

THE NAVY'S ENVIRONMENTAL MAGAZINE

Currents

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Pearl Harbor Navy Exchange Employs
Practical Landscape
DESIGN

*Xeriscaping to Help Region Meet
Water Reduction Mandates*

**Spotlight on The Nature Conservancy: Bob Barnes, Senior Policy Advisor,
Discusses What's Behind Successful Collaborations with the Navy**

*"There is a tremendous untapped potential and
mutual benefit in working together with the Navy."*

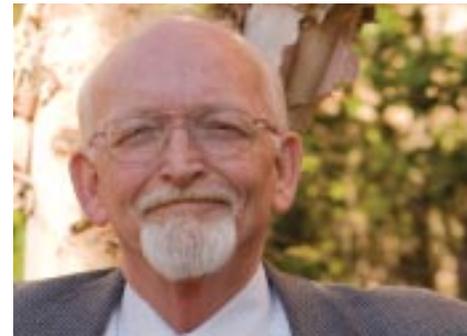


Bob Barnes, Senior Policy Advisor, Discusses What's Behind Successful Collaborations with the Navy



IN THE SPOTLIGHT for this issue of *Currents* is Bob Barnes, Senior Policy Advisor (Department of Defense) for The Nature Conservancy. This is the first of several interviews planned with representatives from a number of non-governmental organizations (NGO) to discuss their interactions with the Navy. These interviews are intended to broaden the understanding of the Navy's partnerships with some NGOs and facilitate effective working relationships with others.

This following telephone interview was conducted on 15 January 2009 by Kenneth Hess, communications consultant for the Chief of Naval Operations Environmental Readiness Division and Bruce McCaffrey, Managing Editor of *Currents*. Christina Mestre of The Nature Conservancy also participated in the interview and provided supporting documentation afterwards.



I consider myself to be a matchmaker.

CURRENTS: Thanks for sitting down with us today. I'd like to start by asking you a little bit about your background. How long have you worked for The Nature Conservancy, and what are your responsibilities there?

BOB BARNES: I started working for The Nature Conservancy in December 2002. My primary function here is to serve as the national liaison between The Nature Conservancy and all elements of the Department of Defense on our various collaborations around the world. Informally, I consider myself to be a matchmaker, if you will. I use what I know about the military and The Nature Conservancy, and where I think there's an area of mutual interest I try to bring parties together and form partnerships. I am also the main liaison with the Department of Homeland Security on aspects of their work that may have ecological implications. I'm part of our energy team and work on wind energy and other renewables in marine energy—offshore wind and things like that.

CURRENTS: I understand that you were in the Army.

BARNES: That's correct. I am a retired Army Brigadier General. I retired in 2001.



CURRENTS: How has that helped you prepare for this job?

BARNES: When I retired, I was serving as the Assistant Judge Advocate General of the Army for Civil Law and Litigation. In that capacity, I oversaw the Army's issues and programs in the environmental law arena. I also helped manage the litigation filed against the Army, environmentally or otherwise. I had that function the last two years I was on active duty. Before that, I was Staff Judge Advocate for Forces Command in Atlanta, GA. We dealt with environmental issues arising from the operation of all the major Army bases in the United States, from the National Training Center all the way across to Fort Bragg and everything in between.

In a former life, I was the Deputy Legal and Legislative Council for the Chairman of the Joint Chiefs during the first Gulf War. I had some responsibilities related to the environmental aspects of our operations overseas. While I was on active duty I began to admire and respect The

Nature Conservancy because of their collaborative approach. They really helped the Army find a way forward with regard to the Red-Cockaded Woodpecker at Fort Bragg, NC. That's in fact where I first heard of The Nature Conservancy, and I so admired their non-confrontational, collaborative approach that I came to work for them.

Our mission is to preserve plants, animals and natural communities that represent the diversity of life on Earth, by protecting the lands and waters they need to survive.

CURRENTS: Could you tell us a little about the mission of The Nature Conservancy?

BARNES: Our mission is to preserve plants, animals and natural communities that represent the diversity of life on Earth, by protecting the lands and waters they need to survive. That's our formal mission statement. I believe that we view the world as a complex, integrated system, and human beings are a critical part of that system. It's clear to

us from our science that our traditional approaches to conservation are simply insufficient to guarantee the kind of vibrant ecosystem that promotes biodiversity and health globally. We're focused on a more inte-

The Basics About The Nature Conservancy

SINCE THE NATURE Conservancy was founded in 1951, they have protected nearly 120 million acres of land and 5,000 miles of rivers across the United States and in more than 30 countries. They also operate more than 100 marine conservation projects around the world.

Though their work originally centered on land acquisition and obtaining easements (restrictions on land usage), the Conservancy today operates programs as diverse as returning native species to California's Channel Islands to opening a school in the Amazon rainforest to teach conservation to indigenous youth.

If there is a common theme to The Nature Conservancy's work, it's science. Mark Tercek, The Nature Conservancy's president and Chief Executive Officer, states that "Science is at the heart of what we do. It is one reason we have maintained our reputation over nearly six decades."

The Conservancy's science-based planning process is called Conservation by Design. This collaborative approach focuses on setting goals and priorities, developing strategies, taking action and then measuring results. The Conservancy partners with governments, other non-profits, corporations, private landowners and stakeholders, and indigenous people around the world. For more about The Nature Conservancy, visit www.nature.org.

