

NAPS News

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

Summer 2014

Volume 23, Issue 3



Welcome to the Summer issue of NAPS News. NAPS did not take time off. Here's what's happening:

Susan A. Lindsey Honored by NAPS. Sue has received the Distinguished Citizen Award in recognition of her contributions in conservation and education. » » »

Save-the-Date: Saturday, October 18, for the Fall Social and Distinguished Citizen Award Ceremony at the Bay Quarter Shores Club House.

Creek Clean-up in the Works. Things are coming together to have a clean-up on the creeks along the Little Wicomico.

NAPS STEM Boost Project. With an assist from a grant and the support of the Northumberland County schools, kids from the 3rd, 4th, and 5th grades had fun learning to build a "village," Lee Allain reports.

NAPS Sets Up Education Endowment. The Board has established an endowment of \$20,000 to use the earnings for educational projects, including scholarships and other activities.

Tree ID Project Completed. Markers identifying 34 trees in the woods behind the elementary school are now in place.

Boy Scout Eco-Tour. Capt. David Rowe took scouts from Troop 250 aboard the *Bay Quest* for the second tour sponsored by NAPS.

Oysters Can't Improve Chesapeake Bay Water. Dr. Lynton Land describes why.

CCL Update. Dr. Greg Haugan explains where the Citizens Climate Lobby stands.

Highway Clean-up Set for October 29. Janice Mahoney needs your help.

Celebrating Earth Day. Plans are afoot for NAPS to sponsor a 5K race and other activities on April 18, 2015, at the Tavern Farmers Market. Runners are invited.

Climate Change Reports. Ranging from somber to optimistic, reports Dr. Greg Haugan.

Memo from Bill. The summer season has continued at a hectic pace, comments our President.

Financial Report. NAPS is okay.

Does NAPS take naps? Not this summer.

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

- Jay Walker, Editor

NAPS AWARD

Susan A. Lindsey Honored

By Jay Walker

The Northumberland Association for Progressive Stewardship (NAPS) has selected Susan A. Lindsey to receive the 2014 Distinguished Citizen Award in recognition of her contributions in conservation and education.

A 17-year resident of Wicomico Church, Lindsey

has been an active member of the Master Gardeners and is currently the Chair of the Integrated Shoreline Evaluation Assistance Program (ISEA). Since 2012 she has offered "Shoreline Evaluation Assistance" to area residents, emphasizing living shorelines that incorporate native plants.

As a member of the Northern Neck Native Plant Society, she helped implement the Native Plant Demonstration Garden at the Heathsville Courthouse and the Reedville Teaching Garden on Cockrell's Creek next to the Reedville

Fishermen's Museum, as well as behind the Methodist Church.

Among education activities, Lindsey began the Students Using Math and Science (SUMS) program at the Lancaster Elementary School. She worked with Audrey Brainard, another NAPS award winner, on the "Ground Water Festival" for sixth graders held at the Girl Scout camp. She also participated in the summer STEM Boost introduction program at the Northumberland Elementary School. (See separate story.)

Referring to her teaching activities, British-born Lindsey says, "I'm the lady who talks funny. But I tell the kids not to try imitating my accent, because it's not funny and they only look dumb."

She has served as Conservation Chair for the Garden Club of the Northern Neck and sought coordina-

(Continued on page 2...)



2014 Distinguished Citizen Award winner Susan A. Lindsey.

ECOLOGY

Boy Scout Eco-Tour

By Lee Allain

On Monday, June 30, a group of Boy Scouts from Troop 250 got aboard the *Bay Quest* with Capt. David Rowe and the second NAPS Eco-Tour, underwritten by Omega Protein, was under way. The weather was good and the oysters, crabs, and fish all cooperated.

The schedule was much the same as the first Eco-Tour in April. First on the agenda were the oysters, followed by the crabs, and finally, the fish. Capt. Rowe kept a log of each species sighted, along with some water and weather data. In all, some 23 species were sighted. A unique catch was a choker flounder, a small

fish that attaches by suction to whatever it encounters, including in this case, boy scouts.

