

The Cake out in the Rain

The 50th anniversary of Rachel Carson's *Silent Spring* slipped past me with barely a tweet. I may not have noticed at all but for a happenstance reading of a month-old (October 1, 2012) *Time* magazine article by Bryan Walsh, "Rites of Spring." At 50, Rachel Carson's ecology classic is still under attack. Being old enough to recall the awakening of public interest in environmental matters that her book inspired, but too young to be aware of the corporate and political pressure that *Silent Spring* brought into Carson's life, Walsh's title caught me by surprise. Who would challenge such convincing science linking DDT to widespread environmental and human health risks?

Apparently, many would, and have, and continue to. According to Walsh: "Whether it's pesticides, asbestos or air pollution, the battle plan is the same: question the science, attack the scientists' credibility and warn of unbearable costs." Now I'm on familiar terrain. Despite controversy and lawsuits, progress reducing risks from our most toxic pollutants has been remarkable. Yet, the struggle to balance environmental health, economy and lifestyle continues and contentious lines drawn in the sand have morphed, but have persisted since Carson's alarm was sounded.

Although Carson only lived another two years after publication of *Silent Spring*, her work was an important catalyst in the environmental movement and the shaping of legislation. It's been 40 years since President Nixon signed the federal Clean Water Act (CWA) into law. But, for all its success with reducing risks from toxic pollutants, the CWA has been a difficult fit for controlling pervasive effects of nutrients, which are also important to our health and the health of our ecosystems. Unlike toxic chemicals, identifying the "lethal dose" that provides a bright line in law for

nutrients has been elusive.

Nutrients are the "diet" for ecosystems and parallel the concept of how human diet shapes our health. The EPA calls the management plan for Chesapeake Bay a "nutrient diet." However, the analogy diverges around a nutrient target endpoint that can successfully define a desired ecosystem outcome. Ecosystems, like humans, have varying sensitivities and pre-dispositions to changes in nutrient loading depending on their character, and a one-size "diet" does not fit all. Ecosystems reflect a compilation of evolved interactions of chemical, physical and biological attributes; nutrients, however important and necessary, are not the only ingredients in Nature's very complex recipe for a healthy ecosystem.

Science and management are often toe-to-toe on nutrient issues, much as DDT and toxic pollutants were the focus in Carson's day. But the tone of the discussion shows long overdue signs of a new direction in water resource management. The recent findings and recommendations of the NH Water Commission speak to an ecosystem-based approach that considers broader indirect benefits of preservation and repair that can offset the direct cost of infrastructure upgrades or environmental remediation. We all reap benefits from a healthy environment (examples: food, water, fiber, flood mitigation, fish and wildlife, pollutant control).

We must find creative ways to use Nature to resolve our problems. We've replaced Nature's "infrastructure" with engineered infrastructure that provides convenient and ample ecosystem services that were once provided for free. It is no surprise that our infrastructure not only compromises ecosystem health, but is costly and cannot sustain



the same quality of service as Nature. Green practices that take advantage of Nature are becoming more prominent, not only for their effectiveness but also for their economic, social and cultural value. And good planning will allow us to preserve those features up front rather than costly re-engineering of the landscape that causes more problems than it solves, and then trying to recapture the genie by restoring natural conditions. This was Carson's dilemma with DDT, and remains our challenge today.

Nitrogen (it always comes back to nitrogen!) is only one ingredient in that recipe for a healthy ecosystem. So, I'm reminded of the song "MacArthur Park" released by Richard Harris a mere 45 years ago.

*MacArthur's Park is
melting in the dark,*

*All the sweet, green icing
flowing down.*

*Someone left the cake out
in the rain,*

*I don't think that I can
take it,*

*'Cause it took so long to
bake it,*

*And I'll never have that
recipe again!*

Oh, no! (Sorry, folks – the song is about the environment, isn't it?).

By Paul Stacey:

Research Coordinator, GBNERR

The Changing View

I came to the Discovery Center in 1999 after I had read a short article in the paper about volunteers needed for the Great Bay Discovery Center. I called, came in for an interview with Rachel Stevens, and started volunteering that very week. I loved it. I loved meeting all the volunteers, working with staff like Beth Kane, meeting the people who came through the Center and I loved the view. On quiet days in the Exhibit Room, I would read through some of the information at the desk, but I mostly looked out the window. I'm a late morning person so I liked working in the afternoons and watching the Bay and sky turn toward evening. It was a real joy.

We always emphasize the view to people who are planning to visit the Center or who are interested in volunteering. There are so few places around the Bay where you can actually walk and have views of the opposite shore while observing the change in habitat from upland forest to fresh water marsh and salt marsh to open water. The boardwalk makes it easy for people to get out and see for themselves the ever changing nature of the Bay and the flora that is found here. The boat launch and sandy beach offer another view and habitat. Working year round at the Center, we get to see some dramatic changes from one season to the next.

In late spring through early October, when you are sitting at the desk in the Exhibit Room, you can barely see the water and you can only point out glimpses of it through the leafy vegetation. But the contrast of blue sky, brown earth, green leaves with hints of blue between the leaves and trunks of trees is striking. And even though the Bay is obscured, you know it is there. When visitors come back into the building from going to the waterfront and boardwalk, they always comment

on how big the Bay looks when they actually can see it. In summer evenings, the sunsets bring photographers and others down to the waterfront to watch the colors change as night falls.

As fall and winter approach, the view changes and more and more of the Bay becomes visible. The water seems a lot darker now and the reflections of dark clouds make it appear as though the water is deeper and moving more quickly. Soon the flocks of Canada

geese and ducks drop down and their bobbing bodies ride the waves with an occasional bald eagle flying overhead. When the ice forms along the shore, there are dramatic changes in the view. Depending on how far out the ice goes, there are ribbons of white and grey stretching horizontally as far as one can see. Eagles come down on the ice and in the river channel there are still ducks and geese.

Spring comes and all along the boardwalk the woods look a hazy yellow as the early shrubs start to come out. The season at the Center begins again and the horseshoe crabs come up on the cobble beach. From the Exhibit Room the boat launch area is barely visible, but the Bay can still be seen and



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even some of the salt marsh. Leaf buds and new leaves on the mugwort and shrubs just outside the window and on the distant trees are ready to burst out and block the view once more.

The view from the window at the Discovery Center is really always the same just the seasonal “decorations” change. So when I retire as Volunteer Coordinator at the end of February, I know the Center won't change its view, it will just add a new decoration. I will miss watching the seasons come and go from my window and I will miss all the volunteers, staff and friends I have made here.

Sheila Roberge
Volunteer Coordinator,
GBNERR