successful project will create an experimental design and monitoring protocol to evaluate specific variations on appropriate restoration technique(s) that will improve marsh resilience to climate change stressors (including, but not limited to sea level rise);
2. Implementation criteria for a specific restoration technique.
   What are the best practices for project design within that technique, considering a range of state conditions?
3. Quantitative evaluation of changes to ecosystem health as a result of implementing each design and projected climate and sea level conditions; this may be compatible with one of the variety of marsh condition assessment techniques that would be broadly applicable (e.g. Salt Marsh Integrity (SMI) score, Recovery Potential Indicators, habitat suitability for representative salt marsh fish wildlife or plant species) although other appropriate and easily implemented assessment measures will be considered.

Recommendations from this project will be in the form of a final report and website that articulate the specific findings under the above components and broader applicability to sites in the North Atlantic LCC no later than three years after the initiation of the project. Proposals that include the ability to continue monitoring beyond the initial three-year period using matching funds are preferred.

Funding: A maximum of $180,000 is available to fund Theme 2 projects.

Technical Coordinator responsible for project oversight and for more information contact:

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Science Coordinator
North Atlantic Landscape Conservation Cooperative
413-253-8647
William_Schwenk@fws.gov
http://northatlanticlcc.org/

Proposal Deadline: **August 17, 2012**. Proposals received after this deadline will not be considered. The complete program funding schedule is available at

http://northatlanticlcc.org/rfp.html

Submission Procedures: Please read carefully and follow all of the guidance listed in

the "Instructions on Submittal of Proposals" included herein. Instructions are also available at http://northatlanticlcc.org/ rfp.html

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Instructions on Submittal of Proposals:

Please read these instructions carefully as well as all of the information provided above.

1. Proposals must be submitted as email attachments in MS Word to wmisw@together.net no later than August 17, 2012 at 5:00 PM Eastern Standard Time.

2. The proposal is limited to a total of 6 pages:

    - Page 1 is a single cover page with contact information (see details in section #3 below) and a concise description of the proposed project.
    - Pages 2-5 are four pages of text about the proposed project, including budget (see details in section #4, #5 and #6 below).
    - Page 6 is a single page outlining the qualifications of the individuals and organizations involved.

3. The cover page should provide the following information:

    - Title of Project
    - Name of Project Director and Job Title
    - Name of Institution
    - Email Address
    - Physical Mailing Address
    - Telephone and Fax Numbers
    - Other Principal Investigators Involved (name, title, institution, email address)
    - NALCC Funds Requested
    - A Concise Description of the Proposed Project. The description should not exceed 250 words and include primary objectives, a brief summary of methods, expected outcomes and a timeline. **THIS ABSTRACT WILL BE WIDELY DISTRIBUTED SO PLEASE FOLLOW THE INSTRUCTIONS PROVIDED ON CONTENT CAREFULLY.**

4. Four pages of explanatory text are the principal component of the proposal and should be written as clearly and concisely as possible, address the following questions, and provide the following information (note that tables, graphs and photos can be included in the proposal but they must be contained within the four pages of text):

    a. What is the geographic scope of your project?
    b. What is the start date of the project and the projected end date?

c. What is the goal of your project and what major objectives or tasks will you undertake to achieve that goal?
d. What are the methods by which you propose to carry out your work?
e. What measurable products or outcomes will result from your project?
f. What is the schedule for key events and tasks?
g. What is the proposed total budget of your project? Separate the budget into the following categories: Personnel Service, Fringe Benefits, Indirect Overhead, Supplies and Materials, Travel, Contractual Service, and In-kind Services. **Please note that indirect overhead (F&A) cannot exceed 15% of direct costs.** Clearly indicate which activities will be supported by NALCC grant funds and which will be supported by other funds. For any matching funds or contributed partner funds committed to the project, specify whether those funds are direct or indirect and clearly designate the source of the funds.

Frequently Asked Questions:

How does the grant proposal process work?

