

AGENDA
Commission for the Environment
February 8, 2016
7:30 p.m.

Richard Whitted Meeting Facility (Room 250)
300 West Tryon Street, Hillsborough

- | <u>Time</u> | <u>Item</u> | <u>Title</u> |
|--------------------|--------------------|---|
| 7:30 | I. | Call to Order |
| 7:32 | II. | Additions or Changes to Agenda |
| 7:35 | III. | Approval of Minutes – December 14, 2015 (Attachment 1) |
| 7:40 | IV. | Welcome / Resolutions of Appreciation
The CFE will welcome Bill Kaiser (new member) and consider resolutions of appreciation for outgoing members Jan Sassaman, David Neal, and Gary Saunders. (Attachments 2-4) |
| 8:00 | V. | \$2 Billion Statewide Bond Campaign
Staff will provide an overview of the \$2 billion bond campaign for North Carolina (<i>Building A Better North Carolina</i>), scheduled for a vote as part of the March 15, 2016 primary elections. (Attachments 5-7) |
| 8:20 | VI. | Lands Legacy Program Update
Staff will provide an update on plans to open two new Orange County nature preserves (Hollow Rock Nature Park and Seven Mile Creek Preserve), and an overview of other land conservation projects and activities within the Lands Legacy Program (Attachments 8-9) |
| 8:45 | VII. | Committee Meetings
The standing committees review 2015 priorities, next steps, and new ideas. (Attachment 10) |
| 9:15 | VIII. | Updates and Information Items
Staff and/or CFE members will provide updates on the following items: <ul style="list-style-type: none">➤ 2016 Meeting Calendar (Attachment 11)➤ CFE outreach / news articles (Attachments 12-13)➤ Proposed airport/airstrip rule amendments (Canceled)➤ Eno River hydrilla management project in jeopardy (Attachment 14)➤ DWR guidance for local stream buffer rules (Attachment 15)➤ COP21 agreement summarized (Attachment 16)➤ 2015 was the hottest year on record (Attachment 17)➤ Solarize the Triangle (Attachment 18)➤ Effects of solar panels on farm fields (Attachment 19)➤ The conservative case for solar subsidies (Attachment 20)➤ Brumley Forest Nature Preserve trail building work day (Attachment 21) |
| 9:30 | VIII. | Adjournment |

Next meeting: March 14 (Chapel Hill)

CFE Meeting Ground Rules (*Adopted 9/12/11*)

1. Keep to agenda topic under discussion
2. Share relevant information
3. One person speaks at a time after recognition by the Chair
4. Everyone is invited to participate in discussions / no one person should dominate discussions
5. Strive to reach consensus first before voting

Activities the CFE expects to carry out in 2016:

- Continue to update the Orange County State of the Environment 2014 report
- Continue to explore ways to improve the County's ability to foster local sustainable energy production and energy efficiency strategies, including developing incentives for increasing energy efficiency in new construction
- Recommend ways to reduce the County's "carbon footprint" and implement the County's Environmental Responsibility Goal (BOCC Priority #10)
- Continue to help with public outreach and management efforts related to hydrilla in the Eno River
- Help initiate the development of a comprehensive conservation plan for Orange Co
- Co-sponsor the annual DEAPR photography contest (*The Nature of Orange*)
- Help plan for and participate in County's annual Earth Evening event

Concerns or emerging issues the CFE has identified for 2016:

- The CFE will continue to advocate for an expansion of the County's commercial food waste pickup and composting services to reduce food waste in the solid waste stream
- The CFE remains interested in developing incentives for increasing energy efficiency in new construction
- The CFE will continue to learn more about environmental justice matters and incorporate relevant information and considerations in the State of the Environment report and its other activities
- The CFE will continue to follow the Solid Waste Advisory Group's discussions of how to improve the handling and disposal of Orange County's solid waste, and will advocate for better long-term solutions
- The CFE will continue to advocate for increased efforts to gather information related to water resources in Orange County and to increase public awareness and understanding of water supply sources, related concerns, and what steps can be undertaken to maintain or improve the quantity and quality of Orange County water supply resources
- The CFE will continue to address, as appropriate, the critical environmental issues for Orange County as enumerated on page 3 of the 2014 State of the Environment report, which include potential adverse effects from a) invasive, non-native, plant and animal species; b) reductions in State-led collection of water resources data; c) potential drilling for natural gas in the Deep River basin; d) urban sprawl; and CFE support for e) the responsible deployment of clean and appropriately-sited renewable energy and reductions in energy use to help fight climate change

**Orange County
Commission for the Environment**

DRAFT Meeting Summary

December 14, 2015

Richard Whitted Meeting Facility, Hillsborough

PRESENT: Lynne Gronback (Acting Chair), May Becker, Peter Cada, Loren Hintz, David Neal, Jan Sassaman, Gary Saunders, Sheila Thomas-Ambat

ABSENT: Tom Eisenhart, Bill Newby, Jeanette O'Connor, Rebecca Ray, David Welch, Lydia Wegman

STAFF: Rich Shaw, Tom Davis GUEST: Michael Harvey (OC Planning & Inspections)

- I. **Call to Order** – Gronback called the meeting to order at 7:35 pm.
- II. **Additions or Changes to Agenda** – There were none
- III. **Minutes** – Gronback asked for comments on the November 9 meeting summary. Hintz motioned approval as written; seconded by Saunders. Approved unanimously.
- IV. **Proposed Rule Changes for Airport Development** – Michael Harvey (Current Planning Supervisor, Orange Co. Planning & Inspections) presented a draft amendment to the regulations governing the development of public airports and private air strips in Orange County. The draft amendment was referred to the CFE, Economic Development Advisory Board, and towns of Hillsborough, Chapel Hill and Carrboro for comments.

Harvey began by noting that some key dates in the written materials had changed. The open houses that had been scheduled for December 17 and 21 were postponed until spring 2016. Draft rule change won't be ready for public hearing until September 2016.

Harvey noted the proposed rule changes are not in anticipation of any applications to be filed. The rules for airport development were one of several key issues that the Planning Board chose not to address when the Unified Development Ordinance was created in 2009-10. Harvey said the current rules are about 30 years old and in need of updating; staff feels there is ample need to improve the standards and process for permitting airports and air strips. He noted, for instance, that currently the same rules apply to both private airstrips and public airports.

Harvey said the amendment would provide a different process and set of standards for private airstrips and public airports. Private airstrips would require a special use permit (SUP) and be limited to five airplanes, prohibit drones, and require hazardous materials plan. Public airports would require conditional zoning, which he described as a "floating district." A proposed airport district would allow for a heightened level of public review than is allowed in the current SUP process. Harvey said, unlike the SUP process, the general public could provide comments without having to go to the expense of obtaining expert testimony. Also, the BOCC and applicant could negotiate on conditions to be applied toward the airport development.

Harvey provided examples of key standards that would be applied to public airports, such as no residential housing allowed in the district, and airports could not be sited in

the Rural Buffer surrounding Carrboro and Chapel Hill. He noted applicants would need to provide additional site data, including hydrological and environmental information.

Harvey asked the CFE to consider the draft rule changes and provide any comments. He noted further changes to the draft are expected, but comments at this stage would be helpful. He has also requested comments from the Economic Development Commission.

- Sassaman asked if there is any reason to suspect a public airport is being planned for anytime soon. Harvey said there has been no indication of that.
- Sassaman asked the status of the airport in Chapel Hill. Harvey said UNC's expansion at Carolina North is on hold; the existing airport remains in use and there are better accommodations for local air traffic at RDU airport.
- Hintz noted that private airstrips can have grass runways with little or no impervious surfaces. Harvey said the type of surface is important for permitting.
- Hintz asked if a local dairy producer would need a permit for an airstrip used for delivering milk for sale from the farm. Harvey said if the airstrip is for local farm products predominantly then it would not require a SUP or a conditional zoning permit. The same would be true for a crop dusting operation.

Hintz suggested the CFE members mull it over until the next meeting. He said he is supportive of allowing private air strips in the Rural Buffer.

Sassaman said he supports having the different rules and processes for airports and airstrips, and he supports the conditional use permit for public airports. He would not support there being an absolute ban on new airports in Orange County.

Gronback thanked Harvey for sharing this information and said the CFE would consider the proposal and provide comments at a later date.

- V. **Orange County Stream Buffer Requirements** – Michael Harvey provided an overview of the County's plan to address 2015 legislation intended to curtail local governments' abilities to protect surface water quality (and riparian habitat) by requiring wider stream buffers for new and existing development.

Harvey said Orange County has some of the most restrictive stream buffer requirements in the state. He said the NC Department of Environmental Quality (DEQ) has provided three options for local governments to justify maintaining current rules. Harvey said the first option is to document that local rules were implemented prior to 1989, which was not the case for Orange County. The second option is to present scientific evidence that justifies the need for more restrictive stream buffers to protect water quality. Harvey said Orange County intends to pursue this option—perhaps in collaboration with other local governments in the Upper Neuse River Basin Association. Harvey said the County also plans to pursue a third option: to make the case that Orange County's stream buffer rules are implemented under a different enabling legislation than that which is addressed in the 2015 legislation. The Orange County standards were initially intended to protect water quality in so-called "critical areas" of public water supply watersheds, but were extended to provide further protection throughout those water supply watersheds.

Harvey said the NC DEQ requires local governments to submit their justification by August 2016. The NC DEQ will provide its response by November 2016.

Gronback thanked Harvey for sharing this information. There was no action required.

- VI. **CFE News Articles / Outreach** – The CFE reviewed the latest news articles intended to educate/inform the public about issues highlighted in the Orange County State of the Environment. CFE members commented on the draft article by Cada and Davis about the adequacy of fresh water supplies in Orange County. Sassaman suggested some additional information be added that explains the reasons for fluctuations in total public water supplies provided by the different water utilities. After further discussion, the CFE decided to make no changes to the article and approved it as written. Cada suggested the Water Resources Committee prepare a follow-up article that provided more details about changes in the total public water supplies provided by water utilities over time.
- Neal reported he has prepared a draft article summarizing the successful Solarize Orange campaign, which resulted in many installations of rooftop solar in the county. He said he sent the draft article to Brennan Bouma for initial review and edits before it is sent to the full CFE for final approval. Shaw said the article should be ready in January.
- VII. **CFE Committee Priorities** – CFE members reviewed a list of priority issues/projects identified by each committee in 2014-15 in anticipation of the committees meeting to discuss and update the list in early 2016.
- VIII. **Updates and Information Items** – Information on the following subjects was provided in the meeting package; selected items were discussed: a) CFE resolution on green building incentives, b) CFE memo about herbicides/pesticides used at County facilities, c) CFE annual report & work plan 2015-16, d) impact of 2015 legislation on County's dev. rules, e) County exploring new ways to recycle organic waste, f) effects of “solar bees” on Jordan Lake water quality, g) State clean energy mandates in jeopardy, h) climate change, i) ways to reduce carbon emissions, j) Orange Co wins Smart Fleet Leader award, and k) Duke Forest news.
- IX. **Adjournment** – Gronback adjourned the meeting at 9:13 pm.

