

SUMMER 2012

THE NESDI NEWSLETTER

Highlights & Happenings



Welcome

This quarterly update provides insights into program operations, significant accomplishments, and future focus areas for the Navy Environmental Sustainability Development to Integration (NESDI) program.

We hope you will find these inside perspectives useful and that they encourage you to participate (or increase your involvement) in the program over the coming months.

**The NESDI Program: Integrating
Green Technologies Into the Fleet**





From the Program Manager's Desk

**Welcome to the Summer 2012 issue of
NESDI News: Highlights & Happenings—
part of our ongoing effort to keep you
informed about the NESDI program.**



Leslie Karr

Over the past year, the NESDI program collected a total of 58 needs from personnel in more than 30 different organizations from across the Navy. Right now, we are conducting a preliminary screening of those needs. Our management team, the Technology Development Working Group (TDWG) and I review and validate needs to establish their relative priority during our final evaluation in mid-September.

At that time, we will provide a validated list of needs to our resource sponsor (N45) for their final review and approval before our call for pre-proposals is initiated.

Look for a final list of highly ranked needs and guidance on submitting a pre-proposal to address any of those needs in the fall 2012 issue of *NESDI News*.

Leslie Karr, P.E.
NESDI Program Manager



Who We Are

The NESDI program is the Navy's environmental research and development demonstration and validation (6.4) program, sponsored by the Chief of Naval Operations Energy and Environmental Readiness Division (N45) and managed by the Naval Facilities Engineering Command (NAVFAC). The mission of the program is to provide solutions by demonstrating, validating, and integrating innovative technologies, processes, materials, and filling knowledge gaps to minimize operational environmental risks, constraints and costs while ensuring Fleet readiness.

New Projects

In an effort to keep you informed about our ongoing efforts, here is a listing of our most recent projects. They range from an effort to evaluate low impact development practices that are capable of removing metals from stormwater, to testing necessary to validate computed radiography as an effective replacement for film radiography at the Navy's three Fleet Readiness Centers.

NO.	PROJECT NO.	TITLE	OBJECTIVE
1.	494	Successful Municipal Separate Storm Sewer System (MS4) Programs Implemented in the Navy	Investigate and document existing technologies to help Navy stormwater managers comply with the requirements in their upcoming MS4 permits.
2.	493	Low Impact Development (LID) for Industrial Areas	Evaluate LID practices that are capable of removing heavy metals from storm water runoff from industrial areas.
3.	492	Capacitive Deionization (CDI) Water Treatment System	Challenge-test and improve upon the application of CDI for the treatment of drinking water and recommend the optimal configuration for a treatment system at remote locations.
4.	491	Implementation Strategy for Coral Reef Transplantation Methods	Initiate a study to describe, review, and prioritize potential transplant technologies that could be used to mitigate impacts to coral reefs and provide a roadmap for making decisions when formulating coral reef mitigation programs.
5.	490	Rapid Response: Use of the Marine Biotic Ligand Model (BLM) for Copper to Evaluate Olfactory Risks in Fish	Incorporate fish olfactory sensory data into the marine BLM for copper to validate the model for protectiveness of these potentially sensitive endpoints.
6.	489	Oil Boom Biofouling Control by Mechanical Intervention and Material Technologies	Demonstrate and validate the use of an environmentally friendly non-stick coating in conjunction with in-water cleaning to control and reduce the biofouling of oil booms.

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From the Program Manager's Desk *(continued)*