The NALCC Steering Committee annually establishes priority science needs within the NALCC region. Proposals are solicited for projects that deliver science products that contribute to the understanding of, resolution of, or advancement of conservation actions addressing highest priority conservation science needs.

Who developed the Priority Project Topics?

Priority science needs were developed by federal, state and NGO scientists within NALCC Technical Committees.

Who may apply?

Eligible applicants include individuals, non-governmental organizations, state and federal agency employees, members of academia, and for-profit corporations.

What is the schedule of review and approval of proposals?

Proposals are due by August 17, 2012. Proposals will be reviewed by WMI for scientific merit, clarity and completeness. WMI may contact applicants for clarification or to allow for amendments to remove disqualifying elements. Eligible applications will be forwarded to Technical Review Committees by August 31, 2012. Highest ranking proposals will be submitted by the Technical Committee to the NALCC Steering Committee. Funding decisions will be made by the NALCC Steering Committee at their fall meeting and funds will be available no earlier than December 1, 2012.

What is the duration of a project?

Projects must be completed within three years of the award date. Significant milestones/deliverables must be achieved within 12 months of the award date, and completion of Theme 1 projects within two years is encouraged.

How will applications be evaluated?

All applications received by the due date will be reviewed by WMI for scientific merit, completeness and eligibility. All projects that are deemed complete and eligible by WMI will be forwarded to the NALCC science staff who will coordinate evaluation by NALCC Technical Review Teams, using the following criteria:

1. Degree to which the project addresses the priority themes and products described previously.
2. Scientific and technical merit.
3. Programmatic capability and feasibility. Are project objectives/goals clearly defined, measurable, and connected to specific milestones/deliverables and timelines? Will/can proposed methods accomplish/produce the project's objectives/goals, deliverables, and timelines?
4. Engagement of partners.
5. Demonstration that products will be accessible and useful in conservation and resource management decision-making.
6. Degree to which project builds upon, rather than duplicates, existing efforts.
7. Geographic scope.
8. Leveraging of other resources (not required but encouraged).

What is the source of funding for NALCC grants?

The primary source of funding for NALCC grants is from federal funds apportioned to the U.S. Fish and Wildlife Service. Other partner funds may be pooled in the grant award.

Are matching funds required?

No, but matching funds are encouraged. In-kind match is allowed.

How will I receive payments?

The NALCC Grants Program is a reimbursement program. Applicants must be prepared to fully fund their projects in the first instance and submit payment requests to WMI for reimbursement. Grant recipients will be required to enter into a grant agreement with WMI in order to receive payment. Payment requests may be submitted to WMI on a quarterly basis. No advance payments will be

provided. WMI will retain 20% of the grant amount pending receipt of all grant agreement deliverables. Upon the NALCC's approval of said deliverables, the final 20% retainage will be released to the grantee.

Where should proposals be submitted?

Proposals should be emailed in MS Word format to wmisw@together.net

Can a single organization submit multiple proposals?

Yes, single organizations can submit multiple proposals within one priority topic area, or may submit proposals to more than one priority topic area.

Are partnerships encouraged?

Yes, partnerships in funding and/or delivery of project products are encouraged.

What are some applicant responsibilities?

Grantees must meet federal eligibility requirements under this grant program. All funds awarded through this RFP are contingent upon the applicant meeting all federal permitting requirements. The NALCC reserves the right to reallocate grant awards in the event that the project applicant cannot meet the federal or state grant and/or permitting requirements. Applicants selected to receive a grant may also have their proposed budgets revised pending federal review of eligibility of costs and matching funds. It is the applicant's responsibility to investigate the permits that may be required to carry out their proposal, and obtain all applicable federal or state permits, data use agreements, or similar permissions.

What are eligible costs?