Summary by Rich Shaw, DEAPR Staff

Orange County Commission for the Environment

RESOLUTION of APPRECIATION

for

JAN SASSAMAN

WHEREAS, Jan Sassaman served as a member of the Orange County Commission for the Environment since January 2012; and

WHEREAS, Jan Sassaman has contributed to the discussions and initiatives of the Commission during that timeframe with his thoughtful and insightful points and vision, as well as serving his final two years as Chair; and

WHEREAS, Jan Sassaman's expertise and advice, especially in the areas of solid and hazardous waste management and risk assessment, were critical to the Commission's work and recommendations as embodied in the 2014 State of the Environment report and many other reports to the Orange County Board of Commissioners, and his influence will continue to be seen in future such reports and initiatives; and

WHEREAS, Jan Sassaman exemplifies the commitment of Orange County citizens toward issues regarding the environment and the protection of our natural resources by his willingness to devote time to the efforts of this commission, in addition to his other work in environmental protection:

NOW, THEREFORE, BE IT RESOLVED that the Commission for the Environment thanks Jan Sassaman for his five years of service on the Commission, invites him to continue to offer thoughts to the group in the future as he desires, and wishes him well in his future endeavors.

This, the 8th day of February, 2016.

Lydia Wegman, Chair
Orange County Commission for the Environment

Orange County Commission for the Environment

RESOLUTION of APPRECIATION for DAVID NEAL

WHEREAS, David Neal served as a member of the Orange County Commission for the Environment since October 2010; and

WHEREAS, David Neal has contributed to the discussions and initiatives of the Commission during that timeframe with his thoughtful and insightful points and vision, as well as serving one year as Chair; and

WHEREAS, David Neal's expertise and advice in the areas of environmental law and alternative energy sources were critical to the Commission's work and recommendations as embodied in the 2014 State of the Environment report and many other reports to the Orange County Board of Commissioners, and his influence will continue to be seen in future such reports and initiatives; and

WHEREAS, David Neal illustrates and exemplifies the commitment of Orange County citizens toward issues regarding climate change, green energy, and the protection of our natural resources by his willingness to devote time to the efforts of this commission, in addition to his other work in the environmental law arena:

NOW, THEREFORE, BE IT RESOLVED that the Commission for the Environment thanks David Neal for his five years of service on the Commission, invites him to continue to offer thoughts to the group in the future as he desires, and wishes him well in his future endeavors.

This, the 8th day of February, 2016.

Lydia Wegman, Chair
Orange County Commission for the Environment

Orange County Commission for the Environment

RESOLUTION of APPRECIATION for GARY SAUNDERS

WHEREAS, Gary Saunders served as a member of the Orange County Commission for the Environment since January 2009; and

WHEREAS, Gary Saunders has contributed to the discussions and initiatives of the Commission during that timeframe with his thoughtful and insightful points and vision, as well as serving a period as interim Chair; and

WHEREAS, Gary Saunders's expertise and advice in the areas of air quality management and public transportation were critical to the Commission's work and recommendations as embodied in the 2014 State of the Environment report, and in many other reports to the Orange County Board of Commissioners, and his influence will continue to be seen in future such initiatives; and

WHEREAS, Gary Saunders's contributions as CFE liaison to the Orange Unified Transportation Board will benefit the citizens of Orange County who will navigate its roadways and use alternative modes of transportation; and

WHEREAS, Gary Saunders illustrates and exemplifies the commitment of Orange County citizens toward issues regarding the protection of our natural resources by his willingness to devote time to the efforts of this commission, in addition to his other work in protecting North Carolina's air quality:

NOW, THEREFORE, BE IT RESOLVED that the Commission for the Environment thanks Gary Saunders for his six years of service on the Commission, invites him to offer thoughts and insights to the group in the future as he desires, and wishes him well in his future endeavors.

This, the 8th day of February, 2016.

Lydia Wegman, Chair
Orange County Commission for the Environment



Building A Better North Carolina



Connect NC Bond Campaign: Invest In Our Future

Paid for by Connect NC Committee



ABOUT THE CAMPAIGN



Paid for by Connect NC Committee

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\$ 2 Billion Campaign

- Will appear on the March 15, 2016 primary ballot
- First statewide bond since 2000
- Investments in community colleges, universities, small towns and urban cities, agriculture, and the National Guard
- Impacts 73 counties across North Carolina



North Carolina

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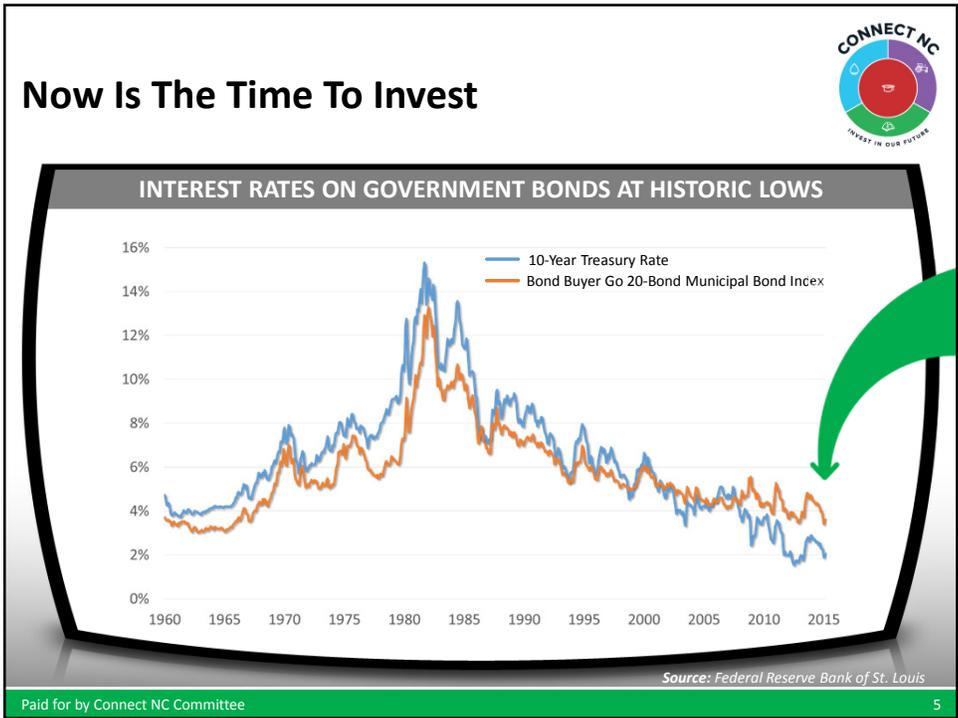


Key Facts

- No tax increase needed to pay for bond based on NC's strong financial position
- Since last bond, NC has added 2 million people
- Passage will help NC prepare for future growth; not just react
- Broad, bipartisan support



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What's In The Bond?



Project Specifics

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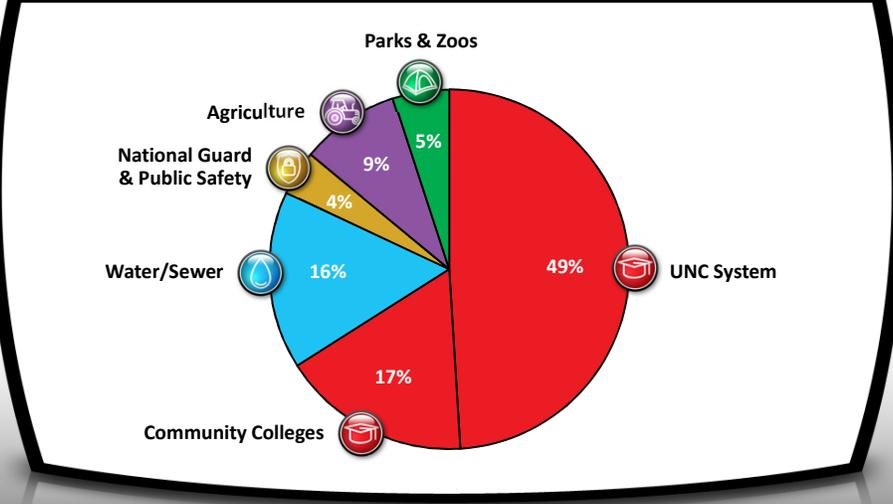
EDUCATION

Investments In Community Colleges & Universities



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Focus On Education: Preparing Our Students & Workforce



Category	Percentage
UNC System	49%
Community Colleges	17%
Water/Sewer	16%
Agriculture	9%
National Guard & Public Safety	4%
Parks & Zoos	5%

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Local Community Colleges Benefit



- \$350 million in new construction, repairs, and renovations
- 58 campuses across the state

..... *Will help meet the demands
of a 21st Century workforce*



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Major Investments In Universities



- \$980 million in new construction and repairs
- Focus on Science, Technology, Engineering, and Math (STEM) buildings
- \$150 million for repairs and renovation

..... *Will help North Carolina workers
compete for jobs of the future*



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SMALL TOWNS & URBAN CITIES

Investments In Quality Of Life



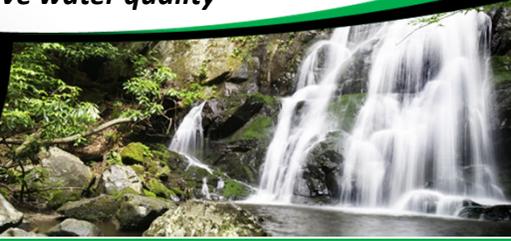
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Small Towns & Urban Cities

- \$300 million investment across the state
- Water and sewer improvements
- Modernize water systems

Will ensure economic competitiveness and improve water quality



Paid for by Connect NC Committee 12



PUBLIC SAFETY

Investments To Protect
The Homeland



Paid for by Connect NC Committee 13



 **Public Safety**

- \$78.5 million investment across the state
- 3 National Guard Readiness Centers
- Public Safety Training Academy

*Will help with emergency preparedness
and training for future deployments*



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CONNECT NC
INVEST IN OUR FUTURE

AGRICULTURE

Investments For A New Day In Family Farms & Agriculture

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Agriculture

- \$179 million – One of the largest single investments in farms and agriculture
- New Plant Sciences Research Complex at NCSU
- Agriculture and Consumer Sciences Lab for veterinary, food, drug, and motor fuel testing

Will make North Carolina a world leader in agriculture research



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STATE PARKS & ZOO

Investments To Improve Quality Of Life



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State Parks & Zoo

STATE PARKS	ZOO
<ul style="list-style-type: none">• \$75 million investment• New facilities, hiking trails, campgrounds, and funding for environmental education	<ul style="list-style-type: none">• \$25 million investment• Will make the zoo a premier family-friendly and tourist destination, and create new jobs/facilities



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Campaign Key Messages



Major Points To Share & Inform

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Campaign Key Messages

The Connect NC Bond will not raise taxes: Since state leaders have wisely paid down and paid off existing debt, no taxes will be needed to complete the listed projects

Connect NC will keep us safe and bolster our National Guard: \$79M to build additional regional training centers in order to provide quicker response for state emergencies

The Bond will help prepare students and our workforce for the future: Nearly \$1B to build new science, technology, engineering and math (STEM) buildings, helping North Carolina compete for the jobs of the future

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Campaign Key Messages

Connect NC will enhance and improve local community colleges: \$350M for new construction and repairs that will help train North Carolinians and meet the demands of a 21st Century workforce

The Connect NC Bond will include one of the largest investments ever to help family farms and the agriculture industry: \$180M across the state, including a new plant sciences research complex at NCSU and a new science lab for veterinary research and food/drug testing, helping North Carolina become a world leader in agricultural research and innovation

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Campaign Key Messages

The Bond will help towns and cities prepare for the future: Over \$309M to help small rural towns and larger cities across North Carolina modernize water and sewer systems to ensure economic competitiveness and improve quality of life

The Connect NC Bond provides investments to improve state parks – the reason so many people love to visit North Carolina: \$75M to build new state park facilities, new hiking trails and campgrounds, and provide funding to support environmental education

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Campaign Resources



Where To Get More Information

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Where Can I Get More Information?



