## ATTORNEY GENERAL

## DEPARTMENT OF JUSTICE

33 CAPITOL STREET
CONCORD, NEW HAMPSHIRE 03301-6397


October 28, 2016

Pamela G. Monroe, Administrator
New Hampshire Site Evaluation Committee
21 South Fruit Street, Suite 10
Concord, New Hampshire 03301
Re: SEC Docket No. 2015-04
Application of Public Service Company of New Hampshire d/b/a Eversource Energy ("Eversource") for a Certificate of Site and Facility for the Construction of a New 115 kV Transmission Line from Madbury Substation to Portsmouth Substation

Dear Ms. Monroe:

Enclosed you will find an original and one copy of an Assented-to Motion of Counsel for the Public for Leave to Retain ESS Group and for An Order Directing Eversource Energy to Bear the Costs Thereof for filing in above-referenced matter.

Thank you for your attention to this matter. Please feel free to call with any questions.

Sincerely,


Assistant Attorney General
Environmental Protection Bureau
(603) 271-3679

CGA/llm
Enclosures
cc: Distribution List

# THE STATE OF NEW HAMPSHIRE SITE EVALUATION COMMITTEE 

No. 2015-04
Application of Public Service Company of New Hampshire d/b/a Eversource Energy ("Eversource") for a Certificate of Site and Facility for the Construction of a New 115 kV Transmission Line from Madbury Substation to Portsmouth Substation

## ASSENTED-TO MOTION OF COUNSEL FOR THE PUBLIC FOR LEAVE TO RETAIN ESS GROUP AND FOR AN ORDER DIRECTING EVERSOURCE ENERGY TO BEAR THE COSTS THEREOF

NOW COMES Counsel for the Public, by his attorneys, the office of the Attorney General, and pursuant to RSA $162-\mathrm{H}: 10$, V, hereby respectfully moves for leave to retain an expert consultant and for an order directing Public Service Company of New Hampshire $\mathrm{d} / \mathrm{b} / \mathrm{a}$ Eversource Energy (the "Applicant") to bear the costs and fees of the consultant and reimburse Counsel for the Public or pay the fees and costs directly to ESS Group ("ESS" or the "Consultant"), in an amount up to $\$ 82,000$. In support hereof, Counsel for the Public respectfully represents as follows:

1. On April 12, 2016, Applicant submitted an Application for a Certificate of Site and Facility (the "Application") to the New Hampshire Site Evaluation Committee (the "Committee" or "SEC") to construct a 12.9 mile transmission line in the towns of Madbury, Durham, Newington and Portsmouth.
2. On April 21, 2016, the Attorney General appointed the undersigned to serve as Counsel for the Public in this case pursuant to RSA 162-H:9.
3. On April 29, 2016, the Chairman of the Committee appointed a Subcommittee (the "Subcommittee") to consider the Application. The Subcommittee accepted the Application on June 13, 2016.
4. Pursuant to RSA 162-H:9, I, Counsel for the Public "shall represent the public in seeking to protect the quality of the environment and in seeking to assure an adequate supply of energy." Counsel for the Public's broad role includes conducting studies and investigations necessary and appropriate to carry out the purposes of the statute. See Order on Pending Motions, In re Request of SEA-3, Inc. for Exemption, dated August 10, 2015, at 9. Those issues "go beyond protection of the environment and assuring an adequate supply of energy" and include any matters identified in RSA 162-H:1. Id.
5. Pursuant to RSA $162-\mathrm{H}: 10, \mathrm{~V}$, Counsel for the Public may employ such consultants as are necessary to further his or her duties under RSA ch. $162-\mathrm{H}$, and the costs of such consultants "shall be borne by the applicant in such amount as may be approved by the committee."
6. Counsel for the Public wishes to retain ESS to provide expert analysis and opinion concerning the Project's proposed undersea crossing of Little Bay and the impacts of the crossing to marine resources. ESS is an independent environmental consulting firm that has extensive experience with the construction and environmental assessment of undersea electrical transmission cables. The details of services that will be provided by ESS are set forth in the attached Exhibit A, along with the project budget and resumes of the ESS staff. The total cost of the work is estimated to be $\$ 82,000$.
7. Upon careful consideration of the Application, Counsel for the Public has deemed that the retention of the Consultant's services to analyze the Project's impacts to Little Bay and associated marine recourses is necessary to carry out the purpose of the siting statute and to evaluate if the Project will assure an adequate supply of energy without unreasonably and adversely affecting the quality of the environment.
8. The Applicant's proposed new transmission line is proposed to cross Little Bay, a tidal estuary within the Great Bay, by burying three cables under the bay floor using a jet plowing technique that will disturb sediments and result in sediment dispersion into the water column of Little Bay and possible impacts to marine resources.
9. The Applicant has submitted a modelling analysis of sediment dispersion as well as an analysis of the impact of the Little Bay crossing on marine resources. Pursuant to RSA 162-H, it is Counsel for the Public's responsibility to test the completeness of the analysis and conclusions of the Application in order to inform the Subcommittee whether the Project would create an unreasonable adverse effect on the environment. Counsel for the Public requests leave to retain ESS to provide an unbiased, independent technical review of the sediment dispersion modelling and assess the potential impacts of the Project on marine resources.
10. Pursuant to RSA $162-\mathrm{H}: 10, \mathrm{~V}$, Counsel for the Public requests that the Subcommittee order and direct the Applicant to pay the consultant's fees and costs, up to a total amount of $\$ 82,000$, as presented on invoices from the consultant on a monthly basis, with payments made within 30 days of receipt of an invoice by Applicant.
11. Counsel for the Public has endeavored to fairly and accurately estimate the total budget for the proposed services, but must nevertheless reserve the right to request additional sums should the need arise.
12. The Applicant assents to the relief sought in this motion.
13. The following parties concur in this motion: The Town of Newington, the Town of Durham and UNH, the Conservation Law Foundation, Helen Frink, the Durham Point/Little Bay Abutters, and the DeCapos.
14. At the time of filing, Counsel for the Public had not heard from The Nature Conservancy, Fat Dog Shellfish Co., LLC, or Ms. McCosker with regard to a request for concurrence.

WHEREFORE, Counsel for the Public respectfully requests that the Subcommittee enter an order authorizing the retention of ESS Group as a consultant pursuant to RSA 162$\mathrm{H}: 10, \mathrm{~V}$, and directing the Applicant to bear the costs, as incurred monthly, up to a total of $\$ 82,000$, and to grant such additional relief as may be just.

