

**LAND USE PLAN STEERING COMMITTEE  
MEETING #3**

**MARCH 6, 2014; 5:30 PM  
ABERDEEN RECREATION STATION**

**The meeting space will be set up in round tables. Please seat six to a table. We will be working with monopoly houses and hotels, maps, markers and sticky notes. Our objective by the end of the meeting will be to project the potential placement of 650 additional housing units in Aberdeen, its ETJ, and nearby lands.**

- 1. Call to Order - Planning Board Chairman Johnny Ransdell**
- 2. Welcome and Direction – Planning Director Pam Graham**
- 3. Presentation of the Green Growth Tool Box by N.C. Wildlife Commission Staff**
- 4. Discussion of the Impact of the Military on the Town and the Town on Nearby Bases**
- 5. Charette Mapping Exercise – Guided by Kathy Liles and Staff**
- 6. Brief Discussion of Table Results**
- 7. Adjourn no Later than 7:30 PM – Chairman Ransdell**

## **Description of Task:**

The purpose of this task is to develop accessible information about adjacent military facilities for development of the 2040 Town of Aberdeen Land Use Plan using existing plans and data sources where available.

- ***Identify a list of relevant base plans and documents.***

Major Plans and Studies sponsored or endorsed by Fort Bragg include:

- (1) *Practical Guide for Compatible Civilian Development Near Military Installations.* July 2005
- (2) *Fort Bragg/Pope Air Force Base Joint Land Use Study Update.* March 2008
- (3) *Fort Bragg Real Property Master Plan – Long Range Component.* November 2008
- (4) *Ten Years of Sustainability - Fort Bragg.* April 2011
- (5) *Sustainable Growth Management Strategy, Fort Bragg Region, Final Report.* January 2014

Copies of these documents will be provided to Kathy Liles. Documents (2) and (3) are available online via the [Regional Land Use Advisory Commission website](#); Document (4) can be downloaded [here](#).

- ***Determine goals, objectives and policies relevant to the Town of Aberdeen.***

The Fort Bragg Real Property Master Plan – Long Range Component (LRC) contains several goals that respond to the installation's mission requirements. Viewed collectively, the goals seek to integrate administration, policy, funding, and development toward long-term sustainment of the installation. Among goals for the installation's mission, facilities, utilities and transportation, and environmental quality are included 'off-post' goals, acknowledging Fort Bragg's location in a high-growth region. These goals emphasize:

- Maintaining a 'good neighbor relationship' with the surrounding community
- Striving for compatibility of land uses adjoining or adjacent to the installation boundary
- Establishing relationships with land use planners in the surrounding jurisdictions and at the regional and state level
- Staying abreast of the off-post environmental impacts of activities and conditions within the installation

Communities located near military installations must inform them of changes affecting planning and development. The State of NC requires all municipalities within 5 miles of a military installation to notify the Commander of the installation for all rezoning requests, land use plan amendments, applications for telecommunications or wind towers, applications for new major subdivisions, and changes to existing subdivisions that increase their size more than 50% (NC Session Law 2013-59). Fort Bragg currently contracts with Regional Land Use Advisory Commission (RLUAC) for the review of required municipal notifications.

The Town of Aberdeen may wish to consider a proactive approach to this requirement, more in keeping with Fort Bragg's off-post goals, in order to build an effective relationship with the installation. For example, the Town could invite a Fort Bragg representative to participate on the local development review staff team as a way to integrate the military missions with the Town's planning and development review processes. Or, Aberdeen could invite a representative to serve as an ex officio member of the Planning Board.

- ***Consider mapping sources that may be appropriate to join to the Town of Aberdeen GIS data base for analysis.***

The Regional Land Use Advisory Commission maintains a map viewer/database at:  
[http://accessnc.commerce.state.nc.us/sandhills\\_gis/index.jsp](http://accessnc.commerce.state.nc.us/sandhills_gis/index.jsp)

- ***Prepare a list of compatible uses for the 5 mile zone.***

The Town of Aberdeen's extraterritorial jurisdiction (ETJ) barely touches Fort Bragg's boundary at the extreme westernmost tip of installation property (see JLUS Map). However, the areas nearest to Aberdeen contain vital military training uses, including a Joint Special Operations Command training area and parachute training drop zone.

What is considered 'Compatible development'? In general the Department of Defense recommends that noise-sensitive uses (e.g., houses, churches, amphitheatres, etc.) be placed outside the high noise zones, that people intensive uses (e.g., regional shopping malls, theaters, etc.) not be placed in accident-potential zones (APZs) and that sound attenuating methods be incorporated into building design and construction. The DOD recommendations are intended to serve only as guidelines. Local governments alone are responsible for regulating land use.

Fort Bragg, like all military installations, airfields, and test and training ranges, generate noise and present the potential for accidents to occur. Development that clusters too closely to an active military installation can create anxiety for new residents who may have been unaware of the presence of the installation, its missions, or operational profile at time of home purchase.<sup>1</sup>

Whether a development is considered 'incompatible' in relationship to Fort Bragg would depend on the location and size of the military training or testing range, the type and volume of activity, and the nuisances that can be generated. For example, for the Town of Aberdeen, with its proximity to a drop zone and the McPherson live-fire training area, the compatibility issues relative to ground based military

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<sup>1</sup> The North Carolina Residential Property and Owners Association Disclosure Statement contains 37 'check-off' statements which owners must disclose for the sale of a property. Statement #26 reads: "Is there any noise, odor, smoke, etc. from commercial, industrial, or military sources which affects the property?" (See <http://www.ncrec.gov/Forms/Consumer/rec422.pdf> .)

operations include ordnance testing, training, practice firing, and proficiency qualifications. Noise, smoke, dust, and vibrations may be some of the effects observed by Town residents and others living near the Fort Bragg boundary.

Town of Aberdeen is not overly constrained by the need to prevent incompatible land uses with the 5-mile JLUS area. In other words, nearly 100% of the Town's current jurisdiction, excepting any areas identified as 'Critical' or 'Important to Preserve' from the 2008 JLUS, would be deemed 'suitable for development' from the JLUS perspective<sup>2</sup>. However, as the Town considers growth and development in its extraterritorial jurisdiction nearest the Fort Bragg boundary, it can direct higher revenue-producing land use activities, such as lower employment density industrial and commercial uses, into that area. These uses would be preferable to population-sensitive land use activities such as homes, schools, community centers, libraries, hospitals, day care, long-term senior housing, and buildings housing religious services. Tall structures that encroach into low-level aircraft flight routes may be inconsistent the Federal Aviation Administration regulations as well as incompatible with tactical flight routes near the installation.

- ***Locate an electronic file for the GIS layer for the 5 mile zone.***

A zipped Shapefile of the parcels located within the 5-mile JLUS 2008 buffer-area has been provided. Parcels can be identified as to their current level of protection (field name: PROTECT) and their designation per the JLUS 2008 update; i.e., Critical or Important to Preserve (field name: NEEDPROT). Land Uses classified as LDD (Low Density Development) in the JLUS 2008 report are not listed specifically, but can be sorted as all parcels where ACRES\_SH > 10 and NEEDPROT = "none".

- ***Provide a summary of impact from the first base realignment.***

During 2007-2008, The Fort Bragg Regional Alliance led a consortium of counties, municipalities, government agencies, and non-profit organizations in the development of a *Comprehensive Regional Growth Plan* (CRGP), which assessed regional conditions and recommended actions necessary to prepare the region for growth and change as a result of expansion at the Installation.

The CRGP projected a total of 38,079 additional residents moving to the 11-county Fort Bragg Region by the close of 2013<sup>3</sup>. This total reflected only BRAC-related growth, which was projected above 'natural' or baseline population growth. Moore County's projected share of this growth was 10.8%, or 4,128 new residents. At the completion of the expansion at Fort Bragg and Pope Air Force Base in 2013, the total population in Moore County was expected to increase to 96,200, which included the military-related increase of 4,128.

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<sup>2</sup> Criteria for Land Conservation Classifications are provided in Table 6.1 (p. 52) from the Fort Bragg/Pope Air Force Base Joint Land Use Study 2008 Update.

<sup>3</sup> A grand total of 40,815 was projected; however, 2,736 new residents were expected to live in military housing.

The CRGP Projections fell short of actual growth. Moore County's population at July 2012 was 90,414. The 11-county FB Region was expected to grow to 1.04 million by 2013. Actual population was estimated at 996,296<sup>4</sup>.