**Project Specific List/
Regional Breakdown**
www.VoteYesToInvest.com
www.ConnectNC.gov

CAMPAIGN QUESTIONS:

-  info@VoteYesToInvest.com
-  Campaign Headquarters
919-325-1014

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How To Get Involved

<p>Contact one of our field representatives</p>	<p>Lindsay McCoy Middlesworth (Western and Triad) lindsay@VoteYesToInvest.com</p> <p>Matthew Hebb (Central NC) matthew@VoteYesToInvest.com</p> <p>Jessica Proctor (Eastern North Carolina) jessica@VoteYesToInvest.com</p>
<p>Sign up to volunteer</p>	<p>www.VoteYesToInvest.com/volunteer</p>
<p>Contribute online</p>	<p>www.VoteYesToInvest.com/contribute-now</p>
<p>Contribute by check</p>	<p>Make check out to Connect NC Committee PO Box 30696, Raleigh, NC 27622</p>
<p>Help spread the word</p>	<p> https://www.facebook.com/connectnccommittee</p> <p> https://twitter.com/connectnccomm</p>

The Connect NC Bond – Key Facts

Overview

- > The Connect NC Bonds Act is a \$2 billion bond package that citizens across the state will vote on in the primary election March 15, 2016.
- > **No tax increases** would be necessary to finance the bond, given the state's strong revenue growth and ample debt service capacity.
- > The \$2 billion infrastructure bond will connect North Carolina to the 21st century through statewide investments in higher education, agriculture, state parks, National Guard and water and sewer infrastructure. It's been 15 years since the last general obligation bond was authorized to upgrade our state's infrastructure in 2000. Since then North Carolina has grown by more than 2 million people.
- > Approximately two-thirds of the Connect NC bond will go to fund critical improvements in higher education – including capital projects that focus on STEM education, career readiness, medical sciences, and business for the 17 UNC System campuses along with long-overdue upgrades to modernize the state's 58 community colleges.
- > Projects supported by the bond span from the mountains to the coast and include investments in both rural communities and urban cities – investments across the state, benefiting all North Carolinians.

Why bonds?

- > Long-term financing is the most efficient and effective way to fund critical needs and projects across our state, especially given that interest rates are low.
- > Additionally, North Carolina has an established and successful history of responsibly using long-term financing to support the infrastructure and educational needs of its communities.
- > Most of the identified infrastructure projects cannot be financed from annual operating budgets on either the state or county levels.
- > Bonds will allow North Carolina to pay over 20 to 25 years for assets that will last for at least 50 years and benefit the state for generations to come. Just as homeowners pay for a house as they use it over time, North Carolinians will pay over time for improvements needed now and moving forward.

How will the money be invested?

About two-thirds of the bond would benefit higher education, 16 percent would pay for improvements in parks and in sewer and water infrastructure, 9 percent would go to agricultural projects, 5 percent would be allocated to the North Carolina Zoo, and 4 percent would be spent on the National Guard and public safety.

Connect NC through community colleges and universities

- > The UNC system will receive \$980 million, specifically to build and repair STEM facilities to prepare our students for careers in these high-demand fields that are critical for driving North Carolina's economy.
- > The North Carolina Community College System will receive \$350 million for new construction, much-needed repairs, and renovations at all 58 community colleges across the state. These necessary improvements will allow a modern learning environment that meets the demands of a 21st century workforce.

Connect NC through improved water and sewer infrastructure

- > The bond invests \$309.5 million in statewide water and sewer loans and grants to meet the demands of a growing population.

Connect NC through National Guard facilities

- > The bond includes \$79 million to construct National Guard Regional Readiness Centers in Burke, Guilford, and Wilkes Counties allowing the Guard and its members from across the state to more efficiently and effectively train for and respond to state emergencies.

Connect NC through agricultural research

- > The bond provides \$85 million for the Plant Sciences Initiative Complex at NC State University to establish North Carolina as the world leader in plant sciences research and innovation, spurring economic growth in our state's largest industry, agriculture.
- > It also invests \$94 million for an Agriculture and Consumer Sciences Lab Building for veterinary, food, drug and motor fuel testing, advancing our state's food safety and security.

Connect NC through state parks and attractions

- > The bond provides a total of \$75 million to update well-used facilities at 45 treasured state parks available to all citizens.
- > It also includes an investment of \$25 million for upgrades to service support facilities, trails and exhibits at the widely renowned North Carolina Zoo.



Learn More about the NC Connect Bond and join the campaign.

VOTE

MARCH 15, 2016



For Additional Information:

ConnectNCCommittee

ConnectNCComm

919-325-1014

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Distribution of Bond Projects by Category and County

University of North Carolina

Appalachian State University	Watauga	New Health Sciences Building	\$70,000,000
East Carolina University	Pitt	Life Sciences & Biotech. Building	\$90,000,000
Elizabeth City State University*	Pasquotank	Moore Hall-Complete Building Renovation	\$8,500,000
Elizabeth City State University*	Pasquotank	GR Little Library-Complete Building Renovation	\$4,500,000
Fayetteville State University	Cumberland	Lyons Science Bldg. Renovation	\$10,000,000
NC Central University	Durham	New Business School	\$30,000,000
NC State University	Wake	Engineering Building	\$75,000,000
North Carolina A&T University	Guilford	Engineering Building	\$90,000,000
UNC School of the Arts*	Forsyth	Old Library Renovation	\$8,000,000
UNC School of the Arts*	Forsyth	Performance Place Renovations	\$2,900,000
North Carolina School of Science & Math	Burke	North Carolina School of Technology & Engineering Renovation and Addition of Owen Hall	\$58,000,000
UNC Asheville*	Buncombe	Renovation and Addition of Owen Hall	\$21,000,000
UNC - Chapel Hill	Orange	Medical Education Building Replacement	\$68,000,000
UNC Charlotte	Mecklenburg	New Sciences Building	\$90,000,000
UNC Greensboro	Guilford	Nursing School Building	\$105,000,000
UNC Pembroke	Robeson	New Business School	\$23,000,000
UNC Wilmington	New Hanover	Allied Health & Human Services/ Nursing Building	\$66,000,000
Western Carolina University	Jackson	Science/STEM Building	\$110,000,000
Winston - Salem State University	Forsyth	Sciences Building	\$50,000,000
Total for University of North Carolina			\$980,000,000

NC Community Colleges

Alamance Community College		New Construction, Repairs, Renovations	\$6,100,339
Asheville-Buncombe Technical Community College		New Construction, Repairs, Renovations	\$5,487,535
Beaufort Co. Community College		New Construction, Repairs, Renovations	\$6,557,819
Bladen Community College		New Construction, Repairs, Renovations	\$6,533,125
Blue Ridge Community College		New Construction, Repairs, Renovations	\$2,966,077
Brunswick Community College		New Construction, Repairs, Renovations	\$2,857,328
Caldwell Community College and Technical Institute		New Construction, Repairs, Renovations	\$5,629,337
Cape Fear Community College		New Construction, Repairs, Renovations	\$5,908,685
Carteret Community College		New Construction, Repairs, Renovations	\$2,674,685
Catawba Valley Community College		New Construction, Repairs, Renovations	\$6,180,268
Central Carolina Community College		New Construction, Repairs, Renovations	\$6,307,085
Central Piedmont Community College		New Construction, Repairs, Renovations	\$9,636,457
Cleveland Community College		New Construction, Repairs, Renovations	\$5,467,357
College of the Albemarle		New Construction, Repairs, Renovations	\$6,590,687
Coastal Carolina Community College		New Construction, Repairs, Renovations	\$6,973,103
Craven Community College		New Construction, Repairs, Renovations	\$5,376,640
Davidson County Community College		New Construction, Repairs, Renovations	\$5,820,720
Durham Tech. Community College		New Construction, Repairs, Renovations	\$4,362,997
Edgecombe Community College		New Construction, Repairs, Renovations	\$7,277,875
Fayetteville Tech. Community College		New Construction, Repairs, Renovations	\$10,668,066
Forsyth Tech. Community College		New Construction, Repairs, Renovations	\$5,809,410
Gaston College		New Construction, Repairs, Renovations	\$5,949,907
Guilford Tech. Community College		New Construction, Repairs, Renovations	\$9,519,543
Halifax Community College		New Construction, Repairs, Renovations	\$6,519,080
Haywood Community College		New Construction, Repairs, Renovations	\$2,831,380
Isothermal Community College		New Construction, Repairs, Renovations	\$6,803,668
James Sprunt Community College		New Construction, Repairs, Renovations	\$4,502,677
Johnston Community College		New Construction, Repairs, Renovations	\$3,701,470
Lenoir Community College		New Construction, Repairs, Renovations	\$8,001,502
Martin Community College		New Construction, Repairs, Renovations	\$6,566,722
Mayland Community College		New Construction, Repairs, Renovations	\$4,668,043
McDowell Tech. Community College		New Construction, Repairs, Renovations	\$4,598,981
Mitchell Community College		New Construction, Repairs, Renovations	\$3,218,011
Montgomery Community College		New Construction, Repairs, Renovations	\$6,334,537
Nash Community College		New Construction, Repairs, Renovations	\$7,773,798
Pamlico Community College		New Construction, Repairs, Renovations	\$4,193,233
Piedmont Community College		New Construction, Repairs, Renovations	\$4,850,325
Pitt Community College		New Construction, Repairs, Renovations	\$8,376,397
Randolph Community College		New Construction, Repairs, Renovations	\$5,086,842
Richmond Community College		New Construction, Repairs, Renovations	\$7,229,431
Roanoke-Chowan Community College		New Construction, Repairs, Renovations	\$6,326,517
Robeson Community College		New Construction, Repairs, Renovations	\$7,296,568
Rockingham Community College		New Construction, Repairs, Renovations	\$6,848,392
Rowan-Cabarrus Community College		New Construction, Repairs, Renovations	\$7,211,552
Sampson Community College		New Construction, Repairs, Renovations	\$4,774,533
Sandhills Community College		New Construction, Repairs, Renovations	\$3,816,267
South Piedmont Community College		New Construction, Repairs, Renovations	\$3,189,221
Southeastern Community College		New Construction, Repairs, Renovations	\$6,861,620
Southwestern Community College		New Construction, Repairs, Renovations	\$7,170,597
Stanly Community College		New Construction, Repairs, Renovations	\$5,510,980
Surry Community College		New Construction, Repairs, Renovations	\$7,222,184
Tri-County Community College		New Construction, Repairs, Renovations	\$4,515,728
Vance-Granville Community College		New Construction, Repairs, Renovations	\$7,611,910
Wake Tech. Community College		New Construction, Repairs, Renovations	\$12,595,127

