

NAPS News

Northumberland Association for Progressive Stewardship
"Northumberland is going to grow. Let's help it grow with order and beauty."

Winter 2014

Volume 23, Issue 1



Welcome to the delayed winter issue of NAPS News. Here's a rundown of what's inside:

NAPS Year in Review: Still Busy, Busy, Busy. In case you missed the reports, here's a recap of NAPS activities in 2013 as published in the year's NAPS News. Yeah, all media do year-end recaps. ↻

Oyster Farming: More Q's Than A's. The special program at the February 22 Annual Meeting, "Oysters – Still a Heritage Industry," focused on oyster aquaculture in the last decade.

Oyster Gardening Study. Dr. Lynton Land provides details of the Tidewater Oyster Gardeners Association work discussed in the special program. Some of the results are a puzzle.

NAPS Annual Meeting – Business. Before the start of the formal business meeting, Capt. David Rowe described his Eco-Tours. Then, in for President Bill, Vice-President Lee got the business done, and included all of the Board members.

Omega Protein's \$1,000 Donation Supports NAPS Eco-Tours. Thanks to this generous donation, NAPS will have funds for two tours this spring. Three cheers for Omega and Monty Deihl.

Bluff Point PUD Property Placed Under Easement. Ida Hall has been tracking this development from Day One. She's cautiously optimistic about this turn of events.

Call for Distinguished Northumberland Citizen Nominations. Ralph Millar has agreed to head-up the nomination procedures again this year. It's time to start thinking of the 2014 award.

Educators Visit Board Meeting. The Board welcomed School Superintendent Dr. Gates and Northumberland High School Principal Dr. Burns to discuss STEM education.

Mitigating Climate Change. Dr. Greg Haugan discusses the need to significantly reduce CO₂ emissions and how it might be done.

CCL Update. Activities of the Northern Neck Chapter are in step with the national programs.

NAPS Highway Pick-up Set. Mark your calendars for Tuesday, April 22, which is Earth Day.

Financial/Membership Reports. NAPS extends special thanks to the 16 sustaining members, **and reminds all to renew NAPS Membership.** To continue the environmental and educational projects that NAPS has undertaken, we need member support.

Remember: NAPS Does Not Take Naps.

To keep up with NAPS on a regular basis, check out our web site: www.napsva.org.

- Jay Walker, Editor

ACTIVITIES

NAPS Launches New Journal

NAPS Stewardship Journal is intended to inform members about important scientific and environmental issues and their impacts on Northumberland County.

The contents of the first issue included:

- Impacts of climate Change on the Weather of the Northern Neck, Part 1.
- Chesapeake Bay Ecology, Menhaden Fishery Management and Recommendations for NAPS Members.
- Contemporary Climate Mythology.
- Stewardship of Waterfront Property.

All paid-up members will receive the Journal as part of the membership.

Scholarships Awarded

NAPS awarded scholarships worth \$500 each to four Northumberland High School graduating seniors at a ceremony in the school auditorium.



Scholarship winners were (left to right) Caitlyn Cralle, Elizabeth Hudnall, Julie King, and Summer Newsome. NAPS Scholarship Chair Myrtle Phillips (left) and President Bill Estell did the presentations.

NAPS Adopt-a-Highway Succeeds in the Rain

Nine stalwart members braved the rain and cold, April 30, to pick up trash along Route 200 in the Wicomico Church area as part of the Adopt-a-Highway program.



"We picked up 16 bags of trash.

All in all, everyone was very good natured about the situation and we were done by 2:30," said program chair Janice Mahoney.

Neither rain nor cold kept these members from their pick-up rounds. Pictured are Bill Estell, Kathy Brodtman, Walter Brodtman, Charles Smith, Susan Carter Hughes, and Andy Kauders. Not in the photo were Mike Ahart and Lynton Land, plus photographer Janice Mahoney.

(Continued on page 2...)

NAPS ANNUAL MEETING

'Oyster Farming': More Q's Than A's

By Jay Walker

The special program at the February 22 NAPS Annual Meeting, "Oysters – Still a Heritage Industry," focused on oyster farming in the last decade. The speakers told the audience of 50 to 60 people, many of them oyster gardeners, that there are still more questions than answers.

Representing local commercial oyster aquaculture, Rich Harding described techniques that he has been refining since 2004. From his experience, "The book on Do's is short, but the book of Don'ts is many pages," he said. Harding has had success with cage culture methods, but he had to figure out how to deal with crabs that get into the cages and "enjoy an oyster buffet."



