



The Hudson River Environmental Conditions Observing System at Marist College went online in 2012. FILE PHOTO BY KARL RABE/POUGHKEEPSIE JOURNAL

JOHN FERRO



OUT THERE

A clearer view of sediment

Deep under water, scientists are getting a clearer picture of the very murky world at the bottom of the Hudson River.

And those findings could influence decisions about everything from how toxins are removed from the river, to making sure drinking water that is drawn from the Hudson is properly treated.

Scientists have always known that sediment flows down the river and settles on the bottom at various points.

And they've known that sometimes the sediment is kicked up off of the bottom and floats around like snow in a snow-globe.

But until recently, they didn't know that it happens much more substantially and more frequently than they may have thought.

The new insight into this dark, silty world has been provided by the addition of an automated river monitoring station inside a boathouse at Marist College.

The station is part of the Hudson River Environmental Conditions Observing

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ON THE WEB

» To view a video about the Hudson River monitoring station at Marist College, go to www.poughkeepsiejournal.com

» To learn more about the Hudson River Environmental Conditions Observing System, go to www.hrecos.org

VISIT MY VALLEY ONLINE

For this story and the latest environmental news, visit www.poughkeepsiejournal.com/myvalley next week:

Tuesday: Pesticides have been linked to serious illnesses, including an increase in Parkinson's, Alzheimer's and Lou Gehrig's disease.

Barge uses old technology to deliver



The Ceres at dock in Vergennes Falls, Vt. PHOTOS COURTESY OF ERIK ANDRUS



The Ceres was built to keep it in the smallest class of the Coast Guard's inspected vessels.

By Gai Galitzine

Imagine a fleet of small 39-foot barges, powered by sail, plowing up and down the Hudson River, moving farm and pantry products from local farms to markets and back again, a cooperative venture between farmer and sailor. This is no romantic vision, but a practical, economic local food distribution system, a workable alternative to the current model of gas-guzzling trucks hurtling up and down the interstate highways at 75 mph, bringing pollution and other environmental hazards in their wake. Among the many people who see it as a viable alternative is Erik Andrus, founder of



Gai Galitzine

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THE DIRT

Sustainable investments influence corporations

By Terry Platz



Terry Platz

The following is a Q&A by Terry Platz of Beacon Institute for Rivers and Estuaries of Clarkson University with Paul Ellis of Paul Ellis Consulting. Ellis has spent the last 10 years establishing a deep network within the sustainable investment community, and is regularly called upon to provide the financial adviser's perspective on in-



Paul Ellis

IF YOU GO

What: "Global Water and Corporate Environmental Responsibility" with Ellen Kennedy (Calvert Investments manager of environment, water and climate change), David Richardson (Impax Asset Management managing director) and Timothy Sugrue (Beacon Institute for Rivers and Estuaries/Clarkson University president and CEO). Moderated by Paul Ellis (Paul Ellis Consulting)

When: 7 p.m. Oct. 17

Where: Beacon Institute for Rivers and Estuaries, Clarkson University, Center for Environmental Innovation and Education (CEIE), 199 Dennings Ave., Beacon

Web: www.bire.org

vestor relations. His expertise as a nationally recognized expert on sustainable investing will be called upon in the coming talk "Global Water and Corporate Environmental Responsibility" on

Thursday at Beacon Institute's Center for Environmental Innovation and Education at Denning's Point in Beacon.

You speak with many leaders of the sustainable responsible investment

community on a regular basis and learn of the most current strategies in place for shifting corporate environmental behavior. Based on your conversations, how are investors able to influence corporations concerning sustainable water practices?

Ellis: Investors can influence corporate practices by joining forces with millions of people who are placing money in sustainable and responsible investing (SRI) mutual funds and other investment strategies. Currently, there is more than \$3 trillion in SRI assets under management. This is substantial leverage that SRI

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/// VALLEY EXPLORER



A few pieces of equipment, like boots, a flashlight, compass, map and hiking poles, will make your hike a safe journey.

GETTY IMAGES/BANANASTOCK RF

SOME THINGS

are worth taking along when hiking

By Tom Rankin

Why do you carry all that gear?

I frequently encounter people hiking in the Catskills who have little or even no equipment with them, sometimes nothing more than the clothes on their back, and even many of those are inappropriate for hiking (e.g. jeans, sandals, etc.) Once in a while they ask me why I carry all the stuff I have.



Tom Rankin

My response is usually along the lines of safety. It's true that the vast majority of people who go hiking get back to the car safely. But I will list a few things I carry and why I do so.

Backpack: Really? Yes, I see a lot of people just carrying things in their hands.

Hiking poles: Useful for balance, testing water or mud depth, helps your knees on descents, and a "shield" against spider webs, briars, or unruly hikers. (Hopefully not!)

Non-cotton clothing: Wet jeans or a T-shirts take forever to dry out and can cause hypothermia.

Boots and gaiters: Better protection from stubbed toes, ankle sprains, poison ivy, briars, etc.

Rain jacket or poncho: Again, wetness can lead to hypothermia.

Extra clothes: Temperature and wind speeds are more unpredictable in the mountains. Wind can make you feel cold quickly. Also, light layers are better than one heavy layer.

First-aid kit, toilet paper: These are obvious.

Map, compass, GPS: If you don't know where you are, how will you get back to where you want to be?

Light: You can easily be out longer than you planned and now it's dark. What next? Your cellphone battery will only last so long. A key chain light weighs only one-quarter of an ounce.

