



CLEARWATER

# Navigator

SEPTEMBER / OCTOBER 2003

Clearwater's  
holiday catalog inside!  
(see page 4 & 5)

## THE ALIENS THAT ATE THE HUDSON RIVER!

If you've walked along the Hudson shoreline, you've probably seen thorny, black water-chestnut seedpods, thick stands of common reed along railroad tracks, mute swans gliding across the water, carp splashing in the shallows, chunky shells of Atlantic rangia on beaches, and the thin, sharp shells of zebra mussels littering shorelines from Newburgh north.

All of these are alien species, brought here by humans, either deliberately or accidentally, that did not live in the Hudson when Henry first sailed up the river. All, no doubt, have strong effects on other plant and animal species. Documenting the dramatic effects of one invasive species – the zebra mussel invasion on the Hudson – has been the focus of our research group at the Institute of Ecosystem Studies (IES).

Zebra mussels are small (less than 4 cm long), black-and-white striped bivalves that attach tenaciously to solid objects – stones, bricks, shells, wood, plants, and boat hulls – below the water line in fresh or slightly brackish water. The adults are filter-feeders, eating phytoplankton, small zooplankton, large bacteria, and organic detritus.

During the summer, the adults release huge numbers of eggs and sperm (one female may make a million eggs each year) into the water, which develop into free-swimming larvae. If the larvae get enough to eat and aren't eaten by a predator, they settle down

onto a solid object and grow into adults. They're mature in just one year, and may live for four to six years. Zebra mussels are native to southeastern Europe, but spread into western Europe when canals were built linking waterways in the early 19th century. In about 1985, they hitched a ride to Detroit in the ballast water of an ocean-going ship. Since then, they've spread to rivers and lakes from Quebec and Minnesota to New Orleans. They appeared in the Hudson in 1991, and are common everywhere in the estuary between Troy and the Highlands.



Chris Bowser

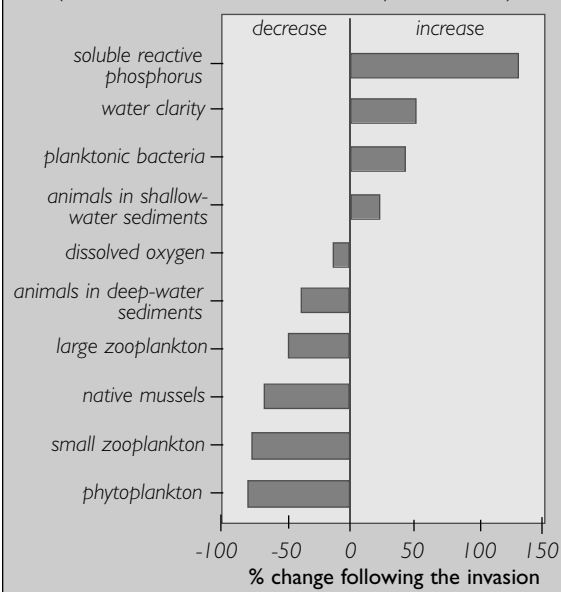
Zebra mussels colonize any available surface, including this discarded beer can.

Since September 1992, the Hudson's zebra mussel population has been huge (50 billion to 600 billion animals). The weight of zebra mussels is greater than the combined weight of all other fish, zooplankton, shellfish, worms, and bacteria in the Hudson. During the summer, zebra mussels filter an amount of water equal to all of the water in the Hudson between Troy and Newburgh every one to four days. Zebra mussels are efficient filter-feeders, so it isn't surprising that their activities have caused some big changes in the Hudson's ecosystem.

Biomass of phytoplankton, which forms an important foundation for the food web, has fallen by 80% since the zebra mussel invasion. Likewise, zooplankton small enough to be eaten by them have nearly disappeared from the river. Of course, animals that depend on phytoplankton and small zooplankton have suffered badly from invasion. Populations of crustacean zooplankton – a key food for many young fish – have been cut in half. The Hudson once contained more than a billion native pearly mussels between Troy and Poughkeepsie, but these interesting animals may disappear from the river in the coming years.