Rich Harding, local aquaculture expert, spoke about today's oyster farm.

Oysterman Dudley Biddlecomb described an oyster growing project.

Oyster farming is labor intensive, so much of Harding's efforts, as a commercial venture, are to increase oyster yields. That requires close attention to deploying on good bottom, using clean beds, and avoiding disease.

The result is a growing market. "We think of the Chesapeake Bay as the Napa Valley of oysters," he remarked, adding that oyster-tasting raw bars are now popular, similar to the spread of microbrew bars.

Harding said that there are still questions about the future of aquaculture procedures and oyster markets. One of these issues is consumers getting sick on bad oysters. "We need to increase public awareness of how to handle oysters safely. One report of sickness and we all suffer," he said.

Dr. Lynton Land raised more questions based on records collected by the Virginia Institute of Marine Science (VIMS) and his own experience for the Tidewater Oyster Gardening Association (TOGA – www.oystergardener.org). VIMS has been monitoring oyster setting, or strike, at multiple stations on three rivers. The results show a few good years and a lot of bad years. If we can't rely on wild oyster growth, how will we improve propagation and growth, he asked.

Oysterman Dudley Biddlecomb provided an answer, or at least a partial answer, as a result of procedures that he and Dr. Land have tried. Starting with clean shells and larvae from a hatchery, they used a hose to release the larvae on the bottom.

After two months, they found the amount of strikes on shells was not a clear path to success. "The more oysters the cleaner the water and the cleaner

the water, the more oysters. So it's a win-win situation," said Biddlecomb. But, he added, "There are still more questions than answers."

"By next year, I may be able to come back with some more information to share. Hopefully, we'll have a method that works." (In a later interview, he stated that TOGA and commercial gardeners need to share information on a regular basis.)

Dr. Land reviewed an experiment with four kinds of oysters placed in cages by volunteers at 40 different locations. They were spread over the western shores of Virginia, each variety in a different cage. He reported on two sites that yielded the biggest oysters in far different circumstances. It turned out that "where you grow oysters makes more difference than what you grow," he stated.

"We were a little surprised. It makes a whale of a difference where you grow them. You wonder why."

At one site the success seems to have been better circulation – lots of water flow. But the second biggest oysters were located on what is essentially a water cul-de-sac, with not much tidal circulation.

"I don't know why they grew so big there. Damn oysters!" he exclaimed.

During the discussion period, both Land and Biddlecomb repeated Harding's warning about oyster poisoning. They urged people who eat raw oysters to refrigerate them immediately and eat them the same day. They stated that one poisoning case can shut down the entire industry.

After the presentations Harding provided several varieties of shucked oysters, some for sampling.



Dr. Lynton Land showed results of VIMS oyster monitoring.

ACTIVITIES (...from page 1)

NAPS Funds NHS Project

Completing an Eagle Scout Project over a year in the making, Adam Parker and members of the Practical Assessment Exploration System (PAES) officially opened the Northumberland High School PAES greenhouse and shelter in April. The project was substantially funded by a NAPS donation of \$2,100. The Board approved the donation after a review of Parker's detailed cost analysis and a first-hand visit to the site. The donation was ear-marked for building the shelter.

Jane Towner Honored by NAPS

NAPS selected Jane M. Towner to receive the 2013 Distinguished Citizen Award. A 28-year resident of the Northern Neck, Towner has a long list of community accomplishments in conservation, environment, and education.

Among her conservation achievements, she spearheaded efforts to stabilize, restore and reuse Shiloh School. She is founding member of the Northern Neck Land Conservancy, its first vice-president, and long time member of the Board of



(Continued on page 5...)

AQUACULTURE

Oyster Gardening Study

By Dr. Lynton Land

The Tidewater Oyster Gardeners Association (www.oystergardener.org) began a Growth/Longevity study on August 11, 2011, when four kinds of seed oysters were obtained from the VIMS hatchery.

We wanted to determine which of the four kinds of oysters would be the best choice for gardeners. Two different strains were available, LoLa (low salinity Louisiana) and DeBy (Delaware Bay), and both fertile (diploid – two chromosomes) and sterile (triploid – three chromosomes) animals were provided for each strain. Colored cable ties were used to identify the four kinds of oysters to keep the study “blind” for the volunteers.