Respectfully submitted, COUNCIL FOR THE PUBLIC

By his attorneys

Dated: October 28, 2016
Christopher G. Aslin (N.H. Bar\# 18285)
Assistant Attorney General
Environmental Protection Bureau
33 Capitol Street
Concord, New Hampshire 03301-6397
Tel. (603) 271-3679
Christopher.Aslin@)doj.nh.gov

## Certificate of Service

I, Christopher G. Aslin, certify that on this day a true copy of the foregoing has been forwarded to the persons named on the Distribution List in this docket.

Dated: October 28, 2016


Christopher G. Aslin, Esq.

MASSACHUSETTS
100 Fifth Avenue, 5th Floor
Waltham, Massachusetts 02451
$p+1$ 781.419.7696

RHODE ISLAND
10 Hemingway Drive, 2nd Floor East Providence, Rhode Island 02915
o +1 401.434.5560

Virginia
999 Waterside Drive, Suite 2525
Norfolk, Virginia 23510
p+1 757.777.3777

October 24, 2016
Christopher G. Aslin
Assistant Attorney General
New Hampshire Office of the Attorney General
Environmental Protection Bureau
33 Capitol Street
Concord, NH 03301
Re: Proposal for Technical Peer Review of Environmental Documents Eversource Seacoast Reliability Project ESS Proposal No. 16254

Dear Mr. Aslin,
As requested, ESS provides the New Hampshire Office of the Attorney General (Counsel for the Public) with this proposal for environmental consulting services to provide technical peer review of environmental documents submitted on behalf of the Seacoast Reliability Project (NH Site Evaluation Committee Docket No. 2015-04) as proposed by Eversource (Project Proponent). The Project is a 12.9 mile long, 115 kV transmission line between Madbury and Portsmouth. Specifically, ESS will provide an independent technical review of impacts to marine resources associated with the underwater cable installation, including review of the sediment dispersion modeling. ESS will also provide pre-filed written testimony and provide in-person oral testimony regarding the findings of our review.

## SCOPE OF WORK

ESS will perform the following scope of work as described in this proposal.

## Task 1: Technical Review of Marine Resource Impacts

ESS will conduct a scientific and professionally objective assessment of the key issues using existing project and technical information provided by the Project Proponent and submitted to the Committee as part of its current on ongoing Application for a Certificate of Site and Facility review process.

ESS will conduct technical and regulatory reviews of this existing information submitted to the Docket. The Counsel for the Public will review and direct ESS efforts on an as needed basis such that the scientific review can occur in an integrated and cooperative manner. ESS may need to communicate directly with the Committee staff or the Project Proponent as part of this review to ensure a full understanding of the methods, procedures, and results reported in the Application, and will only make such contact through the Counsel for the Public.
The ESS approach to this scope of services will be objective and scientifically valid. As such, the ESS role will solely be to review the available information and to provide an objective assessment for use by the Counsel for the Public and is not to provide any advocacy with respect to the project. ESS will provide a written report that indicates whether the conclusions arrived at regarding environmental impacts to marine resources are technically valid and accurate or may require further analysis or consideration to satisfy a good science standard of care. Fundamentally, ESS's report will assess whether or not the Applicant's conclusions regarding environmental impacts are justified by the information presented in its application materials and any supplementary filings. To arrive at the conclusions and compile our report, ESS will:

- Participate in a project kick-off meeting with the Counsel for the Public to outline and agree on the desired form and content of the ESS Report.
- Participate in periodic telephone conferences with the Counsel for the Public to review work status and provide opportunity for feedback and prioritization of issues to be addressed.
- Review the complete marine resource sections of the following Application package components:
- Application for Certificate of Site and Facility (Sections 301.03 and 301.07)
- Appendix 2: SRP Environmental Review Maps
- Appendix 5: Engineering Design Drawings
- Appendix 7: SRP Natural Resource Existing Conditions Report
- Appendix 13: Joint NHDES USACE Wetlands Permit Application
- Appendix 14: NHDES Section 401 Water Quality Certification Request
- Appendix 15: NHDES Shoreland Permit Application
- Appendix 34: Natural Resource Impact Assessment
- Appendix 35: Modeling Sediment Dispersion from Cable Burial for SRP Little Bay, NH
- Appendix 38: Essential Fish Habitat Assessment
- Pre-Filed Direct Testimony of A. Pembroke
- Pre-Filed Direct Testimony of A. Godfrey
- Review and evaluate the documentation provided and determine whether it is adequate to support the conclusions made regarding the potential for and severity of any adverse impact.
- Identify areas where insufficient information is provided by the Project Proponent to make an educated and reasoned assessment of the potential for and/or the severity of a particular impact.
- Where ESS determines that there are deficiencies that must be filled to draw a conclusion regarding potential impacts, ESS will identify the nature and extent of information that is required to make a determination of impact.
- Provide the Counsel for the Public with information requests that the Counsel for the Public may choose to file to obtain supplemental information during the Committee proceedings.
- Summarize ESS findings into a comprehensive report for Counsel for the Public review.
- Participate in a conference call to review the Counsel for the Public's comments to ESS's draft report.


## Task 2: Pre-Filed (Written) Testimony and Oral Testimony

ESS will work with the Counsel for the Public to prepare pre-filed written testimony for submission to the Docket. ESS testimony will be limited to the findings of our technical review. For budgeting purposes, we have assumed two days per witness to prepare the testimony.
ESS will prepare for and attend up to three days of the adjudicatory hearings scheduled for April 2017, which we understand will occur in Concord, NH. During these two days, ESS subject matter experts will provide oral testimony regarding the findings of our technical review.

For budgeting purposes, ESS has assumed the pre-filed and oral testimony will be provided by two ESS subject matter experts as witnesses for the Counsel for the Public.
ESS labor associated with preparing pre-filed written testimony and time spent providing oral testimony will be charged at the Consulting/Testifying Expert Services billing rate on the attached ESS Standard Billing Rate Table.

## Task 3: Technical Sessions

ESS will prepare for and attend two, one day technical sessions for witnesses in Concord, NH. The first technical session (Applicant's witnesses) will take place in December 2016 and the second (State and intervenor witnesses) will take place in March 2017. Preparation sessions with the Counsel for the Public will take place by phone (assumed to be four hours each for budgeting purposes). ESS will respond to written data requests directed to the Counsel for the Public in relation to our work. For budgeting purposes, ESS has assumed the technical sessions will be attended by the two ESS subject matter experts expected to serve as witnesses for the Counsel for the Public.

## SCHEDULE

ESS is prepared to begin work on this project immediately upon receipt of authorization from the Counsel for the Public, and will work with you to develop a mutually acceptable schedule for completion of the work described above.
ESS will keep you apprised of our progress and significant findings throughout the project. ESS is not responsible for delays in performance caused by circumstances beyond our control, or which could not have reasonably been anticipated or prevented at the time of this proposal.

