

# *Lick Creek Watershed Restoration Plan*

Stakeholder Meeting 1  
January 24, 2007

# *Agenda*

***3:00 Welcome and Introductions***

***3:20 Lick Creek Planning Process***

***3:35 Establish Group Charter and Meeting Schedule\****

***3:50 Housekeeping***

***4:00 Watershed Background***

***4:30 Discuss Lick Creek Watershed Management Goals (part 1)***

\* Decision Item

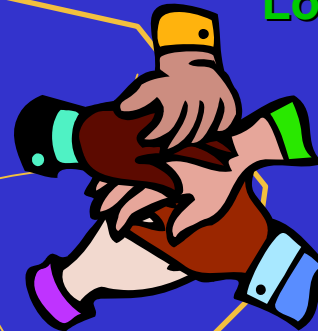
# *Lick Creek Planning Process*

# 4 Key Ingredients of a *successful* Watershed Plan

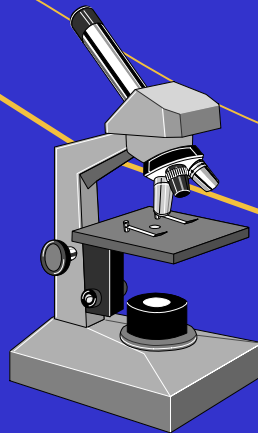
Technical  
Assessment



Local Stakeholders &  
Resource  
Professionals



Watershed  
Water Quality  
Monitoring



Local Partners for  
assessment &  
implementation



# *Lick Creek Partnership*

*Water Quality  
Staff*

*Fieldwork  
Staff*

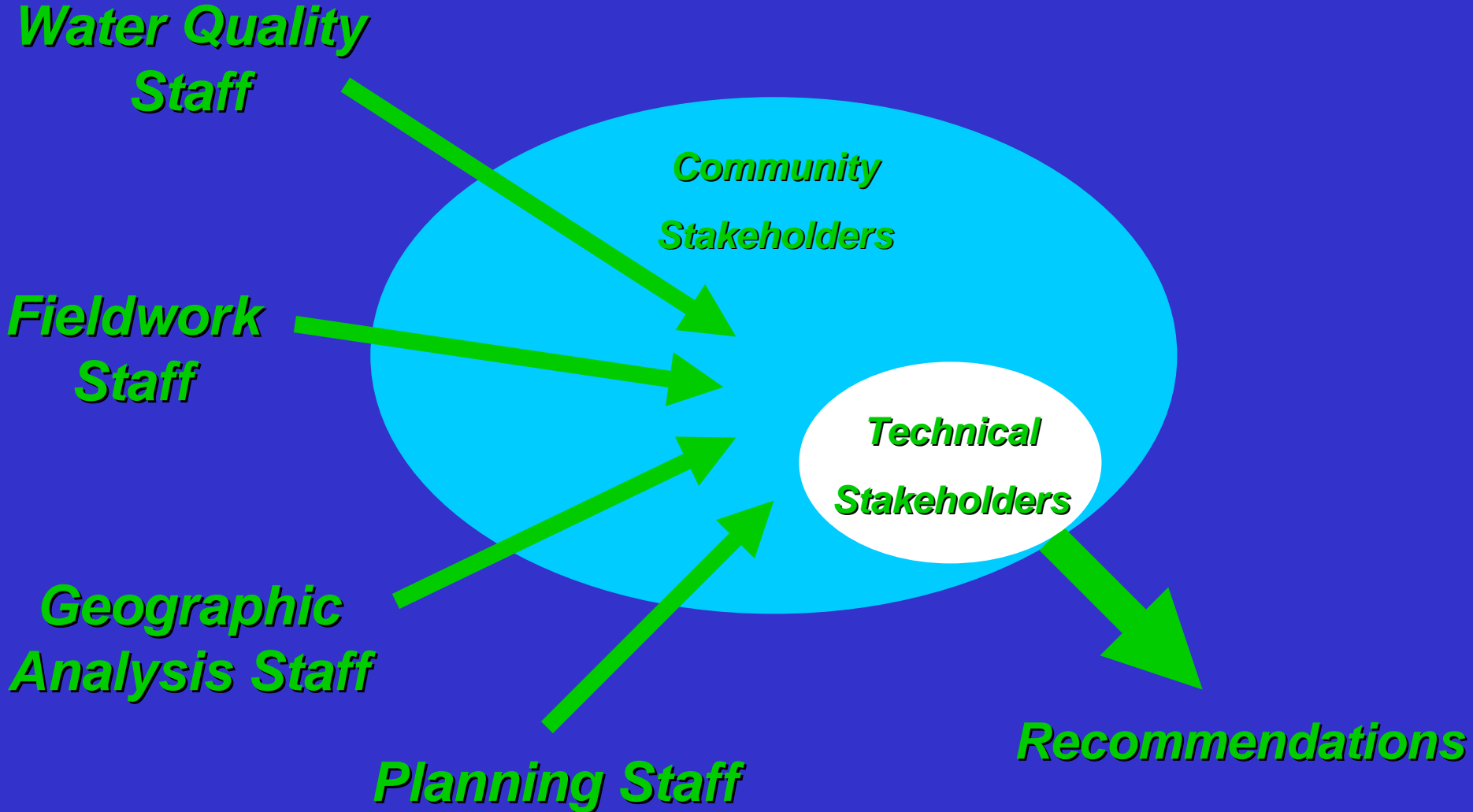
*Geographic  
Analysis Staff*

*Planning Staff*

*Community  
Stakeholders*

*Technical  
Stakeholders*

*Recommendations*



# *Lick Creek Project Partners*

## Upper Neuse River Basin Association

(project management, stakeholder process, fieldwork, plan development)

## Center for Watershed Protection

(fieldwork, pollutant loading analysis, technical and plan review)