Animals about 5/8 inch in size were placed in ADPI mesh bags, which were placed in plastic “Australian” cages TOGA had purchased. Four loaded cages were given to each of 40 volunteers to hang from their piers. Volunteers were asked to report the number of live oysters and the average length of the oysters in each cage in March, July and November. Most volunteers found it necessary to reduce the numbers in the cages as the oysters grew.

Our major conclusion is that it makes more difference where oysters are grown than which kind of animal is grown. We were amazed that at some sites, in November, 2013, when the study ended, the average length of the oysters was 125 mm (4.9 inches). Many oysters reached market size (76 mm or 3 inches) by the fall of 2012, but oysters at some sites did not reach market size until the fall of 2013 (Figure 1). Some, but not all, sites with the largest oysters are characterized by excellent circulation. But the reasons oysters grew large at some sites near the head of tidal creeks still eludes us.

We found little difference in either the growth rate or mortality of the four kinds of animals. We were surprised that the fertile oysters grew nearly as fast as the sterile animals because “dogma” predicts that because sterile animals don’t produce gametes, they put all their energy into growth. Most mortality occurred during the first year, especially in the summer of 2012, when most growth occurred.

Meat weight was measured at 15 sites. Triploids were about 1/3 meatier than diploids, although a tremendous amount of overlap

exists (Figure 2). The whole body weight of the triploids was about 10% larger than for the diploids, so the shells of triploids are slightly heavier than the shells of diploids. These conclusions apply to the animals we received from VIMS in 2011. We do not know

if these conclusions will apply in the future as selective breeding continues to improve the lines.

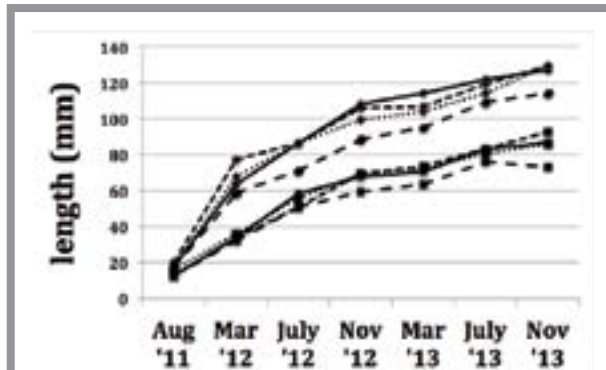
The most important variable, uncontrollable for oyster gardeners, is where oysters are grown. Areas with high tidal flow grow larger oysters, although there exists other unidentified variables, including the kind of gear used to grow them. Most mortality occurs the first year when the oysters are small. To reduce mortality, keep the crabs out, move the oysters to the coarsest mesh possible as soon as possible, keep the mesh clean, spread the oysters out and keep them in the water, but not in the air or on the bottom, in winter.

Gardeners need to weigh the advantage of slightly higher meat weight for triploids, and better meat quality in the summer, against larval production by diploids. If one of your goals is for oysters to provide “ecological services” to the Bay, then grow diploids. The more larvae in the water, the more oysters there will be. After all, the Chesapeake Bay oyster industry did just fine for centuries using diploids.

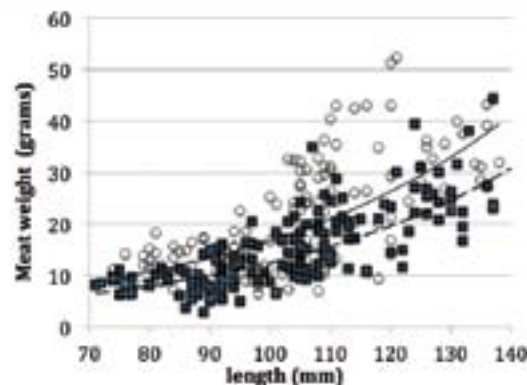
Everybody knows that oysters filter the water, making it clearer. But fewer people understand that the algae and sediment filtered out of the water end up as sediment, where microbes decompose the organic material and return the nitrogen and phosphorus back into the water to foster the growth of more algae. Oysters speed up the recycling of organic material. They do not remove significant amounts of nutrients from the ecosystem. If we want to improve water quality in Chesapeake Bay then we must stop pollution, not just try to sop it up. That means meaningfully addressing the largest source of Bay pollution – crop

fertilization. Changing the way crops are fertilized so that more nitrogen and phosphorus end up in the crops and less ends up in the Bay is the only way to improve Bay water quality.