We have assumed the schedule of proceedings will be as presented in the October 17, 2016 Procedural Schedule Order issued by the Committee.

## COSTING ASSUMPTIONS

The cost estimate as provided in this proposal is predicated on the Scope of Work described above and on the following assumptions:

- ESS deliverables will be provided in PDF or MS Word format to eliminate costs associated with producing and mailing paper documents. If paper documents are requested, ESS will produce and mail the documents on a time and materials basis as an additional service.
- Additional levels of effort or meetings beyond those scoped will be charged as additional services and billed separately on a time and materials basis.


## COST ESTIMATE

This scope of work will be completed on a Time and Materials basis in accordance with the ESS Terms and Conditions and Billing Rates provided under separate cover. Our estimated cost to complete the scope of work is as follows:

| Task | Cost Estimate |
| :--- | :---: |
| Task 1 - Technical Review of Marine Resource Impacts | $\$ 37,000$ |
| Task 2 - Pre-Filed (Written) Testimony and Oral Testimony | $\$ 27,500$ |
| Task 3 - Technical Sessions | $\$ 17,500$ |
|  | $\$ 82,000$ |

ESS will invoice the Counsel for the Public on a monthly basis. The invoices will be forwarded to the Project Proponent, which will pay the invoices in a timely manner (net 30 days) in accordance with the Committee's Order.

## ACCEPTANCE

This proposal is valid for 30 days. You may accept this proposal by signing in the space provided on the next page and returning an executed copy to us. The executed proposal and the referenced attachments will serve as the entire agreement between ESS and the Counsel for the Public.
Thank you for the opportunity to propose these services. If you have any questions regarding this proposal, please contact me at 781-419-7750 or pwhitney@essgroup.com.

Sincerely,
ESS GROUP, INC.


Payson R. Whitney, III, PE
Vice President

## ACCEPTANCE OF ESS GROUP, INC. PROPOSAL AND AUTHORIZATION TO PROCEED

This proposal, including the attached Terms and Conditions and ESS Labor Billing Rate and Direct Cost Table, is hereby authorized and accepted as executed below by a duly authorized signatory of the New Hampshire Office of the Attorney General (Counsel for the Public). The signatory below also hereby warrants that he/she has full authority to act for, in the name of, and on behalf of the New Hampshire Office of the Attorney General (Counsel for the Public) to authorize this Agreement.

Signature of Authorized Representative for the New Hampshire Office of the Attorney General (Counsel for the Public)

Print Name/Title
Date of Authorization

## PAYSON R. WHITNEY, III, PE Vice President, Water \& Coastal Engineering

## Experience

ESS Group: 1998 to present

Years of Prior Related Experience: 4

Education
BS, Civil Engineering, Lehigh University, 1994

Professional
Registrations
Professional Engineer
Licenses:
MA, No. 41706, 2001
RI, No. 8551, 2006
VA, No. 50185, 2012
NH, No. 14163, 2013
MD, No. 47100, 2015
ME, No. 14040, 2015
National Council of
Examiners for Engineering
and Surveying Record, No.
47445, 2011
Master Design Certificate for Low Impact
Development, State of Rhode Island, No.
1106011, 2006
Affiliations
Boston Society of Civil Engineers Section of the American Society of Civil Engineers (BSCES)Board of Government Member (1999-2000)

BSCES Waterways, Ports, Coastal \& Ocean Technical Group-Chairman (19992000)

Environmental Business Council of New England Ocean and Coastal Resource Committee Chairman (2014-2016)

## Qualifications

Mr. Whitney is a Professional Engineer with more than 20 years of experience as a Civil/Coastal Engineer and Project Manager in a wide range of public and private sector projects, including project design and management activities in civil/site engineering, coastal permitting/shoreline assessment, and the planning and permitting of electrical transmission projects. He specializes in planning, routing, surveying and installing High Voltage AC and DC submarine electric transmission cable systems, landfall transitions, and interconnections with local grid substations. Mr. Whitney has conducted submarine cable routing, constructability, and installation assessments along the eastern seaboard for some of the largest submarine cable system projects developed in the last 15 years. He is considered to be among the foremost submarine cable system planners in the industry with several successful projects under his leadership.

Mr. Whitney's engineering design and management experience includes metals recycling site and stormwater management system design; marina planning and design; dredging design; roadway design; site layout and design; stormwater management permitting, design, and compliance; transportation analysis; third party technical peer reviews; preparing and reviewing construction bid documents and shop drawings; construction phase services, and environmental monitoring.

Mr. Whitney is also well versed in local, state, and federal environmental regulatory and land use permitting requirements and strategies, and has provided permitting services for projects in Massachusetts, Rhode Island, Connecticut, New York, New Jersey, New Hampshire, Maine, Maryland, Virginia, and The Bahamas.

## Representative Project Experience

## Utility Siting, Engineering, and Permitting

LS Cable America, Inc. - Block Island Wind Farm/Block Island Transmission System - Narragansett, RI to Block Island, RI. Provided environmental support services in advance of the planned 2016 installation of the submarine electric cables associated with the Block Island Wind Farm and the Block Island Transmission System. Responsible for preparation of an environmental permit conditions/contract requirements tracking tool that will be used to identify environmental compliance requirements and track progress towards completion of those requirements. Reviewed LS Cable RFQs for subcontractors and installation procedure documents to incorporate environmental requirements.

Bayonne Energy Center, LLC - Bayonne Energy Center Project, Bayonne, NJ to Brooklyn, NY. Project Manager for environmental consulting, regulatory permitting, and preliminary engineering for the submarine electric transmission cable aspect of the project, which entailed the construction of a 512 MW electric generating plant in Bayonne, NJ. The plant is connected to the New York electrical grid via a 6.5 mile long, 345 kV submarine electric transmission cable with an interconnection at the ConEdison Gowanus substation in Brooklyn. Responsible for day-to-day coordination of ESS
services, coordination with the client and its project team, coordination with the project engineers, providing technical services related to submarine cable route design and construction, and for planning, directing, and overseeing marine geophysical and geotechnical field investigations. Responsible for developing the proposed submarine cable route and identifying from project survey and constraints information. Responsible for overseeing preparation of New York Article VII filing and U.S. Army Corps of Engineers permit application, as well as various separate supporting reports and responses to comments. Supported NJDEP Waterfront Development Permit application by preparing sections relevant to the submarine cable. During construction, was responsible for coordination with project owner and installation contractor to resolve routing challenges prior to installation, for verifying installer cable burial depth estimates, and for conducting required environmental inspections and monitoring in New York.