Although the growth projections of the CRGP were not realized, the 2005 BRAC mandates were a positive driver for economic development in Moore County. While all counties in the region were affected by the Great Recession, military growth provided a buffer for those counties adjoining Fort Bragg. Moore County's unemployment rate has consistently stayed below the state and national rates. For example, at December 2013, Moore County's labor force was 37,615, with an unemployment rate of 6.4 percent. This was below the NC average of 6.6 percent, and the national average of 6.7 percent.

School growth projections were closer to actual growth realized. Moore County had a total K-12 enrollment of 13,009 for the 2013-2014 school year. In 2007-08 K-12 enrollment was 12,325, and the CRGP estimated this enrollment would increase to 12,867 by the 2013-14 school year.

While the population and economic growth projections of the CRGP fell short due to the Great Recession, the region's efforts nonetheless brought forth a host of positive outcomes, and the region became more organized around growth issues, particularly transportation, water infrastructure, and land use:

- Military and civilian leadership successfully lobbied for the acceleration of several critical road projects.
- County and utility partnerships enhanced treatment capacity throughout the region and secured a long-term and sustainable water source for Fort Bragg.
- Several communities initiated land use plans, corridor studies, brownfields assessments, town center plans, and industrial park plans.
- All counties of the Alliance adopted Working Lands Protection Plans that were subsequently certified by the NC Department of Agriculture.
- Greater emphasis on the promotion of agriculture and agribusiness as a means to increase income levels among the disadvantaged, especially through agritourism and the booming interest in local foods.

Regional collaboration produced several milestones in economic development, workforce improvement, and STEM (Science-Technology-Engineering-Mathematics) educational programs as county and municipal developers worked jointly to attract new defense and homeland security-related industry to the region:

- The All-American Defense Corridor created a 'brand' for the region and was used extensively to promote the region at trade shows and conventions.

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<sup>4</sup> Population Estimates and Projections, NC Office of State Budget and Management

- The NC Defense Business Association was created to provide information, connections, and networking opportunities for building relationships and promoting defense related business within the state of North Carolina.
- Establishment of the Center for Defense and Homeland Security at Fayetteville State University. The Center provides a central focus for the state's military related economic development efforts, including the creation and re-training of a qualified workforce, developing and growing entrepreneurs and small businesses, connecting the state's R&D capacity to military research needs, leveraging new technologies and R&D into commercial products, increasing military procurement and commercial opportunities, and recruiting defense-related companies and subsidiaries.
- Establishment of the All American Center for Workforce Innovation at Fayetteville Technical Community College. The AACWI has focused on preparing citizens for high skill and high tech jobs through the creation of the Advanced Visualization and Interactive Digital Center and the Interactive 3D program (i3D). In addition, the AACWI has a pilot circuit concept and distributed learning network connecting education and business partners throughout the 11 counties.
- PipelineNC.com, a regional career exploration and talent acquisition platform developed through a US Department of Labor Workforce Demonstration Program grant, was launched in 2009.
- The Alliance partnered with 12 regional public school systems to install Enhanced Tech Classrooms into 41 regional high and middle schools.
- The Alliance established a Kenan Fellows Program in partnership with NCSU and local school systems to prepare teachers within the region to become Master STEM teachers by teaming them with private business and industry.
- Established the All American Gateway Works, a regional collaboration of workforce development boards.

The CRGP was the primary blueprint that recommended dozens of critical and important actions necessary for the region to successfully respond to military growth resulting from BRAC 2005. The Fort Bragg Regional Alliance initiated several studies to address significant regional growth issues in the fields of water and wastewater infrastructure, schools, housing, land use, solid waste, and energy.

The major planning initiative that emanated from the CRGP was the Fort Bragg Regional Sustainable Growth Management Strategy. The SGMS was completed in February 2014, led by the consulting firm Land Design, with funding from the Alliance and in-kind assistance provided by several of the region's county and municipal planners. The SGMS produced a future vision, or 'Preferred Scenario' to promote economic development in the region by encouraging compatible land uses on lands designated as either JLUS Critical or Important as well as near agricultural lands. The Preferred Scenario also promotes land use policies and flexible zoning ordinances that encourage a mix of residential and non-residential development in existing town centers and new economic development nodes. County and municipal agencies will now embark on the implementation of the Strategy, beginning with GIS and growth scenario modeling, public involvement and visioning workshops, and carrying out the recommendations of the SGMS.

- ***Discuss potential impacts from future realignments.***

The national defense posture is undergoing transformational change during 2014. The Secretary of Defense has presented a FY2015 budget proposal that, for the first time in over a decade, does not presume a 'wartime' footing. Cuts to the military budget are proposed that would shrink the U.S. Army from its current level of 522,000 members to approximately 445,000. The impact on Fort Bragg's 57,000 active duty servicemembers cannot be ascertained at this time. However, the Department of Defense (DoD) will ask Congress to initiate a new round of Base Realignment and Closure (BRAC) in 2017.<sup>5</sup>

North Carolina officials who work closely with the military believe that the state would largely be spared from any reductions from BRAC 2017 (if initiated). In fact, they anticipate that North Carolina would experience another wave of growth, as both the Army and Marine Corps would transfer troops and units from closed or drawn-down bases elsewhere.

This view is supported by the fact that huge DoD investments were made in the state as a result of BRAC 2005, primarily the relocation of Army Forces Command and Army Reserve Command and expansion at Camp Lejeune. NC's military bases are considered strategically vital as the home to the 82nd Airborne Division at Fort Bragg, and the II Marine Expeditionary Force and 2nd Marine Division at Lejeune. Furthermore, these installations are home to more than half of the nation's special forces troops. As the military relies less on broad-scale warfare and more on focused engagement, the number of special forces are expected to increase, as evidenced by a 3 percent growth in the proposed FY2015 DoD budget.

- ***Provide information regarding existing and future greenway locations.***

The Town of Aberdeen's Pedestrian Transportation Plan recommends several greenway, pedestrian, and sidewalk projects. The JLUS Base Map presented to the Land Use Plan Steering Committee on 19 February 2014 offers a conceptual base map for identifying future open space priorities and potential greenway or pedestrian trail connections. Available GIS layers reviewed for this map included:

Rivers & Streams  
Rural Forest Landscape\*  
Urban Forest Priorities\*  
Working Forest Lands<sup>1</sup>  
Federal Lands  
State Lands

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<sup>5</sup> FY15 Budget Preview, speech by Secretary of Defense, 24 February 2014.

<http://www.defense.gov/speeches/speech.aspx?speechid=1831>

County-Municipal Owned Lands  
Conservation Properties  
Land in Farms  
Voluntary Agricultural Districts

\*From the North Carolina Conservation Planning Tool (<http://portal.ncdenr.org/web/cpt/>)

From a regional perspective, a future connection to the All American Trail is recommended. This long-range effort will require Aberdeen to work with its regional partners in planning and developing an interconnected long-distance greenway system.

- ***Identify information important for sustainability of the environment and the facility.***

The encroachment of incompatible land uses is the greatest threat to the viability of the nation's domestic military installations, and Fort Bragg is no exception. As Aberdeen grows, it should focus new greenfield development in areas other than its southeastern jurisdiction, closest to the installation.

The Town may consider a moratorium on extension of water and sewer utilities beyond the existing system in Aberdeen's southeastern jurisdiction. Exceptions could be made for uses that are deemed 'compatible' by Fort Bragg, such as lower employment density industrial and commercial uses. New residential development at densities higher than 1 unit per 10 acres should be discouraged.

Urban Light Pollution is another type of encroachment. Because Fort Bragg conducts much of its military training at night, darkness must be retained over range and training areas in order for this training to be realistic and effective. The encroachment of urban light pollution in the skies over Fort Bragg poses a threat that could eventually render night training exercises impractical and unrealistic. There are many actions that local governments can take in order to reverse the effects of light pollution, such as fully shielding exterior lighting fixtures; reducing light levels on store fronts and parking lots; turning off signs and parking lot light fixtures after business hours, and amending local zoning ordinances to include light pollution regulations.

The [International Dark Sky Association](#) provides a collection of resources to assist local governments, commercial developers, and homeowners in reducing light pollution. Also, the City of Fayetteville Unified Development Ordinance (Development Standards, Section 30-5-E: Exterior Lighting) provides an example of possible ordinance language for dark sky-friendly lighting.