Food and water: Lack of food and water can lead to fatigue and, dehydration, which can quickly spiral downward to nausea, headache, confusion, stumbling, injuries.

Fire starter and matches: Fires can be used for cooking, warmth, light and signaling.

Bivy sack: Thankfully, I've never needed this, but they are very small and light.

Multi-tool: You just never know what you might need to do out there. Cut, saw, trim.

Adding all of this gear up does not amount to more than 10 pounds of extra weight. At that rate, safety comes at a reasonable price.

Is there any other hiking related question or topic you would like me to write about? Let me know!

Tom Rankin is an avid hiker and president of the Catskill 3500 Club. He can be contacted through the Catskill 3500 Club Web page: www.catskill-3500-club.org/about/officers.htm. Disclaimer: Hiking involves risks. Anyone reading this column who goes hiking in the places described does so at their own risk. Neither I nor the club are responsible for any problems that you may encounter while hiking. "Valley Explorer" is a regular feature in My Valley.

/// EARTH TALK



Beach erosion at the Outer Banks, N.C., is evidence of a need to curb dams on inland waterways and carbon emissions. SOIL SCIENCE AT NORTH CAROLINA STATE, VIA FLICKR

Save sand by curbing warming

What are some steps we can all take to prevent beach erosion?

— Kyle Phillips, via email

Beach erosion is a huge issue for coastal areas in the U.S. and elsewhere. According to the nonprofit American Shore & Beach Preservation Association, all beaches endure storms and other natural disturbances that cause them to lose sand, but the causes of beach erosion are not always the same. "On the West Coast, beaches are sandstarved when river dams block the flow of sand," the group reports. That contrasts with Eastern beaches, they say, which often lack sand because inlets or navigation projects interrupt the movement of sand along the shore. "Things as disparate as storm-driven waves or a simple change in an off-shore sandbar may cause one coastal area to lose sand while another gains."

"Ultimately, a beach erodes because the supply of sand to the beach can not keep up with the loss of sand to the sea," says Ken Rubin, assistant professor of geology and geophysics at the University of Hawaii. "Most sand is transported from inland via rivers and streams. The damming of most waterways in the U.S. has thus prevented a major supply of sand from getting to our beaches."

He adds that beach erosion can be exaggerated during periods of rapid sea-level rise, as we are expected to experience soon as a result of global warming melting the polar ice caps.

"When the encroaching sea comes against people's property, the tendency is for people to try and stop the encroaching sea," Rubin reports. "They armor the shoreline with seawalls, revetments, jetties, etc. (which) have a negative effect on beaches because once sea water reaches them, it 'bounces' off them with more energy than a wave washing back off a normal sand beach."

The result is that more sand is carried off shore, promoting additional beach loss. And the increased severity and frequency of storms because of climate change only serves to further stir up the remaining sand at many beaches.

Unfortunately, beyond keeping our carbon footprints in check, there isn't much that individuals can do to prevent beach erosion. Building bulkheads in front of individual homes, or along entire beachfronts, may provide some short-term relief from beach erosion, but as often as not these actions can cause worse problems in the long run. And land-use regulations that require homes and buildings to be built with a big buffer zone to the beach can go a long way toward protecting personal property and home values in coastal areas, but they won't help prevent beach erosion.

According to the American Shore & Beach Preservation Association, physically adding sand to beaches to replace losses is really the best fix:

"Coastal scientists have years of experience with beach restoration projects and have learned that adding sand in the right quantities, properly engineered and maintained, can make a beach last forever."

Of course, the best solution to any problem, including beach erosion, is to address the causes, not the symptoms. Concerted global efforts to curb the emissions that are driving climate change and the elimination of dams along inland waterways are both urgently needed lest we want to keep spending millions of dollars on remediation projects that just have to be repeated over and over again in what is essentially a losing battle.

"Earth Talk" is written and edited by Roddy Scheer and Doug Moss and is a registered trademark of E — the Environmental Magazine (www.emagazine.com). Send questions to: earthtalk@emagazine.com.

ON THE WEB

» American Shore & Beach Preservation Association: www.asbpa.org

» Ken Rubin: www.soest.hawaii.edu/krubin

Platz

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companies use with corporations in promoting sustainable business practices. For example, in order to be held in most SRI mutual funds, corporations must pass through rigorous screening that discloses their environmental, social and governance practices.

When an SRI mutual fund company looks at the water practices of specific corporations, it researches issues

such as: Are they depleting local aquifers? How are they treating waste-water from their manufacturing processes before returning it to the water supply? What processes are they using to monitor water infrastructure ... ?

SRI companies take an additional step with some corporations to encourage more sustainable behavior. By collaborating with nonprofit organizations and non-governmental organizations, they advocate on behalf of shareholders. Last year more than 300 shareholder resolutions were filed, covering numer-

ous issues including water.

Most experts agree there is a growing water crisis. Studies forecast the need for more than \$22 trillion in global water infrastructure spending between 2005 and 2030. So investors who are specifically interested in water issues should look for SRI mutual funds and exchange traded funds that hold companies focusing on water technology. For example, competition for manufacturing pipes, valves and flow monitoring technologies is heating up. A new study shows that chemical and in-

dustrial companies that were former polluters are now making products used for water distribution and efficiency, water filtration and water purification.

The good news is that investors can earn competitive returns while being part of the innovation needed to face this daunting water challenge.

Terry Platz is an associate public affairs officer for the Beacon Institute for Rivers and Estuaries in Beacon. "The Dirt" is a Q&A feature in My Valley.