Cape Wind Associates, LLC - Cape Wind Project, Nantucket Sound, MA. Provided services related to the siting and design of a proposed renewable electric generating facility involving installation of 130 offshore wind turbine generators with a potential to generate 454 MW . The wind park is proposed to be sited on Horseshoe Shoal, and will interconnect with the regional power grid through an AC submarine cable system between the wind park and the southern shore of Cape Cod. Preparing conceptual facility layouts and evaluating geologic conditions for a project baseline environmental impact and feasibility study. Planning, directing, and overseeing extensive marine geophysical and geotechnical field investigation programs, included hydrographic, sub-bottom profiling, side-scan sonar, and magnetometer surveys, as well as advancing vibracores and surface sediment grabs, to evaluate surface and shallow/deep subsurface sediment/geologic conditions in the area of the proposed offshore renewable electric generating facility and the submarine electric cable links to the mainland electric grid. Prepared a detailed Navigational Risk Assessment, which was the first such assessment for an offshore wind energy facility submitted to the US Coast Guard, and assessed the possibility for project impacts to marine vessel traffic and USCG search and rescue operations.

Confidential Fiber Optic Cable Project - Virginia. Project manager responsible for preparing the desktop routing study for a proposed submarine fiber optic cable crossing in Virginia. Responsible for overseeing development of submarine cable crossing route alternatives and for developing regulatory permitting strategy. ESS will be retained to provide environmental consulting services for regulatory permitting in 2013.

Confidential Submarine Electric Generator Lead Project - Northeast U.S. Project manager responsible for preparing the desktop routing study for proposed submarine electric cable generator lead and transmission projects that would reallocate power generated from an existing generating station to a different ISO control area than presently served by the generating station.

Confidential Submarine Electric Cable Projects - Northeast U.S. Project manager responsible for preparing the desktop routing studies for several proposed submarine electric cable projects that included potential merchant projects, reliability projects, and projects that were being investigated by developers for possible response to RFP's issued by regulated utilities to provide electricity to various ISO zones.

Confidential Client - Electric Generating Facility Siting, Long Island, NY. Provided services related to the siting of a proposed electric generating facility. Responsible for field reconnaissance of potential site locations within a 1,000 -square-mile area utilizing applicable local regulations and site development requirements.

Connecticut Light \& Power Company and its Project Partners - Submarine Replacement Cable Project, Norwalk, CT to Northport, NY. Planning, directing, and overseeing an extensive marine geophysical and geotechnical field investigation program for an 11-mile, 300 MW AC submarine cable
system that replaced an existing series of electric transmission cables connecting existing power stations in Connecticut and Long Island. The seven existing fluid-filled submarine cables were replaced with three new solid dielectric AC cables within the existing cable corridor in 2008. Two survey vessels conducted geophysical and geotechnical surveys simultaneously. The field investigation program included bathymetric, sub-bottom profiling, side-scan sonar, and magnetometer surveys, as well as advancing vibracores and surface sediment grabs, to evaluate surface and shallow subsurface sediment/geologic conditions along the proposed alternative routes. The program consisted of over 400 miles of geophysical survey tracklines, over 30 vibracores, and approximately 100 surface sediment grabs.

Gamesa Energy USA - G11X Offshore Wind Turbine Project, Lower Chesapeake Bay, Cape Charles, VA. Task manager for the development of submarine and overland export cable routes for a prototype 5 MW offshore wind turbine. Provided technical support for the preparation of the Standard Joint Permit Application to the Virginia Marine Resource Council and U.S. Army Corps of Engineers - Norfolk District on behalf of the project.

West Point Partners, LLC - West Point Transmission Project - Athens, NY to Buchanan, NY. Project Manager responsible for development of the Project's overland and in-river transmission cable routes, managing initial stakeholder outreach meetings, and overseeing preparation of the Projects New York State Article VII and USACE Individual Permit applications. Responsible for day-to-day coordination of ESS services, coordination with the client and its project team, coordination with the selected installers, providing technical services related to submarine cable route design and construction, and for planning, directing, and overseeing in-river geophysical and geotechnical field investigations. Also responsible for overseeing development of the Project's Alternatives Analysis.

Hawaii Infrastructure Partners, LLC, Submarine Cable Routing and Assessment, HI. Project Manager for the completion of a due diligence and desktop routing assessment for the siting of submarine electric cables in the State of Hawaii. This assessment included site reconnaissance, regulatory outreach, and coordination and assessment of environmental constraints such as coral reefs, endangered species, geologic conditions, and cultural resources. Additionally factors such as U.S. Naval operations and navigational concerns were researched and analyzed.

Hudson Transmission Partners, LLC - The Hudson Project, Ridgefield, NJ to New York City, NY. Provided and coordinated engineering support for regulatory permitting efforts for the construction of a new High Voltage DC, 66 MW electric transmission facility linking the regional PJM Interconnection with the New York Independent System Operator. The Project will include the construction of a new back-to-back AC-DC-AC Converter Station to be located in Ridgefield and installation of a new 230 kV AC link to the nearby PSE\&G Bergen Substation, also in Ridgefield. From the Converter Station a new 345 kV AC electric transmission cable system will be routed in an overland underground configuration from Ridgefield to Edgewater, New Jersey where it will then cross the Lower Hudson River estuary in a buried submarine cable configuration to make landfall at Piers $92-94$ at the Mid-town Manhattan waterfront where it will then interconnect via upland underground cable to the existing Con Edison West 49th Street Substation.

Pepco Holdings, Inc. - Mid-Atlantic Power Pathway Project, Chesapeake Bay, MD. Project Manager for preliminary Desktop Routing Analysis, Bay \& River Technical Studies, and Submarine Cable Owner's Engineer services for the 320 kV HVDC submarine cable segment of the larger 150-mile project. The preliminary routing analysis identified potential routes, constraints (geologic, navigation, installation feasibility), and critical planning issues. ESS also provided marine geophysical survey observations and landfall evaluations. PHI retained ESS to complete engineering and associated scientific evaluations to assess submarine cable system installation feasibility and constructability, including a marine sediment
sampling and testing program, turbidity/water quality impact modeling, an environmental risk assessment, and assessing the proposed submarine cable route, the planned installation methods, the Impact Producing Factors associated with both installation and operation of the submarine cable. ESS was also retained as PHI's owner's engineer for the submarine cable component of the MAPP Project.