(continued on page 3)

Changes in the Hudson following the zebra mussel invasion (from studies of the Institute of Ecosystem Studies)



# Getting Back To The Basics

FIRST IN A 2-PART SERIES

Environmental ethics is the foundation of all environmental science and policy. It's the social and cognitive basis for our concerns about clean air and water. Without ethics, environmental work can seem to float like an anchorless boat on a stormy sea.

I've been doing our teacher-development workshop on environmental ethics for three years now, as part of the graduate studies course we offer through SUNY New Paltz (see page 6). It takes place high up on the Escarpment Trail, overlooking 180 degrees of the Hudson River landscape that defined America. This year we also added environmental ethics to our in-service course for teachers from the Haldane School in Cold Spring, NY.

I love giving the workshops. They help anchor the students amid a welter of new ideas – and they help anchor me in the midst of stressful times. Here's a much-condensed narrative taken from the workshop.

In the 1760s, French philosopher (and troublemaker) Jean Jacques Rousseau first set forth the importance of nature in human affairs. He insisted that nature was sacrosanct because it was a creation of God. This well-regarded idea, timed with the European march into the New World, helped launch the Romantic Movement, the Cult of the Wilderness, the Hudson River School artists, and later the Transcendentalists.

At the dawn of the 19th century, Washington Irving lay dreamily on the cabin top of a Hudson River sloop, at the foot of the Wall of Manitou upon which we stand with our students, listening to the hair-raising tales of a garrulous old trapper. He realized that this "new" land had no mythology (recognizable to Europeans), and he set out deliberately to create one. His works were million-sellers in Europe. A few years later, James Fenimore Cooper, in his *Leatherstocking Tales*, wrote of Chingachgook and Deerslayer from his early memories of the Catskills and the Hudson Valley. Deforestation had irrevocably altered the entire upstate landscape, but

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Cooper and Irving – co-parents of the Romantic Movement – sold wildly in Europe and brought droves of breathless eco-tourists to the Hudson Valley.

As Cooper's *The Pioneers* was flying off the presses in London and Paris, the Erie Canal opened and a flood of wealth from the heartland began to build New York City into the world's foremost port and financial center. On the sidewalks of this city two prominent artists strode one day, and found themselves transfixed by luminous paintings in a gallery window. Unlike anything else seen in that time, the works were neither portraits nor outdoor tableaux. They were wilderness, shot with blasts of light and shadow and wind and rock, wild and ageless and infinite. They were *sublime*, representing the divinity Rousseau had invoked eighty years prior. The artists purchased the paintings and introduced the new painter to their own clients. Thus did Thomas Cole become a sensation, and the Hudson River School was born. Later additions included Frederic Church, Albert Bierstadt, and many others whose paintings toured whole nations in traveling shows, and exposed further millions to America's grandeur.

Most important, these artworks and books established the importance of nature for its own sake, an unprecedented notion that grew and flourished, but stood uncomfortably next to Utilitarianism in the American social landscape.

There were links between the aesthetic and utilitarian, to be sure. A flourishing school of landscape architecture grew in the Hudson Valley, as Andrew Jackson Downing and Calvert Vaux reinterpreted nature for the estates of wealthy clients – many of them industrialists.

Later writers such as Thoreau, Whitman, Emerson, Burroughs, Muir and Leopold built on the ideas established on the banks of the Hudson. Reinforcing those ideas as the land groaned beneath the shovels, blades, plows and axes of progress, they succeeded against the combined forces of utilitarianism in defining the context of phenomena such as the national parks system and a family of laws that were just around the corner. Millions of people across several generations internalized the importance of nature, and sensing the loss of open space and habitat, began to lament its passing.



Augusto Menezes

Without ethics, environmental work can seem to float like an anchorless boat on a stormy sea.