But grow more oysters! If you want to start, begin at the TOGA web site (www.oystergardener.org), and I’m glad to give you a tour and answer any questions.



Comparison between a site with fast growth (circles) and one with slow growth (squares). Colored cable ties were used so the volunteers could not identify the animals. DeBy triploids are shown by short dashes; DeBy diploids, the slowest growers at almost all sites, are shown by long dashes. LoLa triploids are shown by a solid line and LoLa diploids by a dotted line. At the fast growth site, all four kinds of animals reached market size (76 mm) by the fall of 2012. But all four kinds of animals needed another year of growth to reach market size at the slow growth site.



Meat weight (grams) versus length in mm for 15 sites. Triploids (open circles and solid line) are about 30% meatier than diploids (solid squares and dashed line), but there is a lot of overlap.

NAPS ANNUAL MEETING

Projects and Issues Reviewed*By Jay Walker*

Before the start of the formal business meeting, Captain David Rowe previewed the Eco-Tour sponsored by NAPS and funded by Omega Protein for NHS students and teachers in April. His goal is to make the tour both educational and entertaining.

The tour begins with a brief history of the Coan River. First on the agenda is a discussion of oysters and a look at oyster habitat. Next comes crabs and the lifestyle of the river. Capt. Rowe also takes water samples to show the quality of the river water.

About 20 science and ecology students from the high school will attend the tour. Later in the spring NAPS will sponsor an Eco-Tour for Boy Scout Troop 250, also funded by Omega Protein.

Vice President Lee Allain, filling in for President Bill Estell, conducted the business meeting. In the vote for the 2017-term Directors, Lee Allain, Ida Hall, and Lynton Land were re-elected.

The meeting concluded with a review of NAPS

projects by members of the Board. It was an impressive list:

- Lee: School projects including STEM, solar grant, and eco-tours.
- Monty: Creek clean-up, Omega Protein support.
- Ida: Bluff Point conservation up-date.

NAPS Calendar

NAPS Board Meetings are held on the 2nd Wednesday of each month, at 9 a.m. at the Union First Market Bank in Burgess.

- Apr. 9, Wed. NAPS Board Meeting
- Apr. 22, Tue. Adopt-A-Highway Cleanup - Wicomico Church
- May 14, Wed. NAPS Board Meeting
- Jun. 11, Wed. NAPS Board Meeting
- Jul. 9, Wed. NAPS Board Meeting
- Jul. 19, Sat. Tavern Farmers Market
- Aug. 13, Wed. NAPS Board Meeting
- Aug. 16, Sat. Tavern Farmers Market

- Greg: CCL, NAPS ASMFC response.
- Lynton: NHS greenhouse renovation, tree ID, creek clean-up, phragmites.
- Myrtle: School liaison, scholarships.
- Jay: Newsletter, NAPS Journal, Distinguished Citizen Award, Adopt-a-Highway date.

ECOLOGY

Omega Protein's \$1000 Donation Supports NAPS Eco-Tours*By Jay Walker*

Monty Deihl, Senior Director of Fishing Plant Operations for Omega Protein, Inc. and NAPS Board member, has presented a donation of \$1,000 to support NAPS Eco-Tours this spring.

"Omega's donation will go directly to support Spring Eco-Tours for Northumberland High School ecology and biology students and local Boy Scout Troop 250," said Lee Allain, NAPS Vice-president, who heads the project. "This is a great opportunity for students to become familiar, up-close and personal, with the ecology of the Bay and its tributaries."

Upon receiving the donation, Allain pointed out that Omega has worked steadily to improve environmental conditions and has maintained consistent support of NAPS over the years for creek

clean-ups and other local efforts benefitting the Bay. During project discussions at a recent NAPS Board meeting, the opportunity to provide Eco-Tourism to local students was enthusiastically supported with a vote to proceed.

"After listening to a description of the project, Board member Deihl said, 'This is education Omega can support.' His follow-up with this generous donation will fund at least two tours," Allain explained.

"This is a worthy cause for Omega," said Deihl. "It's a partnership that NAPS and Omega need in order to raise awareness among students of the Bay's ecosystem and its impact on our lives."

NAPS has already arranged an Eco-Tour of the Bay area aboard a Bay Quest Charters boat on Saturday, April 26, 2014, for 20 Northumberland High School students and two teachers. Capt. David Rowe, a waterman and VCU graduate, will lead the tour on his 43-foot Chesapeake Bay deadrise.

