

VI NPS Update

Nonpoint Source Pollution Committee Newsletter

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DPNR Develops New Septic System Rules & Regulations

Governor Charles W. Turnbull signed new rules and regulations for onsite sewage disposal systems (OSDS, or septic systems) on November 29, 2001. The Department of Planning and Natural Resources Coastal Zone Management Division (DPNR-CZM) developed these rules and regulations after many years of scientific research, public meetings on all three islands, and revisions reflecting the concerns of interested persons.

The new rules and regulations provide many sewage disposal options appropriate for our tropical environment. Specific topics addressed in the rules and regulations include: soil type, system sizing, and effluent disposal. Not only do the rules and regulations apply to traditional systems such as septic tanks with leach fields or seepage pits, they also apply to alternative systems such as constructed wetlands. For the first time, provisions have been made to address concerns on how new, innovative technologies developed in other areas can be certified for use in the Virgin Islands.

DPNR-CZM will implement the new rules and regulations in the near future. For a copy of the new rules and regs, contact CZM at (340) 774-3320 on St. Thomas or (340) 773-3450 on St. Croix, or stop by either office.

UVI Partners with DPNR-CZM on Marine Park Project

UVI recently held stakeholder workshops and community meetings throughout the territory to solicit input from the public on development of a Marine Park Management Plan for the Virgin Islands. One of the major issues identified at the meetings was the impact of land-based activities and nonpoint source pollution on the marine environment. The draft management plan for the proposed East End Marine Park on St. Croix identifies strategies to deal with these threats.

The VI Marine Park Project is an initiative of the Virgin Islands government and part of the National Action Plan to Conserve Coral Reefs. UVI is coordinating project implementation through a grant awarded by DPNR-CZM.



Marine Park Management Plan focus group meeting, held November 15, 2001 on St. John.

Project goals are to establish the objectives, policies, and procedures to manage marine resources in the USVI's territorial waters and to develop marine protected areas.

The project has drawn national attention, and DPNR-CZM has twice received accolades for the project. The first was the Walter B. Jones Award for Excellence in Government (see last NPS Update issue). The second was a recognition "award" given by the U.S. Coral Reef Task Force for "leadership and commitment in developing the first marine park and a system of coral reef marine protected areas."

The honors received by DPNR-CZM are more examples of UVI fulfilling its commitment to contribute to the wider USVI community by providing service of such high quality that its partner institutions can demonstrate works of excellence.

This first phase of the project will be completed in March 2002. However, continued support from NOAA will fund implementation of the management plan for the East End Marine Park, and continued work on the system plan for marine protected areas.

For further information on the project, contact Bill Rohring, DPNR-CZM, at (340) 774-3320 or bill.rohring@noaa.gov, or visit <http://rps.uvi.edu/VIMarinePark.html>.

V.I. Marina BMP Effectiveness Study

A study of the effectiveness of **best management practices (BMPs)** used by Virgin Islands marinas found that "leaving a vegetative buffer between shoreline marina facilities is the best

way to keep the waters and sediments in marinas healthy," stated Dr. Lynne Hinkey, principal investigator. The study also found that the impacts of marinas on water and sediment quality are no different than the impacts from surrounding non-marina development.

Water and sediment quality parameters and contaminant levels were measured over a two-year period at Crown Bay Marina, Independent Boatyard, American Yacht Harbor, and Cruz Bay (St. John). Sediment characteristics were also examined in order to better understand and predict pollutant fate and impacts at the sites. Some sediment types can remove pollutants from organisms, while others can concentrate them and increase their chance for exposure.

Water and sediment quality were compared to the BMPs used at each site. The common BMP at all of the "healthy sites" was a vegetation buffer along the shoreline. Other BMPs were only effective when targeted to a specific pollution source at a specific site. For example, silt fencing along a marina shoreline doesn't reduce turbidity if the sediment source is upstream in the watershed. Similarly, oil containment booms at the fuel dock don't protect marina waters from petroleum running off parking lots and roads.

Contaminants associated with marinas (petroleum from engines and heavy metals from bottom paints, maintenance, batteries, and keels), and from non-marina sources (PCBs from industries like WAPA, and pesticides from government and private mosquito control programs) were measured. The most common marina contaminants identified in this study were petroleum (in water, figure 1, page 2), and metals (in sediments, figure 2, page 2).

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However, even more petroleum was found at non-marina sites and can be traced to runoff from nearby roadways. PCBs and pesticides were found at similar, low levels within and outside of marinas. These pollutants come from past and present land-based activities and are not related to marina operations. At some sampling stations, the pollutant levels within the marina were much lower than out-side, clearly showing that good marina management practices can result in improved environmental health.

