

NAPS News

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

Fall 2016

Volume 25, Issue 4



Welcome to the Fall 2016 NAPS News.

Here's what was happening this season, but first a few dates to hold:

NAPS Annual Meeting. Saturday, February 11, 10 a.m. at United Methodist Church, Heathsville. Presentation: "Tangier in Crisis" with the Talented and Gifted (TAG) Northumberland 7th Grade students, followed by the Business Meeting and election of Board members.

Third annual Earth Day Celebration. Saturday, April 15 at the Heathsville Farmers Market.

NAPS Highway Pickup. Tuesday, April 18 at 10:30, starting at Wicomico Church.

NAPS Distinguished Citizen Award Winner Parker: Be Prepared to Help. > > >

OP-ED: Getting Residential Wind Turbine Approval. Roger Gruben chronicles how he and his wife, Bette, took the path for an off-grid, turbine powered structure. They got the approval.

Vision 2048 and Northumberland Middle School. How the NAPS Stewardship Journal is taking shape.

NAPS Financial Report. We're in relatively good financial condition due to the fiscal discipline of the Board and the generosity of our members.

Membership Report. There has been a fall-off of new members from our aging community.

NAPS Sponsors Student Eco-Tour. Shauna McCranie reports on a very thorough learning experience on our local waterways.

Book Report: "The Madhouse Effect". Dr. Greg Haugan recommends a book about climate change denial that is also amusing, thanks to the cartoonist, Tom Toles.

Solar Co-op Offers Cost Savings. Residents in the Northern Neck may take advantage of the Middle Peninsula Solar Co-op.

Highway Clean-up Set. To join in this effort on April 18, 2017, contact Janice Mahoney at vervaville@yahoo.com. We need more helpers to meet NAPS goal.

Technology: Global Temperatures Changing Faster. 2016 will very likely be the very hottest year on record.

CCL Update. Dr. Greg Haugan reports on the recent annual Virginia conference.

NAPS Calendar.

NAPS Officers & Board Members.

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

– Jay Walker, Editor

NAPS Distinguished Citizen Award Winner Parker: Be Prepared to Help

By Jay Walker

With the theme of his Boy Scouts leadership, Bob Parker accepted the Distinguished Citizen Award of the Northumberland Assn. for Progressive Stewardship (NAPS) during the NAPS Annual Fall Social, Saturday, November 5, at the Bay Quarter Shores Club House. Parker's theme, however, was helping educate the students in the county.

He acknowledged that with his wife, Patricia, "Everything I do is really something we do." He pointed out that Patricia originally signed him up to be Cubmaster of Pack 250. But the thrust of his message was their

role as educators and the needs of school kids today. According to Patricia Parker, the couple applied for school positions as a package in hopes of working in the same school system.

Referring to their own up-bringing in families dedicated to helping others, Parker said, "As educators, Patricia and I know that not every parent can provide the level of support that we could. We

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NAPS Distinguished Citizen Award winner Bob Parker asked his wife Patricia to join him as a team during the award ceremony. Photo by Jay Walker.

Be Prepared to Help (from pg. 1)

know some parents are working two or three jobs to keep food on the table. Others are caring for other family members and many are raising children without the support of a second parent.”

He commended NAPS for its support as an organization and as volunteers to help students and support teachers and their schools.

“When I see students learning to construct a solar power cell, or working with a drone, I know NAPS is involved. When I walk the nature trails and see the bridges, education boxes, and the outdoor classroom, I know NAPS and its members have been involved. Your dedication to the children of this community is unparalleled in any other small community like ours,” he concluded.

As an educator, Parker has taught math

at the public schools and at Rappahannock Community College (RCC). He now heads the administration of the math courses at both RCC schools. As a scout master for over 14 years, Parker helped 22 boys complete Eagle Scout projects in the community. He recently took advantage of a NAPS offer to take his troop on an Eco-Tour on the water to give them personal experience with the Chesapeake Bay environment.