The boys learned about the Bay and its denizens – and had a good time as well. A pizza lunch provided at the marina also went over well with the troop.

In his letter thanking NAPS, Omega Protein, and Capt. Rowe, Troop 250 Scoutmaster Bob Parker wrote: “We accomplished some work on Fish and Wildlife Merit Badge, but more importantly the trip introduced the ecology of the Bay and its tributaries to these young men and I hope helped them understand the balance that we must strike between ecology and economy.”

Mission accomplished.



Boy Scout Troop 250 enjoy a day on the Bay during the NAPS Eco-Tour in June.

Susan A. Lindsey Honored

(...from page 1)

tion with the Garden Club of the Middle Peninsula. She received the “Horticultural Award of Merit” from the Garden Club of the Northern Neck.

As an active volunteer for the Northern Neck Land Conservancy, Lindsey has worked on setting up the annual Boots & BBQ fundraiser. Working with the Virginia Department of Conservation and Recreation, she has led tours of Dameron Marsh. In April she conducted a tour of the marsh following a presentation on the subject at the Shiloh School.

She served on the NAPS Board of Directors from 2002 to 2008 and was vice president during that time.

“I think the two most satisfying projects are the shoreline planting program and the teaching gardens,” Lindsey remarked.

Formal presentation of the Distinguished Citizen Award will take place at the NAPS Fall Social, Saturday, October 18, at the Bay Quarter Shores Club House.

NEWS

NAPS Sets up Education Endowment

By Jay Walker

The NAPS Board has established an endowment of \$20,000 to use the earnings primarily to support scholarships at the Northumberland High School and other educational projects consistent with the NAPS charter. The impetus was the receipt of \$4,226.15 from the estate of the late Charles Fears, who wanted to continue support of the NAPS mission, according to NAPS President Bill Estell.

The initial deposit to an account with Wells Fargo Advisors, LLC of Kilmarnock also included \$5,773.85 from a Certificate of Deposit held by NAPS. An additional \$10,000 has been set aside to be used as a source of matching funds for further deposits to the endowment account as funds are donated. With the receipt of matching funds the endowment will grow to \$30,000.

“The monies had been collected over NAPS’s 25-year existence and the Board wanted to put these funds to work in the community,” Estell said.

Guidelines for the future use of the money are spelled out in the NAPS Educational Endowment Statement of Investment Policies. The policies include Investment Objectives, Spending Policy, Investment Guidelines, Monitoring of Objectives and Results, and Communication and Decision Making.

The endowment policies were established with advice from Paul Sciacchitano, Wells Fargo Managing Director/Investment Officer. He has worked with the Board for several months to assist in the endowment project.

“The objective is to provide a basis for our support of education into the future. It focuses on education so that donors know what they are supporting,” Estell explained.

ENVIRONMENT

Creek Clean-up in the Works Tentative Date: Sept. 27

The NAPS Board has tentatively set Saturday, September 27, with a rain date of October 4, for the 2014 creek clean-up. The targets this year are creeks along the Little Wicomico River. The boats will deploy from Cockrell’s Marine Railway, which will also be the landing to deliver trash to be sorted for recycling.

“We are asking captains to take responsibility for specific arms of the river,” said Lynton Land, NAPS Board member who is organizing the clean-up.

High school students and Boy Scouts are also being recruited to help collect the trash. NAPS volunteers will be on hand to set up lunch and sort the trash brought to the marina.

Cockrell’s Marine Railway, in its fourth generation of family ownership, has restroom facilities and other amenities. To reach the marina by land, from Route 360 in Burgess, turn onto State Route 644/Hacks Neck Rd. Go 4.9 miles and turn right onto State Route 648/Wicomico Point Rd., which runs into Railway Road.

For more information, contact Lynton Land at (804) 453-6605 or email to jandl@nnwifi.com.