New Projects

NO.	PROJECT NO.	TITLE	OBJECTIVE
7.	488	Excess Paint Reduction	Develop a methodology for use by generators and handlers of excess expired shelf life paint to reduce the generation of hazardous waste and overall cost of waste management and disposal footprint.
8.	487	Use of Boron-Doped Diamond (BDD) Electrodes for Water Treatment	Demonstrate the sustainable use of a BDD electrochemical water treatment system to provide drinking water at remote locations.
9.	486	Qualification of Type 8 Plastic Media Blast (PMB) as a Replacement for Chemical-based Strippers and Existing Type 5 and 7	Demonstrate and validate proposed MIL-P-85891 Type 8 PMB products as a replacement for chemical-based strippers and existing Type 5 and 7 PMB.
10.	485	Demonstrate/Validate Alternatives to Methylene Chloride-based Chemical Paint Strippers	Demonstrate, validate, and qualify products containing benzyl alcohol and hydrogen peroxide in accordance with the new military specification for paint removers, MIL-R-81294.
11.	484	Replacement of Film Radiography with Computed Radiography	Test, evaluate, and demonstrate computed radiography as an effective replacement for film radiography at the Navy's three Fleet Readiness Centers.
12.	483	Transportable Field Melter for Recycling of Bombing Range Material Potentially Presenting an Explosive Hazard	Demonstrate and validate that a transportable field melter is technically capable of melting steel range scrap in a safe, economically feasible and environmentally responsible way.
13.	482	Innovative Cutting Process to Vent Full Scale Non-Explosive Practice Munitions	Demonstrate and validate a commercial wire cutter to vent full scale non-explosive practice munitions and provide guidance on how to use the technology at Navy ranges.

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NO.	PROJECT NO.	TITLE	OBJECTIVE
14.	481	Controlling Opacity During Ship Hull Cutting & Cold Work	Evaluate a cold cutting technology during shipbreaking and repair operations to reduce particulate opacity while maintaining worker safety and production schedules.
15.	480	Alternative Metal Hot Cutting Operations For Opacity	Demonstrate and validate MagneGas™ as an alternative metal cutting technology for reducing opacity emissions at shipyards.
16.	479	Remove Copper and Other Heavy Metals from Oily Water Treatment System	Demonstrate a ceramic membrane filtration technology to replace bag filters for capturing precipitated copper hydroxide particles.
17.	478	Improving Non-Hazardous Solid Waste Diversion	Identify, demonstrate, validate, and document best management practices or technologies to cost-effectively separate food waste to maximize diversion rates.
18.	477	Rapid Response: Automated Long-Term Monitoring System for Natural Resource Management	Demonstrate an automated system for the continuous, long-term, on-site monitoring of environmental parameters to support effective natural resource management.
19.	476	A Quantitative Decision Framework for Assessing Navy Vapor Intrusion Sites	Develop a quantitative framework to improve decision making and site-management practices for the Navy's Environmental Restoration program vapor intrusion sites.



Names & Faces: **NESDI Profiles**

In this issue of *NESDI News*, we profile the program's management team, the TDWG.

Whether it's identifying a need, ranking that need, reviewing proposals, or keeping current projects on track, the TDWG, in particular, their experience and connections are critical to the ongoing success of the NESDI program.

The NESDI Program Manager assembles and convenes the TDWG to help manage the NESDI program and execute projects. The TDWG helps to ensure that program investments are well spent and that funded projects are successfully completed with the resultant technology ultimately integrated into the daily operations of the fleet. Each member of the TDWG reaches into their respective organizations for needs that the program can address and talent to help address those needs.

Collectively, the TDWG has more than 250 years of experience to draw upon. The depth and breadth of this experience is impressive—ranging from the industrial operations at shipyards and Fleet Readiness Centers to the effective management of stormwater across naval facilities; from the assessment of the condition of coral reef ecosystems in and around Navy harbors to the elimination of hexavalent chrome and other hazardous materials from the Navy's aircraft and ship maintenance procedures; from the transport and fate of pollutants in Navy harbors

to effective practices for managing contaminated sediments.

TDWG members also provide unique perspectives regarding the ongoing efforts of other research and development programs. Many TDWG members have served as Principal Investigators on NESDI projects, so they know how to make a project successful. They also serve as mentors as new Principal Investigators join the program, leveraging their own connections so that these new projects further the legacy of successful NESDI projects.

The 14-member TDWG is comprised of personnel from a number of Navy commands and other organizations including:

- Naval Facilities Engineering Command
- Naval Air Systems Command
- Naval Sea Systems Command
- Space and Naval Warfare Systems Command
- Commander, Navy Installations Command



The TDWG at the east coast In-Progress Review (June 2011). *Not pictured:* Chaela Hall and Jerry Olen. Also pictured: Lorraine Wass who provided administrative support. C. Kurt Holter

Given their experience and working knowledge with the ongoing operation of the Navy's environmental programs, TDWG members play a critical role during the annual solicitation of needs from their respective organizations by:

- Validating needs that are submitted to ensure that they are fully documented and adequately describe the problem at hand.
- Ranking needs based on established criteria including the severity of the threat to the compliance status of the Navy and the pervasiveness or applicability across the Navy.