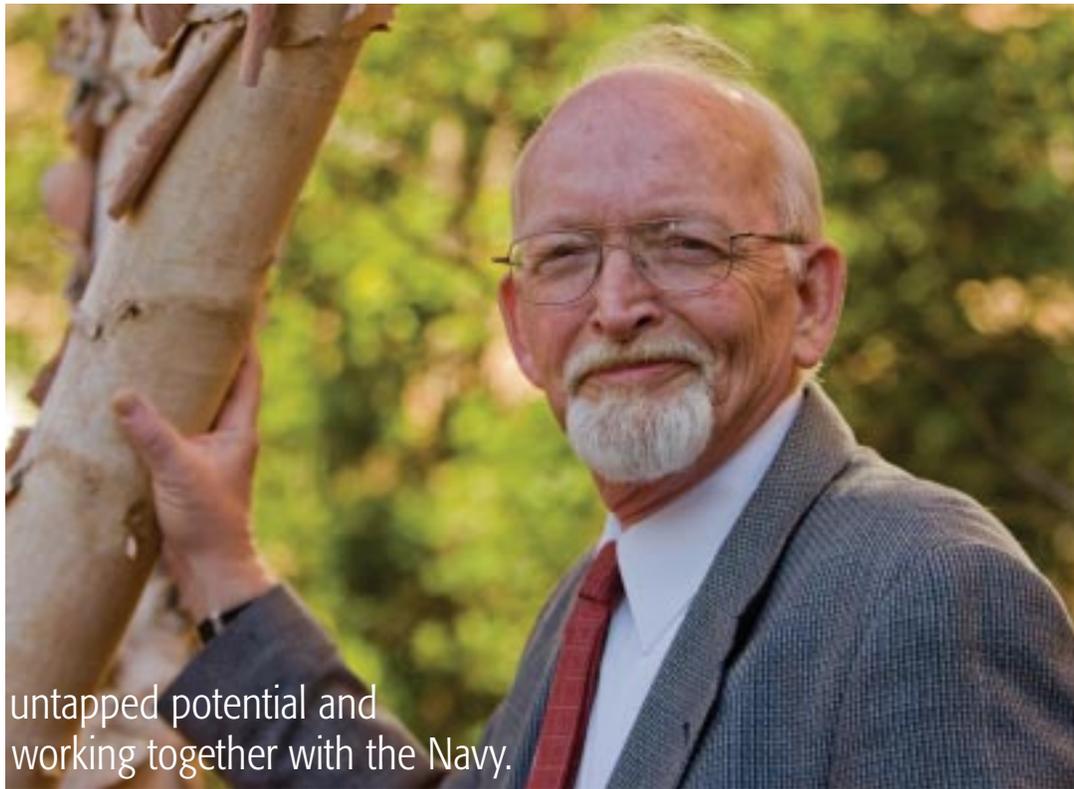


grated systems approach. What we try to do is work with partners and others collaboratively to ensure that this integrated system remains healthy.

CURRENTS: Do you feel that the Navy and The Nature Conservancy are particularly well suited as partners?

BARNES: I'm convinced that there is a tremendous untapped potential and mutual benefit in working together with the Navy. And I think one of the reasons that it hasn't reached that full potential is a lack of awareness on both sides.

There is a tremendous untapped potential and mutual benefit in working together with the Navy.



CURRENTS: Awareness about the mutual benefits?

BARNES: About the potential of the two organizations. The more two organizations know about each other's work, the greater the appreciation for the kind of work we can do together. So that's really my objective—to lay out the scope of what we've been doing, what we could be doing, and how we can prepare to jump from here to there.

CURRENTS: Typically how do the Department of Defense—and the Navy in particular—and The Nature Conservancy interact, and on what types of projects? Can you describe that and ways in which that interaction has changed over the years, particularly with the Navy?

BARNES: The Nature Conservancy's partnership with the Department of Defense goes back to the late 1970s. The first example of that partnership was at Boardman Naval Weapons Training Facility in Oregon. Boardman was the first federal Research Natural Area (RNA) designated on a military base in the United States. The purpose of an RNA is to preserve the land and allow limited use for scientific or educational purposes only. We still partner with the Navy at Boardman.

In the early years, our work together focused on providing technical advice and assistance to Navy officials on the Navy's management of its own onshore natural resources and habitats. We've done a lot of collaborative work with the Navy across the country over the years to assist in that—and that continues today. That's a mutually beneficial relationship of course because we learn a lot from the Navy. They have a lot of terrific natural resources people out there in the field.

The second general area of partnering with the Navy deals with the Navy's encroachment partnering program, or what's sometimes called the buffer program. This is where we collaborate to identify land outside the fence line of Navy shore installations that the Navy, for one reason or another, would like to see protected from incompatible development, or see the habitat protected. Where those areas identified by the Navy are also areas of interest to The Nature Conservancy, we work together under the authority that Congress gave the Department of Defense in 2002 to put that land in a protected status. We've done that at the Navy SEALs training area in La Posta, CA and assisted in projects around Whiting Field in Florida. We're just starting to form a major partnership with the Naval Air



The Mohave Desert.

Weapons Station in China Lake, CA; and we're ultimately hoping to expand that partnership to protect additional lands within the R2508 Complex in the Mojave in California. This is a huge area that is critical, of course, to Navy training and testing, as well as the Air Force, the Army and the Marine Corps. It is a threatened and valuable ecosystem.

The Navy's mission—keeping the country safe—is a mission deserving of our full respect. By the same token, respect for our mission by the Navy is critical as well.

