

VI NPS Update

Nonpoint Source Pollution Committee Newsletter

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FOURTH ANNUAL NONPOINT SOURCE POLLUTION CONFERENCE THE BIGGEST EVER!

Control Nonpoint Source Pollution to Protect Our Reefs! That was the prevailing theme heard again and again by the 145 attendees of the Fourth Annual Virgin Islands Nonpoint Source Pollution Conference last December. Opening speakers Beulah Dalmida-Smith, DPNR Commissioner, and Dr. LaVerne Ragster, UVI Vice President for Research and Public Service, charged the standing-room only crowd at Gertrude's Restaurant on St. Croix with the mission of becoming part of the solution to nonpoint source (NPS) problems in the Virgin Islands.

Winners of NPS Student Poster Contest Receive

Cash Prize - As part of the Nonpoint Source Pollution Committee's effort to reach a wider audience, students throughout the Territory were invited to participate in the conference and create posters depicting the theme, *Nonpoint Source Pollution Affects Our Coral Reefs*. Winners received a \$100 cash prize and transportation to participate in the Conference.

Corals need warm, clear water to thrive, according to U.S. Geological Survey biologist Jeff Miller, who studies coral reef disease on St. John. However, Virgin Islands reefs are being harmed by sediments that block sunlight and smother the corals, sea grass beds, and other organisms. Stormwater runoff from unpaved roads, construction sites and other areas where soils are disturbed carries sediment and other pollutants into the sea and onto the reefs. Ralf Boulon, DPNR Division of Fish and Wildlife (DFW) Endangered Species Program Coordinator, emphasized the problem through a new DFW video, *Coral Reefs - Underwater Rainforests*.

Preliminary results of a study of alternative onsite sewage disposal systems (OSDS) provided encouraging news to homeowners with failing septic systems. Raised plant bed evaporation systems installed at various sites on the east end of St. Thomas have been successfully treating wastewater generated by single-family homes since 1995 and can be designed so that no effluent is discharged. DPNR, through the UVI Water Resources Research Institute (WRRI), is now developing guidelines and regulations for the use of these alternative OSDS. For more information, contact Dr. Henry Smith, WRRI Director, at 693-1064.

Marina pump-out facilities have been introduced on St. Thomas and St. Croix to also address NPS pollution from sewage. Sewage dumping from vessels can be a localized problem in some areas of the Virgin Islands, according to Mayra Suárez-Veléz, UVI Marine Advisor on St. Thomas. The installation of pump-out



From left to right: Commissioner Beulah Dalmida-Smith; poster contest winners Ferdin and Brooks, Jr., Charlotte Amalie High School, St. Thomas, Jalisa Ann Boynes, VI Montessori School, St. Thomas, and Kemond Baptiste, Eulalie Rivera School, St. Croix; and poster contest coordinator, Marcia Taylor, UVI Marine Advisor, St. Croix.

facilities in marinas can help to reduce water pollution by providing boaters with a low-cost method of sewage disposal. See article on page 2 for more information on this project.

Erosion and Sediment Control

Training gets rave reviews. Guest speaker Dr. Jerald Fifield drew a large crowd of local architects, draftsmen, engineers, developers, contractors, and government employees to focus on the primary nonpoint source pollutant in the VI -

sediment. The workshop ran from Tuesday afternoon through the second day of the Conference, and included a 3-hour field trip on the afternoon of the second day. The field trip offered participants the opportunity to visit two different sites to evaluate the individual needs of each site and propose solutions utilizing a combination of best management practices (BMPs). Participants were also able to assist in applying practices at a demonstration site on the UVI grounds everyone got a chance to either prepare a slope, broadcast bahia grass seed, or install erosion control blankets. For those of you who missed this workshop, it will be offered again in May (see Upcoming Events on the last page).

DONOE SLOPES STABILIZED

The UVI Cooperative Extension Service and the VI Housing Authority are cooperating in a project to demonstrate the use and effectiveness of erosion and sediment control blankets/mats for slope stabilization at the Donoe Public Housing Community on St. Thomas. Slope preparation for the initial installation took place in early November and consisted of clearing brush and debris, removing larger stones, rocks and stumps, and raking to smooth the slope surface.



Installation of erosion & sediment control matting at Donoe Housing Community on St. Thomas.