The most surprising finding in the study was that the water and sediment quality parameters that were measured - the same ones that are commonly used by regulatory agencies to determine water quality impacts - showed little or no correlation to the levels of pollutants found at the sampling sites. By the time the water quality measurements show possible impacts, the area may be degraded beyond repair. Water quality monitoring programs are not enough to protect our waters. Measuring contaminant concentrations and comparing these to sediment characteristics and toxicity test results is more complicated and costly, but provides much more useful information on the state of the environment.

The study yielded the following recommendations to maintain healthy marina waters :

- C Identify specific nonpoint sources of pollution and target BMPs to these sources rather than implementing all possible BMPs.
- C Learn about the historical uses of the site (water and land areas) to identify potential environmental and human health problems at the facility that may not be due to boating and marina operations.
- C Establish a baseline of environmental information for the facility that includes water and sediment quality, sediment characteristics, contaminant measurements, and toxicity testing. Periodically re-test (1-2 times per year) these to identify potential problems early enough to correct them.

For more information on this study, contact Dr. Lynne Hinkey, NOAA Coastal Services Center, at Lynn.Hinkey@noaa.gov.

CDC to Introduce GIS to UVI Classrooms

The UVI Conservation Data Center (CDC) has been awarded a \$214,673 grant to introduce Geographic Information Systems (GIS) to the classroom. The Educational Partnership Program with Minority Serving Institutions (EPP/ MSI), a NOAA program, supports "education, training, research, and outreach in environmental fields related to NOAA's mission."

The project has four objectives:

1. To introduce 100 students to GIS;
2. To have students develop a GIS-based assignment;
3. To provide 26 of the best GIS students with internships in partner agencies; and
4. To evaluate the effectiveness of the pilot project and determine whether the University should pursue this area of instruction in the future.

GIS technology will be incorporated into the physical and social sciences curricula by reformatting existing courses. Through collaboration between UVI-CDC, the UVI Center for Marine and Environmental Studies, and the Social Sciences and Science & Math Divisions, the re-formatted courses will be delivered in the Spring and Fall 2002 semesters. External partners such as the Virgin Islands National Park, DPNR, and The Nature Conservancy will provide internship assignments for those students with the highest aptitude, interest and desire to use the knowledge gained.

During the summer of 2003 an outside party will assess whether project funding resulted in unforeseen outcomes.

The CDC is a unit within the UVI Eastern Caribbean Center that collects, analyzes and disseminates information on the natural resources and biodiversity of the U.S. Virgin Islands. For more information, contact Dayle Barry at (340) 693-1030 or dbarry@uvi.edu.

Coral Bay Sedimentation Monitoring to Begin Soon

The UVI Conservation Data Center recently received a \$21,288.86 grant through DPNR's Section 319 Nonpoint Source Pollution Management Program to monitor sediment going into Coral Bay, St. John. Coral Bay drains the largest watershed on St. John, and much of the area is included in an Area of Particular Concern. The watershed has also been designated as a Category II watershed - an indication that it is meeting Federal water quality standards, but is in need to actions that will allow the watershed to sustain good water quality. The area has experienced the highest population growth on the island, with a 79% increase between 1990 and 2000. The study will measure sediment deposition, coral reef condition, and fish diversity in selected locations throughout Coral Bay to better understand the delivery points, amount and seasonal deposition of sediment. For more information, contact Dr Barry Devine at (340) 693-1038 or bdevine@uvi.edu.

St. Croix Coastweeks a Huge Success!

This year, over 450 people on St. Croix participated in beach cleanups for the annual Coastweeks campaign. Between September 15 and October 6, 2001, seventeen groups, including 7 schools, collected over 300 bags of garbage from St. Croix beaches.

Seventh Day Adventist Pathfinders and Adventurers Coordinator, Glenda Richards, said that "the group was enthusiastic and elated to participate in Coastweeks which provided them the opportunity to serve others while helping to care for the environment."



Seventh Day Adventist Pathfinders and Adventurers at their Coastweeks clean-up of Halfpenny Beach.

On St. Croix, Coastweeks is coordinated by UVI's Virgin Islands Marine Advisory Service. For more information about this or other VIMAS programs, contact Marcia Taylor at (340) 692-4046 or mtaylor@uvi.edu.

Web Resources

Coral Reef Watch has posted a new **Bleaching Report**, of reports received from the field, at http://orbit-net.nesdis.noaa.gov/orad/sub/bleaching_report_index.html.