- ***Identify food safety and access issues for Aberdeen to consider in deliberating agricultural policies.***

Food safety has become an important marketing and health issue for the produce industry. Buyers are demanding assurances from growers that their produce is safe. It will become more difficult for growers to market their fruits and vegetables if they don't have a Good Agricultural Practices (GAP) program in place to make sure their produce is free of contamination. GAP certification has been challenge for

many small producers seeking to enter the burgeoning local foods market, but NC Department of Agriculture, the Cooperative Extension Service, and other agencies and organizations have mobilized to help farmers take advantage of this program.

NCDCA's Good Agricultural Practices Certification Assistance Program will provide financial assistance to help North Carolina growers obtain a third party audit to verify they are following effective food safety practices.

Moore County Cooperative Extension has held workshops for local producers to help them with GAP certification and audit preparation.

Moore County has been a regional leader in efforts to increase the access to and availability of local food products. The Sandhills Farm-to-Table Cooperative (SF2T), which began in 2009, has been extremely successful, with over 2,000 subscribers and producers. The Cooperative is active throughout the Sandhills region, with pick-up sites in Cumberland, Harnett, Hoke, Lee, Montgomery, and Richmond, and multiple sites throughout Moore County. (Aberdeen's pick-up site for the SF2T is Aberdeen Elementary School.)

There are 2 active farmers markets in Moore County. The Moore County Farmers Market operates seasonally at locations in Pinehurst and Southern Pines. The Sandhills Farmers Market operates seasonally (April – October) out of Pinehurst.

Aberdeen does not currently have a farmers market of its own, and there has been some interest in developing one. However, given the established markets in Pinehurst and Southern Pines, and the success of the SF2T, advocates should plan carefully before making major investments of time and money.

Planning for size is the first step in creating a viable farmers market organization. Market size will be influenced by community population density, the 'culture' (i.e., interest in purchasing local food and the experience of an open air market), and other demand-side factors. From the supply side, organizers should carefully assess whether there is sufficient population to support a market and whether there are sufficient farmers and/or market gardeners to support a market.

Organizers should also have a transition plan in place to move market operations from volunteer-based to a paid manager position as the number of vendors grows the as the number of volunteer hours increases. Other factors to consider<sup>6</sup>:

- A high failure rate (approximately 50%) for farmers markets, particularly new ones in areas where other nearby markets are in operation.
- The smaller the market, the higher the failure rate.

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<sup>6</sup> Source: *When Things Don't Work: Some Insights into Why Farmers Markets Close*. Special Report 1073, Oregon State University Extension Service, December 2006

- There is a high turnover rate among market managers
- Over-reliance on volunteers can lead to burn-out and lack of participation
- Beginning markets need a high diversity of products, particularly fruits and vegetables
- Locational considerations, such as ease of access, parking, shade, hours of operation, etc.

The Food Safety Modernization Act (FSMA), signed into law in 2011, is the first significant overhaul of food safety regulations since the 1930s. The intent of the law is to prevent food borne illness. U.S. Food and Drug Administration (FDA) which will implement the regulations from FSMA, is currently writing the rules it will use to implement the law.

In November 2013, the FDA closed an almost year-long public comment period on draft regulations to implement FSMA. These regulations -- known as the produce rule and the preventive controls rule -- will apply to farms and food facilities (manufacturing/processing, packing, and holding).

The FSMA has far-reaching implications for small farms, producers, and value-added processors. The proposed rules created a firestorm of debate within the agricultural community, particularly within the local foods movement, where many national and state organizations warned that the new rules could substantial harm burgeoning efforts in sustainable agriculture, drive more farms out of business, and thwart development of new value-added enterprises. Among the major flaws of the proposed rules under FSMA, according to the Carolina Farm Stewardship Association are:

- The rules will be too Expensive for small farms and agri-businesses. FDA's own calculations show that nearly three-quarters of the costs of the new rules for food facilities will be borne by businesses with 20 or fewer employees
- Local food distributors will close, new ones will not launch. 'Food hubs' and other cooperative community-based local food businesses would be treated the same as large corporate-owned facilities, subjecting them to standards they cannot afford to achieve.
- Small farms that fall below the FSMA regulatory threshold (for size and income) would be shut out from selling their products to food hubs and food makers.
- FSMA instructs FDA to exclude farmers markets, roadside stands, and community-supported agriculture programs from the requirement to register as manufacturing facilities. The agency did not do it.

FDA will spend the coming months reviewing and responding to the thousands of comments it received on the draft rules. The Agency will then issue revised rules Given the intense interest in the implementation of FSMA, and the likelihood that revisions will be extensive, many organizations and members of Congress are calling on FDA to initiate a second round of public comment. Regional organizations, CSAs, farmer's market advocates, and agricultural development interests will remain highly engaged in this issue.

- ***Determine sources of information regarding local housing for service members. Consider number of service members living in the Aberdeen area, types of services needed, range of housing needs, and what is important to our service members when making decisions about where to live.***

Fort Bragg's housing areas (including the Linden Oaks community in Harnett County) contain approximately 4,500 housing units<sup>7</sup>, so a large majority of servicemembers and their families live 'on the market', renting or purchasing homes throughout the region. The Aberdeen area has capitalized on base-related growth. Easy access to the base via NC Route 211 makes the area convenient for commuters compared to the more remote sections of Moore County.

The FBRA commissioned a regional housing market study in 2011 with the goal of assessing the adequacy of the region's housing supply to serve a growing population. The study was based on results of a survey targeted to the military population (32% of respondents were either head-of-household active duty military or contractors working at Fort Bragg).

While the study found that an adequate supply of housing stock was available in the region as a whole, the market fails to provide a wider variety of housing options and lifestyles. Suburban or rural-style developments are predominant, requiring a "car oriented" life style. However, reflective of demographic changes in market preferences, nearly a quarter of survey respondents ranked living in a 'town center-style' community as the most desirable option. Additionally, over half of respondents – both renters and homebuyers – indicated support for publicly-funded improvements such as bike lines and sidewalks to enhance walkability in the community.

Highlights from the regional housing survey are summarized below<sup>8</sup>:

- 54% of respondents prefer a new home, with over 50% looking at a price range of \$150,000 to \$249,999.
- Low crime rate was one of the most important factors in the selection of a home deemed critical by 48% of respondents and very important by 52% of respondents
- School location and quality were also important factors in selecting a home, with 33% considering these as critical and another 31% ranking them as very important.
- Close to 48% were seeking homes in suburban locations; the least desirable for the majority were urban locations.
- Almost 20% found access to a community pool and amenity center to be important.
- Less than 10% of respondents were interested in purchasing a town house or condominium

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<sup>7</sup> There is a wide range of housing choices on post, from apartments to 4-bedroom homes. Wait times for servicemembers to move into base housing vary depending upon the housing requested. Officers may experience a wait of up to 12 months.

<sup>8</sup> BRAC Regional Task Force, Regional Housing Market Study. The Littlejohn Group, January 2011.

- 75% of respondents preferred a single family home on a lot under 1.5 acres, with 50% preferring a .5 to 1.5 acre lot.
  - 45% wanted 3 bedrooms and 45% wanted 4 bedrooms
  - Almost 50% would purchase a home on a smaller lot in a community with parks and open space.
  - Fewer than 20% of respondents would consider a scenario with less than a 2 car garage.
  - Almost 50% would consider paying a higher HOA to cover landscaping and maintenance.
- ***Provide economic information regarding the potential for business and industrial growth. If available, determine growth of military support services within the town.***

There is a growing movement in the realm of sustainable economic development toward “using what you have”; i.e., focusing upon place-based business development and locally-derived supply, processing, marketing, and distribution chains to create new economic activity. Three recently-launched initiatives provide an opportunity to establish local and regional partnerships toward this end.

The Fort Bragg Region Sustainable Growth Management Strategy (SGMS) provides a platform for local governments, military interests, agencies, businesses and others to realize coordination on infrastructure decisions, economic development strategies, resource protection, land compatibility and other interconnected issues. The report provides several recommended strategies for sustainable economic development: Among them are:

- Promote the region as a location for agri-related research and value-added production operations
- Organize a Regional Agriculture Leadership Committee.
- Develop a regional marketing campaign to promote agriculture locally and market the region’s agriculture products.
- Raise awareness of the economic impact and build appreciation of agriculture to public audiences.
- Develop a regional agriculture infrastructure assessment.

