

Other Accomplishments that Address Water Quality

Activities not addressing specific resolution actions

Federal funding for water quality improvements, sedimentation and runoff problems, education and research

- EPA Environmental Education Grants
 - Hanalei Watershed Hui - \$17,357 to focus on education of sediment pollution and erosion control (October 2006)
 - American Samoa Resource Conservation and Development Council - \$13,197 to focus on runoff pollution (October 2006)
- EPA Wetlands grant to CNMI for coral biocriteria development and UH to develop biocriteria from CRAMP data
- EPA CARE grant (Community Action for a Renewed Environment) to Coral Bay, St. John USVI - \$300,000 for FY 09-10 to begin implementing a watershed management plan through hiring a stormwater engineer to identify, design, and demonstrate effective stormwater devices and BMPs
- EPA and Hawaii Dept of Health developed TMDLs for sediments and indicator bacteria at Hanalei River, Kauai, HI
- EPA 319 funds used by V.I. Resource Conservation and Development Council to install a rain garden at the V.I. Waste Management Authority Green House in St. Croix, USVI to demonstrate the implementation & use of this low-impact development (LID) to address storm water runoff (Nov. 2007)
- DOI has provided more than \$18.5 million in grant funds for various wastewater infrastructure projects in the U.S. Virgin Islands since 2004. DOI funded the construction of two EPA mandated wastewater treatment plants, one on St. Thomas and one on St. Croix. DOI also funded territory-wide sewer system infrastructure upgrades including forcemain replacement and repair, pump station improvements, and collection and conveyance system repairs.
- In the Federated States of Micronesia, DOI provided grant funding through the Compact of Free Association: 1) \$8.5 million for a new wastewater treatment plant in Chuuk State, and 2) \$150,000 to provide a potable water system at the Chuuk State Hospital.
- NOAA and USDA funding for Hawaii's LBS LAS coordinator (2005 – 2008)
- USFWS funding for fire management planning in Molokai, Hawaii (2005)

Technical assistance/Capacity Building

- NOAA State and Territory Capacity Building and Planning Assistance for the Management of Land Based Sources of Pollution (USVI, PR, Hawaii, Guam, Florida)
 - Coral Bay Watershed pilot project and management plan– March 2008
 - Guánica Bay watershed project (Puerto Rico) – in draft
 - Florida – Analysis of data on local agencies, programs and best management practices in Southeast Florida related to LBSP and conduct technical workshop to identify hotspots and select project for specific hotspots – 2008-09
 - Stormwater management ordinance for Caguas, Puerto Rico – 2008
 - Concept designs and design guidelines (Hawaii) – 2006
- Guide for Coastal Developers for implementing BMP's and avoiding and minimizing ecosystem impacts to coral reef Marine protected areas (2007-08) (NOAA)
- Development of Nutrient Management Plans through EQIP on 1,300 acres and Pest Management Plans on 4,000 acres in the Pacific Islands (USDA)
- Development of watershed based plans in Hilo Bay (\$13K), and Oahu/Kapakahi Stream using CWA 319 funds (USDA)
- Development of waste management plans and implementation of \$220,000 grant from ANA for engineering assistance to piggeries (USDA)

- Development of a watershed plan for Alofau Village (American Samoa) that includes practices that protect the coral reefs and create economic opportunities in taro farming and coral farming (USDA)
- Completion and release of Soil Survey for the Hawaii Volcanoes National Park with updated maps and soil properties. Also, conducting a Big Island Soil Survey (for release in 2011) to help landowners develop and sustain their soil resources and provide soils data for researches in their studies or models. (USDA)
- Rapid Watershed Assessments for better targeting of conservation practices to improve watershed conditions in the Pacific Islands. (USDA)
- EPA has detailed engineers from U.S. Public Health Service to water-wastewater utilities in American Samoa, CNMI and Guam
- EPA certified water quality labs in Palau and Yap
- EPA Development of biocriteria and bioassessment methodologies for coral reef management
 - Scientist to Scientist meetings in Guam and CNMI in June 2006
 - Rapid Bioassessment Protocol released in 2007
 - Surveys with USVI DPNR in 2006 and 2007
 - Needs Assessment Workshop in USVI in September 2007
 - Training for FL DEP in May 2008 on protocol
- Training
 - USDA sponsored Area-wide Conservation Planning (May 2006)
 - USDA sponsored workshop on managing watersheds and stormwater runoff (August 2006)
 - EPA sponsored On-site Wastewater Management courses in St. Thomas (April 2008)
 - EPA conducted training courses in the USVI and Puerto Rico in April 2008 related to Storm Water Management associated with construction sites.
 - NOAA in coordination with EPA is sponsoring training in Guam in November 2008 for Natural Resources Damage Assessment, applied to coral reefs.
 - LBS LAS sponsored workshop on innovative technologies for stormwater and wastewater in Hawaii (Maui, 2005)