On the east coast, we're in the early stages of a similar partnership to protect the Atlantic Test Range in the Chesapeake Bay area. So we have those "buffer" or encroachment partnerships—beneficial to both the Navy and the Conservancy's mission. An area we are really just beginning that I think has tremendous potential is the sharing of data and resultant analyses, where we do extensive analyses of near-shore

and continental shelf areas and conduct what we call "marine ecoregional assessments." We gather all the regional data we can about the ecology, health and status of a large area of the ocean, assess the relevant threats, then develop a plan to address those threats. We shared our data and our initial assessment for waters off the mid-Atlantic coast with the Navy a couple of years ago to assist the Navy in its own assessment. And the Navy returned the favor recently by giving us access to some of their data to help us do a marine ecoregional assessment in the north Atlantic.

CURRENTS: Could you talk about two or three particularly successful collaborations between the Navy and The Nature Conservancy?

BARNES: Sure. There's one really cool partnership we've got going on here in Virginia that has lasted for a quarter of a century. We have a preserve called the Virginia Coast Reserve (VCR), which is essentially a preserve of barrier



Marsh grass.
William B. Folsom,
NOAA Fisheries Service



Black skimmer.

Gary Kramer, U.S. Fish & Wildlife Service

islands, marshes, coastal bays and uplands off Virginia's Eastern Shore. It's a valuable ecological area for a lot of reasons—the marshes, the barrier islands, the high numbers and diversity of migratory and other birds, and so forth. Our partnership with the Navy is really a two-way partnership. For example, on one of the islands we lease an acre of land to the Navy for the periodic deployment of radar reflectors for a nearby AEGIS remote training center. They identified land that we owned as the ideal spot for that kind of data gathering, and asked us if it would be okay if they periodically came out, set up their radar equipment and collected data. We agreed. They also put up transponders offshore from time to time, and occasionally the Navy SEALs do training exercises offshore. The Naval Research Laboratory (NRL) also does a lot of research at VCR and we've benefited tremendously from the results.

Also, in the area of encroachment partnering, our work to support the partnership between the Navy and state and local governments in Florida to protect Whiting Field has been highly successful. A lot of valuable habitat is protected there, making some great connec-

tions to avoid fragmentation of corridors and so forth. Whiting Field is the Navy's primary rotary wing training area. It was really becoming threatened by development in the area. So it's been a true success story.

The Nature Conservancy performs a supporting role to assist in the project. The State of Florida and local county officials are the key partners. Many times, the Navy is one of a number of partners with whom we work on any given project. That is the case with Whiting Field.

A real success story in the data sharing area is the work we're doing to create our marine ecoregional assessment for the North Atlantic area (Virginia to the Gulf of Maine). We've gained access to the Navy's environmental information

management system and the underlying data that the system captures. Access to this information has saved us

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White-top pitcher plant.

The Basics about the Virginia Coast Reserve

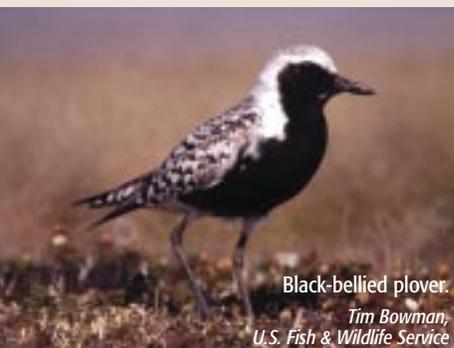
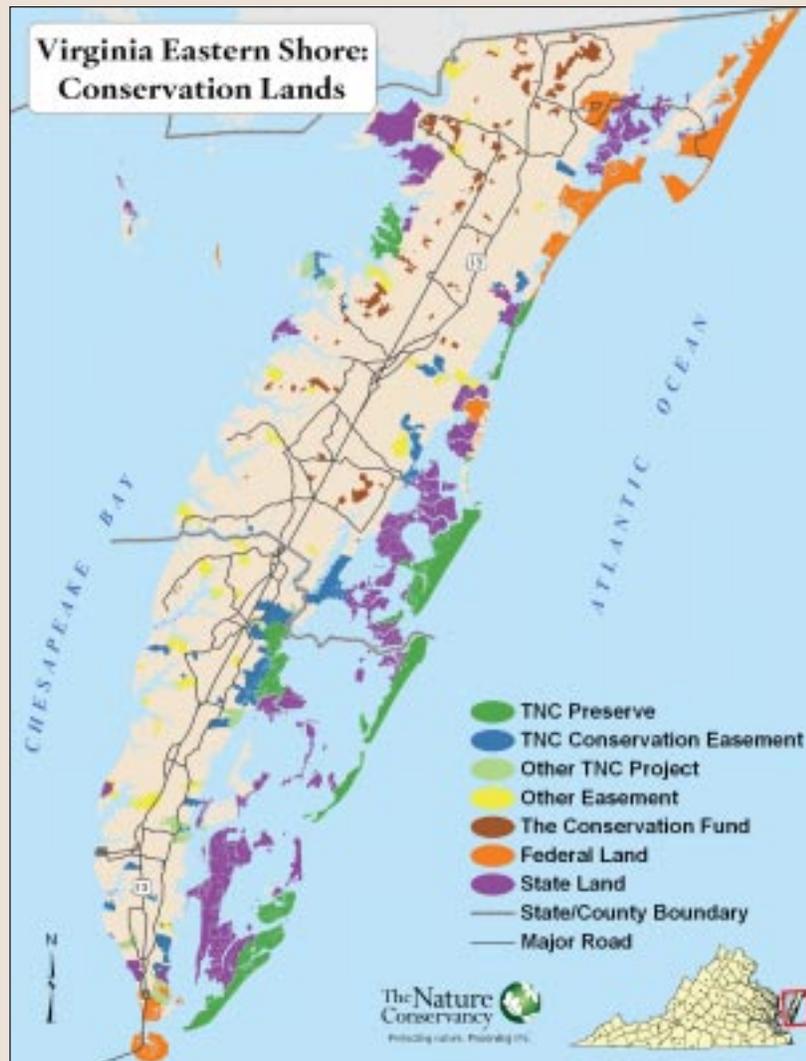
THE VCR IS a narrow strip of land that separates the Chesapeake Bay from the Atlantic Ocean. The reserve is composed of 14 barrier islands and thousands of acres of salt marshes, tidal mudflats and forests.