* Part of a \$45million UNC Board of Governors targeted capital renewal budget

Wayne Community College		New Construction, Repairs, Renovations	\$5,855,913
Western Piedmont Community College		New Construction, Repairs, Renovations	\$5,099,649
Wilkes Community College		New Construction, Repairs, Renovations	\$5,243,674
Wilson Community College		New Construction, Repairs, Renovations	\$6,938,426
Total for NC Community Colleges			\$350,000,000

Local Parks and Infrastructure

Dept of Environment and Natural Resources	Statewide	Children with Disabilities and Veterans with Disabilities Local Parks (<i>Matching Grants</i>)	\$3,000,000
Dept of Environmental Quality	Statewide	Water/Sewer Loans and Grants	\$309,500,000
Total for Local Parks and Infrastructure			\$312,500,000

National Guard and Public Safety

National Guard	Guilford/Burke/Wilkes	Readiness Centers	\$79,000,000
Dept of Public Safety	Moore	Samarcand Training Academy	\$8,500,000
Total for National Guard and Public Safety			\$87,500,000

Agriculture

NC State University	Wake	Plant Sciences Building (<i>NCDA&CS/NCSU partnership</i>)	\$85,000,000
Dept of Agriculture and Consumer Services	Wake	Veterinary/Food/Drug/Motor Fuels Lab	\$94,000,000
Total for Agriculture			\$179,000,000

State Parks and Attractions

State Parks	Cumberland	Carvers Creek	\$5,700,750
State Parks	Durham/ Orange	Eno River	\$2,830,500
State Parks	Washington/ Beaufort	Goose Creek	\$1,477,500
State Parks	Onslow	Hammocks Beach	\$1,125,000
State Parks	Dare	Jockeys Ridge	\$751,500
State Parks	Vance/ Warren	Kerr Lake State Recreation Area	\$3,750,000
State Parks	Burke/ McDowell	Lake James	\$3,021,000
State Parks	Iredell	Lake Norman	\$2,307,000
State Parks	Yancey	Mount Mitchell	\$600,000
State Parks	Various	Mountain-To-Sea/Other State Trails	\$4,500,000
State Parks	Surry/ Yadkin	Pilot Mountain	\$4,481,850
State Parks	Camden	Dismal Swamp	\$990,750
State Parks	Watauga	Elk Knob	\$900,000
State Parks	Durham/Wake	Falls Lake State Recreation Area	\$789,750
State Parks	New Hanover	Fort Fisher State Recreation Area	\$1,125,000
State Parks	Transylvania	Gorges	\$2,505,750
State Parks	Stokes	Hanging Rock	\$2,100,000
State Parks	Guilford/ Rockingham	Haw River	\$1,500,000
State Parks	Chatham/Wake	Jordan Lake State Recreation Area	\$3,000,000
State Parks	Columbus	Lake Waccamaw	\$1,506,000
State Parks	Scotland/Hoke/Robeson/ Columbus	Lumber River	\$2,628,750
State Parks	Rockingham	Mayo River	\$750,000
State Parks	Tyrell/Washington	Pettigrew	\$2,830,500
State Parks	Burke	South Mountain	\$2,250,000
State Parks	Alleghany/Wilkes	Stone Mountain	\$1,338,000
State Parks	Wake	William B. Umstead	\$1,725,000
State Parks	Avery	Yellow Mountain State Natural Area	\$2,250,000
State Parks	Watauga	Beech Creek Bog State Natural Area	\$600,000
State Parks	New Hanover	Carolina Beach	\$855,000
State Parks	Rutherford	Chimney Rock	\$1,500,000
State Parks	Wayne	Cliffs of the Neuse	\$692,400
State Parks	Gaston	Crowders Mountain	\$750,000
State Parks	Chatham	Deep River State Trail	\$1,281,000
State Parks	Carteret	Fort Macon	\$135,000
State Parks	Watauga	Grandfather Mountain	\$1,501,500
State Parks	Bladen	Jones Lake	\$651,750
State Parks	Chatham	Lower Haw River State Natural Area	\$203,250
State Parks	Halifax	Medoc Mountain	\$1,383,750
State Parks	Gates	Merchants Millpond	\$870,750
State Parks	Stanly	Morrow Mountain	\$1,537,500
State Parks	Ashe	Mount Jefferson State Natural Area	\$1,500,000
State Parks	Ashe	New River	\$675,000
State Parks	Harnett	Raven Rock	\$1,125,000
State Parks	Bladen	Singletary Lake	\$575,250
State Parks	Moore	Weymouth Woods State Natural Area	\$428,250
North Carolina Zoo	Randolph	Australasia Exhibit Complex/ Africa Pavilion/Related Projects	\$25,000,000
Total for State Parks and Attractions			\$100,000,000

GRAND TOTAL

\$2,000,000,000



What is the bond and what will it do?



The \$2 billion infrastructure bond will connect North Carolina to the 21st century through statewide investments in higher education, agriculture, state parks, National Guard and water and sewer infrastructure. It's been 15 years since the last general obligation bond was authorized to upgrade our state's infrastructure in 2000. Since then North Carolina has grown by more than 2 million people.

VOTE

MARCH 15, 2016



For Additional Information:

ConnectNCCommittee

ConnectNCComm

919-325-1014

Paid for by Connect NC Committee



An Investment In Education

**VOTE
MARCH 15,
2016**

NO NEW TAXES!

NORTH CAROLINA IS RAPIDLY ELIMINATING EXISTING DEBT. NO TAXES ARE NECESSARY TO COMPLETE THIS COMPREHENSIVE LIST OF CRITICAL IMPROVEMENTS.



Investing in Higher Education

\$1.25 billion will be invested in higher education. Nearly a billion dollars will be spent to improve seventeen public universities and colleges across North Carolina, specifically focused on science, technology, engineering, and math facilities, rather than new student centers or stadiums, to help NC workers compete for the jobs of the future.

The North Carolina Community College System will receive \$350 million for needed repairs and renovations at all 58 campuses across the state. These improvements will help meet the needs of training a twenty-first century workforce.



Investing in Agriculture

The bond makes one of the largest investments ever in agriculture, including \$179 million dollar investment that includes a new plant science research complex at NC State that will help North Carolina become a world leader in agriculture research and innovation. It also invests \$94 million for an Agriculture and Consumer Sciences Lab Building for veterinary, food, drug and motor fuel testing, advancing our state's food safety and security.



Investing in Water & Sewer

At the local level, there will be over \$309 million dedicated to modernizing water and sewer in small rural towns and larger cities across North Carolina to improve our quality of life and ensure economic competitiveness.



Investing in Security

The Army National Guard will receive \$79 million in funding to build regional facilities that will provide quicker response to state emergencies and improve readiness for future deployments.



Investing in State Parks & NC Zoo

Our state parks are one of the leading reasons people love to visit North Carolina. The bond provides \$75 million to build new facilities in state parks, develop new hiking trails and campgrounds, and provide funding to support environmental education.



INVEST IN OUR FUTURE | AN IMPORTANT CHOICE FOR NC.



Department of Environment,
Agriculture, Parks & Recreation

MEMORANDUM

To: Orange County Commission for the Environment
From: Rich Shaw, *DEAPR Land Conservation Manager*
Date: February 3, 2016
Subject: Hollow Rock Nature Park – Update

Construction of the Phase I of the Hollow Rock Nature Park (formerly Hollow Rock Access Area) is well underway and we are an opening to the public in Spring 2016.

Hollow Rock Nature Park is a 75-acre site comprised of multiple land parcels owned separately by Orange County, Durham County, and Town of Chapel Hill. The site straddles the Orange-Durham county line and New Hope Creek forms the western boundary. Portions of the site are protected with conservation easements held by the State of North Carolina.

Plans for a nature preserve styled park date back to the early 1990s when Orange County, Chapel Hill, Durham County and the City of Durham adopted the New Hope Creek Corridor Open Space Master Plan, which called for preservation of lands along the New Hope Creek corridor, from central Orange County to Jordan Lake. The master plan envisioned a public trail network with a number of “access areas” at strategic locations, including the “Hollow Rock Access Area” at the intersection of Erwin Road and Pickett Road. A master plan for the Hollow Rock site was adopted in 2010.

Orange County and Durham County, under an interlocal agreement signed in 2015, will jointly manage and operate the park. Durham County will oversee the area east of Pickett Road; Orange County will manage the portion west of Pickett Road.

The initial public amenities (Phase 1a) include a gravel 15-car parking area, overflow parking, natural surface trails, four pedestrian bridges, information kiosks, a park entrance sign, and a cleared area for the “old” Hollow Rock Store, which is planned to be relocated to this site by a non-profit organization working with the Friends of Hollow Rock Store. Funding for Phase 1 comes from the two counties and a \$200,000 grant from the NC Recreational Trails Program. Additional county funds are budgeted for Phase 1b, which will include a restroom, educational venues, and interpretive signage.

CFE members will be invited to an opening event in late-April or early-May.