The Chesapeake Bay Garden Club observed Parker’s Boy Scout connection by including references in its floral decorations for the Fall Social. They mounted a Boy Scout uniform complete with a sash-full of merit badges at the entrance door. And all of the flower table decorations had Scout merit badge cards attached.



The Chesapeake Bay Garden Club used a Boy Scout theme for its floral decorations at the NAPS Annual Social. Photo by Jay Walker.

OP-ED

Getting Residential Wind Turbine Approval

By Roger Gruben

A wind turbine for our new workshop and guest apartment is the second residential wind project to be approved by the Northumberland county government.

When we powered our house with 48 solar panels, nobody much cared (except for one neighbor, who thought they were ugly – my wife Bette told him to look the other way when he drove by). The path to an off-grid turbine-powered structure had many more twists.

In Northumberland County, wind turbines are treated as conditional use in all zoning districts but R-3 (residential restricted), where it isn’t allowed at all. Our building site – 22 acres of woods about ½ mile west of our house – is zoned A-1 (agricultural).

In mid-August of 2016, we submitted our application to the county and sent an information package to all the adjacent property owners. We also sent an email out to neighbors to let them know about our plans (with lots of links to specs and relevant research on noise, risks to birds, and effects on property values). We invited everyone to call or email with questions and comments.



We started our research into wind turbines shortly after we bought the woods in December of 2015, so we felt that we had a solid foundation for our plan. We settled on a smaller turbine – a 1 kW Bergey with an 8’3” rotor diameter – because the workshop and apartment would not be occupied full time and we designed the structure to be energy efficient. And a smaller turbine would spin at lower wind speeds (Bette ran a recording anemometer for six months; it showed an average wind speed of 10 MPH).

To minimize demand, we specified high R-value structural insulated panels (SIPs) for the walls and roof, high-SEER mini-split heat pumps for cooling, and wood stoves for heat. If it turned out that our planned occasional use required more electricity than we expected, we could add batteries.

Before we applied for the turbine permit, we had never been to a board of supervisors hearing. Lynton Land introduced us to other NAPS members who gave us good advice for working with the board.

Bette knew our district’s supervisor, Tommy Tomlin, from her time on the Dividing Creek Association board. I invited him to walk our property with me so I could describe our project. We visited Judy and Gordon Burgess to see the first residential wind turbine in the county. They referred us to a long-time neighbor, who told us that she had no problems with a turbine in the neighborhood. I met with Luttrell Tadlock and asked him how the meetings typically progressed, and gave him the key points of our argument for the turbine.

A few neighbors responded to our broadcast email. Some were supportive, some raised objections, but most neighbors were silent. The family closest to our site was supportive; objections came from those who lived further away.

We answered the objections with the most objective information we could find: an NREL study of small turbine noise levels, an article from U.S. Fish & Wildlife on bird mortality, the eagle nest location map from the Center for Conservation Biology. Objectors continued to object, either ignoring or discounting the information we sent them, but we continued anyway, copying everybody in the

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Wind Turbine Approval (from pg. 2)

neighborhood. Much later, a couple of neighbors observed that the objections got a little overheated, but our replies remained calm and reasonable. I think that helped us with the silent neighbors.

At the board meeting on September 8th, I gave a short description of our plan and the reasons it shouldn't cause problems for neighbors and wildlife. Four neighbors got up to talk about the consequences of allowing a howling mechanical maelstrom to loom over the neighborhood: bald eagle decapitations, destruction of the historic integrity of the neighborhood, aesthetic degradation. Two more mailed their complaints to the board. Gordon and Judy Burgess spoke for us, and invited the objectors to ask questions about their turbine. Nobody asked. Bette closed by saying that our proposal was based on research and experience, and that we lived in the neighborhood and would not propose anything that would damage anyone's quality of life, including our own.

After the hearing, we sent our notes on the meeting to all neighbors, and invited their corrections and additions. We hired Rawleigh Simmons, a lawyer who frequents county meetings, to advise us; he also made a few calls on our behalf. Then we developed a PowerPoint deck that hit six topics that arose at the hearing. We showed pictures of the proposed system, answered two questions from the supervisors, and replied to objections in four categories: noise, risks

to birds, appearance, and effects on historic resources. We used quotes from our antagonists to set up our replies.