One of The Nature Conservancy's primary purposes in establishing the VCR was to simply preserve the land, and protect its use as an important migratory bird stopover. But the Conservancy is also enhancing and restoring habitat and developing science and data that may be exported for use in similar kinds of habitat elsewhere.

Some of that science and data was produced by the NRL based in Washington, DC, which has been conducting research at VCR for the past nine years. In 1987, the University of Virginia, in partnership with several other universities, received a grant from the National Science Research Foundation that established the VCR as one of several Long Term Ecological Research sites. The NRL participates as an unfunded collaborator on environmental and ecological research.

The Navy conducts research in areas such as mapping of coastal waters, including bathymetry (the mapping of ocean depth), bottom type and water column constituents, mapping of geotechnical properties of coastal substrates (testing the relative fragility of soils and beaches), and coastal terrain and land-cover mapping as well as associated biophysical properties such as biomass (vegetation density). Some of the valuable information gained in these applications involves the Navy's use of highly advanced hyperspectral sensors, which in essence, take an aerial snapshot of an area and classify everything in the scene. In land applications, for example, the imagery is so detailed, it even identifies the specific type of vegetation on the ground. The Navy has made this information available to the VCR, and it has been highly instrumental in the Reserve's land management efforts, particularly in its battle to control Phragmites, an invasive grass species that has plagued the area since the late 1800s.

Through this partnership, the Navy is able to utilize this pristine land in its ongoing efforts to try out its cutting edge technology, and the reserve receives valuable information to assist them in their mission. For more about the Reserve, visit www.nature.org and click on "Where We Work, North America."





Hikers on Hog Island.
Hal Brindley



Flock of red knots, one of the many species of birds who use the VCR as an annual stopover.
Barry Truitt

Whiting Field & the Gulf Coast Plains Ecosystem Partnership

WHITING FIELD IS the busiest airfield in the Navy, logging in ten percent of all Department of Defense flight hours in the nation. Maintaining aviation clear zones around the field is crucial to the Field's and the Navy's mission.



Longleaf pine trees.

As an active member of the Gulf Coast Plains Ecosystem Partnership (GCPEP), the Navy has been able to safeguard against encroachment while at the same time aiding in land preservation. The Department of Defense, The Nature Conservancy, and seven other partners share the responsibility of protecting a million acres in northwest Florida and south Alabama. The area contains the world's largest stand of longleaf pine trees, as well as important indigenous wildlife.

While pursuing their individual missions, the partners are committed to preserving the area's biodiversity. The Navy shares manpower and resources with The Nature Conservancy and state and local governments on projects such as prescribed burns, conservation planning, soil study and the restoration of native vegetation.

The Navy also has representatives on the GCPEP steering committee, and Department of Defense personnel often travel across Florida to brief state and city officials on their work.

The GCPEP is a textbook example of partners working together to achieve the common goal of ecosystem preservation. For more on GCPEP, visit www.gcpepartners.com/index.aspx.



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a tremendous amount of money, time and effort to gain access to extant data that's necessary for our marine planning for that system. And the benefit flows both ways. The Navy will be able use our analysis based on their data however the Navy sees fit. So that kind of collaborative development of science and exchange of data has been highly successful, and I think there's tremendous growth potential in that area.

CURRENTS: What would you say it is about these collaborations that made them particularly successful and effective?

BARNES: I think there are some common features. Specifically, it's very beneficial when you get science people working directly with other science people. Rather than filtering the information and data through 17 different layers of other folks, connect the science people directly. You know, if you put two geeks in a room, they're going to get happy.

More than anything, when people view their work as a partnership instead of a commercial transaction—that is the key to a successful collaboration.

Don't look for reasons you can't do it, but look for ways you can make it happen.

Another key factor in successful collaborations is mutual respect. The Navy's mission—keeping the country safe—is a mission deserving of our full respect. And it gets our full respect. A lot of men and women are putting their lives at risk, and there are a lot of things that need to be done in order for those people to be successful. By the same token, respect for our mission by the Navy is critical as well. Some people in the Navy and the general public tend to lump all environmental groups together, and say, "Well, they're all the same." Well, they're not all the same. And to really get to know us—our mission—and respecting our mission and the way we work is absolutely vital. One of my roles, in addition to being a matchmaker, is to try to be a bit of a teacher and help The Nature Conservancy understand what the military mission is, what the military needs. In turn, I want to help the military understand what The Nature Conservancy's mission and needs are.

The third requirement for successful partnerships is to be flexible and creative. By that I mean, don't look for reasons you can't do it, but look for ways you can make it

happen. If there is a regulation or a law that gets in the way, then work to get it changed. Be a little aggressive and push the envelope a little bit.