Attachments

Exhibit B

Phasing Plan for Hollow Rock Nature Park

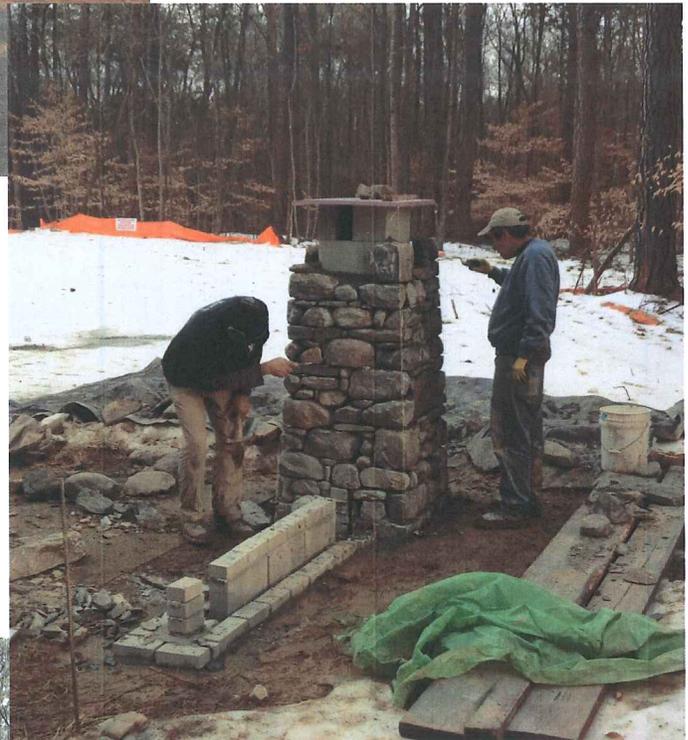
Phase 1a- Infrastructure, amenities, and site work already completed or allowable under RTP Grant.	
<ul style="list-style-type: none">• Additional Survey work - Cultural & Archaeological (Completed)• Land Acquisition (TLC Parcel in Orange County) (Completed)• Bridge Engineering Design Work for Pedestrian Bridges (4) (Completed)• Preliminary Design Work for Parking Lot (Site Plan, Engineering, Approvals, Topo Survey) (Completed)• Entrance Driveway and Parking(Gravel/HC Paved/Wheel Stops) (Underway)• Entrance and Directional Signage (Underway)• Pedestrian Bridges (4) for nature trails on east side of Pickett Road (Completed)• Information kiosks and trail maps (Completed)• Site clearing for future Hollow Rock Store (Completed)	
Phase 1b - Additional Amenities	
<ul style="list-style-type: none">• Site Amenities - Picnic Tables, Waste/Recycling Receptacles, and Dog Waste Receptacles• Interpretative Signage• Restroom (vault type) and engineering• Platform Overlooks for nature observation• Nature Trail Bridges (2) on west side of Pickett Road• Barn Renovation for Educational Use• Accessible trail loop	
Phase 2	(Timeframe TBD)
<ul style="list-style-type: none">• Additional Survey work - Cultural & Archaeological and/or Topographic• Hollow Rock Store relocation (by Friends of Hollow Rock Store)	
If Pickett Road were ever closed:	
<ul style="list-style-type: none">• Entrance Gates• Parking (Gravel/HC paved/Wheel Stops)• Top-dress gravel - Pickett Road• New Entrance Sign/Directional Signage	

Hollow Rock Nature Park — Under Development

Exhibit C



Parking area and turn around under construction



Stone mason's working on the entrance sign in the snow!



Bridge and Kiosk at trail head



Department of Environment,
Agriculture, Parks & Recreation

MEMORANDUM

To: Orange County Commission for the Environment
From: Rich Shaw, *DEAPR Land Conservation Manager*
Date: February 3, 2016
Subject: Seven Mile Creek Preserve

The Seven Mile Creek Preserve is a 306-acre area with multiple land parcels that Orange County acquired over many years—initially for a future water supply reservoir (1970s) and later for a nature preserve and low-impact recreation area.

The preserve is located southwest of Hillsborough, between Mt. Willing Road and Moorefields Road. Access to the preserve is by way of the driveway entrance to historic Moorefields located off Moorefields Road. The site is managed by DEAPR.

Preparations are underway for opening the eastern portion of the Seven Mile Creek Preserve for public use beginning in 2016. Initial site amenities will be a gravel parking area, pedestrian trail (1.5-mile loop, natural surface), benches, primitive group campsite (primitive, no water/toilet), and information kiosks. See attached map.

The Seven Mile Creek Preserve includes portions of two significant natural heritage areas (Crabtree Creek Monadnock Ridge and Sevenmile Creek Sugar Maple Bottom) and is recognized as an important wildlife corridor. The site will also feature a segment of the planned NC Mountains-to-Sea Trail.

CFE members will be invited to an opening event once that's been determined.

Attachment

DRAFT

Seven Mile Creek Loop Trail

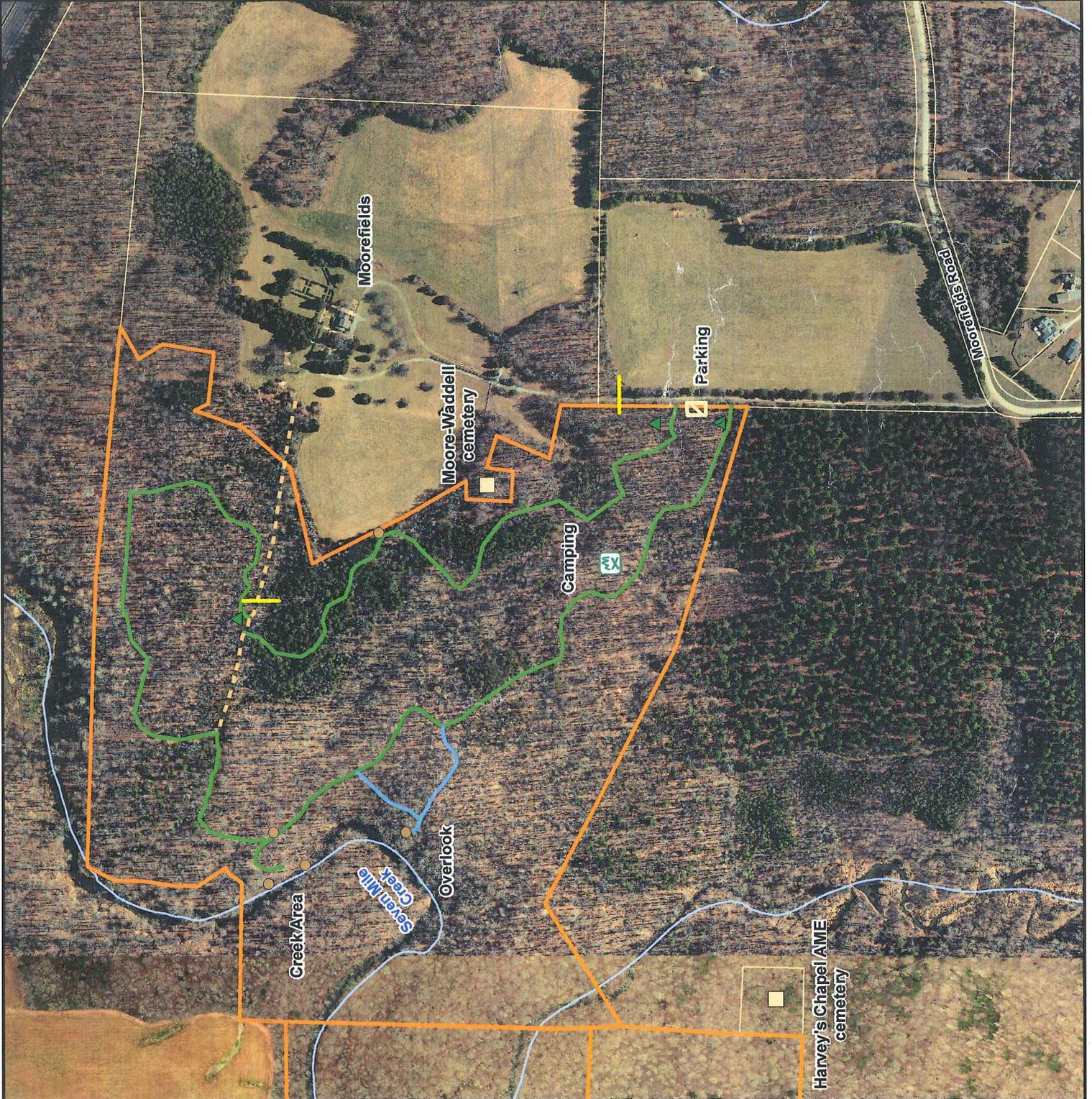
-  Seven Mile Creek Preserve
 -  Main Loop Trail (1.37 miles)
 -  Overlook Trail (0.13 mile)
 -  Service Road
 -  Bench (planned)
 -  Kiosk
 -  Gate (planned)
 -  Parcel boundary
- 2012 orthophoto



1 inch = 450 feet



Dept. of Environment, Agriculture, Parks & Recreation
Map prepared by IT-GIS Division
M Jones 11/25/2013 <OC220K\gis\home\gisproject
land_resource\SevenMile Crk\Preserve.mxd



CFE Committee Priorities

(as of February 2015)

Air and Energy Resources Committee

(May Becker, Tom Eisenhart, David Neal, Bill Newby, Gary Saunders, Jan Sassaman)

1. GHG Emissions Inventory - Update the County 2005 greenhouse gas emissions inventory. (First determine whether it will be feasible & worthwhile to perform a complete update.)
2. Green Building – Help County implement a rebate on permit fees for green construction.
3. Climate Change - Educate county residents about climate change, alternative energy sources and efficiency, and steps to reduce their (and the county's) carbon footprint.
4. Energy Efficiency - Partner with Piedmont Electric Membership Corp. to take advantage of USDA program for low-interest loans for energy efficient upgrades for its members/owners.
5. RENEW Group – Proceed with the creation of the planned Renewable Energy and Efficiency Work Group (utilizing the current CFE / Air & Energy Committee structure).

Water Resources Committee

(Peter Cada, Donna Lee Jones, Rebecca Ray, Sheila Thomas-Ambat)

1. Invasive Species – Educate the public about invasive species of concern, their extents/ locations, and what steps can be taken to address them.
2. Surface and Ground Water Quality - Increase the collection of data for surface and ground water quality; increase public education so it might lead to more funding for data collection.
3. Water Supply - Increase public education of our water supply, and what steps can be taken to improve/maintain quality and quantity of water supplies into the future.

Land Resources Committee

(Loren Hintz, Jeanette O'Connor, Lydia Wegman, David Welch)

1. Comprehensive Conservation Plan - Initiate development of a comprehensive conservation plan for Orange County, to be used by Lands Legacy program and others to protect natural areas and wildlife habitat. Consider ways to ensure conservation land is distributed equitably throughout the county so that everyone has reasonable access to enjoy these areas.
2. Native Plant Habitats - Renew collaboration with NC Botanical Garden and others to identify significant roadside habitat for native plants; then ask NCDOT and other utilities to eliminate the use of herbicides to manage vegetation in those special roadside habitats.
3. Native Landscaping - Educate the public (homeowners/businesses) on reasons to choosing a diversity of regionally native species for landscaping and other ways to promote biodiversity in the home landscape.
4. 2016 Bond Package - Advocate for including land conservation (i.e., support for Lands Legacy program) as part of the planned bond package for 2016; take the lead in educating the public about why protected space and natural areas are important for Orange County.