Capt. Rowe outlined a typical Eco-Tour at the NAPS Annual meeting. It starts in the morning with tonging some oysters. He will then open a few oysters and talk about oyster life cycle, history of the industry, and today's situation. After the oyster discussion, he will pull a few crab traps and talk about some general topics regarding crabs. On some occasions he may use a sample net to trawl the bottom and discuss whatever comes up in the net. "The day will be both educational and entertaining and participants will learn a lot about key species that inhabit the Bay and rivers," he commented.

Eco-Tours were born after the collapse of the crab population in 2008; through Federal and State monies directed to ease the plight of about 5,000 licensed watermen. Some 80 watermen have been trained and certified to lead educational tours throughout the Bay. Locally, Capt. David Rowe, out of the Coan River (www.bayquest-fishing.com), and Capt. Danny Crabbe, out of the Little Wicomico (www.crabbescharterfishing.com), are both certified to provide this educational tour to the public. See their web sites for more information on both fishing charters and Eco-Tours.



Omega Protein executive Monty Deihl (left) presents a donation of \$1000 to NAPS Vice-president Lee Allain to support Eco-Tours of the Bay. Also pictured are NAPS President Bill Estell and NAPS Treasurer Greg Haugan.

ENVIRONMENT

Bluff Point PUD Property Placed Under Easement

By Ida Hall

On December 27, 2013, Tom Dingleline placed 887 acres of his Bluff Point properties under a conservation easement with the North American Land Trust. The easement will forever protect the property from any large-scale development, such as the massive Planned Unit Development (PUD) that the Board of Supervisors approved in 2011. Mr. Dingleline also gave James Madison University (JMU) a 35+ acre parcel along Jarvis Pt. Rd. and Northumberland County a 6+ acre parcel for a possible sewage treatment plant. The 887-acre "Conservation Area" will be used primarily by JMU for educational purposes.

This is great news and NAPS commends and thanks Mr. Dingleline for his generosity and wise decision to terminate the PUD plan on Bluff Point's environmentally sensitive and flood-prone property.

While the easement overall is a very positive outcome for Bluff Point, some questions and concerns still remain. The locations of any future buildings, other structures, utilities, and roads that can be allowed under the easement is unclear, since the "After Easement" document designed by Hart Howerton, that shows these possible building locations,

is held solely by the Land Trust. Also, in the easement document under "Wetlands and Riparian Buffer Protection 3.11.1" there is a contradiction to the state and local Chesapeake Bay laws that would reduce the required 100-foot buffer to 50 feet. This is an environmental concern because the easement allows for building and clearing in some areas up to the buffer and the possibility of stables and grazing of horses up to the buffer, too. There is also concern pertaining to the language in the easement permitting a "transfer" of property. The wording seems to indicate that the owner can convey the property and the conveyed property would still be subject to the easement restrictions. This needs to be verified, because if property can be transferred outside of the easement restrictions, this would be a huge loophole.

Interested NAPS members look forward to meeting with Mr. Dingleline in the near future and learning more about this "new" plan for the "Conservation Area" and JMU properties; what is allowed and where, and what NAPS involvement might be.

The entire 51-page easement document is available at Northumberland County Clerk's Office.

ACTIVITIES (...from page 2)

Directors.

Among her environmental achievements, Jane and her husband, Sibley, organized a group of over 50 stewards to assist the Virginia Department of Conservation and Recreation with the oversight and monitoring of Hughlett Point and Dameron Marsh.

In 2004, she was co-founder of the Rappahannock Institute for Lifelong Learning (RILL).

(See later re-cap of the Fall Social.)

Citizens Climate Lobby in DC and NNC

Dr. Greg Haugan visited the U.S. Congress in June as a representative of the Northern Neck Citizens Climate Lobby to discuss the need for a price to be set on carbon dioxide emissions and to explain the rationale and urgency to mitigate climate change. A team of five Virginians met with the staffs of Senators Kaine and Warner and of the Congressmen from the first four Virginia districts: Wittman, Rigell, Forbes, and Scott.

At the August 6th Northern Neck CCL meeting, the group discussed the *(Continued on page 6...)*

OUTREACH

Call for Distinguished Northumberland Citizen Nominations

By Jay Walker

The Board of Directors of the Northumberland Association for Progressive Stewardship (NAPS) has opened nominations for this year's Distinguished Northumberland

Citizen Award (DNCA) by asking members, friends and interested citizens of the county to submit names of people, organizations or businesses to the Selection Committee.