Mats made from 100% straw (S2) and 70% straw/ 30% coconut fiber (CS2) were then installed. The CS2 mats (appropriate for 1:1 slopes less than 75 feet long) were used on the steepest areas. Mats were installed around desirable vegetation (ginger thomas, pink cedar, bouganvillea) retained on the slope. Varieties of ground orchid (a ground cover adapted to steep, stony, droughty slopes) were also planted through the mats to further stabilize the area. The S2 mats were used on less steep areas (2:1 slopes less than 75 feet long) to stabilize the slopes and reduce weedy vegetation so that more desirable plant species can become established.

The second phase of this project began early in March with the preparation of the remainder of the slopes for mat

installation, and the hydroseeding of flatter areas with bahia grass (a drought-resistant grass native to St. Thomas). UVI-CES is providing technical assistance, training, and materials to the Virgin Islands Housing Authority (VIHA), and will continue to work with VIHA and Donoe residents to ensure that this demonstration project is a success.

In addition to the Donoe demonstration, plots with different species of native or adapted ground covers have been planted at the CES-St. Thomas Demonstration Garden. Signs are being produced and these plots will be utilized during garden tours for youth and community groups and CES workshops. Silt fencing and porous paving areas will also be installed at this site within the next six months to demonstrate their proper installation and use.

PNR-DEP's Nonpoint Source Pollution Management Program provided funding to UVI-CES to demonstrate the proper installation, use and effectiveness of various erosion and sediment control (ESC) practices in the Virgin Islands. For further information regarding erosion and sediment control practices, or to suggest a site for future demonstration projects, please contact Julie Wright at 693-1082 or stop by the CES office in the New House Building on the UVI St. Thomas campus.

PUMP-OUT STATIONS NOW OPEN

Thanks to the federal Clean Vessel Act and to Section 319 of the Clean Water Act, five marinas in the Virgin Islands have received funds for the installation of pump-out stations Green Cay and St. Croix Marina on St. Croix and Crown Bay, Compass Point and Yacht Haven on St. Thomas. Of these, Green Cay, Crown Bay and Compass Point have operating facilities. A "pumpout station" is defined as a facility that pumps or receives wastewater from holding tanks on board recreational vessels. Pumpout facilities are a low-cost option for boaters to properly dispose of their sewage, and a much more convenient alternative than sailing three miles offshore to discharge waste, which is the limit enforced by the Coast Guard.

The installation of pump-outs in marinas and the operation of a mobile pumpout boat to service mooring fields around St. Thomas and St. John are part of a pilot project to provide boaters with waste disposal options. The Virgin Islands Marine Advisory Service (VIMAS) office at the UVI Eastern Caribbean Center is working with the Virgin Islands government to develop a vessel waste management program. For more information on this or other VIMAS projects, contact Mayra Suárez-Veléz (693-1392) on St. Thomas, or Marcia Taylor (778-1112) on St. Croix.

UNEP GATHERS AG EXPERTS FOR NPS MEETING IN ST. LUCIA

The United Nations Caribbean Environment Programme held a working meeting in Castries, St. Lucia, on January 22 and 23 to discuss Best Management Practices (BMPs) for controlling agricultural nonpoint source pollution (NPS) in the Wider Caribbean Region. The group assembled discussed regional agricultural nonpoint source pollution issues, provided a technical critique of a draft report on the subject, and toured banana plantations to examine some common agricultural practices in the region and discuss practical solutions to identified problems.

Attendees identified issues that need to be addressed by negotiators of the Land-Based Sources of Marine Pollution Protocol (developed in accordance with the Cartagena Convention). These issues included:

1. Environmental impacts of agricultural NPS pollution;
2. Pollutants of concern, causes, sources, and control practices; and
3. Obstacles for controlling agricultural NPS pollution in the region and potential solutions.

Several environmental problems related to agricultural nonpoint source pollution were identified, including decreased biodiversity; loss of coral reefs, fisheries, and seagrass beds; bacterial contamination; increased turbidity; algal blooms; siltation; and increased cost of remediation. In addition, problems caused by physical alteration of the environment were identified, including soil depletion; mangrove loss; reduction in river base flow; and flash floods.

Agricultural NPS Pollutants and Their Sources

Pollutant	Source
Nutrients	fertilizers, manure, soil mineralization
Pathogens	animal waste, dead animals
Sediment	soil eroded from crop/range land, streambanks
Solid Waste	plastics, organic waste
Pesticides	pesticides

The table above lists the main environmental contaminants related to agricultural NPS pollution and their sources, as determined by the panel of experts. Also identified were practices focusing on low-cost, low-tech options to control the pollutants from those sources or causes that were identified. For more information regarding UNEP-CAR/RCU's agricultural nonpoint source pollution control protocol, contact Kjell Grip at (876) 922-9292.