- Recommending the high priority needs to the NESDI program manager that warrant further attention by the program.

Once priority needs have been approved by N45 personnel, the TDWG requests, collects, and reviews short pre-proposals and the subsequent full-length, detailed project proposals to recommend which projects should receive NESDI program support. The NESDI Program Manager, relying heavily on input from the TDWG, makes the final determination.

Beyond the "new starts," the TDWG also guides the execution of the projects throughout their lifespan to ensure that the results

of these efforts are integrated into daily fleet operations.

Although the Principal Investigator is responsible for implementing a project, TDWG members assist with monitoring the cost, schedule, and performance of the project because of their vast experience. TDWG members have the wisdom to identify any project performance risks and implement appropriate adjustments before project success is jeopardized.

A listing of current TDWG members is provided on the back page of this issue of NESDI News.



Regulatory Corner

The Status of Petitioned Coral Species

On 20 October 2009, the Center for Biological Diversity petitioned the National Marine Fisheries Service (NMFS) to list 83 coral species as threatened or endangered under the U.S. Endangered Species Act. The petition was based on a predicted decline in available habitat for the species, citing anthropogenic climate change and ocean acidification as the lead factors among the various stressors responsible for the potential decline.

NMFS identified 82 of the corals as candidate species, finding that the petition provided substantive information for a potential listing of these species. As a result, NMFS established a Biological

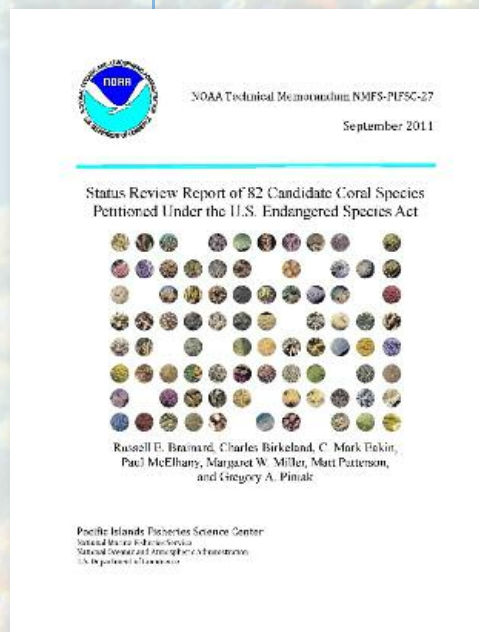
Review Team to prepare a Status Review Report (published in September 2011) that examined the status of these 82 candidate coral species and evaluated extinction risk for each of them. (Source: Status Review Report of 82 Candidate Coral Species Petitioned Under the U.S. Endangered Species Act, NOAA Technical Memorandum NMFS-PIFSC-27.) The report is available for your review at: http://www.nmfs.noaa.gov/stories/2012/05/07_coral_documents_page.html.

It is expected that NMFS will issue a coral listing rule that addresses many of the challenges identified in this report in December 2012.

The NESDI program is already engaged in Research & Development to assess the condition of coral reefs at Navy harbors and compile information on effective methods for coral reef transplantation including the following two projects:

1. Automated Condition Assessment of Coral Reefs (project #425):

At a Guam site, this effort demonstrated a combination of commercial, off-the-shelf instruments that can be integrated to provide a real time alarm system warning of suspended sediment conditions which might threaten coral health.





2. Implementation Strategy for Coral Reef Transplantation Methods (project #491):

This new study will describe, review, and prioritize potential transplant technologies that could be used to mitigate impacts to coral reefs and provide a roadmap for making decisions when formulating coral reef mitigation programs.

The Naval Facilities Engineering Service Center provides a free Weekly Federal Regulatory Summary that DoD personnel or contractors supporting DoD may receive by e-mail. To subscribe or unsubscribe, contact NFESRegulatorySupportDesk@navy.mil or 805-982-2640.