PSEG Power LLC - Cross Hudson Project, Ridgefield, NJ to New York City, NY. Project Manager for environmental consulting and engineering services for the construction of a submarine electric cable system to transmit power from the PSEG Bergen Station in Ridgefield, New Jersey to the ConEd West 49th Street substation in New York City. The cable system was to be approximately seven miles long (including upland and submarine portions), and would transmit approximately 500 MW of AC energy as well as fiber optic communications. Was responsible for day-to-day coordination of ESS services, coordination with the client, coordination with the project engineers, providing technical services related to submarine cable route design and construction, and for planning, directing, and overseeing multiple marine geophysical and geotechnical field investigations. Was responsible for developing the proposed submarine cable route from project survey and constraints information. Responsible for overseeing preparation of New York Article VII filing and U.S. Army Corps of Engineers permit application, as well as various separate supporting reports and responses to comments.

Siemens Energy, Inc. - Civil/Site Engineering for Electrical Converter Station, The Hudson Project, Ridgefield, NJ. Project Manager responsible for the preliminary civil/site design of a proposed back-toback electrical converter station. ESS prepared civil/site design plans for Siemens to provide to Hudson Transmission Partners to support their preparation of permit applications associated with the Ridgefield, New Jersey Converter Station Facility to the New Jersey Meadowlands Commission and New Jersey Department of Environmental Protection.

TransÉnergie U.S., Ltd. - Cross Sound Cable Project, New Haven, CT to Brookhaven (Shoreham), NY. Planned, directed, and oversaw geophysical and geotechnical field investigation programs, developed proposed cable route alignments, and provided dredging design/construction oversight for the project that crosses Long Island Sound between New Haven, Connecticut and Brookhaven, New York. The cable system is approximately 24 miles long, and transmits approximately 300 MW of DC energy. The DC cable energy is transformed to AC energy for power grid distribution at DC/AC Converter Stations located near each of the cable landfalls. The field investigation programs included hydrographic, sub-bottom profiling, side-scan sonar, and magnetometer surveys, as well as advancing jet probes and vibracores, to evaluate surface and shallow subsuface sediment/geologic conditions along the proposed alternative routes and in problematic areas encountered during cable installation. Developed the final proposed cable route from project survey and constraints information, and coordinated development of project plan sets. Provided engineering support for proposed construction methodologies and regulatory permitting application preparation. Served as an expert witness during Connecticut Siting Council proceedings. Responsible for designing and managing a 12,000-cubic-yard hydraulic dredging operation at the Shoreham landfall to facilitate cable embedment. Planned and executied a post-installation cable and obstruction survey to field locate the cable and to identify and characterize obstructions encountered during installation, and for determining proposed remedial cable burial means and methods.

American National Power - Preliminary Engineering and New York Article X Preparation, Ramapo, NY. Responsible for preliminary civil/site engineering for a proposed $1,100 \mathrm{MW}$ natural gas-fired power plant. Design elements included lot and easement layout, site access/egress, storm water management, and site grading. Also provided project support for the preparation and submittal of the project's Article X Pre-Application Report and the Article X submission to the New York State Department of Public Service.

Nantucket Cable Electric Company, Inc. - Nantucket Cable Project, Harwich to Nantucket, MA. Provided technical support for completion of preliminary engineering and analysis of coastal engineering structures and other various project design issues necessary to complete design and permitting for the $\$ 28$ million Nantucket Submarine Cable Project on Cape Cod.

Commonwealth Electric - Martha's Vineyard Cable, Vineyard Haven, MA. As project manager, conducted research on existing bottom sediment, navigational, and anchorage conditions for the existing cable located within Vineyard Haven Harbor. Coordinated production of plans showing general navigation and anchoring conditions in Vineyard Sound and Vineyard Haven Harbor.

New England Power - Quincy Cable Project, Boston, MA to Quincy, MA. Planned and executed a sediment sampling program for the proposed cable to cross the Neponset River between Dorchester and Quincy, Massachusetts. The purpose of the program was to obtain composite samples of the Neponset River bottom sediment for bulk physical/chemical characterization to support the various environmental regulatory permit applications required for the project. Also responsible for Chapter 91 jurisdiction research and historic tidelands delineations, preparation of the Chapter 91 Waterways License application, development of a conceptual traffic management plan for an Energy Facilities Siting Board filing, and conceptual routing of required construction detours.

## Publications

Use of Marine Remote Sensing Data for Submarine Cable Route Planning and Siting, Whitney, P.R.; Natale, C.J.; and Nash, J.P., Marine Technology Society/IEEE Oceans 2000 Conference, Providence, Rhode Island, September 2000.

The Critical Connection for Offshore Wind Integration, Whitney, P.R.; Gowell, E.T.; and Natale, C.J., North American WindPower, April 2011 issue.

Submarine Cable Embedment: Integrating Suspended Sediment Modeling and Monitoring into the Regulatory Permit Process, Whitney, P.R and Herz S.M.; 4TH Annual Marine Renewable Energy Conference, Warwick, Rhode Island, January 2013.

# STEPHANIE J.K. WILSON Senior Project Scientist 

## Experience

ESS: 2013 to present
Years of Prior Related
Experience: 16

## Education

MS, Marine Biology
(Fisheries), University of
Rhode Island, 2003
BS, Marine and Freshwater Biology, Statistics Minor, Summa Cum Laude, University of New Hampshire, 1997

Professional Registrations \& Affiliations
American Fisheries Society

Ecological Society of America

New England Estuarine Research Society
NAUI Open Water I SCUBA Certification
U.S. Coast Guard Auxiliary Boating Skills and Seamanship Certification
U.S. Coast Guard

Auxiliary Coastal Navigation Certification

40 Hour Hazardous Waste Operations and Emergency Response Training

## Qualifications

Ms. Wilson is a Senior Project Scientist with over 18 years of experience in the management of environmental projects, particularly concerning coastal and ocean environments. She has coordinated many offshore monitoring programs, including biological and geophysical surveys, and served as the technical lead in the evaluation of marine impacts associated with various coastal development projects, including offshore energy development projects. She has prepared Environmental Impacts Statements, Operations Plans, Monitoring and Mitigation Plans, and Deep Water Port Applications and is very familiar with the requirements of and compliance with federal, state, and local laws, regulations, and guidelines for projects related to offshore energy development including National/State Environmental Policy Acts (Environmental Assessment/Environmental Impact Statements), Marine Protection Research and Sanctuaries Act, Clean Water Act (including National Pollutant Discharge Elimination System), Coastal Zone Management Act, Water Resources Development Act, Endangered Species Act, Magnuson-Stevens Act, Rivers and Harbors Act, and the Oil Pollution Act.