- Andy Mele  
Executive Director

Next issue: *The birth of the modern environmental movement and the advent of environmental protection laws.*

## THE ALIENS THAT ATE THE HUDSON

(continued from page 1)

Because zebra mussels have removed most of the phytoplankton from the Hudson, the river is about 50% clearer than it used to be. This increase in water clarity may have caused beds of submerged plants to spread and

### INVASIVE SPECIES: Opportunists and Survivors

What does it mean to be an invasive species? Generally speaking, invasives are considered nuisances, a kind of biological pollution whose arrival results in reduced diversity, habitat changes, and pressure on native species that may lead to extinctions. The Hudson Valley has become a haven for many invasives, including zebra mussels, water chestnuts, Japanese knotweed, purple loosestrife, Norway rats, West Nile virus, common carp, gypsy moths and woolly adelgids (a scale insect destroying hemlock forests) to name just a few.

Invasives are often foreigners, introduced to a new environment either accidentally (as is the case of zebra mussels), deliberately (think starlings), and naturally (New York coyotes filling a niche vacated by wolves). Sometimes the invaders are not foreigners at all, as in the case of the ubiquitous common reed, *Phragmites*, a native plant which has recently become invasive and overwhelmed many Hudson Valley wetlands.

Invasives can take a punch. They are survivors, with high reproduction rates, ecological flexibility, and a knack for crowding out desirable native species. Scientists worry that global warming will make conditions favorable for invasives, as they will be able to adapt to a rapidly changing environment. Our concerns about West Nile virus today may switch to malaria tomorrow.

When we complain about zebra mussels clogging intake pipes or water chestnuts clogging waterways, we should remember that these species are only doing what



Water chestnut (*Trapa natans*)

they do best: taking advantage of an opportunity. Too often, we have extended invitations, intended or otherwise, to these destructive species that they have all too eagerly accepted.

What to do about invasives? Preventing new invasions is the key. Once the genie is out of the bottle, we are usually stuck with the consequences. We may get lucky by introducing a parasite or predator, but such solutions usually have only limited success and may cause more problems than the invasive itself. Once established, many ecologists admit, invasive species, like diamonds, are forever.

- Dave Conover  
Former Clearwater Educator  
Adjunct Professor, Marist College.

thicken, leading to an increase in populations of invertebrates that shelter and feed there.

IES is now working with DEC fisheries biologists to determine how the zebra mussel invasion has changed fish populations in the Hudson. It appears that both populations and growth rates of open-water fish (such as shad and herrings), have been reduced, while those of shallow-water fish (such as sunfish) have increased.

Further, it looks like fish have shifted their distributions within the river. The overall impact of zebra mussels on the Hudson's fish has probably been negative, and the Hudson of 2003 is a vastly different river than it was before the zebra mussel invasion.

In addition to causing ecological changes, zebra mussels are an economic nuisance. They foul pipes, boat hulls and fittings, and other underwater structures. This leads to increased costs for underwater inspections, cleaning, and chemical control, especially in drinking-water intakes and power plants.

What can we do to control zebra mussels in the Hudson? While zebra mussels can be controlled on boat hulls and in power plants by mechanical scraping or chemicals, there is no prospect for controlling zebra mussels in open ecosystems like the Hudson. Predators such as blue crabs and sturgeons do eat zebra mussels, but have never been shown to control natural populations. Research on new control measures, including biological controls, is ongoing, but the changes we've seen to the Hudson River ecosystem probably are irreversible or at least long-lasting.

A more useful question is "What can we do to prevent more alien species from establishing themselves in the Hudson and other ecosystems?"

First, we can try to prevent the spread of zebra mussels into uninfested waters by not taking raw water (in minnow buckets, live wells, and the like) or infested gear (boats and trailers) from the Hudson to other lakes and rivers. Be sure your boat and trailer are really clean before moving them from the Hudson to another lake or river. Recommendations for cleaning are available at <http://www.seagrant.umn.edu/exotics/ZMBoaters.pdf>.