Grant reimbursement payments will be based on actual expenditures incurred by the grantee that are necessary and reasonable to the accomplishment of the work. Grantees will be required to provide documentation of project-related costs, including submission of copies of invoices and cancelled checks, with each payment request. Applicant budgets may include billable expenses related to the project in the following categories:

- Personal services: includes salary of project staff employed by the applicant organization.
- Fringe Benefits: The fringe benefits such as health care and retirement provided to permanent employees of the applicant organization. State employees must use the approved federal rates for their agency. Fringe benefits are normally calculated as a percentage of an employee's salary.
- Indirect/Overhead: The costs of maintaining the offices for project personnel such as utilities, support services, rent, etc. This is normally

calculated as a percentage added to the salary and fringe benefits of an employee. Indirect/Overhead cannot exceed 15% of direct costs.

- Travel and Equipment Usage: Vehicle mileage at the federal rate, fuel costs, commercial carrier costs, and other similar expenses. Equipment usage covers the equivalent cost of the use of equipment such as tractors, brush clearing equipment, research vessels, etc.
- Supplies and Materials: Office supplies, consumable field gear such as flagging tape and stakes, non-retrievable animal tags, nets, software, etc.
- Contractual Services: If you are a not-for-profit organization and you subcontract out for services such as data entry or laboratory analysis, you must be able to provide proof that those costs are necessary and reasonable to the accomplishment of the work.

What are some ineligible costs?

Costs related to the preparation of this application or any other costs incurred prior to notification from the NALCC acknowledging final approval of the grant award, are NOT eligible for reimbursement and cannot be used as match. Costs related to land acquisition, purchase of development rights, and purchases of easements are not eligible for reimbursement under this program. These costs are not eligible as matching costs, either. Generally speaking, education and law enforcement activities are not eligible for funding or match under this program. Funds cannot be used to support political lobbying or capacity building of organizations. Indirect costs in excess of 15% of direct costs are ineligible.

How will I be notified of an award?

Applications that score high enough to be selected to receive an award will receive written notification from WMI.

When may I start work?

You may begin work once federal compliance is met, and you have received written notification from WMI of your final grant award. However, WMI advises grantees NOT to begin work until all required and necessary permits are obtained for the activities identified in their project proposal. Please note that grantees may not request or receive any reimbursement payments prior to completion of federal compliance.

What are the requirements for sharing and managing data related to this project?

The NALCC is committed to distributing information needed by managers and scientists to make informed decisions and of interest to a wide variety of partners. Raw data, derived data products, and other supporting information created or gathered in the course of LCC-sponsored projects will be made available to the NALCC, and data are expected to be made publicly available except where

protected by state or federal laws. Principal investigators must preserve and transfer data according to commonly accepted standards, including standards for metadata.

To Apply, Submit Proposals via Email to:

Scot Williamson
Wildlife Management Institute
wmisw@together.net

For Technical Questions, Contact:

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Appendix. Priority Aquatic and Coastal Species for RFP Topic 1

Scientific Name	Common Name	NE Fisheries Species of Conservation and Management Concern*	ACFHP - Species-Habitat Matrix**	Regionally Significant SGCN†
Freshwater and Diadromous Fish				
Alosa pseudoharengus	Alewife	X	X	WC, LR
Anguilla rostrata	American Eel	X	X	
Dorosoma cepedianum	American Gizzard Shad		X	
Alosa sapidissima	American Shad	X	X	
Percina/Etheostoma gymnocephala	Appalachia Darter			LD, HR
Salmo salar	Atlantic Salmon‡	X	X	
Acipenser oxyrhynchus	Atlantic Sturgeon	X	X	WC, HR
Nocomis platyrhynchus	Bigmouth Chub			LD, HR
Enneacanthus chaetodon	Blackbanded Sunfish			WC, HR
Notropis heterodon	Blackchin Shiner			WC, LR
Phoxinus cumberlandensis	Blackside Dace	X		
Alosa aestivalis	Blueback Herring	X	X	
Etheostoma camurum	Bluebreast Darter			WC, LR
Salvelinus fontinalis	Brook Trout	X	X	
Etheostoma osburni	Candy Darter			LD, HR
Percina copelandi	Channel Darter			WC, LR
Pararhinichthys bowersi	Cheat Minnow			LD, HR
Cottus sp7	Checkered Sculpin			LD, HR
Tautogolabrus adspersus	Cunner		X	
Etheostoma percnurum	Duskytail Darter‡	X		
Ammocrypta/Etheostoma pellucida	Eastern Sand Darter			WC, LR
Etheostoma vitreum	Glassy Darter			LD, HR
Alosa mediocris	Hickory Shad	X	X	
Notropis chalybaeus	Ironcolor Shiner			WC, LR
Phenacobius teretulus	Kanawha Minnow			LD, HR
Acipenser fulvescens	Lake Sturgeon	X		
Salvelinus namaycush	Lake Trout	X		
Percina macrocephala	Longhead Darter			LD, HR
Etheostoma sellare	Maryland Darter‡	X		
Hiodon tergisus	Mooneye			WC, LR
Ichthyomyzon greeleyi	Mountain Brook Lamprey			WC, LR
Phoxinus oreas	Mountain Redbelly Dace			LD, HR
Acantharcus pomotis	Mud Sunfish			WC, HR