EDUCATION

NAPS STEM Boost Project*By Lee Allain*

Northumberland is one of a minority of schools in Virginia that is fully accredited – one of only 36 out of Virginia's 132. We have splendid new school facilities and dedicated teachers. Still, that is not good enough! The pursuit of excellence must be continuous. Recent information places us at 36 out of 65 nations when comparing math, reading, and science skills. We must boost STEM (Science, Technology, Engineering and Math) performance.

STEM education improves the interaction capability of graduates as they begin life in a highly technical world. Some will become scientists and engineers, some will become technicians and industrial technology users, and all will become future technology product owners and users like you and me. Who thought 20 years ago that we would rely on GPS in our automobiles, and work and be entertained daily on personal computers, iPhones, Google Search, Facebook, and 60-inch wall mount TVs? We each are challenged to live with and use these miracle technologies effectively. The technology wave moves on at tsunami speed.

In April of this year, NAPS, with Northumberland County Schools, submitted a proposal to the River Counties Community Foundation (RCCF) for a unique project. NAPS educational outreach includes helping students understand how our world works. One must understand basic science, if "progressive stewardship" is to be effective.

Our "STEM Boost" proposal to the RCCF was centered on improving elementary grade students' early interest in science and math as they gained hands-on experience 'Imagineering' and then building 3-D structures. Our intention was to 'infect' young students with a zest for knowledge regarding the physics, chemistry, and biology of spaceship earth. We proposed purchasing as many as 75 "STEM Starter Kits," or SSK's, and providing one to each child in grades 3 through 5 enrolled in the planned summer Extended School program. In late May, the RCCF notified us that they would provide the requested grant. Teachers and NAPS Mentors quickly focused on LEGO as having appeal to a broad range of age as well as both genders, and 75 LEGO kits in buckets were ordered.

These LEGO buckets/SSK's were introduced to students during the recent Extended School program. Students, with a little guidance from teachers and mentors returning to their childhoods, quickly grasped the basics of LEGO construction. On the carpeted Elementary School gym floor, they assembled their versions of various village buildings. After most students were satisfied with their creations, they assembled their buildings into a village (as shown in the photograph). As the "land grab" along the village roads progressed, the students really got excited. At the end of the LEGO period they were heard to say, "Do we have to leave now?" Of course, they were also competing for planned awards for good work.

In preparation for Awards Day, students in each class were provided with an evaluation sheet to help guide them as they judged another class' work. That is, the judges for awards were the students themselves. On the last Wednesday of classes, all people in the proj-



Elementary School students learn STEM concepts by planning and building a LEGO village.

ect plus parents and the local papers were invited to the Elementary School to watch the Awards and view the villages. Winners of Awards were:

3rd Grade

- Best Structure – Nora Bowles for "Pet Store"
- Most Creative – William Rose for "Funeral Home"
- Most Creative – Javier Ramirez for "Apartments"
- Most Creative – MiKayla Noel for "Pizza Place"

4th Grade

- Best Structure – Travis Coleman for "Police Station"
- Most Creative – Layton Saunders for "Zoo"
- Most Creative – Brandon Coleman for "Hospital"
- Most Creative – Christian Newton for "Restaurant"

5th Grade

- Best Structure – Lawrence Green for his "Police Station"
- Most Creative – Emani Davis for "Grocery Store"
- Most Creative – Tanaya Seldon for "Church"
- Most Creative – Nyzeer Hawkins for "MacDonald's"

We believe that students left this project with the feeling that school can be both fun and educational. We hope they also left with a stronger tendency to choose science and math courses in school as they progress.

People who worked as NAPS Mentors were Nannette Smith, Janice Mahoney, Joe Thompson, Sue Lindsey, Bill Estell, Garfield Parker, and Wonda Allain.

Participating Teachers were Nancy Jewell, Pam Woolard, Mary Kelly, Chris Barnes, Susan Bates, Martha Williams, and Amy Lamb.

Mentors and Teachers are now collecting "Lessons Learned" and working to make sure that STEM Boost is extended into the future. In fact, it is now time to move into Phase 2 of STEM activity. In the future you can expect to see more LEGO activity, as well as the introduction of more technology driven work in the High School. For instance, NAPS has already purchased an advanced Drone Quadcopter for introduction to students this fall. Stay tuned.



