

WATERSHED MANAGEMENT TO SUPPORT CORAL REEF RECOVERY AND RESILIENCY

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Coral reef habitats in the Caribbean region have experienced significant reductions in abundance over the past several decades. These declines are due to both global stressors, such as increases in sea surface temperatures and ocean acidification, and localized stressors, such as land-based sources of pollution (LBSPs). Climate change has led to increased occurrence and extent of coral bleaching events, tropical storms and hurricanes, and coral disease. Management of these global threats is difficult; however, studies have shown that coral reef recovery and resilience can be enhanced by managing local nutrient and sediment stressors. Over the past decade, NOAA has taken a leading role in the abatement LBSPs to support recovery, enhancement, and resiliency of coral habitats in the Caribbean.

This presentation will provide an overview of the watershed management techniques that NOAA's Restoration Center and NOAA's Coral Conservation Program have utilized to combat LBSPs to protect and restore the seagrass and coral habitats in a priority region in the Caribbean: Culebra, Puerto Rico. Culebra is a small island, approximately 11.6 square miles, off the northeast coast of Puerto Rico. This island is surrounded by relatively healthy coral and seagrass habitats; however in the past decade scientists have reported a 20 to 40 percent decline in live coral cover in certain portions of the island that are suspected to be linked to LBSPs. In 2010, a group of regional experts identified Culebra as a priority for coral reef conservation. Since then NOAA has partnered with federal agencies, jurisdictional agencies, and local stakeholders to develop a watershed management plan to identify sources of pollution and prioritize LBSP management actions for the island. This plan has served as a means of prioritizing the implementation of LBSP management actions on Culebra. In addition, this summer studies were initiated to establish baselines for nearshore water quality and seagrass and coral health. This information, combined with research of the management practices themselves, will provide resource managers the information needed to evaluate the performance of the LBSP management actions and inform adaptive management strategies.

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Citation for proceedings: Stringer, Christina E.; Krauss, Ken W.; Latimer, James S., eds. 2016. Headwaters to estuaries: advances in watershed science and management—Proceedings of the Fifth Interagency Conference on Research in the Watersheds. March 2-5, 2015, North Charleston, South Carolina. e-Gen. Tech. Rep. SRS-211. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 302 p.