Paralleling the development of the SGMS was the launch of the [Greenfields Initiative](#). This project, which involved Lee, Moore, and Richmond counties, was development from the ‘Stronger Economies Together’ initiative funded by USDA Rural Development and led by North Carolina Cooperative Extension. The following statement from the Plan’s Introduction captures the general vision and intent of the Greenfields Initiative:

“There is great potential for food, forestry, trade, and heritage tourism opportunities in the Sandhills region. With the proper focus and attention, these opportunities may be harnessed into real economic drivers in our communities. This will affect the preservation of our history, culture and land, enabling the region to meet the increasing demand for water, clean air, open space, and recreation opportunities as the area experiences dramatic population growth in the near future.”

The Greenfields Initiative provides a regional economic development plan that provides specific action steps, time frames, and agency responsibilities for growing resource-based and sustainable industry in the region.

Opportunities: The opportunities for natural resource-based economic development are rich. The wise use of natural resources to generate economic development would be an endeavor that is both supportive and complementary of existing industries and inclusive of new and 'non-traditional' businesses, with the potential to expand the network of Aberdeen, Moore County, and its partners.

Possibilities for new industries include local and organic food and related processing, storage, and distribution; value-added food and natural products; craft brewing; rural-scale renewable energy and energy efficiency; agritourism, ecotourism and outdoor industry; other bio-based fibers and plastics.

Following are key considerations for expanding the natural resource-based sectors of the economy:

- How do we increase the economic growth of natural resource-based businesses in areas where they are most suitable, based on environmental, social, and economic factors?
  - What are the potential markets for resource-based economic development?
  - How can we fund, program, and build the necessary economic infrastructure to exploit resource-based economic development opportunities?
  - How can we ensure that workforce requirements are met?
  - How can we expand entrepreneurial opportunities for local residents and expansion opportunities for existing businesses?
  - How do we find innovative sources of funding for resource-based economic development endeavors?
  - Who are the right partners for linking agriculture, natural resources, and business development for improving the regional economy?
- ***Other information as deemed relevant by Mr. Belk in developing a Land Use Plan for Aberdeen.***  
Information provided therein.

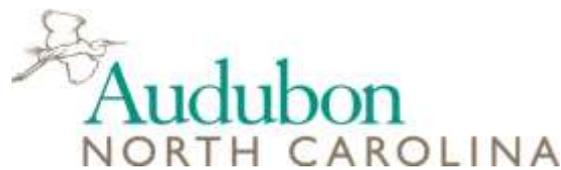
# GREEN GROWTH TOOLBOX

Wildlife and natural resources stewardship in planning:  
A guide for communities and planners



Jeff Marcus & Brooke Massa, NC Wildlife Resources Commission  
Ryan Bollinger, The Nature Conservancy

# Contributors and Partners

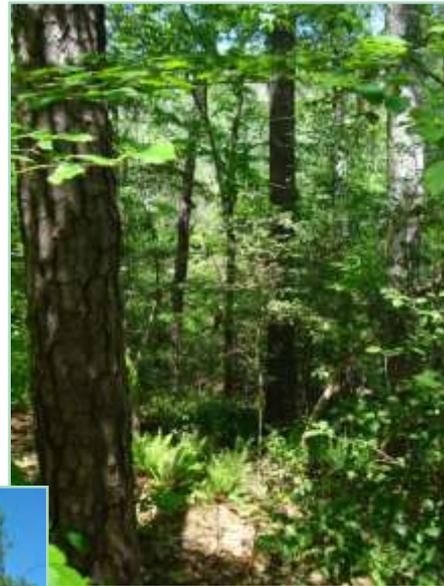


NC State University Forestry and Environmental Outreach Program



# What is Green Growth?

Conserving **priority wildlife habitat** while building homes, roads, businesses & shopping centers





# SECTION 1 : WHY GREEN GROWTH ?



## Top Ten Benefits of Green Growth

1. *Better health all around*
2. *Economic returns*
3. *Environmental safeguards*
4. *Avoid environmental conflicts*
5. *Attract new economy businesses*
6. *Increase prosperity*
7. *Generate tourist income*
8. *Reduce costs to taxpayers & local governments*
9. *Respond to public demand*
10. *Improve quality of life*

***Referenced from > 60 peer-reviewed articles***

# Economic Return: Let nature do the work

- Natural flood control & water purification
- Groundwater recharge & better crop pollination



Benefits of Green Growth

# Avoid environmental conflicts

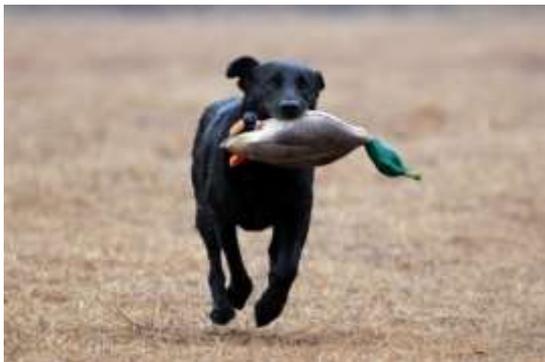
- ◎ Get ahead of the permitting process, reduce conflict fewer surprises



Benefits of Green Growth

# Generate Tourism Income

In 2006, approximately \$2.3 billion dollars were spent on wildlife-related recreation in North Carolina.



Benefits of Green Growth

## Reduce Costs

- ◎ Concentrating growth in city and town centers would save in roads, water, sewer, etc.



Benefits of Green Growth

# Reduce Costs

40% evapotranspiration



30% evapotranspiration



# Freshwater mussels live in our streams, indicate water quality & increase water filtration



0 Minutes



5 Minutes



15 Minutes



50 Minutes



# Nature Friendly Land Use Principles

1. Maintain large blocks of forests and farms
2. Conserve and buffer *priority* habitats
3. Connect habitats



Photo: Todd Pusser

Gopher frog



Photo: Brady Beck

Bachman's sparrow



Chicken turtle



Bobwhite quail



# CONSERVATION DATA

## Conservation Planning Tool



## Green Growth Toolbox



# Conservation Data

- ◎ Conservation Data
  - ◎ Information about and approximate location of animal and plant species and their habitats.
- ◎ Green Growth Toolbox dataset
  - Subset of available data