If you put those three things together, you're going to have a great partnership.

This brings to mind another partnership in the formative stages. As you know, there's a pending major relocation of forces from Okinawa and elsewhere to Guam and the Commonwealth of the Northern Mariana Islands (CNMI) region.



The Navy and the joint Guam program office are committed to doing everything they can to avoid, minimize or compensate for any of the impacts of this relocation including the ecological impacts of the entire operation. The Nature Conservancy in the Washington, DC area and our Micronesia Program have been working very closely with the Navy, the governments of Guam and CNMI and others to develop the best program parameters and approach to ensuring the force relocation results in a net ecological benefit to the Micronesia area. For example, this last year The Nature Conservancy supported a proposal that was adopted by Congress that expanded authority for the Department of Defense to participate in conservation banking and "in lieu fee" programs. This will assist the Navy in executing their mission in Guam and the region while meeting their ecological and environmental obligations. I am excited about the possibilities here.

More on Guam & Micronesia

THE ISLAND OF Guam is situated in Micronesia, an area that altogether encompasses 20 percent of the Pacific Island region. The Nature Conservancy has been working with the governments of Guam and CNMI and other local partners to protect and preserve the ecosystems of the region—ecosystems that contain nearly 500 species of coral, 1,300 species of fish, 85 species of birds and 1,400 species of plants.



James P. McVey,
NOAA Sea Grant Program

When the U.S. government announced plans to move thousands of troops to Guam and to increase military activities on the island and in the region, they were cognizant of the potential impact this build-up is likely to have on the region.

Under the National Environmental Policy Act, the Department of Defense is required to prepare an Environmental Impact Statement (EIS) discussing expected impacts to the area. To prepare an EIS, biologists, engineers, planners and other technical professionals examine existing conditions such as land use, socioeconomics, noise, air and water quality, vegetation and wildlife and hazardous materials. Data are gathered and analyzed to identify how the proposed action might change current conditions. Issues most likely to be of concern to the public are identified and addressed. Where findings indicate that there might be significant impacts, the

agency identifies ways to avoid, reduce or compensate for those impacts.

There are many ways that mitigation may be accomplished. For example, one of the Navy's first projects involved the expansion of an existing wharf on Guam. To determine how much compensatory action would be needed in connection with this project, the Navy utilized a Habitat Equivalency Assessment (HEA) modeling tool. HEA was able to predict the effects of coral reef dredging, so personnel could pro-actively plan mitigation. One of the actions being implemented in connection with the dredging is off-site watershed restoration.

Another method for mitigating environmental impacts is known as conservation banking and "in lieu fee" programs. Through this form of conservation "banking", a third party acts as a liaison or "bank" between anyone wishing to develop land and anyone seeking funds to preserve land or marine habitats. Developers pay a fee to the "bank" to offset the environmental cost of their actions. The bank then distributes the money to the conservation projects that need it.

The Nature Conservancy has provided information and advice to the governments of Guam and CNMI and to others in the region about the benefits of conservation banking and "in lieu fee" programs. The Navy is considering this method as a workable solution for all parties involved.

The EIS is near completion and will be rolled out to the public in the spring of 2009. The relocation effort is set to be completed by 2014.

For more about The Nature Conservancy's work in Micronesia, visit www.nature.org and click on "Where We Work, Asia Pacific."



CURRENTS: What would you say are The Nature Conservancy's primary challenges in the next five years?

BARNES: The number one overall, long-term challenge to our mission is global climate change and its potential impacts. That's a particular challenge to the marine environment. For example, ocean acidification is a direct result of the increased concentration of carbon dioxide in the atmosphere. But in the context we're talking about, I don't know if enough people have made the connection between climate change and future national security threats. The Center for Naval Analysis (CNA) assembled a panel of highly respected, retired four star generals and admirals and produced a remarkable report on the relationship between climate change and the potential impacts on national security. (For more information about and to download a copy of CNA's report entitled "National Security and the Threat of Climate Change," visit CNA's web site at www.cna.org.)

CURRENTS: Could you touch on that for us?

BARNES: I'm convinced that there are serious national security implications associated with the threats posed by global climate change. One of the future causes of instability and conflict worldwide is likely to be resource wars stemming from drought and other impacts of climate change.

I don't know if enough people have made the connection between climate change and the potential impacts on national security.

In the ocean context, so much of the world depends on the ocean for its primary source of protein and other kinds of resources necessary for life. In addition to climate changes, other ocean threats like overfishing will be a tremendous source of future conflict and misery. We really ought to do everything we can to get out in front of these threats.

CURRENTS: Where are you spending your energies now?

BARNES: We are spending a lot of energy focusing on some adaptation strategies for climate change. Given that some climate change is going to happen—what do we need to do now to help nature and human beings adapt to that change, so that the change won't be disastrous? That's a highly complex subject, but there are steps you

can take to ensure that natural and human communities can better deal with the impacts of climate change. We're heavily focused in this area.

We're also focused on trying to avoid or reduce deforestation around the world, which is a major source of greenhouse gases. Twenty percent of global greenhouse gas emissions result from deforestation. So we are focusing on programs to avoid or reduce the impact of deforestation, which has all kinds of side benefits for biological health as well. Overall, we are, in essence, what I call an "ecological engineering firm." Our whole approach is to gather data, apply the best science and then take the steps that data and science indicate should be taken. We're spending a lot of energy gaining access to and developing the data, proving the science and then putting the data and the science together in a planning cycle that we call "Conservation by Design." (For more insights into The Nature Conservancy's "Conservation by Design" approach, visit their web site at www.nature.org.)