Forester Rich Steensma helped Lynton, Bill, and Lee make sure that the tree ID project at the Elementary School got it right.

EDUCATION

Tree ID Project Completed

By Jay Walker

Having identified and marked trees along a trail in the woods behind the Northumberland Elementary School last October, the final step of attaching name plates was completed in June. Forester Rich Steensma, who helped with the initial stage, returned to assist in placing the name plates for the NAPS team to do the job. (See photo.)

“By the time the plates and hardware were assembled, the leaves were gone and it was very difficult to be certain if we had the right trees. So we had to wait until the leaves bloomed and Rich was available to make sure we got it right,” said Lynton Land, who headed the project.

In all 34 signs were installed on 23 tree species. The objective was to mark the trees for the elementary school students when they are on the “Blue Trail” during outdoor classes.

Steensma, a forester for the Virginia Department of Forestry, noted that there is a lot of diversity along the trail. He also pointed out that the area was clear-cut more than once in the past.

CCL UPDATE

Where We Stand

By Dr. Greg Haugan

The Citizens Climate Lobby (CCL) is a grass-roots, volunteer organization that is a partner of NAPS. While NAPS is focusing on Northumberland County and helping it grow “with order and beauty,” the CCL mission is to achieve a stable climate so that the children and grandchildren and great-grandchildren of the county population can continue to live and enjoy the waters, air and land in the same way as us. It is an international organization working on an international problem with several active Canadian groups and some new ones in Europe. Stability is not easy to achieve with a rapidly increasing population; demand for energy to raise standards of living increasing even faster; over-use of our finite planetary resources at an increas-

ingly unsustainable rate and our dumping of carbon emissions into the air resulting in an enhanced greenhouse effect. It is easy to be pessimistic, but we believe there are solutions and the solutions are what we are advocating.

At present, the majority of our elected representatives and our business leaders are not concerned with impact on future generations. We want to change that. We must change that. We need your help. Since the last newsletter, CCL members have met with the Congressional staff of Senators Kaine and Warner and met with Congressman Wittman and his staff in DC. They were asked to support carbon fee and dividend legislation.

In addition, CCL members wrote letters to editors, attended a major sea-level rise conference in Norfolk, displayed at the Farmers Market and similar events, and gave presentations to educate the population of the Northern Neck on



Greg Haugan and Bob Lindsey tend the CCL booth at the Heathsville Farmer's Market.

the issues and solutions to climate changes and disruptions.

There is a solution: Put a price on greenhouse gas emissions and return the revenues to our households. We are not alone with this approach; in addition to several conservative economists, ExxonMobil has joined the parade. (See Climate Change Reports article.)

Members of CCL are available as speakers on all aspects of climate change, impacts and mitigation solutions. Remember our quatrain: “The climate is changing, it is caused by humans, it is bad, but we can do something about it if we act soon.”

We meet the first Tuesday of the month at the Northumberland Public Library at 7:00 pm. Call Greg Haugan at 804 580 2166 for information. All are welcome, we provide refreshments. It is free.

NAPS Calendar

NAPS Board Meetings are held on the second Wednesday of each month, at 9 a.m. at the Union First Market Bank on Rt. 360 in Burgess.

- Sept. 10, Wed. ... NAPS Board Meeting
- Sept. 14, Sun. ... Boots & BBQ, Northern Neck Land Conservancy
- Oct. 8, Wed. NAPS Board Meeting
- Oct. 18, Sat. NAPS Annual Fall Social and Distinguished Citizen Award
- Nov. 12, Wed. NAPS Board Meeting
- Dec. 10, Wed. NAPS Board Meeting
- Jan. 14, Wed. NAPS Board Meeting
- Feb. 11, Wed. NAPS Board Meeting
- Feb. TBD NAPS Annual Meeting

ECOLOGY

Oysters Can't Improve Chesapeake Bay Water Quality*By Dr. Lynton Land*

Most people know that when Europeans first arrived, oysters could filter a Bay-sized volume of water in a few days. Today, given the few oysters that remain, it takes a year. Some people interpret this often-repeated mantra to mean that more oysters could improve Bay water quality. They can't.