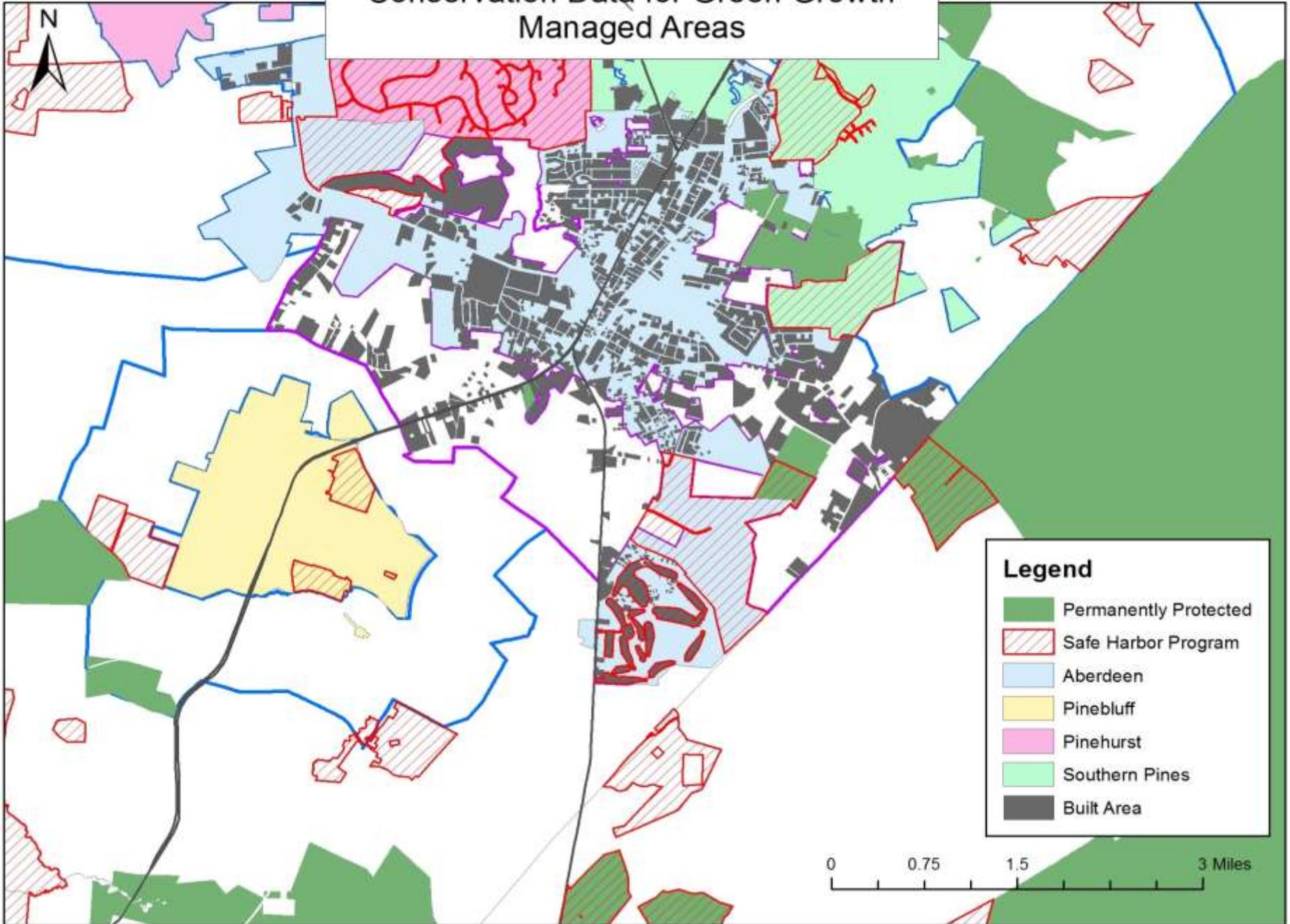
Box Turtle



# CONSERVATION DATA LAYERS

- ⦿ Managed Areas
- ⦿ Streams and Watersheds
- ⦿ Significant Natural Heritage Areas
- ⦿ Biodiversity and Wildlife Habitat Assessment

# Conservation Data for Green Growth Managed Areas

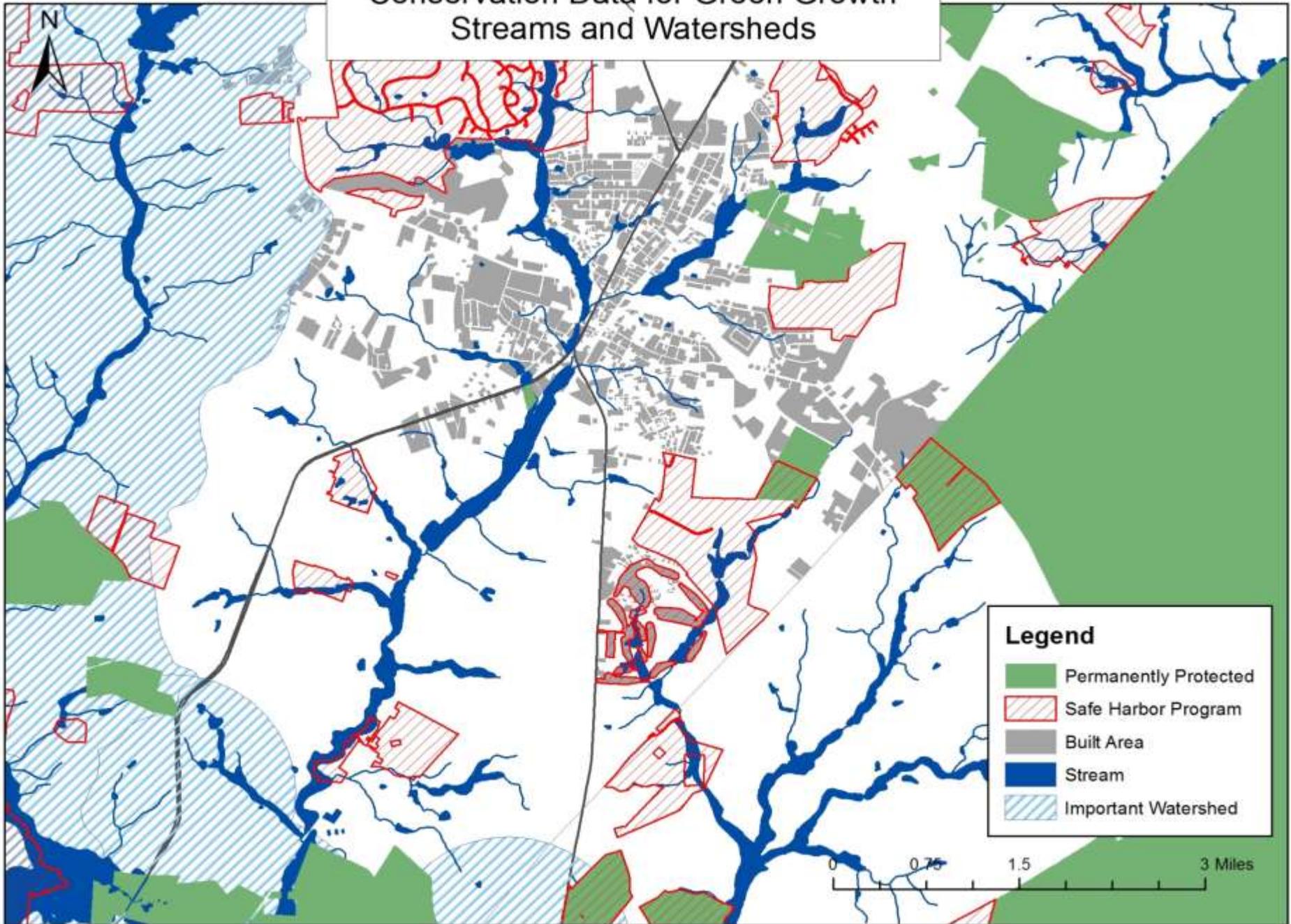


# Managed Natural Areas & Game Lands

- Public and private lands managed for wildlife habitat, natural areas, or recreation opportunities