Orange County Commission for the Environment

2016

Department of Environment,
Agriculture, Parks & Recreation
306-A Revere Rd.
Hillsborough, NC 27278
Phone: 919-245-2510
www.orangecountync.gov/deapr/

**All meetings begin at 7:30 p.m.*

MEETING DATES

- January 11
- February 8
- March 14
- April 11
- May 9
- June 13
- *July – No Meeting*
- August 8
- September 12
- October 10
- November 14
- December 12

LOCATIONS

- Chapel Hill
- Hillsborough
- Chapel Hill
- Hillsborough
- Chapel Hill
- Hillsborough
- Chapel Hill
- Hillsborough*
- Chapel Hill
- Hillsborough
- Chapel Hill

MEETING LOCATIONS:

Chapel Hill: Solid Waste Mgmt. Admin. Building, 1207 Eubanks Rd., Chapel Hill, NC
Hillsborough: Richard Whitted Meeting Facilities, 300 W. Tryon St., Hillsborough, NC
* Sept. 12: West Campus Office Bldg. Rm 004, 131 W. Margaret Lane, Hillsborough

JANUARY

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DECEMBER

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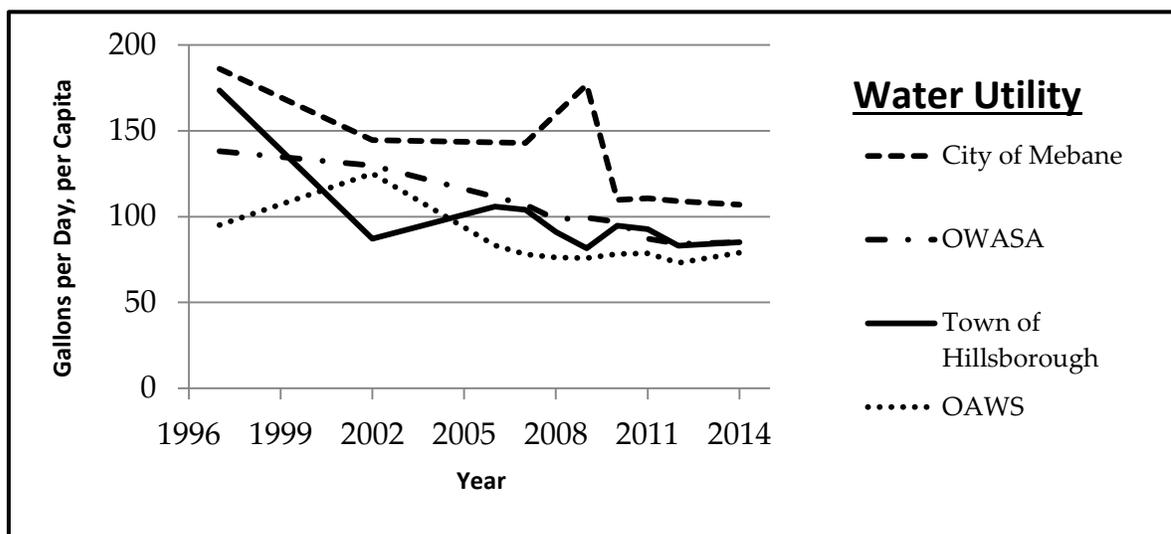
This is another in a series of articles by the Orange County Commission for the Environment (CFE). Each article highlights an environmental issue of interest to the residents of Orange County. The CFE is a volunteer advisory board to the Board of County Commissioners. Additional information can be found in the Orange County State of the Environment 2014 report at http://www.orangecountync.gov/departments/deapr/commission_for_the_environment.php

Water in Orange County—Is There Enough?

By Orange County Commission for the Environment

The word **water** can bring a variety of images to mind, but usually water is a news topic only when there is too little or too much. The myriad ways that water plays a role in our daily lives is not always obvious. One thing we can all agree on is that access to reliable sources of clean water is vital. Clean water is a resource that is renewable but can be limited in availability. Adequate supplies of clean water are necessary for public health, agricultural production, economic growth, and ecosystem health.

As Orange County's population grows, the number of people relying on municipal water supplies will increase as urban areas expand. Surface water (i.e., from rivers and reservoirs) is the primary source of water for our towns, whereas residents of rural areas of the county are completely dependent upon groundwater for their water supply.



The accompanying graph presents water data from the N.C. Division of Water Resources. This information illustrates the average amount of water used per person from 1997 to 2014, with usage reported in gallons per day per person (g/d/p) by the water utilities servicing areas within Orange County: Mebane, Hillsborough, OWASA (Orange Water and Sewer Authority), and OAWS (Orange-Alamance Water System). Usage is calculated by dividing the total average amount of water used daily by the number of people served by the utility. The numbers in the graphic include all residential, commercial, industrial, institutional, and system process uses, as well as unaccounted-for water losses due to leakage or unregistered water meters. These data may not have been verified for all of the years reported.

The graphic illustrates that the per capita demand for water in the areas of Orange County served by utilities has generally decreased markedly since the droughts of 2002 and 2007. Those droughts alerted local residents and other water users to the need for immediate and on-going water conservation. It is thought that this increased awareness led to the decline in the consumption of utility-supplied water that has occurred since 2002.

Outside of the public water service areas, rural residents depend on groundwater, rather than surface water, for their drinking water. Groundwater consumption is difficult to track because of a lack of groundwater usage information. It is expected that the ongoing growth in the number of water supply wells in the county mirrors growth in overall groundwater consumption. However, if the trend in decreasing per capita water consumption observed at local water utilities reflects a similar unmeasured trend amongst groundwater users, the net use of groundwater could also be decreasing. Conversely, the increasing number of residential consumers of groundwater could offset any decrease in per capita residential consumption, resulting in an increase in groundwater consumption. Unfortunately, analysis of trends or determining the amounts of groundwater used is not possible without local consumption data.

To support a healthy environment and sustainable growth, the water resources of Orange County, both surface water and groundwater, must be managed carefully such that these finite resources are not overtaxed or wasted.

What can be done to help manage Orange County's Water Resources?

- Get informed about local sources of water and the importance of conserving all water supplies.
- Perform a water audit of your water consumption and discover if there are easy steps you can take to reduce your use of potable water. Examples include fixing leaks, even minor leaks, taking shorter showers, installing a rain barrel or rain garden, planting drought tolerant plant species, and many others!
- Track local groundwater conditions through Orange Well Net (OWN), a network of groundwater observation wells used to monitor local groundwater conditions: <http://www.ncwater.org/?page=537&jmp=&countyname=&search=&tl=1&aquifer=&station=&net=orange&inactive=>

This is another in a series of articles by the Orange County Commission for the Environment (CFE). Each article highlights an environmental issue of interest to the residents of Orange County. The CFE is a volunteer advisory board to the Board of County Commissioners. Additional information can be found in the Orange County State of the Environment 2014 report at http://www.orangecountync.gov/departments/deapr/commission_for_the_environment.php

A Surge in Solar Energy Produced on Rooftops in Orange County

David Neal, Orange County Commission for the Environment

This past year, with the help of the *Solarize Orange* campaign, Orange County experienced a surge in the installation of rooftop solar photovoltaic (PV) systems. In 2015 the Solarize campaign helped 50 homes install rooftop systems that can generate a total of 298 kilowatts (kW) of electricity using sunlight. Each participant saved an average of \$1,500 through bulk-purchasing of solar panels and related equipment. In combination with the two previous Solarize campaigns, solar PV systems have been installed on a total of 135 homes in Orange County, with the capacity to produce 1 million kilowatt hours (kWh) of clean energy per year! This is the greenhouse gas equivalent of not burning 740,000 pounds of coal or the amount of carbon stored in 565 acres of forest.

Some of our neighbors were spurred to go solar by the anticipated expiration of the state's renewable energy tax credit, which our General Assembly let sunset at the end of 2015. For others, it was the dramatic decrease in the cost of solar panels and their installation. For some, an opportunity to reduce the amount of air pollution generated from the burning of fossil fuels, including coal, that supply much of our electricity was enough of a motivator. All three of these factors drove my family's participation in the Solarize Orange campaign.

Since we installed our system, we have not paid Duke Energy for a single kilowatt hour. During these short winter days, we will need to rely more on the electric grid for power, but our panels produce electricity every day, even when the sky is overcast.

Unfortunately, clouds of a different sort hang over the Solarize initiative. The expired state renewable income tax credit had made solar PV systems significantly more affordable, allowing homeowners to recoup up to 35% of their costs. Without it, solar is out of reach for many Orange County residents.

Those who balk at state or federal tax credits for renewable energy systems should remember that fossil fuels and nuclear power have received substantial subsidies for generations. In addition, the use of fossil fuels incurs social and health costs that we all bear in the form of increased rates of asthma and other respiratory illnesses, polluted surface waters, and altered landscapes. We should petition our state representatives to restore the state renewable tax credit and thank our congressional delegation for recently extending the federal tax credit through 2020.

In spite of the loss of the tax credits, between now and April 30th, two of the biggest Solarize campaign organizers in North Carolina, NextClimate and NCWARN, are joining together to “Solarize the Triangle.” Besides increasing solar installations, the Solarize campaign is working to lower the cost of solar through education and easing access to more affordable financing.

On a larger scale, the market for residential solar could be expanded by changing state policies that prevent third-party power purchase agreements. In these arrangements, solar energy companies install solar panels for little to no cost and then bill the homeowner for the energy these panels produce. In states where these agreements are allowed, they have been very successful at bringing solar to homeowners who otherwise might not be able to afford solar power.

A solar system is a great hedge against increases in electricity rates, and provides tangible savings to those who otherwise may spend much of their limited income on electricity. My family is thrilled to have been able to afford the upfront costs and participate in the Solarize Orange campaign. As a community, let’s find a way to make the benefits of solar available to all of our neighbors.



Department of Environment,
Agriculture, Parks & Recreation

Memorandum

To: David Stancil, DEAPR Director
From: Tom Davis, Water Resources Coordinator
Date: December 21, 2015
RE: Eno River Hydrilla Management Funding

As you are aware, the Eno River Hydrilla Management Task Force has been working since 2007 to address the infestation of the Eno River with *Hydrilla verticillata* (hydrilla), a highly invasive submerged aquatic weed native to Asia. Hydrilla is considered to be the biggest threat to the natural resources of Eno River State Park. In Orange County, hydrilla is known to infest the Eno River, Sevenmile Creek, Lake Orange, Compton's Pond, Lake Arrowhead, and the West Fork Eno Reservoir.

In June 2014, the Task Force initiated a two-year pilot study to evaluate the use of an EPA-approved herbicide (Fluridone) to manage hydrilla within a section of the Eno River. The results of the first year of the study are very encouraging. The low concentration of Fluridone that was added to the Eno just east of Hillsborough was highly effective at managing the growth of hydrilla during the 2015 growing season throughout the treatment zone extending to Roxboro Road in Durham.

The Task Force has been greatly aided by the staff and resources of the North Carolina Division of Water Resources Aquatic Weed Control Program (AWCP). At the time the pilot study was organized, AWCP was expected to provide half of the estimated \$150,000 total cost of the two-year pilot study, and seven other partners anticipated providing the other half of the funds. Orange County's expected share was \$10,716. Unfortunately, the governing legislation for the AWCP was altered by the NC General Assembly in 2014 (see attached) and the fiscal and operational support of the AWCP for this important project is no longer available. **At this time, further efforts to manage hydrilla in the Eno River are on hold. Since the 2016 growing season for hydrilla will begin in approximately five months (May 2016), arranging for the appropriate management and funding for the project appears highly doubtful.**

Please let me know if I can provide any further information on this topic.