The award honors an individual, team, organization, or business that advances NAPS' goals. These goals include:

1. Improving the water quality of the Bay and its tributaries;
2. Fostering and preserving the county's rural atmosphere;
3. Promoting and monitoring land use policies;
4. Encouraging economic growth to promote jobs; and
5. Cooperating with others through educational programs that target these goals.

"The Selection Commit-

tee needs to receive detailed descriptions of how the nominee's activities support one or more of the NAPS goals," said committee chair Ralph Millar. "If you look at the records of previous winners, you can see what we're looking for."

Previous recipients include Dr. Greg Haugan, Myrtle Phillips, County Fire Departments, County Rescue Squads, Dr. Lynton Land, Clint Staples, Lake Cowart, Jr., Rev. Gayl Fowler, Audrey Brainard, and Luther Welch. Last year's recipient was Jane Towner for her many community accomplishments during the last 28 years in conservation, environment, and education.

If you know someone, a group, organization, or business you think merits this award, please call or email Ralph Millar at 804-529-9870 or rmillar@earthlink.net. Remember to include specific information about what the nominee has done to foster the goals described above. The deadline for nominations is May 15, 2014.

NAPS MEMBERSHIP REPORT FEBRUARY 24, 2014

We had a total of 140 paid-up memberships in 2013 so are running behind. We will be sending the second

Member Report	2014
Business	1
Family	42
Individual	25
Patron	2
Sustaining	16
Total	86

edition copies of our new NAPS Stewardship Journal only to paid-up members. We urge you who have not yet responded to our requests to update your membership.

EDUCATION

Educators Visit Board Meeting

By Jay Walker

The NAPS Board welcomed School Superintendent Dr. Gates and Northumber-



School Superintendent Dr. Gates and NHS Principal Dr. Burns along with Education Chair Myrtle Phillips seen at the January Board Meeting.

land High School Principal Dr. Burns to the January meeting to discuss STEM (Science, Technology, Engineering, Math) education.

The objective was to outline how NAPS can support STEM at the schools.

Dr. Burns described the NHS Gateway to STEM room being set up at the time. He said that guidance counselor Lara Brown proposed the idea. She wanted to expose students to career planning and involve professionals in the community.

It is hoped that the Gateway to STEM room will create a long-lasting partnership with organizations, including NAPS and other volunteer organizations for STEM-based learning," he said, adding that NAPS

would be the "over-arching" body for STEM ideas. He also previewed samples of the banner that includes both NAPS and County School logos to go over the door.

Dr. Gates covered STEM related projects and provided a handout on the "Northern Neck Governor's STEM Academy Career Clusters and Pathways." She told the Board that Del. Margaret Ransone has requested funding for a Technical/Career Center.

One of the STEM related projects Dr. Gates emphasized was the need for a Children's Engineering Curriculum at the elementary school level. She will attempt to locate school systems that have children's engineering programs.

"To be in a STEM Program, students need to have the background by the sixth grade," she stated.

Dr. Gates stressed the importance and effectiveness of "project-based" learning.

ACTIVITIES (...from page 5)

Carbon Fee and Dividend legislation being proposed in Congress and the pros and cons of each.

Out and About

During the summer, NAPS had a stand at the Heathsville Farmers Market in July and August. NAPS and CCL also shared the exhibit space in the Northumberland Public Library during August. A disgruntled citizen took exception to the portion of the foyer display dealing with climate change (CCL's section). In a letter to the Library Board of Trustees, he demanded that the climate change section be removed. The Trustees refused to allow this individual to trample on the American Library Association's "Library Bill of Rights" and rejected the demand.

**Creek Clean-up Yields Mysteries**

What looked like the Cockrell Creek sea monster, an unidentified sunken object (USO) and a battered boat were just three of the 3800 lbs. of trash hauled ashore at the annual NAPS creek clean-up in September. A six-boat armada with crews of Northumberland High School students from the Beta Club and Boy Scouts cleared the shores of Cockrell

Creek in Reedville.

Fourteen NAPS volunteers were on hand to set up the landing at the Stack, sort the recycles, and serve lunch. Monty Deihl of Omega Protein was instrumental in organizing the boat captains, and providing dumpsters, Port-o-Potty, and lunch.