Second, we can limit introduction of additional alien species by pushing for better laws restricting entry of new species in ballast water, shipping containers, and the pet, aquaculture, and horticulture industries, and by being careful not to release our alien pets and baitfish into rivers and lakes. Through measures like these, we can help prevent new, unpleasant alien invasions in the future.



Zebra mussels, shown at about twice their actual size.

Invasive photos by Chris Bowser

- David Strayer  
Institute of Ecosystem Studies

# Clearwater's Holiday Catalog

**Clearwater T-Shirts**  
100% organic cotton  
fair labor tees by  
Patagonia.



**NEW! Children's Tees**  
Our bright children's  
short sleeve tees are a  
great gift for any  
Clearwater kid.  
Colors: Blue, Gold, Red  
XXS, XS, S, M  
(Sizes run large) \$12.00

**Adult's Short Sleeve Tees**

**NEW Colors:** Blue, Moss Green, Natural,  
Sizes S, M, L, XL, XXL \$15.00

**Adult's Long Sleeve Tees**

**NEW Colors:** Natural and Midnight Blue  
Sizes S, M, L, XL, XXL \$20.00

**NEW! Woman's tank top!**



Our new tanks  
from Maggies  
Clean Clothes are  
100% non-bleached  
organic cotton.  
Tanks available in  
natural with  
eggplant print.  
Sizes S, M, L, XL  
\$15.00



**Last Year's Favorite!  
Fleece vest**

As a layer or as  
outerwear this vest is  
perfect for chilly  
weather. Available in  
either Men's or  
Women's style. Adult  
sizes only: S,M,L,XL  
\$40.00



**Clearwater Bookstore**

**A. The Hudson: An Illustrated Guide to the Living River** Read about Hudson River ecology, natural & human history, and major environmental issues. \$25.00

**B. The Hudson River Guidebook**  
A mile by mile description of the river's landmarks and historical events. \$35.00

**C. The Mariner's Book of Days, 2004**  
This best-selling engagement calendar is full of nautical fact, fiction, and folklore. \$13.00

**D. Rise Up Singing**  
"If you like to sing with friends, this is the book you've always wanted." - From Pete Seeger's Introduction \$18.00



**Clearwater Hats**

This year we have three different  
styles of Clearwater hats. All are  
100% cotton and embroidered  
with the classic Clearwater  
insignia. Hats are one size fits all.

**Visor**

**NEW Colors:** Khaki, Navy; \$15

**NEW! Bucket Hat**

**Colors:** Khaki /Sage Green; \$15



**Baseball Cap**

**NEW Colors:** Blue, Red, Yellow, Khaki/ Hunter; \$15

**NEW! Onesie**

Made by Under The Nile,  
our favorite baby gift is  
100% organic, dye-free  
Egyptian Cotton. Onesies  
are natural colored with  
aqua print. Available in  
18mo and 24mo sizes.  
\$11.00



**NEW! Clearwater Nalgene Bottle**

This 32oz Nalgene bottle  
features pictures and  
descriptions of 4 of the  
river's most common  
creatures. (\$11.00)



**Bistro Mug**

This brilliant cobalt blue  
large bistro mug is a classy  
way to show your allegiance  
to Clearwater. \$12.00

**Clearwater Stocking Stuffers!**

**Clearwater Hemp Seed Oil Lip Balm**  
\$2.00 each

**Square Button**  
\$2.00 each

**Clearwater Postcards**  
\$5.00 set of five

**Pewter Sloop Pin**  
\$7.00 each

**Pewter Sloop Pendant**  
\$8.00 each

**Pewter Sloop Key Chain**  
\$9.00 each



**Stainless Steel Travel Mug**

Whether you are on the  
road or on the river, this  
travel mug is a great way to  
keep your beverage warm.  
\$20.00



**Tote Bag**

These 100% organic  
cotton totes by Eco-bags are  
both convenient and stylish.  
\$14.00