Filtering makes the water more transparent, allowing light to penetrate. But clearer water is not the most important measure of water quality. The particles, including algae, that the oysters filter from the water end up as sediment, just as would happen in the absence of oysters. Microbes decompose the organic material and release ammonia (NH₃) and phosphate (PO₄) back to the water to fertilize the growth of more algae. Oysters do not remove the nutrients nitrogen (N) and phosphorus (P) from the marine ecosystem unless they are harvested. It is the excess N and P in the water that cause the Bay's abysmal water quality and its formal impairment by EPA.

The word "restoration" is purposefully being avoided. Given today's acreage in heavily fertilized fields and lawns, extensive urbanization and an increasing population, we can never return to pre-Colonial nutrient discharge. It is impossible to restore the North American grassland prairies, just as it is impossible to restore the Bay ecosystem, or the Bay's oyster population. Ecosystems that have been degraded for centuries can be improved, but the word "restore" should never be used.

The Bay's nutrient pollution problem is immense and hard to grasp. Pollution must always be reduced at its source. A "sop up" strategy, while continuing to pollute, is never effective. EPA's final TMDL requires that of the 250 million pounds of N delivered to the Bay each year, more than half of agricultural origin, 62 million pounds of N discharge must be stopped. That amount may or may not be sufficient to improve water quality satisfactorily because the remaining discharge is larger than it was in Colonial times.

A recent study proposed that oysters can significantly improve water quality in the Potomac River estuary (DOI 10.1007/s10498-014-9226-y). I disagreed (DOI 10.1007/s10498-014-9235-x). A paper published in 1946 states "...in the late 1800's it [the oyster harvest from the Potomac River] averaged approximately 1,600,000 bushels." Given 300 oysters per bushel, 480 million oysters were harvested annually for a few years. Then the harvest crashed and in recent years it has rarely exceeded 1.5 million oysters (5,000 bushels). Today, the Potomac River discharges about 30 million kilograms of N each year. One million market-sized (3 inch) oysters contain at most 150 kilograms of N, with sub-equal amounts in the shell and tissue. Today's oyster harvest only removes 0.00075%

(225 / 30,000,000) of the Potomac River's N load. Even if we could harvest 480 million oysters annually again, an unrealistic hope, only 72,000 kg of N would be removed from the marine ecosystem (480 million oysters * 150 kg N per million oysters) amounting to only 0.2% of today's N load (72,000 / 30,000,000). Oysters cannot improve Bay water quality in the face of the massive pollution load that exists.

How does N removal from the marine ecosystem by oysters compare to N pollution from crop fertilization practices? Given a chemical fertilization rate for grain of about 150 pounds of N per acre and a typical "N Use Efficiency" of about 65%, 100 pounds of applied N fertilizer are sequestered in the harvested grain. The remaining 50 pounds are released to the environment. Assuming that about half the 50 pounds of N not sequestered in the grain ends up in the Bay, and that the N removed from the ecosystem by harvesting oysters and by their normal feeding and deposition processes (sediment burial and denitrification) are about the same, growing twenty acres of grain causes about as much N pollution as the amount of N removed by



a million oysters. Given the many millions of acres used to grow grain in the Bay watershed, the previous conclusion is confirmed. "Sopping up" N pollution by harvesting oysters cannot measurably improve Bay water quality.

All the money we have spent upgrading wastewater treatment to reduce point source nutrient pollution has not resulted in significant improvements in Bay water quality. The only way to improve Bay water quality is to seriously address the major source of pollution, inefficient crop fertilization. Two good places to start are: first, ban the disposal of animal waste (poultry litter, sewage sludge and manure) by land application, which causes about half of agricultural nutrient pollution because these materials are such inefficient "fertilizers." And second, replace conventional chemical fertilizers with controlled- (timed-, slow-) release products in order to increase conventional fertilization efficiency from about 65% to at least 80% (it is 30% for sludge).