At the October 13th supervisors meeting, the public was not invited to comment on our proposal. The board thumbed through our PowerPoint deck, briefly discussed our proposal, and voted 5 to 0 to approve.

We've been asked about our break-even point for our off-grid wind turbine. The turbine, inverter, batteries, backup generator, and construction will cost a little more than twice what the NNEC would charge to connect us to the grid. On the cost reduction side, tax incentives for residential wind aren't nearly as generous as they are for solar panels; electricity is pretty cheap, and our workshop won't use a lot of it. So from a short-term financial perspective, this is not a great solution.

We chose to use a turbine because we wanted to limit our demand for fossil fuels (Virginia burned 795,000 tons of coal in August of 2016*). We didn't want to tear up the woods between the site and the nearest power pole. And we wanted the structure to be as self-sufficient as possible. From our perspective, break-even starts when we get our certificate of occupancy.

*http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_2_08_a

	Metric	Imperial
ROTOR DIAMETER	2.5 m	8.2 ft.
OVERALL LENGTH	2.1 m	6.9 ft.
TURBINE WEIGHT	34 kg	75 lbs.
TURBINE THRUST	890 N	200 lbs.
RATED POWER	1,000 W	
RATED WINDSPEED	11 m/s	24.6 mph
RATED ROTOR SPEED	490 rpm	
START-UP WINDSPEED	3 m/s	6.7 mph
CUT-IN WINDSPEED	2.5 m/s	5.6 mph
FURLING WINDSPEED	13 m/s	29 mph
MAX DESIGN WINDSPEED	54 m/s	120 mph
MAX RUNNING CURRENT	11 Amps AC	

NAPS JOURNAL

Vision 2048 and Northumberland Middle School

By Dr. Greg Haugan

NAPS is planning on putting out another version of its very successful NAPS Stewardship Journal. The previous edition had two articles on climate change and two on Bay ecology written by three of our members for a total of six pages. We are planning on a different approach this time.

We are looking out into the future to year 2048, the 400th anniversary of the founding of Northumberland County, and addressing a series of topics, in each case projecting to 2048, 32 years into the future. We are teaming up with Ms. Shauna McCranie's 8th grade "Talented and Gifted" students as co-authors in the sections. The plan is for the students to do research on topics and a NAPS mentor to work with them in assembling data and writing up the sections and making the predictions. Some of the sections, including tentative NAPS mentors and the student collaborators, are:

- Chesapeake Bay (Likely changes in Bay health and impacts by 2048, oysters and crab populations, menhaden landings, changes in rockfish and bluefish and replacements) Dr. Lynton Land with Shane Bryant and Tom Neale

- Chesapeake Bay (Changes in bay temperature and acidity and impacts on ecology) Dr. Judy Lang with Shane Bryant, Tom Neale and Grant Biddlecomb
 - Renewable Energy (Changes in sources of power: solar, wind and nuclear and likely impacts on the area) Mr. Lee Allain with Jessica Lee, Madison Garrity, Chase Kitchen, Bay Wiggins and Zach Moore
 - Technology and Artificial Intelligence (Changes in technology, probable new technology and capabilities and their impact on the NNK population Mr. Lee Allain and Mr. Joe Thompson with Owen Newsome
 - Infrastructure (Changes in roads, bridges, public water supplies, recycling, internet) Ms. Shauna McCranie with Kendra Jett
 - Etc.
- The names are preliminary and may change as well as the topic descriptions and content. We are estimating one page per topic and maybe 16 pages total. We are also using Google Docs as a unifying cooperative tool enabling the authors to provide input and edit each other's work from their own computer. Ms. Shauna McCranie and Dr. Greg Haugan are co-leading this venture.

	2016	2015
Business	4	4
Family	61	62
Individual	29	41
Patron	6	5
Sustaining	23	28
Student	1	1
Total	124	141

NAPS MEMBERSHIP REPORT

The table presents the current membership status versus 2015 as reflected in the numbers of paid-up members this year to date. As can be seen, we are running behind in the Individual and Sustaining categories.