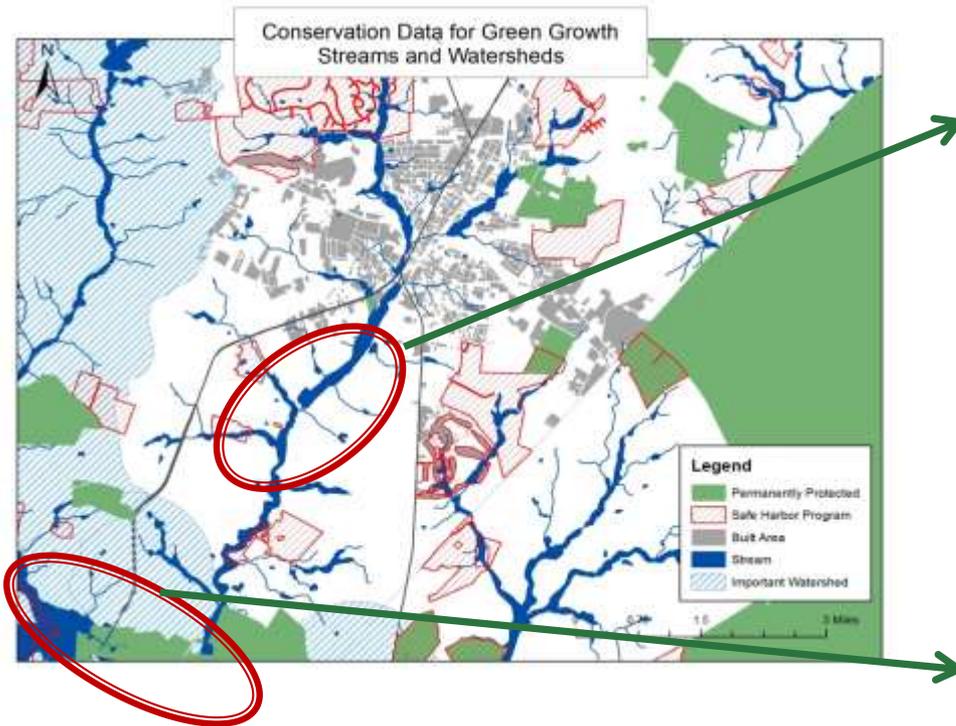


# Conservation Data for Green Growth Streams and Watersheds



# Stream and Wetland Habitat

## Aberdeen Creek



Sandhills Chub



Pinewoods Darter

## Upper Drowning Creek Swamp Forest



Swainson's Warbler



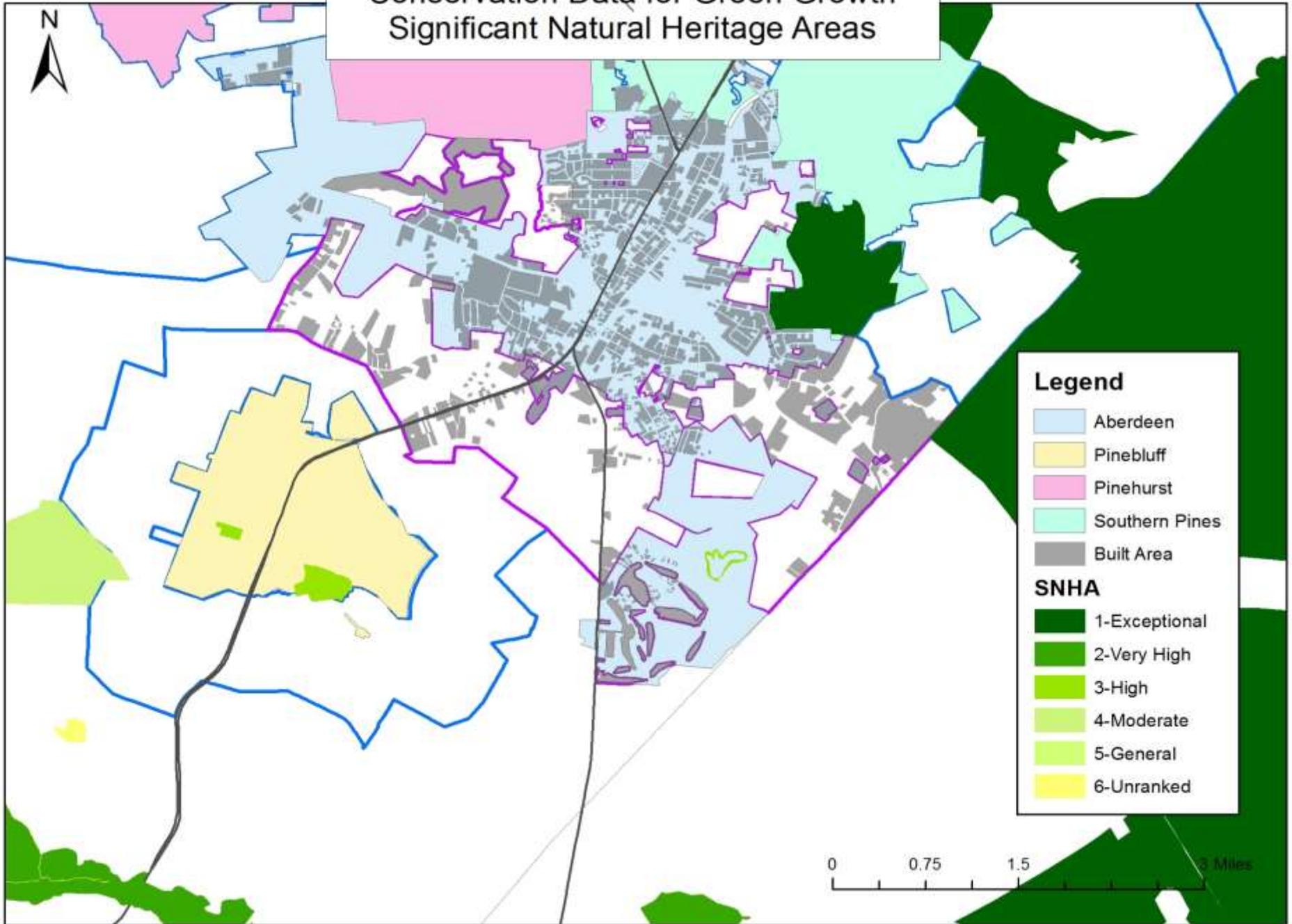
Rafinesque's Big-eared Bat

# Significant Natural Heritage Areas

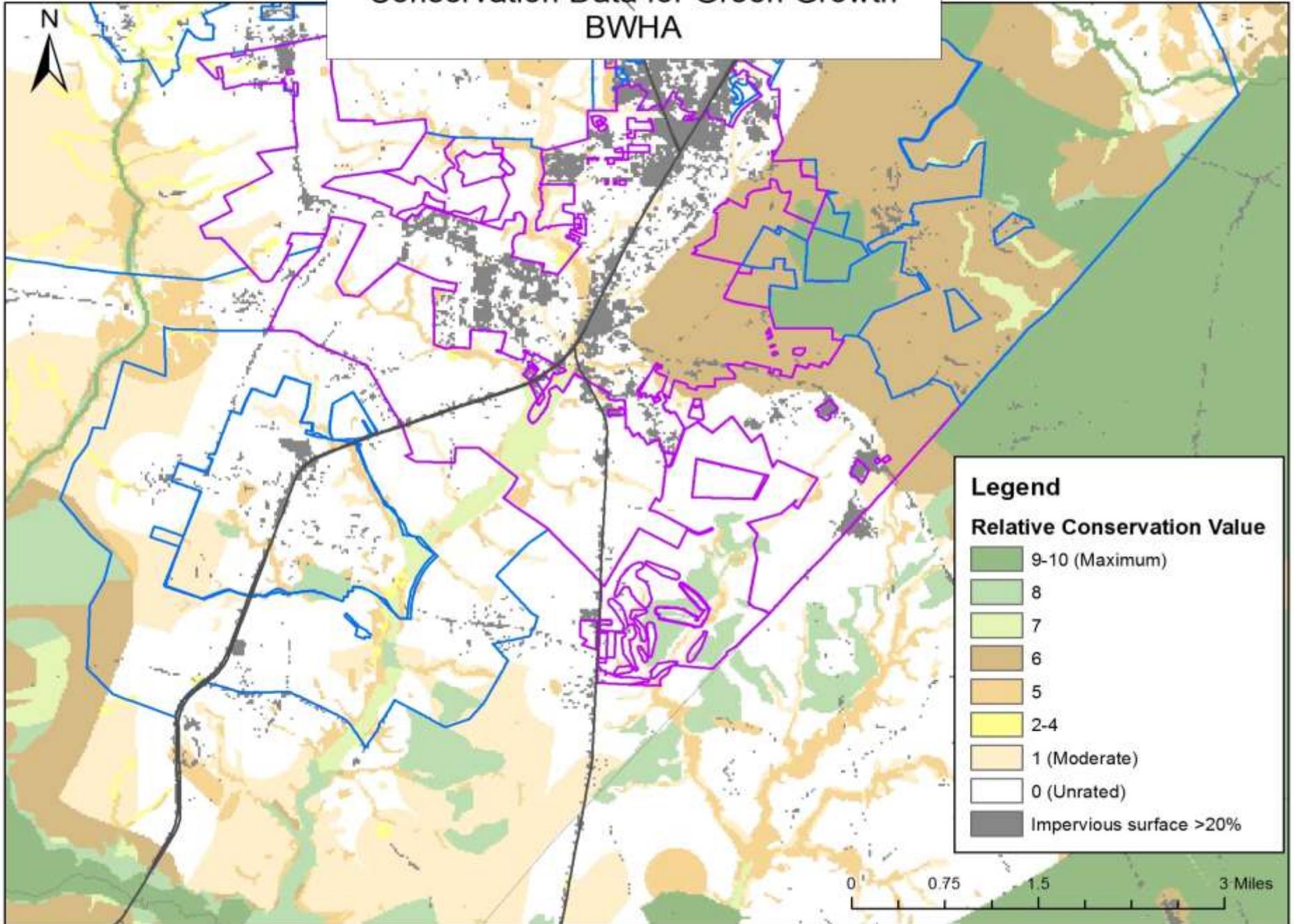
- Identified in the field by NC Natural Heritage Program biologists
- Sites support rare and high quality plants, animals, and natural communities
- Important for conservation of the state's biodiversity
- Site significance described in county inventory reports