Using Our Web Site

Once the list of needs collection via our FY13 needs solicitation process is ranked and approved by our resource sponsor (N45), you will be able to submit a pre-proposal to address any of those needs. A final list of ranked and approved needs as well as submitting a proposal to address any of those needs will be provided in the fall-12 issue of *NESDI News*.

www.nesdi.navy.mil

The screenshot shows the NESDI website homepage. The browser address bar displays 'www.nesdi.navy.mil'. The page features a header with the 'NAVFAC' logo and the 'NESDI' logo. Below the header is a navigation bar with links like 'Home', 'Privacy Policy', and 'Contact Us'. The main content area is divided into a sidebar on the left and a main body. The sidebar contains a 'Home' button and a list of links: 'Program Details', 'Current Projects', 'Environmental Needs', 'Pre-proposals', 'FY 2011 Year In Review', 'NESDI News', and 'Management Login'. Below these links is a statement: 'This is an official U.S. Navy Web site.' followed by the 'Chief Of Naval Operations Energy and Environmental Readiness Division (N45)' contact information. The main body of the page has a 'Welcome To The NESDI Website' section with a link to the 'Spring issue of the NESDI Newsletter'. Below this is an 'About the Program' section describing the NESDI program and its mission. The 'Program Mission' section lists two goals: investing in innovative technologies and supporting fleet readiness. A 'Contact Us' section provides information on how to reach the NESDI Program Manager. The footer contains links to the 'Privacy Policy', 'Submit Feedback', and 'Contact Webmaster'.

Direct any questions about the use of our web site to Eric Rasmussen, our webmaster, at 732-323-7481 and eric.rasmussen@navy.mil.



Program Schedule

For the next few months, the program will concentrate its efforts on screening, evaluating, and ranking the needs collected during our Fiscal Year (FY) 2013 solicitation that concluded on the first of August of this year (items 1 and 2 in the table below). Once highly-ranked needs have been determined by the program and sanctioned by the program's resource sponsor (N45) (items 3 and 4), the program will turn its focus to collecting pre- and full proposals to address those needs (items 5 through 16).

NO.	WHAT	WHEN
1.	Screen Needs	13-17 August 2012
2.	Evaluate & Rank Needs	10-14 September 2012
3.	Conduct N45 Programmatic Review	October 2012
4.	Obtain Sponsor Review & Approval of Needs	24 September — 5 October 2012
5.	Request Pre-proposals	12 October 2012
6.	Close Pre-proposal Collection	14 November 2012
7.	Collect TDWG Comments on Pre-proposals	26 November 2012
8.	Evaluate Pre-proposals	27-30 November 2012
9.	Request Full Proposals	13 December 2012
10.	Collect Full Proposals	20 February 2013
11.	Collect Functional Working Group Comments on Full Proposals	15 March 2013
12.	Collect TDWG Comments on Full Proposals	22 March 2013
13.	Screen Full Proposals	25-29 March 2013
14.	Collect Answers from Principal Investigators on Full Proposal Screening	29 April 2013
15.	Evaluate Full Proposals	10-14 June 2013
16.	Obtain Sponsor Review & Approval of Full Proposals	July 2013
17.	Conduct In-Progress Reviews	West: 6-10 May 2013 East: 10-14 June 2013
18.	Announce New Starts	31 July 2013
19.	Quarterly Status Reports Due (all Fridays)	1 July 2013 7 October 2013 6 January 2014 7 April 2014
20.	Announce FY13 Needs Solicitation	3 June 2013
21.	Close FY13 Needs Solicitation	1 August 2013

Check out our web site at www.nesdi.navy.mil for the latest version of our program schedule.



NESDI NEWS

SUMMER 2012

GETTING ON OUR MAILING LIST

If you're not already on our mailing list and want to subscribe, please contact Lorraine Wass at 207-384-5249 or ljwass@surfbest.net.

CONTACT US

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IN THE NEXT ISSUE OF NESDI NEWS

There is a lot more information coming your way in the next issue of *NESDI News: Highlights & Happenings*.



In our fall 2012 issue we will:

1. Summarize the results of our FY13 needs solicitation process (including a listing of the highly ranked needs).
2. Remind you how to submit proposals to address those needs.

Until then, look for our article entitled **"NESDI Program Puts Green Technologies into Action: A Better Oil Trajectory Model & Greener Tank Target for Ranges Among New Products for the Fleet"** in the fall-12 issue of *Currents*, the Navy's energy and environmental magazine.

Read *Currents* online and subscribe to the magazine at <http://greenfleet.dodlive.mil/currents-magazine>.