**Lunch Bag**

For school or the office, this  
sturdy, reusable lunch bag  
eliminates the need for paper  
or plastic wrapping.  
100% organic cotton; made  
by Eco-bags. \$10.00

**String Bag**

Organic cotton from  
Eco-bags, our string bag is  
the perfect alternative to  
disposable grocery bags. \$8.00

*order form*

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# THE HUDSON RIVER AS CLASSROOM: A Teacher's Greatest Tool

Although reaching out to Hudson Valley youth is crucial for building stewardship and knowledge, working with teachers is also important, and extremely effective. Many teachers who discover the river in Clearwater courses go on to use our Hudson River curriculum in their classrooms. These educators build Clearwater's outreach and academic credibility through the special "multiplier effect." This adds up to more Hudson River education than a fleet of 100-foot sloops could deliver!

Clearwater offers a range of "teacher training" opportunities tailored to the needs of the school or community served, including full-credit graduate courses through local universities, district-specific summer programs, and shorter in-service and adult education seminars through BOCES and other institutions.

Covering subjects from art to zoology, Clearwater courses address the needs of students of all ages, from kindergarten to elderhostels.

Teachers-as-students can be a tough audience. They quickly see through weak methods and spot inaccurate information. At the same time, their heightened critical thinking

makes them a rewarding group to work with, and all ages have one thing in common: Learning by doing is best for everyone!

Veronica Rowe, a teacher in Phoenicia and a student at SUNY New Paltz, expressed this when she said, "This course proved, once again, that 'hands-on' is the way to go, even with adults. I have my Masters Degree and I can honestly say this is the best class I've ever taken."

Clearwater courses strive to bring global and local issues to the level of personal experience. For example, during Cold Spring's Haldane Summer Learning Institute, teachers were led through a town-meeting style exploration

of regional concerns about the environment, including challenges and solutions. In another course, few of the SUNY New Paltz enrollees knew about the revolutionary use of reed and grass beds in Ulster County to treat sewage without excess chemicals and operating costs before visiting the site with their Clearwater class. Activities such as these not only inform educators, but also provide them a roadmap for classroom activities, enhancing the multiplier effect.

The words "multidisciplinary" and "interdependent" are used so often that it's fortunate we have the river to refresh their meaning. The Hudson River is living proof that diverse subjects – watersheds, geographies, ecologies, cultures – are intimately linked, and teachers in our training

courses have opportunities to explore linking them in exciting new ways. Students may begin by painting and writing in the landscapes made famous by Hudson River School artists in the 19th-century, then move on to discuss how the same views can shape today's land use policies. Or a jovial session of beach seining can turn into a lesson in global

commerce and trafficking invasive species.

Schools and institutions participating in Clearwater's professional development programs in 2002 – 2003 include:

- State University of New York at New Paltz
- Haldane School District
- Ulster County BOCES
- YRDC AmeriCorps
- Mid-Hudson Children's Museum
- National Marine Educators Association
- Elementary School Science Association of NYC
- Mount Saint Mary Elderhostel Program

Please contact the Clearwater office for more information about arranging a professional development program for your school or group.



Chris Bowser

**SUNY New Paltz graduate students learn about physics the hard (but fun!) way.**

## One Teacher's Account

*Where do the eels in the Hudson come from? What is a watershed? Do you know what dissolved oxygen level means? Do you think, as I did, that brackish water means muddy or dark water? (If you did, you're wrong.) Do you know what a vernal pool is? Turbidity? Can you tell me a little about the St. Lawrence Cement Co.? Have you ever sailed on the Clearwater?*

*Pardon me for strutting my newfound knowledge and experience, but I can't help it. I think that The Hudson Connection with Clearwater is SUNY New Paltz's best kept secret.*