CURRENTS: The Navy is also trying to get their hands around the potential impacts of global climate change on the ongoing operation of the Navy and what to do about it. Does The Nature Conservancy have a better handle on that?

BARNES: Well, that's about a three day seminar. But let me give you my own take—from the perspective of the Navy's capabilities and mission. One of the real gaps in the kind of tools people need to really plan for climate

change adaptation is quite simply data. Planning without data is like blindly tossing darts at a dartboard. And data on the ocean is particularly weak in many, many areas. So, the best thing the Navy could do is to really concentrate on what data they have, or can gather, that would be relevant to resolving these kinds of issues. The Navy is going to be impacted by the changes in the ocean. By that I mean, we're going to be losing species right and left if we don't do something pretty soon. To the degree that species get rarer and rarer, the potential is there for additional restrictions on Navy activities in the ocean, the coasts, estuaries and rivers. So from a very self-interested point of view, the Navy is facing very serious future restrictions if solutions aren't found. So it is in the Navy's interest to do everything they can in this area.

CURRENTS: Initially one of the big problems that we see is sea level rise. Obviously a lot of naval facilities are on one coast or another. And when you're talking about significant increases in the sea level, the question becomes, "What do you do about your infrastructure?" And that's not a simple problem to address.

We're going to be losing species right and left if we don't do something pretty soon.

BARNES: No, it isn't. And we have a whole program to address the issue of sea level change. Of course, globally protecting, reestablishing and restoring the sort of natural barriers like mangrove marshes or the kind of tidal wetlands of the Gulf Coast and so forth, is probably the single most cost effective and beneficial way to address the issue of sea level change. It's going to be a problem, that's for sure. I'm sure that people will try the sort of hard infrastructure approach such as dikes. My own personal view is that that may be the right answer in some cases but it's certainly not a viable global strategy. And of course, infrastructure isn't the only problem as the sea level rises. We're also researching how coastal systems can adapt to increasing salinity in groundwater as the ocean rises. So there's a lot of work on the coast of North Carolina, for example, to figure out how species will respond with these environmental changes. The Albermarle-Pamlico Peninsula

and the Dare County Bombing Range are prime research areas with direct implications for how nearby Marine Corps Base Camp Lejeune can adjust to rising seas.

Of course, the Navy's problems will be dwarfed compared to challenges that coastal cities will need to face. A huge percentage of the world's population lives on the coast or very close to the coast. So the impact on naval coastal installations is certainly part of that problem. But in the grand scheme of things it's part and parcel of the problem that New York City or any other coastal city is going have. We have developed an interactive tool that projects the potential impact climate change may have on specific areas. (For more information about this tool, see our sidebar entitled "The ClimateWizard Models Climate Change.")

CURRENTS: Let's talk for a minute about public perception. How does public perception of environmental issues affect The Nature Conservancy projects? Do you have any idea on how to change those perceptions?



BARNES: I would say that the public's awareness and support of environmental issues and conservation objectives is growing—it may be at an all time high right now. And that's very encouraging to us. Part of that is because of the focus on climate change. Also people are coming to recognize that you can't just develop and tap resources whenever and however you want, in an unplanned and unlimited way. So there's been a much broader focus on sustainability across the board—in business, in government, in health care systems, etc. The Department of Defense is doing tremendous work on incorporating sustainability principals into its daily operations. And that focus on sustainability and the ability to maintain what you're doing long-term fits right into our world view. So the public perception of that problem is very encouraging to us.

But perceptions are local. One of the reasons that I think The Nature Conservancy has a strong reputation is because of the work we do locally. The non-confrontational, collaborative work that we do, where people can participate, is transparent. People can see what's going on, they can see the benefits, they know we're not going to try and force them to do anything. We only work with people who are willing. And that's something we work very hard to maintain. And it's easily lost, you know. One "Aw shucks!" wipes out a hundred "Atta boys!" so to speak—so we are very careful about that. However, some of our partnerships can make some of our supporters a bit uncomfortable because we do work with such a broad array of uncommon bedfellows. But we are very transparent about our work, and that's really key to the public

and with our members. It's like when you were a kid—if you're not doing anything in your room to be ashamed of, leave your door open and your Mom won't wonder what you're doing. We let the public know what we're working on and why we really need to engage with this broad array of partners in order to achieve conservation results.

On the other hand, at least based on my own experiences while I was still on active duty, I think sometimes there's a cultural tendency in the military to be its own society. Very often the Navy and other organizations in the military have a tremendous story to tell but they may not have a structure, orientation or culture that encourages and rewards outreach and transparency. There are some good reasons for that—national security and so forth. But sometimes this can create the impression that you are doing

The ClimateWizard Models Climate Change

IN AN EFFORT to further global understanding about climate change, The Nature Conservancy, in partnership with two universities, has developed an interactive, web-based tool called the ClimateWizard. This easy-to-use tool allows you to click on any state—or one of a select number of countries—and view weather statistics for the past 50 years or more, along with predictions for the next 90 years. You can access average temperatures and precipitation amounts by month or by year for anywhere in the world, along with a graph showing how temperatures have changed in the last 50 years. The ClimateWizard also features predicted temperatures and rainfall levels through 2100 for the entire United States and a growing number of countries. An advanced version of ClimateWizard is under development that will allow users to create their own climate analysis using multiple variables.