Notropis scabriceps	New River Shiner			LD, HR
Ichthyomyzon fossor	Northern Brook Lamprey			WC, LR
Ichthyomyzon bdellium	Ohio Lamprey			WC, LR
Cottus girardi	Potomac Sculpin			MC, HR
Osmerus mordax	Rainbow Smelt		X	
Moxostoma carinatum	River Redhorse			WC, LR
Percina rex	Roanoke Logperch‡	X		
Prosopium cylindraceum	Round Whitefish			WC, HR
Petromyzon marinus	Sea Lamprey		X	
Acipenser brevirostrum	Shortnose Sturgeon‡	X	X	WC, HR
Erimystax cahni	Slender Chub‡	X		
Erimonax monachus	Spotfin Chub‡	X		
Etheostoma maculatum	Spotted Darter			LD, HR
Erimystax dissimilis	Streamline Chub			WC, LR
Percina notogramma	Stripeback Darter			LD, HR
Exoglossum laurae	Tonguetied Minnow			HC, HR
Thoburnia rhothoeca	Torrent Sucker			LD, HR
Etheostoma variatum	Variegate Darter			MC, HR
Lepomis gulosus	Warmouth			WC, LR
Noturus flavipinnis	Yellowfin Madtom‡	X		
Marine & Estuarine Fish				
Ammodytes americanus	American Sand Lance		X	
Gadus morhua	Atlantic Cod		X	
Micropogonias undulatus	Atlantic Croaker		X	
Clupea harengus	Atlantic Herring		X	
Scomber scombrus	Atlantic Mackerel		X	
Strongylura marina	Atlantic Needlefish		X	
Menidia menidia	Atlantic Silverside		X	
Microgadus tomcod	Atlantic Tomcod		X	
Anchoa mitchilli	Bay Anchovy		X	
Centropristis striata	Black sea bass	X	X	
Pomatomus saltatrix	Bluefish		X	
Albula vulpes	Bonefish		X	
Peprilus triacanthus	Butterfish		X	
Brevoortia tyrannus	Menhaden	X	X	
Sphoeroides maculatus	Northern Puffer		X	
Macrozoarces americanus	Ocean Pout		X	
Opsanus tau	Oyster Toadfish		X	
Pollachius virens	Pollock		X	
Urophycis chuss	Red Hake		X	
Stenotomus chrysops	Scup	X	X	
Scomberomorus maculatus	Spanish Mackerel		X	