*Led by River enthusiasts Chris Bowser and Linda Richards, this class brought hands-on experience and learning, focusing on the ecology of the Hudson, its creatures, and the surrounding area. With these two came several guest speakers, with whom we seined, learned about oxygen levels, local and invasive species, toxic runoff and its implications, and much, much more. We were given ideas for the classroom, exchanged ideas of what we could do, and shared the names of some agencies/resources that are available to tap when putting this into the classroom. Much of what we experienced could be introduced into the elementary and middle schools fairly easily, I think. As a high school teacher, I see the possibilities of a Hudson study with focus on the historical and literary context of the region. And there are some good present day problems to research! I intend to implement a Hudson River study in my classroom this year. (Of course I want a field trip to the sloop Clearwater to cap it off!)*

*We talk about meaningful and hands-on learning. This class provides the means to implement a great aspect of our area—the mighty Hudson River—into our local schools. Let's learn a little about our own backyard.*

*-Linda J. Still  
Summer 2003 SUNY New Paltz participant*

## TRANSITIONS

Working as an AmeriCorps educator in the Tideline Discovery Program under Linda Richards' supervision, I've been fortunate to get a great footing in education. Linda has been a wonderful mentor to me over the past 20 months. I'm truly lucky to have learned from such a great educator – and just plain cool lady!

I had an opportunity to work directly with other teaching professionals during Clearwater's teacher in-services and SUNY New Paltz Hudson River Studies course. However, I'd have to say I learned the most from the students I worked with at EMEC and in classrooms. Without knowing it, they were my immediate gauge for the effectiveness of various teaching approaches. They were always honest, and they never held back. My education in education is not over. I'm not convinced that it will ever really end, and the formal part is just beginning. I'm returning to school this fall to become certified to teach biology.

I will miss working at Clearwater on a day to day basis and I'd like to thank everyone on staff for an education – in teaching and in life – sometimes beyond what I bargained for! THANK YOU! Each of you touched me in your own unique way and everyone had a lesson to share.

*- Bridget Kenny,  
YRDC AmeriCorps Educator*

*Bridget is the latest of Clearwater's AmeriCorps members since 1997. Unfortunately, nationwide funding cuts to the AmeriCorps program will eliminate this position at Clearwater. To find out more, log on to [www.saveamericorps.org](http://www.saveamericorps.org).*



Brett Baumann

### Yes, I want to help Clearwater in its efforts to reclaim and protect the Hudson River.

|   |         |                                      |       |
|---|---------|--------------------------------------|-------|
| <input type="checkbox"/> BENEFACTOR     | \$5,000 | <input type="checkbox"/> CONTRIBUTOR | \$100 |
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| <input type="checkbox"/> MARINER        | \$500   | <input type="checkbox"/> INDIVIDUAL  | \$35  |
| <input type="checkbox"/> SPONSOR        | \$200   | <input type="checkbox"/> LIM. INCOME | \$15  |

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*All membership contributions are tax-deductible.*