The "sea monster" turned out to be an oil spill float, the

USO remained unidentified, and Monty got the boat out with an Omega Protein fork lift.

NAPS Presents 2013 Distinguished Citizen Award

NAPS presented the 2013 Distinguished Citizen Award (DCA) (Continued on page 8...)

NAPS FINANCIAL REPORT - 2014

The total NAPS working budget is approximately \$7,000. Of that amount, approximately \$2,000 is budgeted to Northumberland High School scholarships and the same amount has been committed to the two Eco-Tours. Other projects are discussed elsewhere in this newsletter. As shown below we currently have \$9347.07 in the checking account and \$20,550.22 in

two CDs for a total of \$29,897.29. Based on the revenues to date we are running behind on our income and the main reason the financial statement looks so good is due to the carryover of donations from last year that are to go to the Eco-Tours. We have added a note to the copies of this newsletter going to the members who have misplaced their dues envelopes and provided a new envelope for them. Please

help us continue to support programs to help the environment of Northumberland County and the Northern Neck.

Starting Balance 1/1/2014	\$6,631.03
REVENUES:	
Dues	\$3,325.00
Donations	\$5.00
Other	\$25.00
Total Revenues	\$3,355.00
EXPENSES:	
Administration	\$385.00
Donations & Scholarships	\$0.00
Membership & Newsletter	\$32.96
Events	\$121.00
Projects	\$100.00
Other	\$0.00
Total Expenses	\$638.96
Current Year Net	\$2,716.04
Current Cash Balance	\$9,347.07
Other Assets - Certificates of Deposit (12/31/2013)	
CD-NNSB#1	\$9,112.23
CD-NNSB#2	\$11,437.99
Total Other Assets:	\$20,550.22
Total Assets	\$29,897.29
<i>Submitted by: Gregory T. Haugan, Treasurer; Feb. 24, 2014</i>	

CLIMATE

CCL Update*By Dr. Greg Haugan*

The mission of CCL is to build a political will for a stable climate.

The Northern Neck Chapter of the CCL mantra follows that of the National Academy of Sciences and all the major scientific organizations of the world:

1. The earth is warming
2. The cause is us
3. It is bad
4. We can do something about it.

It is the fourth line that is the focus of CCL and the focus for our meetings is to mitigate climate change by supporting a revenue-neutral carbon fee and dividend, or rebate, program to reduce CO₂ emissions. How and why this will work and the implementing mechanisms are discussed at the meetings.

The CCL is active in providing presentations

TECHNOLOGY

Mitigating Climate Change*By Dr. Greg Haugan*

In order to stabilize our climate and avoid the most serious impacts of the ongoing climate changes, it is necessary to significantly reduce CO₂ emissions.

There are three basic alternatives available to reduce CO₂ emissions and thereby mitigate climate change: (1) Individual conservation; (2) Government Regulation; and (3) putting a price on CO₂ emissions. Individual conservation is important since approximately 40% of the current levels of emissions are related to individual decisions, but this alone will not solve the problem.

The second approach is currently being applied by President Obama in the form of emission regulations, fuel efficiency standards, subsidies and such and this can only be partly successful and is a brute force approach.

The third approach, putting a price on carbon emissions to at least partly compensate for the costs incurred by society has two variations: (a) A cap-and-trade scheme that is favored by environmentalists because it places a firm ceiling on emissions; and (b) A carbon fee and dividend or rebate scheme that puts a price on emissions and lets the free market make choices of responses. This is favored by conservative economists and CCL.

The CCL goes one step further and recommends a revenue-neutral carbon fee and

discussing climate change and mitigation and other education activities such as letters to editors and opinion pieces. The important aspect is keeping our Congressional Representative and Senators apprised of the developments in the science behind the mantra and the necessity to take aggressive action now. I represented our group at the Regional CCL Meeting in Atlanta in January where six-term Republican Representative Bob Inglis of South Carolina was the featured speaker. He presented the conservative position and strong support for the free market operations of the CCL carbon fee and dividend approach.

We welcome new members at our meetings to join our discussions and to hear our speakers and presentations and to help provide a difference. Meetings are the first Tuesday evening of each month at 7:00 p.m. at the Northumberland Library. We need your help in understanding and transmitting the urgency of action on this

major problem that faces every person on this planet. Call Dr. Greg Haugan at 804 580 2166 for more information.