Oysters improve the Bay ecosystem because they create desirable habitat for other organisms. Fertile (diploid) oysters in close proximity in a float or cage can spawn simultaneously, increasing the likelihood of fertilization. Unfortunately, most people, including aquaculture, grow sterile (triploid) oysters because they are meatier. If you want to help the Bay, grow more fertile oysters – they have made great meals for centuries! TOGA (Tidewater Oyster Gardeners Association – www.oystergardener.org) can help if you want learn more.

ENVIRONMENT

Celebrating Earth Day

Attention runners and walkers of all ages: NAPS is sponsoring a 5k race as part of the April 18, 2015 Earth Day celebration during the Tavern Farmers Market in Heathsville. In addition, special events are planned for kids and adults – all with an environmental theme.

There will be music, environmental exhibits, and vendors in addition to the Farmers Market vendors. The annual Northern Neck

Wine Festival will also take place at the Tavern grounds.

Preliminary discussions with Northumberland County officials have been positive. County Administrator Kenny Eades (use of county property for staging) and Sheriff Chuck Wilkins (suggested race route) have been supportive. Bill Kirby has agreed to head the race committee.

Look for more details as planning goes forward.

NAPS MEMBERSHIP REPORT AUGUST 13, 2014

We had a total of 141 paid-up memberships in 2013 so this year we are running close to last year.

Member Report	2014
Business	5
Family	65
Individual	42
Patron	4
Sustaining	24
Total	140

But we have fewer family and more individual memberships, We still have a number of members from 2013 that have not renewed.



President Bill Estell (left) talks with Joe Thompson in the NAPS booth at the Tavern Farmer's Market in Heathsville.

NAPS FINANCIAL REPORT - AUGUST 13, 2014

The total NAPS working budget is approximately \$6,000.00. Of that amount, \$3,000 was provided to Northumberland High School scholarships and the \$1,000.00 was spent on two EcoTours for high school-age students as discussed elsewhere in this newsletter. (The \$1,000 was donated by Omega Protein last year when these were initially planned.) The STEM program using the LEGOs was funded by a grant that Lee Allain was able to secure. This was an important factor in our being able to provide this educational project to our elementary school students. Other projects are discussed elsewhere in this newsletter. As shown below we currently have \$10,604.63 in the checking account and \$20,550.22 in two CDs for a total of \$31,154.15.

It is important to know that the revenues include \$4,226.15 from Charlie Fears' estate. This will eventually be shifted to the endowment. Based on the revenues to date we are running behind on our income by \$252.55 and we are probably going to have to dip into our carryover to balance our budget unless we get additional revenues. We still have the Creek Cleanup and the Annual Social to fund although those have close to broken even in previous years due to special donations by members. The reason we are overrunning our budget was the fortunate situation of more very highly qualified scholarship candidates so we awarded two more than our original budget of four. In our next newsletter we will show the accounting for the Endowment. It is clear from our totals that it made prudent fiscal sense to put a portion of our funds currently in CDs into the endowment.

Starting Balance 1/1/2014	\$6,631.03
REVENUES:	
Dues	\$5,600.00
Donations	\$5.00
Other	\$4,251.15
Total Revenues	\$9,856.15
EXPENSES:	
Administration	\$915.29
Donations & Scholarships	\$3,000.00
Membership & Newsletter	\$387.45
Events	\$1,271.27
Projects	\$308.54
Other	\$0.00
Total Expenses	\$5,882.55
Current Year Net	\$3,973.60
Current Cash Balance	\$10,604.63
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	\$31,154.85
<i>Submitted by: Gregory T. Haugan, Treasurer; August, 2014</i>	

ENVIRONMENT

Highway Clean-up Set for October 29

The fall NAPS Adopt-a-Highway clean-up will be on Wednesday, October 29, starting at 1 p.m. Volunteers should meet at the parking lot behind the Episcopal Church on Rt. 200 in Wicomico Church. The clean-up takes place along Rt. 200.