The biggest problem is the dearth of new members. Our community is aging and we are losing members faster than we can replace them. We are also having problems staffing some of our events. We need individual member event support as well as financial support to enable us to continue our programs with the schools and the community.

ECOLOGY

NAPS Sponsors Student Eco-Tour

By Shauna McCranie

On October 6, NAPS sponsored Northumberland's seventh and eighth grade Talented and Gifted students on a Chesapeake Bay Eco-Tour conducted by Capt. Danny Crabbe and his first mate/wife, Bonnie. The first stop was Purcell's Seafood where the students got a lesson in aquaculture, oyster harvesting, dredging, and tonging by Rich Harding.

The students next explored the Little Wicomico River and spent time on a working deadrise traveling along the river. Then it was out to the Bay and a stop at Omega Protein where they learned about the last menhaden rendering plant on the East Coast. Andy Hall gave the group a very informative Q&A session on the menhaden industry past, present, and future.

Students noted wildlife, marine life, riparian buffers, invasive species, and community development. Students did tonging for oysters and pulled crab pots set out the previous day. They also learned about the history of the river. Erosion along the river banks was observed. They made comparisons to riparian buffers and hardscaping and how each effects neighbors down river, as well as marine life.

Out in the Bay, students were taken by a pound net to learn about



Eco-Tour students, left to right front to back, included Tom Neale, Chase Kitchen, Sophia Sapanara, Channing Reynolds, Darrah Downing, Mia Bundy, Teagan Mullins, Zack Moore, Jessica Lee, Haliee Shackelford, Dalton Fulford, Rachel Perez, Will Reger, Bay Wiggins, Jacob Neff, Shane Bryant, Jay Bea, Grant Biddlecomb, Madison Garrity, and Skyler Pearson.

this small local fishery. This experience led to an understanding of the health of the Bay and the dead zones that harm these fisheries. The trip ended at the Reedville Fishermen's Museum.

BOOK REPORT

The Madhouse Effect: How Climate Change Denial is Threatening Our Planet, Destroying Our Politics, and Driving Us Crazy by Michael E. Mann and Tom Toles

Reviewed by Greg Haugan

The following is taken from the Amazon summary:

The award-winning climate scientist Michael E. Mann and the Pulitzer Prize-winning political cartoonist Tom Toles have been on the front lines of the fight against climate denialism for most of their careers. They have witnessed the manipulation of the media by business and political interests and the unconscionable play to partisanship on issues that affect the well-being of billions. The lessons they have learned have been invaluable, inspiring this brilliant, colorful escape hatch from the madhouse of the climate wars.

The Madhouse Effect portrays the intellectual pretzels into which denialists must twist logic to explain away the clear evidence that human activity has changed Earth's climate. Toles's cartoons collapse counter-scientific strategies into their biased components, helping readers



see how to best strike at these fallacies. Mann's expert skills at science communication aim to restore sanity to a debate that continues to rage against widely acknowledged scientific consensus. The synergy of these two climate science crusaders enlivens the gloom and doom of so many climate-themed books and may even convert die-hard doubters to the side of sound science.

Fortunately, I was able to attend a presentation of the book by Dr. Mann in Charlottesville and to talk to him afterward. He signed my copy of the book. Also, fortunately, I had finished reading it beforehand so was able to talk about it intelligently. He gave a great summary presentation. The book is short, only 150 pages and laced with Tom Toles's cartoons. NAPS has donated a copy to the Northumberland Public Library and I am also willing to loan out my copy to anyone that is interested. I recommend you read it. It is easy and you will learn something while being amused.

TECHNOLOGY

Global Temperatures Changing Faster

By Dr. Greg Haugan

NAPS was established on June 3, 1989 with the following statement: "The general purposes of the Corporation shall be charitable and educational activities to further the orderly and progressive development of Northumberland County's land and water resources." The County and especially the

world have changed considerably over the past 27 years.