## Representative Project Experience

US Wind, Inc. - Maryland Offshore Wind Energy Project. Senior Scientist and Technical Manager of site assessment activities required by BOEM under the renewable energy framework, for development of an offshore wind energy project.as well as preparation of federal and state permit applications. Ms. Wilson is responsible for overseeing collection of geophysical and geotechnical data, and assessment of turbidity, aquatic habitats, and fisheries

Block Island Wind Farm and Sea2Shore Transmission Third Party Environmental Compliance Monitoring. ESS is providing third-party environmental compliance monitoring to support the construction and installation of the Block Island Wind Farm and the Sea2Shore Transmission System. ESS is working on behalf of state and federal agencies to monitor and report on project compliance with environmental permit conditions. Ms. Wilson is the Project Manager, serving as the primary liaison between the developer and the regulators responsible for establishing monitoring schedules and reporting procedures in the monitoring of environmental compliance during construction.

## U.S. Navy - Environmental Impact Assessment \& Permitting for Dry

 Dock \#1 Lifting and Handling Improvements, Portsmouth Naval Shipyard, Portsmouth, ME. Project Manager responsible for quality control and coordination of all ESS activities to support the third party NEPA review and permitting required for the proposed improvements at PNSY to increase the portal crane rail load carrying capacity by upgrading the existing structural system. Ms. Wilson is responsible for overseeing environmental studies and preparation of state and federal permits.Bureau of Ocean Energy Management - Identification of Port Modifications and Their Environmental and Socioeconomic Consequences Associated with Wind Energy along the Atlantic OCS. Assistant Project Manager and Senior Scientist providing technical oversight for the identification of environmental and socioeconomic impacts and mitigation efforts associated with the expansion and use of port facilities
for offshore wind energy developments. Ms. Wilson is responsible for overall project coordination and reporting, as well as technical lead for the environmental and socioeconomic impact assessment of port modifications.

Bureau of Ocean Energy Management, Programmatic Environmental Impact Statement (PEIS) for the 2017-2022 Outer Continental Shelf (OCS) Oil and Gas Leasing Program. ESS is serving as a subcontractor in the preparation of the PEIS. Ms. Wilson served as the technical lead for the preparation the coastal and estuarine habitat in the Mid-Atlantic, South Atlantic, Artic, and Cook Inlet Program Areas for the PEIS.

Town of Dennis - Comprehensive Dredging and Beach Nourishment Project, Dennis, MA. Project Scientist assisting in the planning, design, and permitting of a Comprehensive Dredging and Beach Nourishment Plan for the Town's waterways and shoreline resources. The purpose of the Dredging and Beach Nourishment Plan was to consolidate and establish a more comprehensive and cost-effective way for the Town to manage dredging and beach nourishment efforts that have historically been conducted and permitted on a project-by-project basis.
U.S. Navy - Turbidity Monitoring, Wharf Reconstruction, Piers 1 and 2 - P - 469, Naval Station Newport, RI. Project Manager and Senior Scientist for the deployment and operation of three remote sensing buoys equipped with turbidity monitoring equipment that provided real time monitoring for dredging activity. Ms. Wilson developed the turbidity monitoring plan that was approved by the Navy and EPA and oversaw implementation of the plan during in-water improvement work.

Cape Wind Associates, LLC - Cape Wind Renewable Energy Project, Nantucket Sound, MA. Project Manager and primary client liaison for proposed 130-turbine renewable energy generation project in Nantucket Sound. Ms. Wilson is responsible for overall management of the multi-disciplinary project team, including ESS technical staff and technical sub-consultants. She is responsible for oversight and review of all environmental assessments and pre-construction surveys and monitoring in anticipation of construction, including the pre-construction geophysical survey of the project site and offshore cable routes as well as pre-construction monitoring, as specified in the Avian and Bat Monitoring Plan.
Bureau of Ocean Energy Management $\mathbf{- ~}^{\text {nd }}$ Atlantic Wind Workshop. ESS supported BOEM in hosting its 2nd Atlantic Offshore Wind Energy Workshop. The primary purpose of the workshop was to learn from Europe's experiences with pre- and post-construction site assessment of avian, benthic, and cultural/archaeological resources, in order to further BOEM's development of guidance for siting and monitoring of offshore wind development in the U.S. Ms. Wilson served as note taker for the Benthic Resources session.

Poseidon, LLC - Article VII Application for HVDC Cable, South Amboy, NJ to Long Island, NY. ESS prepared the NYS Public Service Commission Article VII Application for a proposed 500 MW upland and submarine electric transmission cable from South Amboy, NJ to Long Island, NY. Ms. Wilson was responsible for leading the preparation of the environmental impact portion of the application.
West Point Partners, LLC - Article VII and Army Corps of Engineers Applications for Transmission between Leeds and Buchanan, NY. ESS prepared the NYS Public Service Commission Article VII Application and U.S. Army Corps of Engineers Application for an 80-mile transmission line which will be installed primarily beneath the Hudson River along with two new converter stations. Ms. Wilson was responsible for preparation of the fisheries, water quality, sediment quality, and protected marine species sections of environmental assessments used in the regulatory permit submittals.

United States Coast Guard (USCG) Facilities Design and Construction Center, Recapitalize Buoy Tender Project, NAVSTA Newport - Newport, Rhode Island. ESS provided environmental studies and regulatory permitting as part of a design-build project team led by Haskell to support the operations of the USCG buoy tender vessels between Piers 1 and 2. Ms. Wilson assisted with preparation of the impact
assessment to address potential environmental impacts to Essential Fish Habitat and endangered and threatened species associated with proposed waterfront improvements at NAVSTA Newport.

## U.S. Army Corps of Engineers New England District - Dredged Material Monitoring, Boston, MA.

 Monitoring and assessment at open water dredged material disposal sites to support the USACE's Dredged Material Management (DAMOS) Program. Focused scientific investigations used state-of-the-art monitoring techniques to map the distribution of dredged material at disposal sites and track the recovery of benthic communities. Surveys typically consisted of bathymetry and sediment-profile imaging, and occasionally sediment coring, sub-bottom profiling, side-scan sonar, and sediment grabs. Ms. Wilson served as deputy program manager and was responsible for program management, budget maintenance, field team coordination, data analysis, graphics and report generation and review.Liberty Natural Gas, LLC - Port Ambrose Deep Water Port Application, New York Bight. Preparation of a Deepwater Port Application for a proposed liquefied natural gas facility to deliver additional supplies of natural gas directly to the New York City and Long Island markets to meet existing and future demand requirements. Ms. Wilson assisted with the preparation and review of biological resources, essential fish habitat, the ichthyoplankton impingement/entrainment model, and National Pollutant Discharge Elimination System permit.

Fisheries and Oceans Canada - Recovery Potential Assessment of Atlantic Sturgeon within the St. Lawrence River. Assisted with preparation and review of life history-based Population Viability Analysis for Atlantic sturgeon in the St. Lawrence River. Utilized a stage-based life history model, with Monte Carlo methods, to determine the recovery potential of Atlantic sturgeon over three generations.