Noting that some new helpers joined the regulars for the Spring Clean-up on Earth Day, Coordinator Janice Mahoney remarked, "The more volunteers we have, the quicker the task gets done."

Plans are underway to have the Spring Clean-up to coincide with Earth Day events at the Heathsville Tavern Farmers Market, Saturday, April 18, 2015.

CLIMATE CHANGE REPORTS

Ranging from Somber to Optimistic

By Dr. Greg Haugan

Two recent reports on climate change are optimistic and one is somber. There are literally hundreds of documents to choose from each three months, but these three are the outstanding ones. First the somber news – a report titled “Risky Business” came out in June. It is a business-oriented climate risk assessment for the United States. It is somber news only if the U.S. and the world continue to do nothing about mitigation of global warming. I would say it is a “wake-up call” but that really occurred 26 years ago when Dr. Jim Hansen testified to the problems to Congress. They simply turned off the alarm. Didn’t even hit the “snooze” button.

The report contains the summary results of a comprehensive risk analysis of the regions and economic sectors of the U.S. The summary is easy to read and is available at www.riskybusiness.org. It is notable for its sponsors and committee members that include Henry Paulson, Robert Rubin and George P. Shultz – all former secretaries of the treasury; Henry Cisneros, Olympia Snowe, Dr. Alfred Sommer, Donna Shalala and other well-known persons, both conservatives and liberals. It is non-partisan and business-oriented. The report findings show: “...that, if we continue on our current path, many regions of the U.S. face the prospect of serious economic effects from climate change. However, if we choose a different path – if we act aggressively to both adapt to the changing climate and to mitigate future impacts by reducing carbon emissions – we can significantly reduce our exposure to the worse economic risks from climate change and also demonstrate global leadership on climate.”

The report contains data on each U.S. geographic region since they are all different. The section addressing risks to the Southeast states of course includes the risks of storm surges and sea level rise with which we are all familiar. However we also are likely to be hit hardest by heat impacts: “Over the past 30 years, the average resident of this region has experienced about 8 days per year at 95° F or above. Looking forward, if we continue on our current emissions path, the average Southeast resident will likely experience an additional 17 to 52 extreme hot days per year by mid-century and an additional 48 to 130 days per year by the end of the century.” The risks to other sectors like agriculture and health are also high and scary. The report does not make any recommendations, only throws the ball into the court of business to start doing something to reduce emissions.

The second report is more optimistic, it shows that some businesses are at least thinking about the problem and making assumptions in their business plans regarding mitigation activities being implemented. On page 18 of their climate risk business plan, ExxonMobil states the following:

“When governments are considering policy options, Exxon-Mobil advocates an approach that ensures a uniform and predictable cost of carbon; allows market prices to drive solutions; maximizes transparency to stakeholders; reduces administrative complexity; promotes global participation; and is easily adjusted to future developments in climate science and policy impacts. We continue to believe a revenue-neutral carbon tax is better able to accommodate these key criteria than alternatives such as cap-and-trade.”

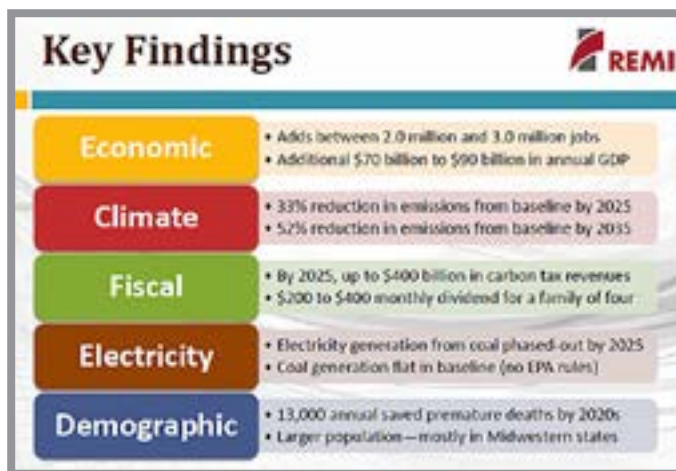
<http://corporate.exxonmobil.com/en/environment/climate-change/managing-climate-change-risks/carbon-asset-risk>

Reading the entire chapter in the ExxonMobil report, they assume a price of carbon of \$80 per ton. This is price point the CCL proposal would be after 7 years. While a much higher price needs to be reached eventually, it is important that corporate thinking is going in this direction. You can find the report by simply entering ExxonMobil Risk Analysis in Google or entering the URL from the box above. It is also easy reading.