# Fall 2003

## SAILING SCHEDULE\*



Steve Starnie

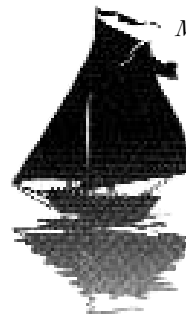
## October

- |  |  |
|--|--|
| <b>1 YONKERS/CITY PIER</b><br>(9-12) & (1-4) Foxfire School  | <b>15 ALPINE BOAT BASIN</b><br>(9-12) & (1-4) Cavallini Middle School                                    |
| <b>2 HAVERSTRAW MARINA</b><br>(AM/PM) (TRANSIT)  | <b>16 NYC/79TH STREET BOAT BASIN</b><br>(9-12) & (1-4) Ethical Culture Fieldston                         |
| <b>3 POUGHKEEPSIE/WARYAS PARK</b><br>(AM/PM) Pumpkin Fest! (School Groups)                                     | <b>17 NYC/79TH STREET BOAT BASIN</b><br>(9-12) Beacon; (1-4) Oak Knoll School                            |
| <b>4 KINGSTON/H.R.M. MUSEUM DOCK</b><br>(10-1) & (2-5) MEMBER SAIL   | <b>18 NYC/79TH STREET BOAT BASIN</b><br>(10-1) Rockland Friends of Clearwater<br>(2-5) All Saints Church |
| <b>5 POUGHKEEPSIE/WARYAS PARK</b><br>(10-1) Vassar College Env'l Studies<br>(2-5) Marist College-Dean's Circle | <b>19 NYC/79TH STREET BOAT BASIN</b><br>(10-1) Brooklyn Friends of Clearwater<br>(3-6) MEMBER SAIL       |
| <b>6 POUGHKEEPSIE/WARYAS PARK</b><br>(9) Volunteers; (AM/PM) MAINT   | <b>20 NYC/79TH STREET BOAT BASIN</b><br>(9) Volunteers; (AM/PM) Maintenance                              |
| <b>7 POUGHKEEPSIE/WARYAS PARK</b><br>(9-12) Poughkeepsie HS<br>(1-4) Katonah ES                                | <b>21 NYC/79TH STREET BOAT BASIN</b><br>(9-12) North Shore HS<br>(1-4) Mary McDowell School              |
| <b>8 POUGHKEEPSIE/WARYAS PARK</b><br>(9-12) Katonah ES; (PM) (TRANSIT)<br>(1-5) USMA/West Point                | <b>22 LIBERTY STATE PARK/SOUTH DOCK</b><br>(9-12) & (1-4) Sacred Heart School                            |
| <b>9 WEST POINT/SOUTH DOCK</b><br>(9-12) & (1-4) TBA   | <b>23 LIBERTY STATE PARK/SOUTH DOCK</b><br>(9-12) TBA; (1-4) Juvenile Supervis. Prog                     |
| <b>10 WEST POINT/SOUTH DOCK</b><br>(AM) CLOSED; (1-4) Garrison UFS   | <b>24 LIBERTY STATE PARK/SO. DOCK</b><br>(9-12) & (1-4) Suffern Middle School                            |
| <b>11 PEEKSKILL/CHARLES POINT DOCK</b><br>(10-3) Kohlberg Foundation   | <b>25 NYC/79TH STREET BOAT BASIN</b><br>(10-3) Rudolf Steiner School                                     |
| <b>12 HAVERSTRAW MARINA</b><br>(10-1) ARC of Rockland<br>(2-5) City Cong. for Humanist Judaism                 | <b>26 NYC/79TH STREET BOAT BASIN</b><br>(10-1)TBA; (3-6) MEMBER SAIL                                     |
| <b>13 YONKERS</b><br>(9) Volunteers; (AM/PM) Maintenance   | <b>27 YONKERS/CITY PIER</b><br>(9) Volunteers; (AM/PM) Maintenance                                       |
| <b>14 ALPINE BOAT BASIN</b><br>(9-12) Cavallini Middle School<br>(1-4) Hoboken Charter School                  | <b>28-29 YONKERS/CITY PIER</b><br>(9-12) & (1-4) William B. Ward School                                  |
|  | <b>30 ALPINE BOAT BASIN</b><br>(9-12) & (1-4) Saint John's Academy                                       |

## September

- |   |  |
|---|--|
| <b>25 YONKERS/CITY PIER</b><br>(9-12) The Masters School<br>(PM) TRANSIT                                      |  |
| <b>26 NYC/79th Street Boat Basin</b><br>(9-12) Brooklyn Friends School<br>(1-4) NYS Attorney General's Office |  |
| <b>27 NYC/79TH STREET BOAT BASIN</b><br>(10-1) TBA; (2-5) TBA   |  |
| <b>28 NYC/79TH STREET BOAT BASIN</b><br>(9) Volunteers; (AM/PM) MAINT   |  |
| <b>29 NYC/79TH STREET BOAT BASIN</b><br>(9-12) Grace Church School<br>(1-4) United Nations School             |  |
| <b>30 NYC/79TH STREET BOAT BASIN</b><br>(9-12) & (1-4) Bank Street School                                     |  |

*\* Dates, Times and Locations Are Subject To Change*



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