Our grandchildren and great-grandchildren are depending on us to take action.



dividend or rebate scheme. In a "revenue-neutral" system all of the revenues are returned directly to the American people, none stays with the government. The revenue-neutral carbon fee, (incorrectly sometimes called a tax), and dividend works like this:

A fee is placed on carbon-based fuels at the source (well, mine, port of entry). This fee starts at \$15 per ton of fossil CO₂ emitted, and increases steadily each year by \$10 so that clean energy is cheaper than fossil fuels within a decade. Fossil fuel companies are finally paying for polluting our atmosphere.

All of the money collected is returned to American households on an equitable basis. Under this plan 66% percent of all households would break even or receive more in their dividend check than they would pay for the increased cost of energy, thereby protecting the poor and middle class including the people of the Northern Neck. A predictably increasing carbon price sends a clear market signal which will unleash conservative entrepreneurs and investors in the new clean-energy economy.

Conservative economists Art Laffer, former Reagan economic advisor; Greg Mankiw, economic advisor to George W. Bush and Mitt Romney; Andrew Moylan of the conservative R Street Institute; and Gary Becker, Nobel Laureate economist, have each supported it. George Shultz, former Secretary of State stated: "We have to have a system where all forms of energy bear their full costs...and to me the most appealing way is a revenue-neutral carbon tax."

Economic analysis of this approach shows it to be net beneficial to GDP compared to doing nothing and applying the revenues to such items as debt reduction show fewer benefits. A similar carbon tax is currently being applied effectively in British Columbia where part of the revenue is used to reduce corporate income taxes and the rest rebated.

With a carbon fee and dividend or rebate approach, the need for carbon emissions controls on power plants is eliminated and free-market incentives will influence individual conservation decisions as well. It has been calculated that such a scheme as we advocate, implemented in 2015, would reduce emissions over time to a point where the increase in global temperature can be kept under the 2 degree Centigrade (3.6 degrees F) danger point.

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ENVIRONMENT

NAPS Highway Pick-up Set

By Janice Mahoney

The NAPS spring roadside pick-up is on the calendar for Tuesday, April 22 starting at 1 p.m. As a reminder:

We meet at 1 p.m. to get organized and get road assignments.

We gather at the Wicomico Church Episcopal Church on Route 200 in the parking lot behind the church.

No more than two hours is the usual time required.

To join up, contact me at vervaville@yahoo.com.

ACTIVITIES (*..from page 6*)

to Jane Towner during the annual Social in October at the Bay Quarter Shores Club House. Speaking to nearly 60



members, neighbors, and guests, President Estell said it was “not surprising that so many people are here, knowing who we are honoring.” He also thanked Ralph Millar for heading the search committee.

On behalf of the NAPS Board and membership, Bill presented Jane with a plaque honoring her many accomplishments that “Define

Distinguished Citizen.”

Jane pointed out that NAPS is a “small organization focused on big issues.” She concluded, “I have been educated by you. This award goes to all of you.”

NAPS Launches Tree ID Project

Headed by Lynton Land, a project to identify and mark trees along a trail in the woods behind the Northumberland Elementary School moved ahead in October with the help of Rich Steensma, Forester for the Virginia Department of Forestry. The project entails putting signs on selected trees to identify them for students and others when they are on Blue Trail.

In a little over an hour, Steensma identified over 30 trees, both hardwoods and pines, com-



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menting, “There’s a lot of diversity here.”

High School Eco-Tour Scheduled

Vice President Lee Allain has arranged an Eco-Tour of the Bay area aboard a Bay Quest Charters boat in April for 20 Northumberland High School students and two teachers. Capt. David Rowe, a waterman and VCU graduate, will lead the tour on his 43-foot Chesapeake Bay deadrise. The tour is definitely “show and tell” concerning the oysters, crabs, and other marine life of the Bay, rivers, and creeks. If all goes well, NAPS will offer the tour to Northumberland Boy Scouts later.

Twelve NAPSters Do Highway Clean-up

According to team leader Janice Mahoney, the Fall Adopt-A-Highway effort filled 17 bags of trash picked up along Route 200 in the Wicomico Church area on October 29. The team included Alice Imbur, Kathy and Walter Brodtman, Bob Holley, Bill Estell, Andy Kauders, Jack Yunker, Susan Carter Hughes, Bryna Brennan, Charles Smith, and Sue Lindsey.