The ClimateWizard is co-funded by the University of Washington and University of Southern Mississippi, and may be found at www.climatewiz.org/index.html.



things that you don't want people to know about when that's not the case. So transparency is a very big deal. It has a lot to do with shaping public perception. The Navy has some great stories to tell.

CURRENTS: I think a lot of folks in the Navy would agree with you.

BARNES: "Be transparent" would be my advice to all in the military—except when there's a truly compelling mission reason not to be transparent.

CURRENTS: Is there anything else that the Navy could do to improve its collaborations and relationship with The Nature Conservancy and NGOs in general?

The public's awareness and support of environmental issues and conservation objectives is growing—it may be at an all time high right now.

BARNES: Yes. The Navy is establishing a Navy-wide structure for the Community Planning and Liaison Officers (CPLO). This program is modeled after a highly successful Marine Corps program that allows the CPLOs to interact with the public, and, most importantly, gives them the ability to speak authoritatively on behalf of the Commander.

CURRENTS: For *Currents* readers who may not be familiar with the CPLO concept, what can you tell us about it? How has The Nature Conservancy interacted with the program?

BARNES: The Naval Facilities Engineering Command administers this program while the Commander of Naval Installations provides the resources to place a person at Navy shore installations. This CPLO is a fully funded, full-time employee whose sole purpose is public outreach, partnerships and transparencies. A workshop was held in early December 2008. (I was invited to speak on how to work with NGOs.) You've got a group of people who are just itching to get out there, interact with the public and help the Navy become more transparent. It's a great step.

I met with Rear Admiral Larry Rice and Mr. John Quinn of the Chief of Naval Operations Environmental Readiness Division (N45) in November 2008, and I think they are absolutely sincere in looking for ways to expand the collaboration between the Navy and The Nature Conservancy as well as other conservation and science groups. All the signs indicate that the Navy is really trying to reach out to groups like ours and find new ways we can work together. That's highly encouraging.

CURRENTS: So where do we go from here? What are some opportunities for future collaborations?



BARNES: I've got lots of detailed input from our marine people on the specific kinds of data that the Navy has that we'd love to have. When I ask the question of our marine science folks, the answer I get uniformly has to do with bathymetry and substrate data. High resolution bathymetry data is critical to The Nature Conservancy's ability to successfully apply science to our marine planning environments. I know in certain circumstances this can be fairly sensitive in an anti-submarine warfare context, but I also think that there are real opportunities for more data sharing. Current data about the condition of the ocean, the condition of the living marine resources in the ocean and the condition of the ocean bottom has great potential benefit to us. A truly effective, global, integrated ocean observation system, using some of the Navy's highly sophisticated sensors and technology used in the context of your global maritime domain awareness program

If you're not doing anything in your room to be ashamed of, leave your door open and your Mom won't wonder what you're doing.

would be very valuable to us. I think there's enough non-classified data extracted from that system that can be of tremendous value to the ongoing research and management of ocean resources around the world.

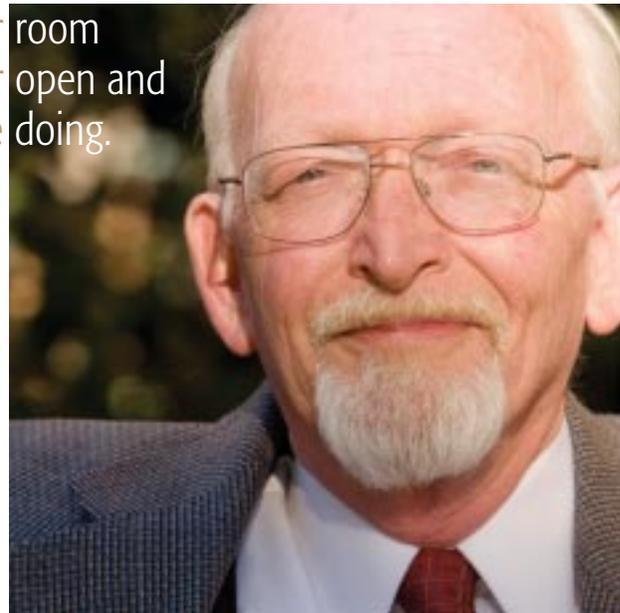
A good sign is that the Navy is gaining increasing authorities. Last year, the Navy was granted the authority to share, at no cost, ship identification data with coastal states. Doing that comprehensively would be a great help to the developing world in their fisheries management and enforcement of fishery restrictions.

There is, pending in Congress right now, an omnibus bill that contains four statutes and at least one program which will provide some real opportunities. Those statutes and programs include:

1. The Ocean Exploration and Undersea Research and Technology Infrastructure Task Force—about ocean exploration and undersea research;
2. The Ocean and Coastal Mapping Integration Act—which aims to integrate all the data sets in the Federal government on ocean and coastal mapping;
3. The Integrated Coastal and Observation System Act—which is intended to integrate ocean observation systems;
4. The Federal Ocean Acidification Research and Monitoring Act; and
5. The formal authorization of the National Oceanic and Atmospheric Administration's Coastal and Estuary Land Conservation Program.

All of these Acts and programs have a real potential for significant Navy contributions to ocean research data and ocean conservation. This is a tremendous opportunity for the Navy to stretch and become a real partner in all of this.

Before he left office, President Bush signed a major national security directive dealing with the Arctic, and the importance of the Arctic region going forward. As I said, there is a dearth of data about the oceans; and



that's particularly the case in the Arctic. And if we're going to do effective management of our Arctic resources, we really need the data. The Navy and the U.S. Coast Guard are in the best position to develop and share that data with everybody who is trying to get a handle on that problem.