One of the changes is in the global temperature where the World Meteorological Organization reported in November that 2016 will "very likely be the hottest year on record and a new high for the third year in a row. This will be 1.2° C (2.2° F) above pre-

industrial levels. The countries of the world, based on scientific data, agreed that 2° C was the danger line for humanity.

Extreme weather and climate related events have damaged farming and food security, affecting more than 60 million people, according to the UN Food and

Continued on Page 5...

CCL UPDATE

Annual Virginia Conference Report

By Dr. Greg Haugan

The local Citizens Climate Lobby group had 5 persons attend the recent annual Virginia conference to discuss coordinated actions of the several Virginia chapters and to get an update on progress in the Congress. The CCL national organization is optimistic about getting legislation passed in this session for a number of reasons:

1. A single party controls both the house and Senate; this will facilitate legislation movement out of committee;
2. Businesses and insurance companies worldwide oppose exiting the Paris agreement on emissions reduction;
3. The heads of all countries of the world support taking action to reduce emissions to mitigate climate change, they will all make this a topic of discussion when they meet the new President;
4. The younger generation understands the risks of climate change and is desperate for Congress to start working and take action;
5. Prices of renewables are reducing significantly, e.g. the price of wind generated electricity in Texas is less per kwh than oil or gas from the new fracking finds;
6. Congress, especially the Senate is expected to act rationally and constrain actions that adversely impact the environment;
7. The U.S. public is increasingly aware of the reality of climate change and will be pushing for action;
8. The actions already started in the Congress such as the bipartisan Climate Solutions Caucus were unaffected by the election and will continue to provide a forum for discussion;
9. There has been a surge in new members of CCL which combined with existing CCL member persistence will be effective in increasing the will of Congress to put a price on carbon.

The purpose of CCL is to achieve a stable, livable climate for our grandchildren and great grandchildren. This is not a political movement. We believe the best tool available is to put a price on carbon where the fossil fuels enter the economy – mines, wells, import terminals – increasing the price steadily each year to encourage fossil fuel energy users to take actions that reduce dependency on fossil fuels, and take the revenues and return them as a dividend to each individual household. We call it Carbon Fee and Dividend (CF&D). Studies show it to be effective in reducing emissions, increasing jobs, increasing GDP, and eliminates the economic impact of CF&D on the lower quintile of the population.

Global Temperatures (from pg. 4)

Agriculture Organization. The level of CO₂ in the atmosphere has also broken records in 2016, with May seeing the highest monthly value yet - 407.7 ppm - at Mauna Loa, in Hawaii. Heat records were set in South Africa, Thailand, India, Kuwait and Arctic Russia. Kuwait reached 54.0° C in July; this is 129.2° F.

According to scientists, the scorching temperatures around the world, and the extreme weather they drive, mean the impacts of climate change on people are coming sooner and with more ferocity than expected. Changes are occurring in the Bay. White shrimp for example, are now prevalent and being netted and other species of fish that prefer the warming water are moving up from the south.

It is not likely we will see the temperature reach 120° F in our County, but without action to significantly reduce carbon emissions; our great grandchildren will be facing massive heat waves during their lifetimes. This is science and physics and not political theory. It has been known since the 1800s that increasing the amount of CO₂ in the atmosphere will cause significant global warming. Under a business as usual scenario or the stated “drill baby drill” philosophy of the new Administration, the expected increase in fossil fuel emissions will significantly exacerbate the problem.

The “orderly and progressive development of Northumberland County’s land and water resources” is at grave risk. It is incumbent on all NAPS members to educate the public and our legislators to the risks of proceeding down the path of ignorance.

There is a simple four-step process of recognition: (1) the climate is changing, (2) it is caused by us, (3) it is bad; but (4) we can do something about it if we try.

NAPS FINANCIAL REPORT 8-22-16

NAPS is in relatively good financial condition due to the fiscal discipline of the Board and the generosity of our members . The financial statement indicates a current year net of \$822.11 to date and \$5,369.45 in the checkbook that includes \$4,546.84 carryover from 2015. We only have the cost of this newsletter to accommodate. As shown in the Membership Report, we are running a little behind in our membership dues payments – nothing serious. We have made our major expenditures for the year, \$2,500.00 in Scholarships, \$425.00 in support of the SeaPerch project at the Middle School and \$832.00 to support Christopher Hall in his Eagle Scout Project at the Elementary School and \$600.00 to support two EcoTours for students and also a trip for them to Ginter Gardens for the Lego exhibit.