Leiostomus xanthurus	Spot		X	
Cynoscion nebulosus	Spotted Sea Trout		X	
Morone saxatilis	Striped Bass	X		
Paralichthys dentatus	Summer flounder	X	X	
Megalops atlanticus	Tarpon		X	
Tautoga onitis	Tautog	X	X	
Cynoscion regalis	Weakfish	X	X	
Scophthalmus aquosus	Windowpane Flounder		X	
Pseudopleuronectes americanus	Winter Flounder	X	X	
Sharks, skates, and rays				
Raja eglanteria	Clearnose Skate		X	
Carcharhinus obscurus	Dusky Shark		X	
Leucoraja erinacea	Little Skate		X	
Carcharhinus plumbeus	Sandbar Shark		X	
Squalus acanthias	Spiny Dogfish	X	X	
Crustaceans				
Homarus americanus	American Lobster		X	
Callinectes sapidus	Blue Crab		X	
Limulus polyphemus	Horseshoe Crab	X	X	
Pandalus borealis	Northern Shrimp		X	
Marine Mollusks				
Loligo pealeii	Long Finned Squid		X	
Crassostrea virginica	Oyster	X		
Freshwater Mussels				
Quadrula sparsa	Appalachian Monkeyface‡	X		
Lemiox/ Conradilla caelata	Birdwing Pearlymussel‡	X		
Ligumia recta	Black Sandshell			WC, LR
Alasmidonta varicosa	Brook Floater			WC, HR
Pleurobema clava	Clubshell‡	X		
Hemistena lata	Cracking Pearlymussel‡	X		
Villosa trabalis	Cumberland Bean‡	X		
Epioblasma brevidens	Cumberland Combshell‡	X		
Quadrula intermedia	Cumberland Monkeyface‡	X		
Truncilla truncata	Deertoe			WC, LR
Dromus dromus	Dromedary Pearlymussel	X		
Alasmidonta heterodon	Dwarf Wedgemussel‡	X		WC, HR
Margaritifera margaritifera	Eastern Pearlshell			HC, HR
Ligumia nasuta	Eastern Pond Mussel			WC, HR

Alasmidonta marginata	Elktoe		WC, LR
Cyprogenia stegaria	Fanshell	X	
Fusconaia cuneolus	Fine-rayed Pigtoe‡	X	
Ptychobranchus subtentum	Fluted Kidneyshell	X	
Epioblasma torulosa gubernaculum	Green Blossom Pearlymussel	X	
Lasmigona subviridis	Green Floater		WC, HR
Pleurobema collina	James Spinymussel‡	X	LD, HR
Pegias fabula	Little-winged Pearlymussel‡	X	
Elliptio fisheriana	Northern Lance Mussel		WC, HR
Epioblasma torulosa rangiana	Northern Riffleshell	X	
Plethobasus cooperianus	Orangefoot pimpleback	X	
Lampsilis abrupta	Pink Mucket‡	X	
Lampsilis ovata	Pocketbook Mussel		WC, LR
Villosa perpurpurea	Purple Bean‡	X	
Villosa fabalis	Rayed Bean	X	
Pleurobema plenum	Rough Pigtoe‡	X	
Quadrula cylindrica strigillata	Rough Rabbits Foot‡	X	
Plethobasus cyphyus	Sheepnose	X	
Fusconaia cor	Shiny Pigtoe‡	X	
Lexingtonia dolabelloides	Slabside Pearlymussel	X	
Cumberlandia monodonta	Spectaclecase	X	
Epioblasma florentina walkeri	Tan Riffleshell	X	
Leptodea ochracea	Tidewater Mucket		WC, HR
Alasmidonta undulata	Triangle Floater		HC, HR
Epioblasma torulosa torulosa	Tubercled Blossom		
Lampsilis cariosa	Yellow Lampmussel		WC, HR
Elliptio lanceolata	Yellow Lance		LD, HR

*As identified in *U.S. Fish and Wildlife Service Northeast Fisheries Strategic Plan Fiscal Years 2009-2013.*

**Species analyzed in the Atlantic Coastal Fish Habitat Partnership's *Species-Habitat Matrix Project.*

‡ Federally listed as Endangered or Threatened.

†Regionally significant Species of Greatest Conservation Need (SCGN), based on an analysis by The Nature Conservancy of state wildlife action plans, published in the report *Conservation Status of Fish, Wildlife, and Natural Habitats in the Northeast Landscape. Only includes species with sufficient data for the TNC analysis.*

Concern levels: WC = widespread, HC = high, MC = moderate, LC = low

Responsibility level: HR = high (>50% distribution is in Northeast), LR = low

LD, HR = limited distribution (only found in 2-3 states) and high responsibility