Attachment: Nov. 30, 2015 letter from Tom Fransen, DWR Water Planning Section Chief

cc: Rich Shaw



PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

S. JAY ZIMMERMAN

Director

November 30, 2015

Mr. Tom Davis, Water Resources Coordinator
Orange County
306A Revere Rd.
Hillsborough, NC 27278

Re: Future State Funding for Aquatic Weed Control Projects

Dear Mr. Tom Davis;

As a unit of local government currently receiving financial assistance for aquatic weed management through our cooperative funding program, this letter is intended as notification of a change in the funding process for the Aquatic Weed Control Program (AWCP). Under G.S.143-215.73F [Shallow Draft Navigation Channel Dredging and Lake Maintenance Fund] –Uses of Fund.; states the following:

“(2) For aquatic weed control projects in waters of the State **located within lakes** under Article 15 of Chapter 113A of the General Statutes. Funding for aquatic weed control projects is limited to five hundred thousand dollars (\$500,000) in each fiscal year.”

The above referenced statute limits the North Carolina Department of Environmental Quality – Division of Water Resources’ (DEQ-DWR) AWCP to only provide technical assistance and funding of projects that are located within lakes. In the past, the AWCP funding was provided through the Water Resources Development Projects with no limitations on aquatic weed control projects in the states surface waters. This change in the use of funds for the AWCP may affect one or more of your projects, for which the DWR has previously provided technical and financial assistance. We understand this operational change may result in management issues with existing aquatic weed infestations within your jurisdiction that previously qualified for technical and financial assistance. At this time, only projects located within lakes will be eligible for the technical and financial assistance.

Thank you very much for your attention to this important matter. Please contact Linwood Peele at linwood.peele@ncdenr.gov or (919)707-9024, or Tom Fransen at tom.fransen@ncdenr.gov or (919) 707-9015, if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Fransen'.

Tom Fransen, Water Planning Section Chief
Division of Water Resources

**N.C. Division of Water Resources and Division of Energy, Mineral and Land Resources
Q&A for SL 2015-246 Section 13**

Q1. Does this Section apply to local water supply watershed protection programs? How about NPDES Phase I/Phase II programs?

A1. The Division of Water Resources and the Division of Energy, Mineral and Land Resources (Divisions) interpret the session law such that it applies to those local governments who are administering riparian buffer programs under authority delegated to them in accordance with G.S. 143-214.23 (Neuse, Tar-Pamlico, Catawba, Goose Creek) or who are required to administer riparian buffer programs in accordance with Title 15A NCAC 02B .0267 (Jordan Lake) or .0250 (Randleman Lake). The Divisions do not interpret the session law such that it applies to local water supply watershed protection programs or NPDES Phase I/Phase II programs. As such, the Divisions will not be requesting that local governments submit their watershed ordinances or NPDES Phase I/II stormwater ordinances for review and approval as a result of this session law.

Q2. Does this Section apply to other local ordinances that are not local water supply protection programs, NPDES Phase I/Phase II programs, or riparian buffer programs under authority delegated in G.S. 143-214.23 or in accordance with Title 15A NCAC 02B .0267 or .0250?

A2. The Divisions recommend that you confer with your local counsel as to whether this statute applies.

Q3. Can local governments in the Jordan Lake watershed continue to enforce the 100-foot vegetated buffer on high-density projects as required by the Water Supply Watershed rules?

A3. The Divisions interpret the session law such that local governments who are administering the Jordan Lake buffer requirement must continue to implement the 50-foot Jordan Lake buffer, but may not continue to enforce a 100-foot vegetated buffer within the Jordan Lake watershed if that 100-foot buffer requirement is adopted solely to comply with the Water Supply rules, and not as a requirement of another program, permit, certificate, or other approval. Local governments may qualify for an exception under the other items of this Section. Local governments must continue to enforce the minimum 100-foot vegetated buffer for high density projects in Water Supply watersheds outside of the Jordan Lake watershed (including Randleman).

Q4. Does the requirement in G.S. 143-214.23A (f) to show riparian buffer areas on the recorded plat apply to new plats (i.e. when new plats are recorded they have to show the buffer) or does it also apply to existing plats (i.e. local governments must go back and re-record existing plats to show the buffer)?

A4. The requirement only applies prospectively, meaning that when new plats are recorded they must show the riparian buffer area.

Nations Strike Deal to Curb Carbon Emissions

The first pact to commit all countries to cut carbon emissions—the [Paris Agreement](#)—was signed by 195 countries in LeBourget, France, on Saturday. Some aspects of the agreement, which will go into effect in 2020, will be legally binding, such as submission of emissions reduction targets and regular review of progress toward them. However, the targets themselves will not be binding.

The agreement contains these [key points](#):

- To keep global temperatures “well below” 2 degrees Celsius (3.6 Fahrenheit) compared to pre-industrial levels through the year 2100 and to “endeavour to limit” them to 1.5 degrees Celsius
- To balance carbon source and carbon sinks in the second half of this century
- To review each country’s emissions reduction contribution every five years so that it can be scaled up
- For rich countries to help poor countries by providing “climate finance” to adapt to climate change.

Previous United Nations talks had called on developed economies but not developing ones to mitigate greenhouse gas emissions. The new accord, in the works for nine years, requires action in some form from every country, rich or poor. But it imposes no sanctions on countries that fail to reduce and eventually eliminate greenhouse gas pollution.

In a televised statement, President Barack Obama praised world leaders for agreeing on a deal that “offers the best chance to save the one planet we have,” while conceding that “no agreement is perfect, including this one.”

Critics say the pact is vague and aspirational and does not do enough to avert serious damage. It lacks a timescale for phasing out fossil fuels, and critics describe the language on monitoring and verifying emissions reductions as weak.

Nevertheless, the agreement was hailed by many world leaders.

“When historians look back on this day, they will say that global cooperation to secure a future safe from climate change took a dramatic new turn here in Paris,” said United Nations Secretary-General Ban Ki-moon, who added that “markets now have the clear signal to unleash the full force of human ingenuity.”

The agreement won't enter into force until 55 countries representing 55 percent of the world’s emissions have ratified it.

Deal Details: Finance and Temperature

Some of the biggest crunch issues in the lead up to the climate agreement in Paris were money and temperature goals. So what does the deal say about these issues?

Finance: According to an agreement made at the talks in Copenhagen in 2009, developed countries will aid developing countries with \$100 billion a year in climate finance by 2020 to aid in the transition to sustainable forms of energy. It’s an agreement they opted to continue through 2025. Prior to 2025, a new

goal will be adopted—exactly when or who is responsible for meeting it is unclear. The fund, so far, isn't quite up to that \$100 billion goal. There is no legally binding language about it.

Temperature: To keep temperatures below 2 degrees Celsius, the agreement calls for parties to “reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century.” According to *The New York Times*, the passage implies that at least some fossil fuels can continue to burn, as long as the greenhouse gas emissions are absorbed by a larger number of “greenhouse sinks,” like new forests.

One environmental organization has already suggested that if commitments pledged before and during the talks in Paris are met, a critical mass of countries could reach emissions peaks by 2030.

Arctic Temperatures Reach Record High

The National Oceanic and Atmospheric Administration (NOAA) released its [Arctic Report Card](#), which finds that the average annual air temperature over land in the region was 2.3 degrees Fahrenheit above the long-term average (between October 2014 and September 2015). That's the highest since modern records began in 1900, [reports Fortune](#).

“Warming is happening more than twice as fast in the Arctic than anywhere else in the world,” said NOAA Chief Scientist Richard Spinrad. “We know this is due to climate change.

This warmer air, the report suggests, is affecting sea temperatures and melting ice—expanding oceans and causing sea-level rise. Just how bad is it? In the 80s, about 20 percent of the sea ice in the region was old and about 45 percent had formed that year. By contrast, in 2015, about 70 percent had formed in the previous year; only about three percent was considered “old” ice.

“The conclusion that comes to my mind is these report cards are trailing indicators of what's happening in the Arctic,” Spinrad said. “They can turn out to be leading indicators for the rest of the globe.”

Jim Overland, a NOAA oceanographer and one of the more than 70 co-authors of the report, suggested that even the newly inked Paris deal may not be enough—at least in the short term—to turn things around.

“Unfortunately, we passed some critical points on that,” Overland said. “If the globe goes to a 2-degree warming, we're looking at a 4- or 5-degree warming for the winter in the Arctic by 2040, 2050. That's based upon the CO₂ that we've already put into the atmosphere and will be putting for the next 20 years.”

The Climate Post offers a rundown of the week in climate and energy news. It is produced each Thursday by [Duke University's Nicholas Institute for Environmental Policy Solutions](#) and cross-posted on the [Huffington Post](#) and [National Geographic NewsWatch](#).

CLIMATE:**2015 smashed records, but 2016 will be hotter still -- scientists**

Emily Yehle, E&E reporter

Published: Wednesday, January 20, 2016

Last year was the world's warmest year ever recorded, beating out 2014 in average temperatures over land and ocean surfaces, according to both NASA and the National Oceanic and Atmospheric Administration.

Federal scientists announced the news this morning, marking the second year in a row that broke temperature records stretching back to 1880. It was widely expected and in line with NOAA's announcement earlier this month that 2015 was the second-warmest year for the United States ([Greenwire](#), Jan. 7).

A strong El Niño pushed temperatures particularly high at the tail end of the year, contributing to an unprecedentedly warm December. But on a call with reporters today, NOAA and NASA scientists emphasized that 2015 would have broken records even without the "El Niño assist."

"Even without El Niño, this would have been the warmest year on record. We're really looking at a long-term trend," said Gavin Schmidt, director of NASA's Goddard Institute for Space Studies. "This is really just a symptom of this long-term trend."

The year was significantly warmer than 2014, the previous record holder, with the average temperature across global land and ocean surfaces 1.63 degrees Fahrenheit above the 20th-century average. In 2014, that number was 1.24 F.

December broke its own records, reaching 2 F above the 20th-century average. That's the first time in 137 years any month has departed so far from the average. The bottom line: Both NOAA and NASA are "virtually certain" that the world experienced its hottest year in 2015.

Schmidt and Tom Karl, director of NOAA's National Centers for Environmental Information, also predicted that 2016 would be even hotter. "I think probably both Gavin and I would say the odds favor 2016," Karl said. "If you were going to be betting, you would bet that it would be warmer than 2015."

2015 also marked the first time the temperature was 1 degree Celsius above the 19th-century average (based on measurements from 1880 to 1900). That is a significant milestone at a time when world leaders aim to limit global temperatures to 2 C above preindustrial levels, as outlined in the recent Paris accord.

Since 1970, the world has warmed by about 0.15 C a decade, according to both NOAA and NASA data. The world is already seeing the impacts of global warming, and those impacts are just going to get clearer, Schmidt said.

"There has to be a sustained discourse and monitoring of the situation from everybody for this problem to get under control," Schmidt said. "It's really something that depends on the long-term trends and our long-term ability to maintain focus on this issue."



Spread the Word: Solarize is Back!

To ring in the new year, we have just launched our biggest Solarize program ever.

If you own a home or business *anywhere in the Triangle*, you can [sign up now](#) for a free solar assessment.



Find out how you can start saving money on your electric bill, help advance the clean energy revolution and get a 30% tax credit from Uncle Sam.