Damietta Container Terminal - Dredged Material Management, Damietta, Egypt. Development of a dredged material management plan to evaluate dredging and disposal methods for port in Damietta, Egypt. The plan included a testing and evaluation framework, designed to evaluate the dredged material for various offshore and upland disposal options, and a sampling plan, designed to evaluate two proposed offshore disposal sites. Ms. Wilson assisted with preparation of the sampling plan which included physical and chemical testing of sediments at the proposed disposal sites and reference areas, benthic studies, and hydrodynamic modeling.

Texas Offshore Port System - Deep Water Port Application, Gulf of Mexico. Preparation of a Deep Water application to evaluate potential impacts from the placement of a new crude oil deep water port in the Gulf of Mexico. Ms. Wilson prepared the biological resources existing conditions and impact assessment sections of the DWP application, as well as supporting essential fish habitat and impingement/entrainment assessment documents.

Conoco Phillips Compass Port/Beacon Port - Environmental Assessments, Gulf of Mexico. Preparation of two Deep Water Port applications to evaluate potential impacts from the construction and operation of offshore terminals for the vaporization of liquefied natural gas using open rack vaporizers in the Gulf of Mexico. Ms. Wilson was responsible for the biological resources existing conditions and impact assessment sections of the DWP application. She also led the evaluation of impacts from cool water discharges and coordinated with the National Oceanic and Atmospheric Administration to develop an Ichthyoplankton Assessment Model for use with this and other DWP applications.
Taunton Municipal Light and Power - 316 Demonstration, Taunton, MA. A 316 Demonstration was conducted in support of client's request for a thermal variance of the discharge (316(a)) and to demonstrate that their cooling water intake structure represents best technology available (316(b)). Ms. Wilson prepared the 316(b) Demonstration and reviewed 316(a) Demonstration and National Pollutant Discharge Elimination System permit renewal application for a municipally owned steam electric power generating station.

Taunton River Desalination Plant - Fisheries, Impingement, Entrainment, and Water Quality Monitoring, Taunton, MA. A Fisheries, Impingement, Entrainment and Water Quality monitoring program
was developed to characterize pre-operation conditions within the Taunton River and quantify on-site impingement and entrainment for comparison with in-river ichthyoplankton and finfish sampling during plant operation. Ms. Wilson assisted with data analysis and report preparation for monitoring program designed to assess engineering controls implemented at the plant to reduce impingement and entrainment during operation. The data summarized included impingement and entrainment samples at the intake structure, as well as in-river ichthyoplankton, finfish, and water quality parameters, both upstream and downstream of the plant.

Puerto Rico Electric Power Authority - Thermal Plume Study, Aguirre Power Plant, Central Aguirre, Puerto Rico. Project manager for a study to characterize the thermal plume from the Aguirre Power Plant Complex Outfall 001 discharge through both deployed temperature moorings and real-time boat-based transect surveys, in accordance with the conditions of the National Pollutant Discharge Elimination System permit. The study was conducted twice over the course of a year and covered one complete twenty-four hour tidal cycle, coinciding with high slack, maximum ebb, low slack, and maximum flood tidal conditions.

Puerto Rico Electric Power Authority - 316(b) Demonstration, South Coast Power Plant, Guayanilla, Puerto Rico. Assistant project manager for 316(b) Demonstration at South Coast Power Plant. Ms. Wilson was responsible for preparing the Preliminary Information Collection document, developing and implementing the Impingement Mortality and Entrainment Characterization study, and preparing the current status report in lieu of a Comprehensive Demonstration document.

NRG Somerset Power Generating Station - Section 308 Response and National Pollutant Discharge Elimination System Support, Somerset, MA. Prepared response document for Supplemental Information Request under Section 308 of the Clean Water Act from the USEPA regarding the cooling water intake structure at the Somerset Power Generating Station. Developed efficient costing tools and approaches to demonstrate to USEPA that the existing as-built facility represents best technology available. The assessment of the cooling water intake structure included a description of its operation, quantification of fish impingement and entrainment, and an evaluation of potential technologies to minimize impingement and entrainment. Also assisted the client with response to a request from the Massachusetts Department of Environmental Protection to determine more precisely the extent of the thermal plume in relation to the state's Mixing Zone Policy and Water Quality Standards.

NRG/Somerset Power, LLC - Coles River Dam Evaluation, Swansea, MA. Prepared a Notice of Intent to improve the anadromous fish passage at the Coles River Dam (Montaup Dam \#3) in the Town of Swansea with respect to potential impacts to marine fisheries resources and habitat. Conducted a site visit of the dam to evaluate the current condition of the fish passage structure, assess overall conditions of the river channel, and present recommendation for restoration. As part of the evaluation, collected information on the plant community, channel condition, water flow, and obstructions to fish passage. Recommendations for potential restoration options to improve fish passage at the dam included plant and/or sediment removal and modifications to the stream channel and raceway to improve fish passage.

Reliant - 316(b) Demonstration, Ormond and Mandalay Generating Stations, CA. Prepared preliminary information collection document in support of Phase II Section 316(b) rule for two plants off the coast of California. Evaluated fisheries information and prepared impingement mortality and entrainment characterization study.

Reliant - 316(b) Demonstration, Portland Generating Station, PA. Prepared benefits valuation assessment of impingement and entrainment in support of Phase II Section 316(b) rule. Developed assessment tools for evaluation of fisheries data.

Florida Power and Light - 316(b) Demonstration, W. F. Wyman Station, Yarmouth, ME. Prepared documents in support of Phase II Section 316(b) rule. Evaluated fisheries information and designed monitoring program for impingement mortality and entrainment study.

Pilgrim Nuclear Power Station (PNPS) - 316 (a) and (b) Demonstration, Plymouth, MA. Assisted with ecological analysis and assessment tasks for 316(a) and (b) demonstration. Evaluated impacts to the aquatic ecosystem from thermal discharges in western Cape Cod Bay and investigated the effects of entrainment and impingement of fish eggs and larvae and other marine species. Additionally, studied the effects of power plant mortality on the local winter flounder population in the bay using an integrated hydrographic, stage-based matrix population model.

Athens Generating Plant - Ichthyoplankton Entrainment Study, Athens, NY. Assistant project manager for project to develop and implement three-year ichthyoplankton entrainment monitoring of 1,080 MW gas-fired power generation facility intake. Was able to successfully negotiate a reduction in scope based on results from initial year of monitoring.