Finally, and maybe the most important is the REMI Report. It is titled The Economic, Fiscal, Demographic, and Climate Impact of a National Fee-and-Dividend Carbon Tax. It provides a comprehensive analysis of the proposed CCL carbon fee and dividend legislation. The analysis is unique from several perspectives. First it is national in scope and uses comprehensive and common methodologies to perform the analyses; second it breaks the

results down by geographic sectors like the Risky Business Report but also identifies 38 individual sectors within each geographic region and shows the results for each year of an increasing carbon-neutral tax. Impacts on consumers, energy sectors, revenues etc... are all considered and presented. The table above presents the output. The message is clear: THE CARBON FEE AND DIVIDEND CONCEPT AS PROPOSED BY CCL WILL ADD JOBS AND INCREASE GDP AND REDUCE EMISSIONS.

So, Risky Business tells us what the risks are of remaining on our current emissions pathway; ExxonMobil shows that some businesses recognize that action is needed and will occur, and the CCL REMI analysis shows that there is a solution.



SAVE THE DATE: APRIL 18, 2015

NAPS-SPONSORED EARTH DAY CELEBRATION IN
CONJUNCTION WITH THE HEATHSVILLE FARMER'S MARKET

-- ACTIVITIES FOR KIDS AND ADULTS --

MUSIC – ENVIRONMENTAL EXHIBITS – VENDORS
WITH A SPECIAL EARTH DAY 5K RACE



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Memo from Bill

The summer season has continued at a hectic pace. The second Eco-Tour with the Boy Scouts on Capt. David Rowe’s fishing boat was another grand success. Lee Allain lead this tour as well and conducted a full day on the water under excellent conditions.

It was an educational opportunity offered to the Scouts that provided a fun time, as well.

The Tree Identification project on the trail at the Northumberland Elementary School was finally completed successfully with Lynton Land putting the finishing touches on the trees identified by the Virginia Forrester, Rich Steensma. The trail to the Outdoor Classroom is now complete with over 35 trees of 23 varieties identified.

The Northumberland Elementary Extended School STEM program was wrapped up after three weeks of intense effort by 3rd, 4th and 5th graders and their introduction to STEM concepts. The participation of the students, teachers and NAPS mentors resulted in an outstanding result culminating in the award ceremony on Thursday the 7th. The entire program was made possible because of the grant Lee Allain received from the River Counties Community Foundation. See the details in Lee’s article.

NAPS Road Clean-Up conducted under the leadership of our own Janice Mahoney and her “usual suspects” made short work of the trash on Hwy 200. Next year Greg Haugan has arranged for our Spring Clean-Up to be in conjunction with an Earth Day Celebration planned for the Heathsville Farmer’s Market on 18 April 2015 with special activities for kids and adults. Save the date!

The Heathsville Farmers Market had another successful display booth representing NAPS in August, after a successful first one in July. In September, NAPS will be at the annual Boots & BBQ,

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sponsored by the Northern Neck Land Conservancy. The Citizen’s Climate Lobby will have information available on the struggle to deal with the nationally recognized effort of climate change and its effects.

Finally, NAPS has proudly selected Sue Lindsey as the Distinguished Citizen Award for 2014. Congratulations to Sue. The Award will be presented at the NAPS Annual Fall Social on 18 October 2014 at the Bay Quarter Shores Clubhouse.

As always, thanks for your continued support in all our programs, volunteers are always most welcome.

Best to you and yours,
Sincerely,
Bill Estell, President