UPCOMING EVENTS

Toxic Releases Inventory Training Session. U.S. EPA, Region 2, Caribbean District will be hosting this training session on how to use the Toxic Releases Inventory (TRI) database on March 24 at the Department of Education Curriculum Center in Tutu, St. Thomas, at 6:00 p.m. For more information call Jim Casey at (340) 714-2333.

Sustainable Herb Production Workshop. The UVI Cooperative Extension Service will be hosting a workshop on commercial production of culinary herbs using sustainable agriculture practices. The workshop will be held April 1 at the UVI Research & Extension Building, room 133 (REC 133), on St. Croix from 7:00 - 9:00 p.m. and April 2 at the UVI Cooperative Extension Service office on St. Thomas from 7:00 - 9:00 p.m. Call Clinton George (692-4080) or Carlos Robles (693-1080) for further information.

Pesticide Applicator Training Workshops. The Cooperative Extension Service holds training workshops for private and commercial applicators of restricted use pesticides on a regular basis. **Private applicator/Core** training (for application of restricted use pesticides to crops and farm animals by farmers; which is **required** for **ALL** commercial pesticide applicators) will be held at the UVI Research & Extension Building, room 133 (REC 133) on St. Croix on March 26 from 9:00 a.m. to noon and 1:00 p.m. to 4:00 p.m. or March 25 and 26 from 6:30 p.m. to 9:30 p.m. and May 5 or May 5 and 6, same room and times. **Commercial applicator** training for industrial, institutional, structural and health-related pesticide application will be held in REC 133 April 7 from 1:00 p.m. to 4:00 p.m. or 6:30 p.m. to 9:30 p.m. **Commercial applicator** training for ornamental and turf grass applications will be held on April 6 from 1:00 p.m. to 4:00 p.m. or 6:30 p.m. to 9:30 p.m. in REC 133.

Pesticide Applicator Recertification will be held on March 25 in the UVI video conferencing facilities on St. Croix and St. Thomas (room 807 in the main building on St. Croix and room T101 at UVI St. Thomas) from 1:00 to 3:00 p.m.

Worker Protection Standards Workshops will be held on March 31 on St. Croix in REC 133 from 9:00 to 11:30 a.m. or 6:00 to 8:30 p.m. and on May 12 at the UVI-CES office on St. Thomas. Call Dr. Jozef Keularts, UVI-CES (778-9491) for more information.

Earth Day Fair. The St. Croix Environmental Association (SEA) is sponsoring an Earth Day Fair from April 21 through 23 at the St. George Village Botanical Gardens from 9:00 a.m. to 1:30 p.m. The Marine Advisory Service will give demonstrations on NPS pollution using the Enviroscape. Call SEA (773-1989) for more information.

Grant-writing for Professionals Workshop. The V.I. Resource Conservation & Development Council, Inc. is sponsoring two 3-day sessions designed to walk you through the grant-writing process from identifying your organization's needs through to developing a proposal for funding. The workshop will be held at the Emerald Beach Resort on St. Thomas from May 4 through 9. For further information or to register, please contact Faye Williams at 692-9632.

Practical Approaches to Erosion & Sediment

Control. The VI NPS Committee is sponsoring two 2-day workshops conducted by Dr. Jerald Fifield, CPESC, a Professional Hydrologist with Hydrodynamics, Inc. These workshops are a continuation of the training offered at last year's Virgin Islands Nonpoint Source Pollution Conference and will include a one-day in-class design session and one-day field implementation session. The workshops will be held May 4 and 5 in the Chase Auditorium on the UVI St. Thomas campus and May 7 and 8 in REC 133 on the UVI St. Croix campus. The registration fee is \$75 for both days or \$50 for one day. Call Julie Wright, UVI-CES (693-1082) to register or receive further information.

To have your event included in VI NPS Update, send the event title, date and time, location, contact person and other relevant information to the Editor at the address listed in the box on this page.

VI NPS Update is a quarterly newsletter produced by the Virgin Islands Nonpoint Source Pollution Committee to inform the public about projects funded by U.S. EPA Nonpoint Source Pollution Management (§319) grants and other NPS pollution control/prevention projects in the territory, and to provide information and material regarding the control/prevention of NPS pollution. *Funding for VI NPS Update provided by the U.S. Environmental Protection Agency, Nonpoint Source Pollution Management Program through the Virgin Islands Department of Planning and Natural Resources, Beulah Dalmida-Smith, Commissioner.*

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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.

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