The Navy is lead for the Department of Defense on the U.S. Coral Reef Task Force, and a lot of good work has already been done. The U.S. government has signed up with other nations in the Coral Triangle Initiative, a task force to help preserve and protect the coral triangle, which extends from Indonesia and Malaysia over to the Solomon Islands. This is one of the most threatened types of marine habitats in the world; something that is under real risk from climate change and acidification. Increased Navy support and participation in this initiative is a tremendous area of opportunity.

Then there's the real integration of the Navy's resources in the emerging conflict avoidance strategy represented by the U.S. Africa Command and others. The Navy is providing some equipment and training to the coastal maritime forces in places like the Gulf of Guinea to help protect those waters for hostile threats and terrorists and direct resources toward the conservation of marine resources. This is an area of tremendous potential where the Navy could be a wonderful partner in strengthening the abilities of countries in Africa and elsewhere to manage their own resources and protect their fisheries.

CURRENTS: How big a threat is overfishing?

BARNES: It's a huge threat, but it's not the only threat. I'd say that probably the three greatest threats to the ocean are climate change, overfishing, and the stuff we put in our rivers that ends up out in the ocean.

You've got a group of people who are just itching to get out there, interact with the public and help the Navy become more transparent.

CURRENTS: Run off from human activity?

BARNES: Yes, from all sorts of human activity. There was a recent scientific paper that came out in the fall of 2008 about how there are all kinds of dead zones in the Gulf of Mexico and off of the Chesapeake Bay. That's basically the result of nutrients (nitrogen and phosphorous for example) flowing in which, through the cycle of biological change, end up depleting the ocean of sufficient oxygen to support life.

CURRENTS: What else what you really like *Currents* readers and the Navy to know?

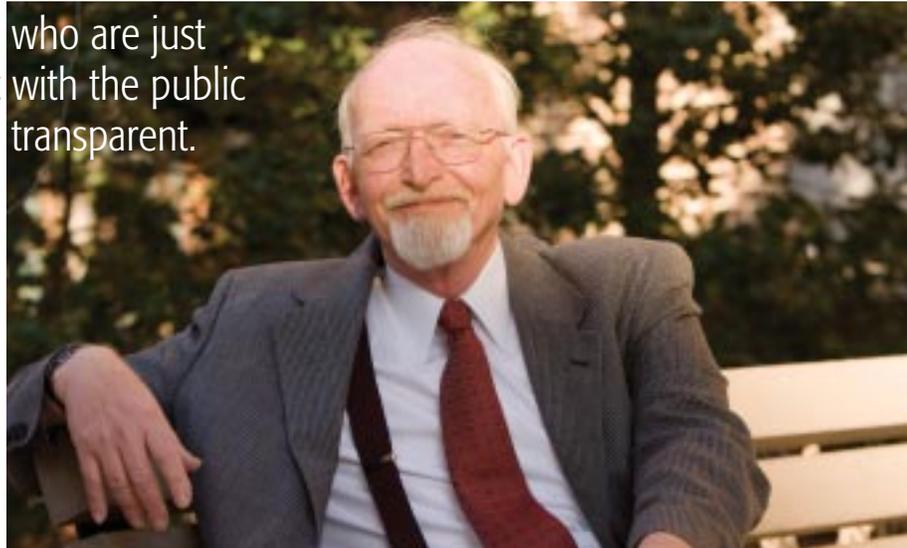
BARNES: Well, I would like them to know how to get information about us. We have a chapter in every state and 30 countries. If they are interested in exploring potential partnerships, we're easy to contact. Successful partnerships are formed at the regional and local level. In Washington—at the Pentagon, the Chief of Naval Operations staff, and the headquarters of The Nature Conservancy—we can try to facilitate the conditions necessary for successful partnerships, but they really get formed and work at the regional and local levels. I think various Navy regional and local commands should take a look at their own operations and say, "Where might we have a mutually beneficial partnership possibility?"

CURRENTS: One of the reasons we're doing this series of interviews is that N45, and Mr. Quinn in particular, wants the Navy at all levels, to explore the possibility of these partnerships.

BARNES: Take it from an old experienced matchmaker; just letting your mind wander around about the potential mutual benefit is the first step. And people would be amazed if they let their imaginations go. The potential is

remarkable, and I hope people take the time to explore it. Where it looks like it's a good potential partnership, take the steps to get it started. I know we'll benefit from it, and I'm absolutely sure the Navy will as well.

CURRENTS: Is there anything else you want to mention?



BARNES: Yes. People need to be careful about viewing these partnerships as business or commercial relationships. This is a collaborative partnership. And a lot of times, what makes a collaborative partnership work well doesn't fit neatly into systems and processes designed for commercial relationships. When someone tries to make a collaborative partnership fit into these kinds of boxes designed for another purpose, friction can develop. That's what I meant about being flexible and creative about new and different ways of doing things. Don't try to make this different relationship fit in the boxes developed for another purpose.

My last little bit of advice is that you don't have to agree 100 percent on everything to form a good working partnership. That's not realistic. You can do a wonderful job of working together agreeing on 80 percent of the issues.

CURRENTS: Bob, we appreciate the time you spent with us today. This is the first interview we've done with an NGO and we think you've provided a lot of good insights. We hope that we can start to do more of the kinds of things you've been talking about.

BARNES: Glad to do it. Thanks. 🍷

Bob Barnes photos by Erika Nortemann