We made a profit on the NAPS Social of \$1,221.71, thanks to our Angels who were again very generous. Looking at our overall financial situation, the NAPS Board approved a contribution of \$1,000.00 to the NAPS Endowment Fund to be made in December assuming no large unexpected projects or expenses. The Endowment has been slowly increasing in value. However, we could use more contributions to move the date we are able to start withdrawing funds for scholarships without adversely impacting the ability for it to grow in value from the investment portfolio.

– Gregory T. Haugan, Treasurer. Nov. 18, 2016

Starting Balance	(1/1/2016)		\$4,546.84
REVENUES	Dues	\$5,710.00	
	Endowment	\$110.00	
	Other	\$2,160.00	
	Total Revenues		\$7,980.00
EXPENSES	Administration	\$934.07	
	Donations & Scholarships	\$2,610.00	
	Membership & Newsletter	\$424.91	
	Events	\$1,674.41	
	Projects	\$1,514.00	
	Other	\$0.00	
	Total Expenses		\$7,157.39
Current Year Net			\$822.61
Current Cash Bal.			\$5,369.45
OTHER ASSETS	Certificates of Deposit 12/31/15	\$9,368.95	
	Endowment (WF) 9/30/16	\$17,439.96	
	Total Other Assets:		\$26,808.91
	TOTAL ASSETS		\$32,178.36



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ENVIRONMENT

Highway Clean-up Set

The NAPS highway clean-up is scheduled for Tuesday, April 18, 2017 at 10:30 starting at the Wicomico Church parking lot. If any member wants to be added to the email list for this important project, please email Janice Mahoney at vervaville@yahoo.com or call her at 804-580-3154.

The reason for this notice is that limited participation by members has already caused the October pickup to be canceled. We do not want this project to disappear. So please join in the effort.

As a reminder, a Save the Date email will be sent in March, 2017.

ENERGY

Solar Co-op Offers Cost Savings

By Maureen Fairbrother

A new solar co-op has been established by Virginia Solar United Neighborhoods (VASUN). Named the Middle Peninsula Solar Co-op (MPSC), it is also open to residents of Kilmarnock and Lancaster County.

Residents in other counties in the Northern Neck can sign up too and request an extension of the MPSC area or form a new Northern Neck Solar Co-op. Joining a co-op means cost savings. Members get approximately a 15% to 20% bulk-buy discount and a 30% federal tax credit. To join and find more information, go online to the vasun.org website and fill out basic information at the bottom of the MPSC page.

MPSC has over 40 members and has chosen Bernie Stanley of Shockoe Solar as the installer. VASUN personnel are available to help sort out any contract technicalities. There is no financial commitment until you sign your customized contract, which is open for 30 days.

Some owners like a back-up battery option, but most go with “net-metering” whereby any extra electricity generated by their panels goes onto the grid and the meter runs backward. This is an opportunity to explore whether or not solar panels will benefit your building – residential and/or business.

NAPS Officers & Board Members

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NAPS Calendar

NAPS Board Meetings will now be held on the second Tuesday of each month, starting at 9 a.m. at the Union First Market Bank on Rt. 360 in Burgess, unless otherwise changed.

- Jan. 10, Tue. NAPS Board Meeting
- Feb. 14, Tue. NAPS Board Meeting
- Feb. 11, Sat. NAPS Annual Meeting (See page 1.)
- Mar. 14, Tue. NAPS Board Meeting
- Apr. 11, Tue. NAPS Board Meeting
- Apr. 15, Sat. Earth Day Celebration at Farmers Market
- Apr. 18, Tue. NAPS Highway Pickup
- May 9, Tue. NAPS Board Meeting
- Jun. 13, Tue. NAPS Board Meeting
- Jul. 11, Tue. NAPS Board Meeting