Solarize the Triangle is brought to you by the state's two top sponsors of Solarize programs: [NC WARN](#) and [NextClimate](#). Over the last two years, the two organizations have helped 312 homes and businesses go solar. That's more than 1.5 megawatts of clean solar energy. To get that much power, you'd have to burn nearly 900 tons of coal *every year*.



Solarize helps homeowners go solar more cheaply and easily. We pre-screen the installers and negotiate a discounted price with them. This year's Solarize pricing is around 14% lower than last year's.

The price drops more as more people go solar through Solarize. We rely on neighbor-to-neighbor marketing, so **please forward this email to your friends and neighbors.**

You can [sign up](#) for **Solarize the Triangle** from now through April 30, but if you do it today, you can start saving sooner. The assessment is free and there is no obligation or pressure to buy.

Learn lots more at solarize-nc.org or join us for one of our [free public information sessions](#), including **Saturday, January 23** at 10 a.m. at the Chapel Hill Public Library.

Do you belong to a faith community or other organization that would like to be a **Solarize Partner** and help us spread the word to your members? [Read more here](#). For every 30 contracts that are signed during the program, we will donate a solar system to a low-income household or a nonprofit that serves low-income people. The partners will help us choose the recipients.

Questions? Call 919-416-5077 or email info@solarize-nc.org.

Solarize the Triangle,

a project of [NC WARN](#) and [NextClimate](#)

solarize-nc.org

info@solarize-nc.org

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Senator: Solar panels 'ruin' fields

News and Observer Jan. 16, 2016

Sen. Bill Cook says, 'Once farmland is converted to use for solar farms, it's not coming back'

Solar energy experts say that concern is overblown

Solar farms occupy about 0.036 percent of the state's 8.4 million acres of agricultural land

BY COLIN CAMPBELL
AND BENJAMIN BROWN
ccampbell@newsobserver.com
bbrown@ncinsider.com

N.C. Sen. Bill Cook, a Beaufort County Republican, says the state needs to tackle the growth of solar farms on agricultural fields because the land that's used is "pretty well ruined" for future farming.

The topic surfaced Thursday during a legislative committee meeting on agriculture. A representative from the N.C.

Department of Agriculture said population growth and other factors are causing a loss of acreage for agriculture.

"Anything that affects the loss of farmland, which is the main resource in doing what we do," needs attention, legislative liaison Joy Hicks said. She mentioned residential development and said the department also fields questions about solar installations.

Cook agreed and kept the spotlight on solar.

"I'm real happy to hear

that you guys are concerned about the use of farmland for solar farms and such," Cook said. "I recently read an article about it, and it sounds like once farmland is converted to use for solar farms, it's not coming back, and eventually that land is pretty well ruined for any kind of farming."

Experts on solar energy say Cook's concerns are largely unfounded. Steve Kalland, executive director of the N.C. Clean Energy Technology Center at N.C. State, said the long-term impact of solar panels on farmland is small and manageable.

He listed several minor potential effects: Gravel roads to install and maintain the panels could lead to some soil compacting. Herbicides are often used to keep plants from grow-



Cook

ing over the panels, but similar herbicides are used in crop production.

And zinc from steel

supports could leach into the soil, but that would cause problems only for peanut production.

"There's a lot of red herrings being thrown out there by opponents of green energy around these land-use issues," Kalland said. "Those issues are really, really overblown and not significant."

Solar opponents have pointed to an article that N.C. State University professor Ron Heiniger wrote late last year. It described grasses, weeds and shrubs growing like nuisances around solar

installations, with panels capturing about 20 percent of the light and the rest feeding the unwanted growth.

Heiniger said efforts to fight the vegetation, with persistent mowing and use of herbicides and other materials, would hurt the land.

Recent calculations show solar installations have made almost no impact on the farmland portfolio overall. According to the N.C. Sustainable Energy Association, solar farms occupy about 3,300 acres, or 0.036 percent, of the roughly 8.4 million acres of agricultural land in North Carolina.

"The vast majority of solar installations are not on farmland, or they are on farmland that has gone fallow," said Dan Whitten, a spokesman for the Solar Energy Industries Association. "To the extent that solar panels are located on farms, they are bringing revenue to farmers that they would not otherwise have and keeping family farms in the family."

Sen. Brent Jackson, a Sampson County Repub-

SEE SOLAR, 15A

FROM PAGE 2A

SOLAR

lican who is a farmer and chairs several agricultural committees, said he agrees with Cook that solar farms are a concern.

But "it's a smaller issue in my opinion compared to houses," he said.

Thursday's discussion at the legislature wasn't the first time solar farms have prompted concerns in

North Carolina. Last month, the tiny Northampton County town of Woodland passed a moratorium on new solar farms. Leaders there said they didn't want solar installations surrounding the town on all sides.

But Woodland got international notoriety after several residents'

comments went viral online. One warned that solar panels would suck up energy from the sun, while another noted that the area had seen an increase in cancer deaths.

None of those issues were raised at Thursday's meetings. But Wood Farless, a Bertie County farmer appointed to the panel by Gov. Pat McCrory, voiced a concern specific to Eastern North Carolina.

"If a hurricane comes in and wipes out one of the solar farms, it's categorized as a hazardous waste," Farless said. "It's cost prohibitive to clean that up."

Colin Campbell:
919-829-4698,
@RaleighReporter

The Conservative Case for Solar Subsidies

By BEN HO

January 5, 2016

To many skeptics, particularly on the right, the spectacular failure of the solar-panel manufacturer Solyndra in 2011, after receiving a \$535 million loan guarantee from the Department of Energy, demonstrated the industry's shaky future and the danger of government efforts to subsidize it to success.

Fast forward to today. Solar energy prices have continued to fall rapidly, twice as many Americans work in the solar industry as in coal mining, and last year one-third of new electricity generation came from solar power.

Solar, long viewed through the lens of crony capitalism, has shown the ability to inject real market competition in energy distribution, one of the last monopolies in the energy sector, while improving the efficiency of the grid and putting more dollars in the pockets of middle-class Americans. Conservatives, in other words, need to take another look at solar.

The case for solar isn't limited to prices and jobs. Consumers want choice. Unfortunately, in most markets around the country, electricity is still one of the few areas where we have virtually no choice over our supplier. Imagine you want to buy a G.M. car, but you were told you can buy only a Toyota. You'd be outraged — yet this is how almost all Americans are forced to procure their electricity.

Solar also solves an efficiency challenge. Right now, demand peaks during the daytime, far exceeding the supply of baseload power. To meet demand, we have invested in a great deal of spare capacity. Most of this capacity comes from coal and natural gas plants that run only for a fraction of the day. According to the Energy Information Administration, outside of peak hours, most natural gas-fired power plants in America used only 5 percent of their total capacity in 2012.

Again, to borrow an automotive analogy, you wouldn't buy a new car just for those few days you had extra errands. Instead, you'd call an Uber or rent a Zipcar. That's the same role rooftop solar panels can play for our energy challenges — instead of building another huge plant for a few peak hours, we can build just as much solar capacity as we need.

Critics of solar have often said that it produces only “when the sun is shining,” and that is true. Fortunately, we need energy most during the daytime — making rooftop solar a smart choice for consumers while adding energy to the grid when we need it most.

And while challenges of storage and metering policies remain, both technology and regulatory models have made significant strides. States like California are considering metering policies that incentivize solar consumers to reduce their demand at peak hours and enable them to sell energy back into the grid when the grid needs it most. Technologies like Google's Nest “smart” thermostat and Tesla's home battery are making it easier for consumers to monitor their energy consumption and better store renewable energy when the sun isn't shining.

Of course, conservatives will respond that their core objection remains: Solar functions only because of government subsidies. But there are a couple of issues to consider.

For one thing, not all subsidies are created equal, and the government actually has a good track record in promoting new energy technologies. New developments often face two market gaps that can potentially delay or even kill them: the “technological valley of death,” in which promising advances hit a technical brick wall, and the “commercialization valley of death,” in which an effective technology can’t get to market. Government research labs and subsidies have supported a number of forms of energy — from nuclear energy, to hydraulic fracturing, to photovoltaic solar — through these troughs.

And there’s nothing unique about the government’s support for solar. According to the Congressional Research Service, total government support for the oil and gas sector over the years dwarfs the amount of support for the solar industry.

Furthermore, the solar investment tax credit is pretty smart. It’s structured so that as solar power becomes more efficient, the effect of the credit on each watt produced becomes smaller. Ideally, we would let markets decide the winners on their own, but so long as government is intervening in markets, it should do so in an evenhanded way. Similarly, any government support for the solar industry should be impartial, rather than having government bureaucracy pick and choose favored companies as it does through its loan guarantee program. The solar investment tax credit comes close to that ideal.

And there’s nothing in free-market economic theory that precludes government support. Markets tend to underproduce what economists call positive externalities — that is, the broad social benefits, like a cleaner environment, that aren’t captured on a company’s balance sheet.

Solar panels, and the companies that make them, are replete with such benefits: They eliminate redundant power plants that otherwise lie idle, empower consumer choice and have fewer negative consequences than most other forms of energy. But markets don’t always reflect these, which is why it makes sense for subsidies to enter the picture.

The kerfuffle over the Solyndra collapse aside, many conservatives already agree, and have for years. When I was at the Council of Economic Advisers under President George W. Bush, we believed that an across-the-board energy policy was by far the best approach — and that included solar. From both a market and an environmental point of view, supporting the solar industry should make sense, no matter which side of the aisle you come from.

Ben Ho is an economics professor at Vassar and Columbia. He served as the lead energy economist for the White House Council of Economic Advisers from 2006 to 2007.



Brumley Forest Nature Preserve trail building work day

TORC is excited to have its first trail building work day with Triangle Land Conservancy at their Brumley Forest Nature Preserve! Saturday, February 20, 2016 8:30 AM

Last year, TORC signed an MOU with TLC to partner with them in helping build and maintain the multi-use trail at Brumley Forest.

TLC is planning to open this property to the public in the Fall of 2016.

The master plan calls for 12 miles of multi-use trail and 4 miles of hiking only trail.

<https://www.triangleland.org/explore/nature-preserves/brumley-forest-nature-preserve>

Please be sure to register on the TLC link provided below:

"On this workday, volunteers will help prepare Brumley Forest Nature Preserve for its Fall 2016 public opening. Tasks may include building trails, constructing railing on boardwalks, demolishing an old dock, removing invasive species, etc.

Volunteers should be six years of age or older and minors must be accompanied by an adult or guardian. Please register so we have an approximate head count:

[https://www.triangleland.org/news-and-events/event/trail-crew"](https://www.triangleland.org/news-and-events/event/trail-crew)

TORC and TLC will provide all tools. Depending on how dry the soil is as we approach the 20th will depend on whether we are hand building or using a machine. TLC has contracted with Native Trails from two grants.

Make sure you dress warmly for the cold weather, wear protective shoes or boots, bring gloves and plenty of water.

We will meet at the Orange County Durham Tech campus at 8:30 am and at 8:45 we will drive over to the property.