Puerto Rico Electric Power Authority - Biological Evaluation, San Juan, Puerto Rico. Prepared Biological Evaluations for San Juan and Palo Seco Power Plants. Evaluated direct, indirect and cumulative impacts to endangered and threatened species (including turtles, manatees, pelicans and terns) due to power plant intake and discharge.

Ocean Express - Environmental Assessment, FL. Assisted with preparation of environmental impact assessment and essential fish habitat assessment to evaluate the impacts of pipeline placement offshore of Florida's east coast. Assessed impacts to benthic (hard and soft) and fishery resources from pipeline placement.

Citgo - Bioaccumulation Study, NJ. Ms. Wilson conducted statistical analysis of mussel tissue data to determine if the rate of bioaccumulation of chemical contaminants was significantly greater in areas of potential influence of scour units than at a location outside the potentially affected area. A Nonparametric analysis of variance (Kruskal-Wallis) and trend analysis were performed to determine if the tissue concentrations were significantly different among the three locations and if there was a trend of increasing concentrations from the farfield location to the nearfield location.
U.S. Army Corps of Engineers - Dredged Disposal Environmental Impact Statement, Long Island Sound, CT-NY. As part of the designation of open-water dredged material disposal sites in Long Island Sound, an EIS was prepared to evaluate four existing offshore sites, as well as additional alternatives. Ms. Wilson was responsible for conducting finfish and lobster field surveys to collect tissue for chemical analysis in support of the site screening process and assisted with the collection of benthic invertebrates for population indices and sediment for chemical analysis.
U.S. Army Corps of Engineers - Environmental Assessment, Watertown, MA. A baseline ecological risk assessment for the Charles River, in association with the Army Materials Testing Laboratory, was conducted. Ms. Wilson was responsible for the collection of mussel tissue for bioaccumulation analysis and the sediment-profile imaging effort. She also assisted with the collection of sediment samples for chemical and biological analyses and the statistical analysis of the resulting data.
Great Harbor Yacht Club - Biological Assessment, Nantucket, MA. Ms. Wilson conducted a preconstruction assessment of eelgrass and shellfish habitat to evaluate potential extent of impact from a marina development and proposed mitigation.
Massachusetts Water Resources Authority - Harbor and Outfall Monitoring Program, Boston, MA. Water quality and sediment surveys as part of MWRA's long-term marine environmental monitoring plan for the proposed sewage outfall in Massachusetts Bay. Ms. Wilson assisted with the characterization of the plankton and benthic communities in the Massachusetts Bay system to establish a baseline prior to relocation of effluent discharge.
U.S. Navy, Rare Turtle Investigation, NAS South Weymouth, Massachusetts. Participated in an ongoing rare turtle investigation at NAS South Weymouth for 2 state-listed turtle species, Spotted Turtle
(Clemmys guttata) and the Eastern Box Turtle (Terrapene carolina). The study involved a survey of habitat, trapping program and radiotelemetry monitoring. Assisted with GIS analysis and mapping.
U.S. Army Corps of Engineers - Environmental Compliance Assessment, Camp Edwards, Massachusetts Military Reservation, Sandwich, MA. Assessment of impacts to the vegetative community in areas where ordnance and explosive intrusive sampling occurred, particularly the broom crowberry, a state species of special concern. Conducted statistical analysis to evaluate the difference between treatment and control plots (ANOVA, Analysis of similarity, PCS, Diversity indices).

University of Rhode Island - Masters Thesis. Conducted population analysis of scup in Long Island Sound using age-structured models and model selection. Presented results at the 2003 Annual Ecological Society of America Meeting in Savannah, Georgia.

University of Rhode Island - Research Assistant. Conducted population analysis of American lobster using stage-structured matrix models. Determined the sensitivity of population to perturbations of specific stages of lobster life history.

University of New Hampshire - Honors Thesis. Investigated the inter- and intraspecific predation on the seastars, Asterias vulgaris and A. forbesi. Designed and conducted field and laboratory experiments to determine the effect and extent of predation on the two seastar species. Presented results at the 1997 Annual Benthic Ecology Meeting in Portland, Maine, and at the 1997 Annual University of New Hampshire, College of Life Science and Agriculture Research Conference.

## Publications

Wilson, S.K.; T.J. Fredette, D.A. Carey, J. Germano, and P.A. Neubert. 2009. Plan View Photos, Benthic Grabs, and Sediment-Profile Images: Using Complimentary Techniques to Assess Response to Seafloor Disturbance. Marine Pollution Bulletin 59: 26-37.

Kelly, S.J. 2003. The estimation of age-specific demographic parameters for scup, Stenotomus chrysops, in Long Island Sound. Master's thesis. University of Rhode Island. December 2003.

Lemieux, K.B. S.J. Cibik, S.J. Kelly, J.K. Tracey, C.S. Davis, C.A. Mayo and J.W. Jossi. 1998. Massachusetts Bay zooplankton communities: a historical retrospective. Boston: Massachusetts Water Resources Authority. Report ENQUAD 98-21. 120 p.

Kelly, S.J. 1997. Inter- and intra-specific predation on the seastars, Asterias vulgaris and A. forbesi. Honors thesis. University of New Hampshire. May 1997.

## Presentations

Wilson, S.K; H. Henderson; and B. Courchene. 2011. An Evaluation of Exclusionary Devices at the Taunton River Desalination Plant. Presentation at American Fisheries Society Meeting. September 4-8, 2011. Seattle, WA.

Wilson, S.K. and J. A. Schmidt. 2009. Application of ichthyoplankton assessment models in the northern Gulf of Mexico. Presentation at American Fisheries Society Meeting. September 3, 2009. Nashville, TN.

Wilson, S.K.; M. Gerath; K. Schlicht; W. Stephens; J. Wilson; S. Davidson; and B. Sacra. 2008. Long-term surveys of fish populations in two estuaries - Are the changes substantial and consistent or transient and random? Presentation at American Fisheries Society Meeting. August 21, 2008. Ottawa, Canada

Wilson, S.K.; C. Gomez; W. Gorham; and M. Gerath. 2007. Spatial Variation in Species Composition \& Abundance in a Man-Made Harbor. Presentation at American Fisheries Society Meeting. September 6, 2007. San Francisco, CA

Galya, D., M. Scherer, J. Herberich, S. Kelly and J. Scheffer. 2004. Assessment of power plant entrainment in comparison to long-shore ichthyoplankton transport. Presentation at Flatfish Biology Conference. December 1, 2004. Westbrook, CT.

Twombly, S., S. Cobb and S.J. Kelly. 2002. Decapod life history characteristics: Implications for harvesting and management. Poster presentation at American Fisheries Society meeting. August 2002. Baltimore, MD.