The "Coral Reef Monitoring Manual for the Caribbean and Western Atlantic" is available from the VI National Park. Contact Dr. Caroline Rogers at caroline_rogers@usgs.gov to receive a free copy. Additional manuals highlighting "How To" video monitoring techniques are also online at: www.fcsc.usgs.gov/Coral_Reef_Ecology/Coral_Monitoring_Kit/coral_monitoring_kit.html.

"Protecting Land, Sand & Sea for a Healthy Environment & Economy"

The Virgin Islands Nonpoint Source Pollution Committee announces that the 7th Annual V.I. Nonpoint Source Pollution Conference will be held May 16th & 17th at the Westin Resort on St. John. For details contact Julie Wright at (340) 693-1082 or Bill Rohring at (340) 774-3320.

The Center for Watershed Protection (CWP) recently completed the **"New York State Stormwater Management Design Manual."** The Manual provides designers with a general overview on how to size, design, select, and locate stormwater management practices at a development site. Visit www.dec.state.ny.us/website/dow/swmanual/swmanual.html to download the manual. For details on other CWP publications, visit www.cwp.org.

EPA's **"Funding of Small Community Needs Through the Clean Water State Revolving Fund"** is now available through the National Small Flows Clearinghouse (NSFC). The fact sheet summarizes the Clean Water State Revolving Fund (SRF). For details, visit NSFC at www.nesc.wvu.edu.

EPA's **"National Management Measures to Protect and Restore Wetlands and Riparian Areas for the Abatement of Nonpoint Source Pollution"** is now available for comment. It provides technical guidance for protecting and restoring wetlands and riparian areas from sources of nonpoint pollution and using vegetative filter strips and constructed wetlands. Visit www.epa.gov/owow/nps or contact Chris Solloway, EPA-NPSCB, at (202) 260-3008.

EPA announces the availability of **"Nutrient Criteria Technical Guidance Manual: Estuarine and Coastal Marine Waters."** It provides State and Territorial water quality managers and others with guidance on how to develop numeric nutrient criteria for estuaries and coastal marine waters. Visit www.epa.gov/OST/standards/nutrient.html to view the guidance.

EPA Section 319 Nonpoint Source Grants to States and Territories Supplemental Guidelines. EPA guidelines for Clean Water Act nonpoint source grants are available to assist States and Territories in identifying the process and criteria to be used in distributing section 319 grants. For details, visit www.epa.gov/owow/nps/cwact.html.

EPA's **"How Wastewater Treatment Works ... The Basics,"** is available from the National Small Flows Clearinghouse (NSFC). The brochure describes the primary and secondary stages in wastewater treatment. For details, visit NSFC at www.nesc.wvu.edu.

The **Extension Disaster Education Network (EDEN)** is a collaborative multi-state effort by Extension Services across the country to improve delivery of services to citizens affected by disasters. The site has a searchable data-base and national network of experts that provides access to resources on disaster preparedness, recovery, and mitigation. For de-

tails, visit www.agctr.lsu.edu/eden/.

Land Use Controls Website. ICMA has launched the first comprehensive database of information on land use controls (LUCs). The website covers documents related to brown-field sites, Superfund sites, federal facility sites, and most other places where LUCs are in use. For details, visit <http://icma.org/issueintersections/landusecontrols.cfm>.

"New Community Design to the Rescue," a new report released by the National Governors' Association's (NGA's) Center for Best Practices, explains how communities can encourage New Community Design: mixed-use, mixed-income, walkable development that is distinctly different from sprawl. Visit www.lgean.org/html/whatsnew.cfm?id=225 for details.

The UK Joint Nature Conservation Committee have made the publication **"Natura 2000 - Marine Monitoring Handbook"** available to download from www.jncc.gov.uk/marine/mmh/Contents.htm.

Available Grants



EPA Environmental Justice Small Grants Program. EPA has about \$1,500,000 in grant funds available for eligible organizations for FY 2002; \$500,000 of which is available for Superfund projects only. Applications must be delivered or postmarked by Friday, February 21, 2002 to the EPA Regional II office. For details, contact: Sheila Lewis, Senior Program Analyst, EPA Office of Environmental Justice, at (202) 564-0152.

DPNR Inventory of USVI Wetlands and Riparian Areas grant. DPNR-DEP and CZM are soliciting proposals for a NPS pollution and management implementation project to develop a wetlands inventory for the VI. The submission deadline is March 15, 2002. For details, contact Bill Rohring, DPNR-CZM, at (340) 774-3320 or Syed Syedali, DPNR-DEP, at (340) 692-0565.