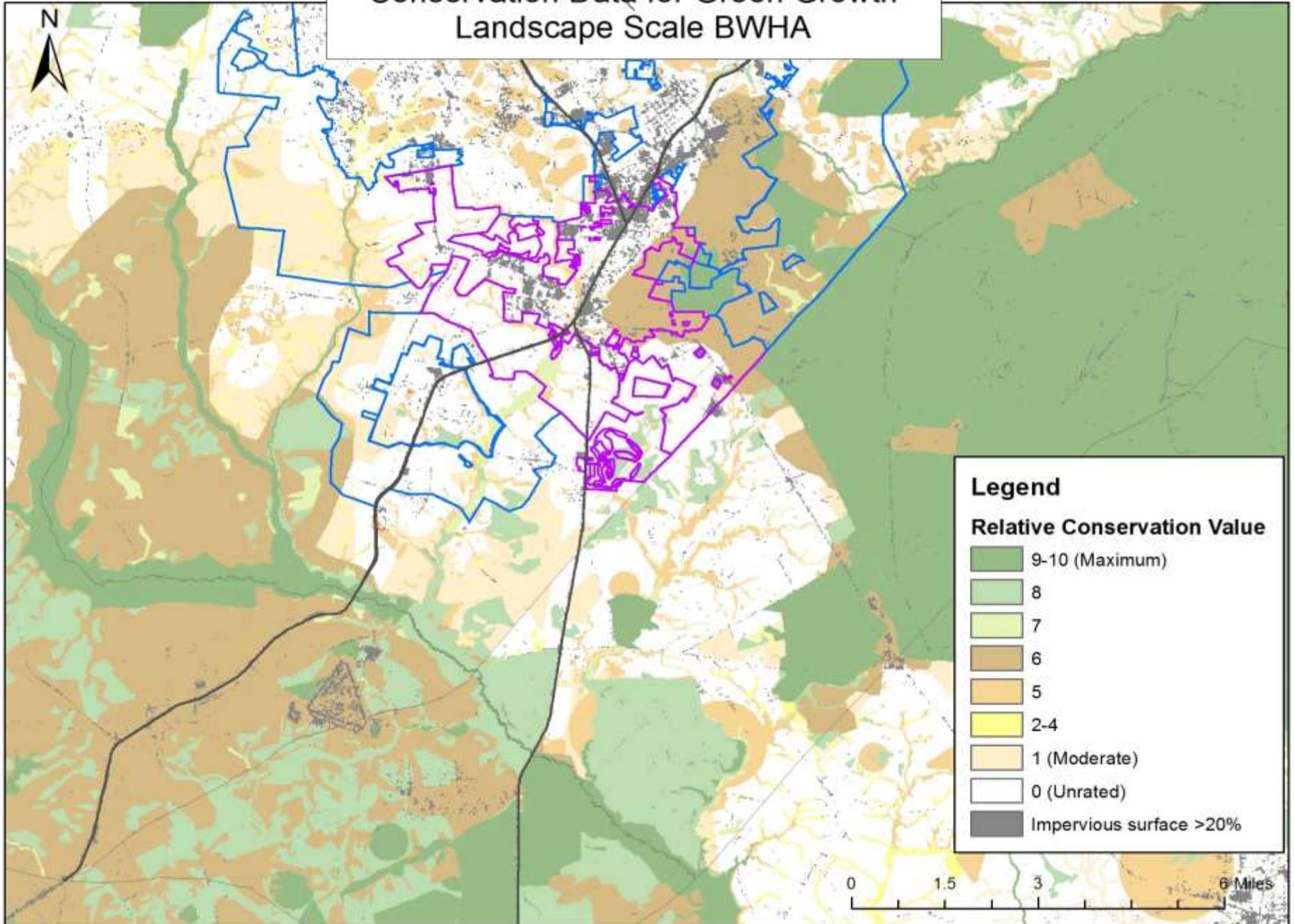
# Conservation Data for Green Growth Significant Natural Heritage Areas



# Conservation Data for Green Growth BWA



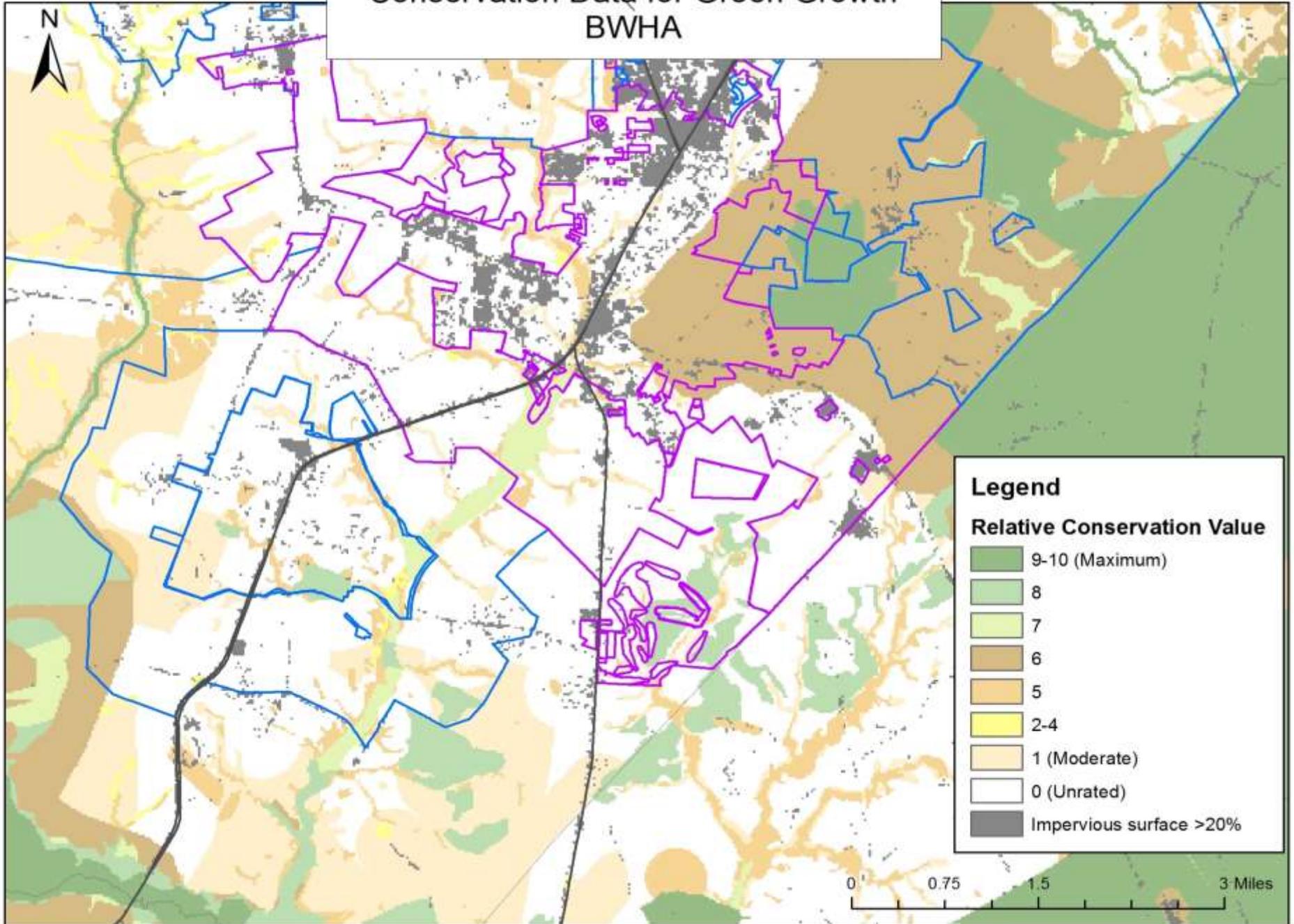
# Conservation Data for Green Growth Landscape Scale BWhA



# What do we do with this information?

- ⦿ Display conservation data on land use planning maps
- ⦿ Encourage denser development in areas without important natural resources

