Coming Together to Restore and Protect Coastal Waters From Stormwater Pollution

Events

Sarah Mundell | February 16, 2021

Managing stormwater on coastal cities like Sarasota, Florida, is essential to preventing pollution and harmful impacts that runoff can have on coastal waters. Rainwater must be intercepted and purified by engineered or ecological systems to avoid transporting nutrients that would contaminate beachfronts, impair fishing and foster red tide. Experts at January's Sustainability in Action Roundtable spoke about ways cities like Sarasota can and are addressing the problem from the source, whether from city streets, agricultural stockyards, transportation, suburban developments and more.

"Linkage between the economy and environmental quality that you'll hear about today could not be more direct, immediate and profound," said Charles Reith, President of Florida House Institute Board of Directors, who moderated the SART panel. He spoke of Sarasota's challenge with red tide, the overgrowth of algal blooms caused by increased nutrients and nitrogen from water runoff. Red tide produces toxins that kill fish and make shellfish harmful to eat, causes irritating coughs, in addition to creating an unpleasant odor for miles around, all affecting residents' health and the city's tourism industry.

Reith summarized how development has increased nutrients and contaminates to rainwater runoff and greatly reduced the habitats that naturally catch, store and purify runoff before it returned to the ocean. "At every scale, what we're trying to do is restore ecological services that have been lost by natural habitat that preceded development," he said. As point sources of pollution touch on various sectors—agriculture, urban and suburban development, city streets and parking lots—he said the challenge of stormwater clearly needs a concerted community response.

A Community Playbook for Clean Waterways

John Thaxton, Senior Vice President for Community Investment at the Gulf Coast Community Foundation, spoke of the organization's efforts to transform their region through philanthropy, particularly by spearheading the development of the Community Playbook for Clean Waterways, together with other members of the Science and Environment Council of Southwest Florida. Sarasota's waterways are essential to the city's identity and economic wellbeing, he said. And he spoke of the city's longtime commitment to improving water quality: It was the first Florida county to adopt a fertilizer management ordinance decades ago, and the first to adopt a stormwater environmental utility for water quality and quantity restorations and seagrass restorations. Sarasota also has one of the most aggressive community-led land conservation efforts in the U.S., Thaxton said. The playbook came about when community leaders answered the call to co-invest in a wide range of solutions to overabundant water nutrient levels.

Dr. Jennifer Shafer of Shafer Consulting, represents one of the groups on the Environment and Science Council that contributed to the Community Playbook for Clean Waterways, and she explained it more in depth. She said the playbook's three goals are to 1) reduce anthropogenic-based nutrient loading in natural systems by reducing fertilizers, engine emissions and wastewater, 2) remove excess anthropogenic-based nutrients from natural systems through land conservation, green infrastructure and stormwater best practices, and 3) build capacity and resilience of ecosystems and human systems to sustain the other two goals through education, incentives, partnership, better data and public policy. The playbook, created by a team of local experts and practitioners, outlines 43 community-wide activities across 10 topics that consider watershed issues holistically. Some of the solutions include: harnessing nature to rebalance the nutrient cycle, installing green infrastructure to reabsorb/filter nitrogen, restoring species, upgrading wastewater treatment plants, improving septic systems, and changing behavior and adopting more sustainable practices in fertilizer use and soil management.

Reducing Red Tide Through Natural Solutions

Sandy Gilbert, Chairman/CEO of START (Solutions to Avoid Red Tide), spoke about some of this citizen-run nonprofit's initiatives to reduce the excess nutrients that feed red tide in the Sarasota area. For example, their clam seeding program helps fund the purchase and growth of special clams that are resistant to red tide and filter twice as much seawater as normal commercial clams. He explained how raising these species to sell helps farmers economically when they can't sell other clams to restaurants because of red tide. Another initiative includes nutrient reduction through park development. In one park, restoring a mangrove, installing clams and creating denitrification barriers helps filter nitrogen from stormwater before it reenters Sarasota Bay. Since 95% of impaired ponds in the area are in privately-owned neighborhoods, START also works with neighborhood associations to restore them and improve their filtering capacity.

A Wider Perspective on Financing Green Infrastructure

Stacey Isaac Berahzer, CEO of IB Environmental, shared her expertise in addressing finance and equity in water management. She was inspired to take care of coastal waters growing up in Trinidad and Tobago, where leatherback turtles depend on healthy shores for breeding. In the U.S., she emphasized that while statewide solutions are important in addressing stormwater, the highest impact opportunity for solutions is at the local government level. Although it can be quite challenging for local governments to implement green infrastructure solutions, as most opportunities are on private property, there are several innovative financing solutions local governments are creating to encourage green infrastructure development, including state revolving funds, grants and bonds, she said. She also shared a resource for those whose buildings or homes have septic tanks that can help with financing their replacement when the time comes.

Watch the full video recording of Managing Stormwater to Reduce Coastal Pollution here.

Sustainability in Action Roundtable
SART
A program of Southface

Join Southface bimonthly on the first Friday of the month to learn more about environmental and social issues facing the Southeast and beyond, with topics that include sustainability in business and industry, building science, urban planning, government policy and more. Learn more about future Sustainability in Action Roundtables here, and visit our SART video playlist on Youtube to view past panels.

Tags: Green Infrastructure, pollution, Red Tide