Urban and Community Forestry 2002 Challenge Cost-Share Grant Program. The National Urban and Community Forestry Advisory Council seeks to establish sustainable urban and community forests by encouraging communities of all sizes to manage and protect their natural resources for this and future generations. Through these grants, the Council works to support urban and community forestry activities that are national or widespread in their impact or application. For details, visit www.treelink.org/nucfac/2002.

NOAA Restoration Funding Opportunities. The NOAA Restoration Center an-

nounces the availability of funding in 2001/2002 for individual community-based habitat restoration projects under the Community-Based Restoration Program (CRP). Visit www.nmfs.noaa.gov/habitat/restoration/funding.html for details about the Community-Based Restoration program.

North American Wetlands Conservation Act Grants. The U.S. Fish & Wildlife Service program provides matching grants to public and private organizations and individuals to carry out wetlands conservation projects in the U.S., Canada and Mexico. Proposals are due on March 1 and July 26, 2002. For details, contact Bettina Sparrowe at (703) 358-1784 or bettina_sparrowe@fws.gov.

Upcoming Events

Local

January 18, 2002. **NPS Committee Annual Meeting**, Palms Court Harborview Hotel, St. Thomas. For details, contact Marcia Taylor, UVI-VIMAS, at (340) 692-4046.
February 12, 14, 15, 2002. **Christiansted, Mangrove Lagoon/Benner Bay, and Coral Bay APC Plan Hearings**, all three islands. For details, contact Bill Rohring, DPNR-CZM, at (340) 774-3320 or bill.rohring@noaa.gov.
February 16-18, 2002. **St. Croix Agrifest**, V.I. Department of Agriculture Fairgrounds, Estate Lower Love. Contact for details.
March 19-20, 2002. **VI*A*Syst Crop and Pasture Land Management Train-the-Trainer Workshop**, St. Croix and St. Thomas, respectively. Contact Julie Wright, UVI-CES, at (340) 693-1082 or jwright@uvi.edu for details.
April 1, 2 & 4, 2002. **Houseplants Care & Maintenance Workshop**, all three islands. Contact UVI-CES at (340) 692-4080 or (340) 693-1080 for details.

National

January 24-26, 2002. **New Partners for Smart Growth: Building Safe, Healthy, and Livable Communities Conference**, San Diego, CA. Visit www.outreach.psu.edu/C&I/SmartGrowth for details.
January 28-30, 2002. **NEMO (Nonpoint Education for Municipal Officials) U-2**, Charleston, SC. Visit <http://nemo.uconn.edu/NewNat/NemoU/> for details.
February 23-27, 2002. **Watershed 2002**, Fort Lauderdale, FL. Visit www.wef.org/Conferences for details.
February 25-March 1, 2002. **International Erosion Control Association 33rd Annual Conference and Expo**, Orlando, FL. Visit www.ieca.org for details.
March 11-13, 2002. **Watershed Management to Meet Emerging TMDL Environmental Regulations Conference and Exhibition**, Fort Worth, TX. For details, visit www.asae.org.
May 13-15, 2002. **AWRA Spring Specialty Conference: Coastal Water Resources**, New Orleans, LA. Visit

www.awra.org/meetings/Louisiana2002/ for details.

May 20-22, 2002. **Seventh International Conference on Remote Sensing for Marine and Coastal Environments**, Miami, FL. For details, visit www.erim-int.com/conf/marine/marine.html.

May 20-23, 2002. **3rd National Water Monitoring Conference, Water Quality Monitoring 2002: Building a Framework for the Future**, Madison, WI. For details, visit www.nwqmc.org.

June 2-5, 2002. **3rd Natural Resource Extension Professionals Conference**, Orlando, FL. Visit <http://conference.ifas.ufl.edu/nrep/> for details.

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Nonpoint source (NPS) pollution results from rain water flowing over and through the ground, picking up pollutants and depositing them into guts, salt ponds, beaches, coastal waters, and ground water.

To have your article, announcement or activity included in VI NPS Update, please mail, fax or email your submission to the Editor at: VI NPS Update, c/o Julie Wright, UVI Cooperative Extension Service, #2 John Brewers Bay, St. Thomas, VI 00802-9990, fax (340) 693-1085, email: jwright@uvi.edu.

Editor & Designer:
Julie Wright, UVI-CES
Reviewers:
Clarice Clarke, UVI-CES,
Bill Rohring, DPNR-CZM,
Marcia Taylor, UVI-VIMAS

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