Research

- USDA & NOAA Jobos Bay joint watershed project (2007-11) to assess the effects of conservation practices in Jobos Bay, Puerto Rico; Includes water quality, sediment, and estuary monitoring to track possible changes over time; Goal is to identify innovative conservation and management practices that protect water quality
- Research Report: Land-based Sources of Threat to Coral Reefs in the US Virgin Islands (NOAA and WRI) – (2006) - Atlas provides a series of spatial indicators of watershed-based sources of threat to coral reefs in the US Virgin Islands.
- NOAA Contaminant Study in SW Puerto Rico (2006-07) - Characterize chemical contaminants in marine sediments and coral reefs and develop an assessment framework to determine linkages between contaminant stressors and coral health
- Development of an AnnAGNPS watershed-scale, pollutant loading model for the Hanalei watershed on Kauai (USDA, USGS)
- USDA Cooperative Ecosystem Study Unit (CESU) agreement with University of Hawaii to study nutrient cycling and improve animal waste management, and to hold science/policy workshops for managing animal waste
- USDA Conservation Innovation Grant (CIG) with University of Hawaii to demonstrate the recycling of animal waste and nutrients through tropical grasses (\$73K)
- USDA CIG with Northern Marianas College to demonstrate cover crops, mulching, and vegetative barriers to reduce erosion and subsequent reef sedimentation (\$75K)

- Florida LAS Biomarker Study – to link land-based sources of pollution to coral reef degradation using cellular diagnostic techniques to measure stress levels in corals and correlate coral tissue damage to specific contaminants. First phase completed in 2006, second phase initiated in 2007
- NOAA & EPA funded the Florida LAS Port Everglades Inlet Study – Determine the flux of pollutants exiting Port Everglades Inlet and the net flux of pollutants to the reef communities. Study began Spring 2008.
- EPA & USGS partnered to conduct the Florida LAS Groundwater Study – Quantify the flux and amount of pollutants transported to the reef communities by groundwater. Study began Summer 2008.
- EPA funded the Florida LAS Enterovirus Study – Link land-based pollution in coastal water by using human enteroviruses as an indicator of fecal contamination. Study began Spring 2008.
- Hawaii LBS LAS heavy metal study in Honolulu Bay, Maui, Hawaii Institute of Marine Biology, 2008 (NOAA, NRCS)
- Hawaii LBS LAS development of pollution sensitive indicators for coral in Hawaii, Hawaii Institute of Marine Biology, 2008. Multi-scale approach including genetics, histology, physiology, and ecology, is being used to measure sediment stress in corals. All tools, except the genetic marker, have been developed. Project will be completed by end of 2008. (NOAA).
- USGS ridge to reef studies in Hanalei Bay, Honolulu Bay and Molokai, Hawaii. Studies include water circulation in Honolulu, Hanalei and Molokai; suspended sediment variability, transport and dynamics and coral response in Hanalei and Molokai; tracing sediment history in Molokai; soil erosion monitoring in Molokai and Hanalei; hydrologic and sediment modeling in Hanalei and Molokai; impacts of vegetation on water quality in Hanalei.

Enforcement

- Hawaii
 - EPA is actively engaged in identifying and closing large capacity cesspools (LCC) in Hawaii. Hawaii has an estimated 5000+ LCCs. Nearly 1200 LCCs in Hawaii have been closed, and EPA is tracking progress toward closure of another 2100 LCCs.
- Guam
 - Upgrades in wastewater infrastructure resulting from a 2003 court order have led to a 99% reduction in sewage spills.
 - Court order led to improvements at Guam's two largest wastewater treatment plants, construction of new sewage outfalls, and improvements at several pump stations.
- CNMI
 - Construction of a new outfall is expected by the end of 2008.
- USVI
 - EPA inventoried high-capacity septic systems and cesspools in the island of St. John. Twelve permits or closure letters for UIC Class V sanitary/septic systems have been issued and three enforcement actions for unauthorized injection of waste initiated.
 - Territorial Pollutant Discharge Elimination System (TPDES) Regulation was signed by USVI Governor in June, 2007. This resulted in a Stormwater Construction General Permit, which became effective in December, 2007. To date, two enforcement actions have been referred by EPA to DPNR for violations of Federal and Territorial regulations related to stormwater discharges associated with construction site. A third enforcement action of major consequence, taken by the department under Territorial CZM regulations was based on data developed through an EPA inspection.
- Puerto Rico
 - EPA settlement with the Puerto Rico Aqueduct and Sewer Authority (PRASA) in 2007 for Clean Water Act violations. PRASA will spend an estimated \$1.7 billion over the next 15 years on improvements at all of its 61 wastewater treatment plants and related collection systems.