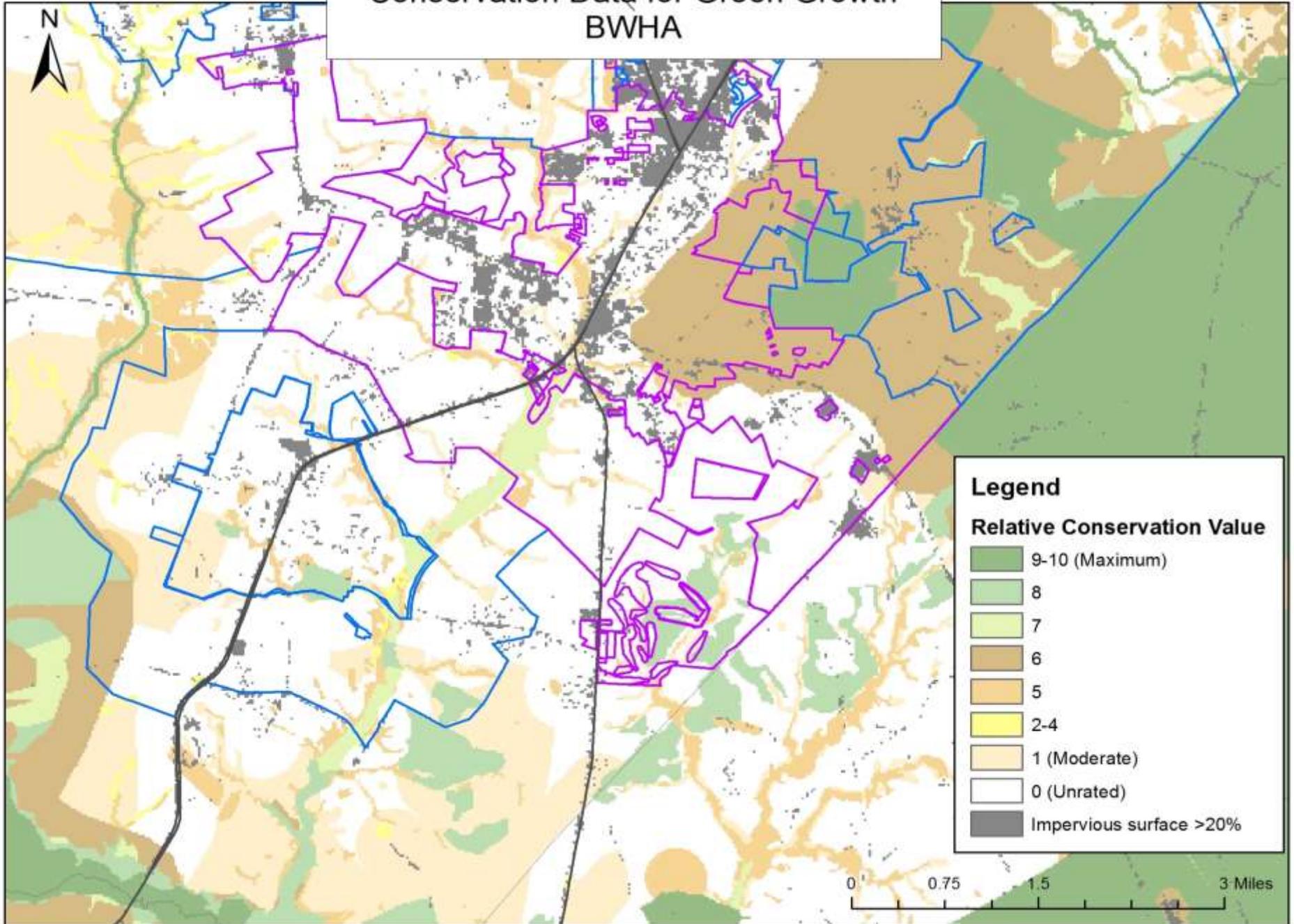
# Conservation Data for Green Growth BWA



## What do we do with this information?

- ⦿ Display conservation data on land use planning maps
- ⦿ Encourage denser development in areas without important natural resources
- ⦿ Encourage working lands, parks, and open space in areas with important natural resources

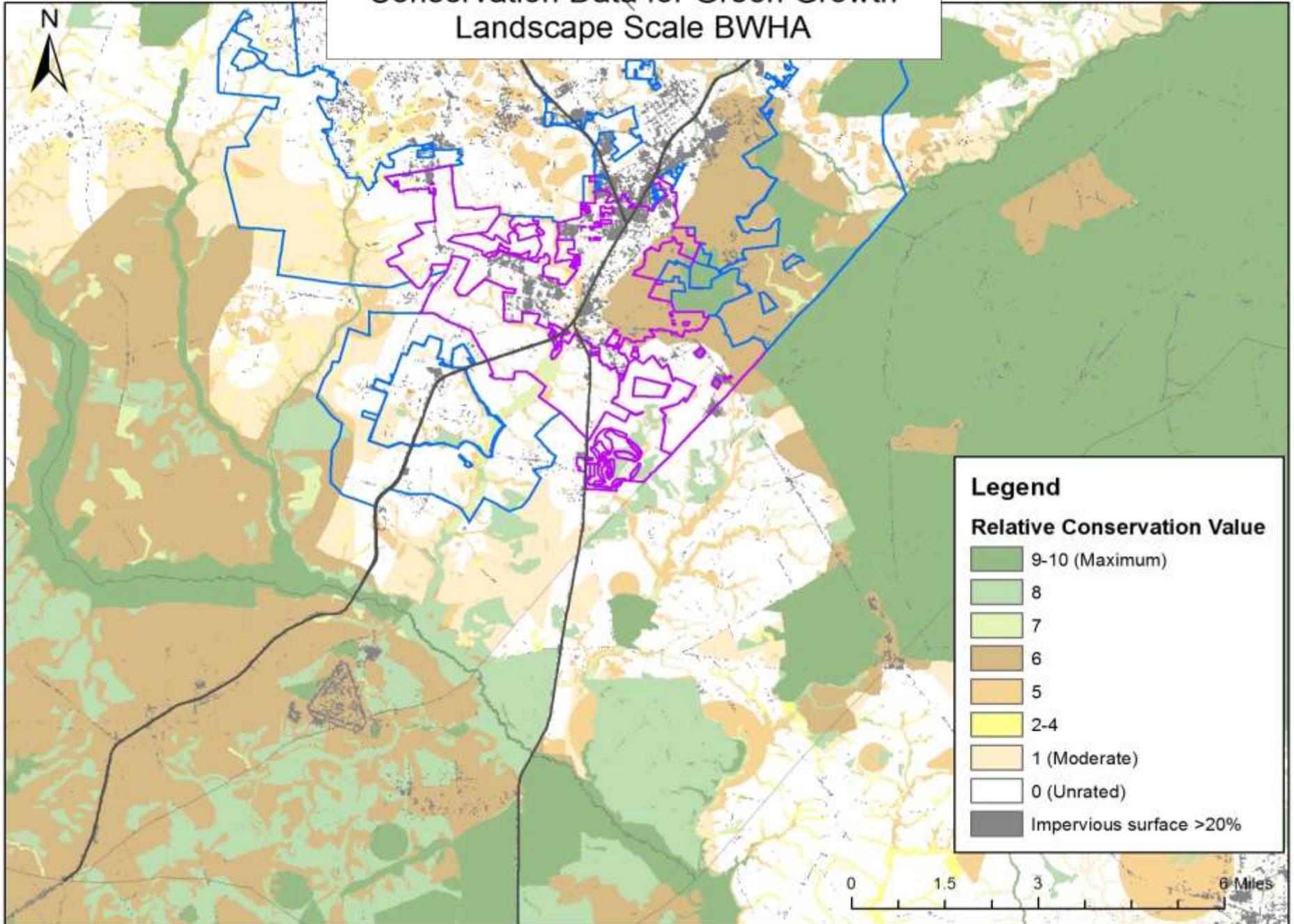
# Conservation Data for Green Growth BWA



## Recommended actions

- ⦿ Restrict expansion of municipal boundary and ETJ west of Sand Pit Rd, south of Pinebluff Lake Rd, or into Hoke Co

# Conservation Data for Green Growth Landscape Scale BWhA



## Recommended actions

- ① Create Desired Future Land Use map that reflects priorities for the community
- ① Describe natural resource conservation as an explicit goal in land use plan

# Recommended actions

- ⦿ Water and sewer serves areas where dense development is desired, and does not go to where dense development not desired
- ⦿ Compare zoning map to Desired Future Land Use map
- ⦿ Update Unified Development and Zoning ordinances with green growth recommendations
  - Tree protection
  - Stream buffers
- ⦿ Coordinate land use decisions with Moore County and surrounding municipalities

# Thank you! Questions?



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