## NCSU Water Quality Group

(water quality monitoring, technical review)

## Triangle J Council of Governments

(GIS support for fieldwork and analysis, Web support)

## Durham Stormwater Services

(fieldwork, long-term monitoring, technical review, plan development)

## Durham County Stormwater and Erosion Control Division

(fieldwork, technical review, plan development)

## Durham Planning

(technical review, plan review)

# *Lick Creek Planning Process*

1. Convene a stakeholder group
2. Evaluate current watershed conditions.
3. Analyze possible causes of stream impairment.
4. Predict future water quality degradation in the watershed.
5. Identify management strategies for restoring water quality and preventing future degradation.
6. Conduct additional water quality monitoring to address gaps in data.
7. Assist stakeholders involved in the process to implement the plan.

# *Lick Creek Planning Process*

1. Convene a stakeholder group and identify watershed planning goals





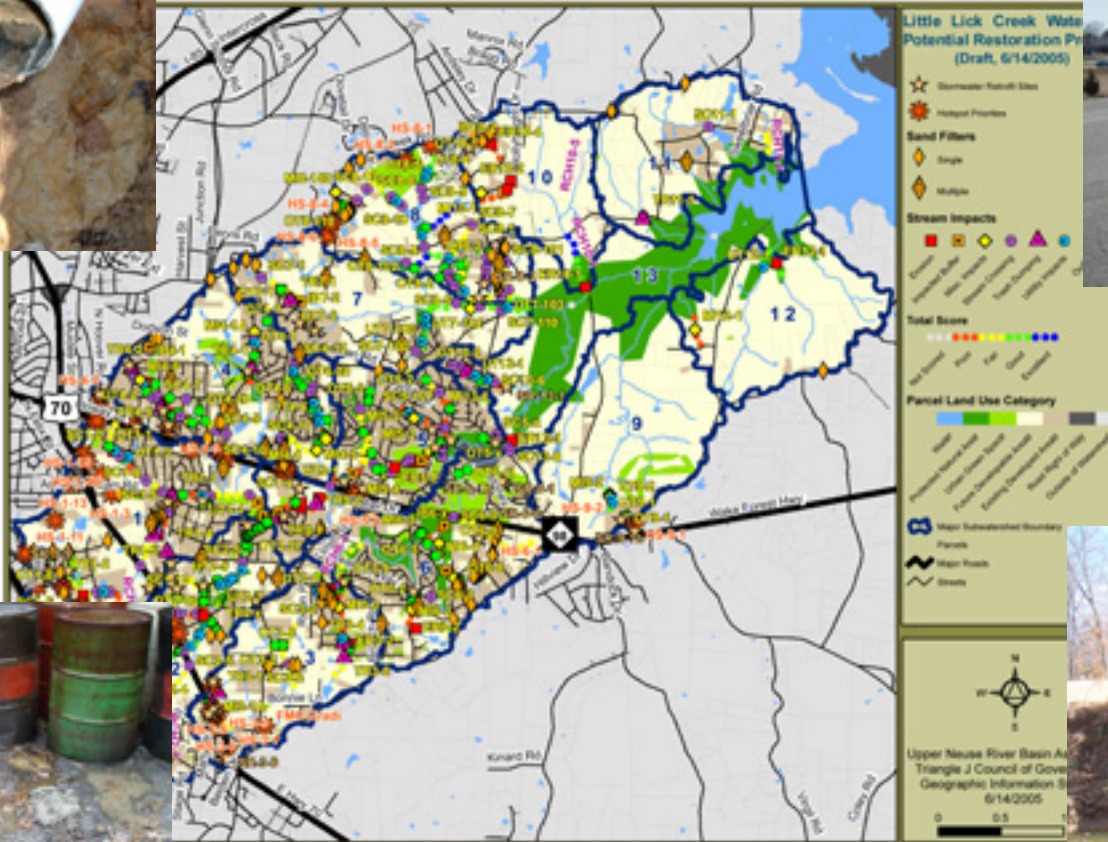
# Lick Creek Planning Process

## 2. Evaluate current watershed conditions.



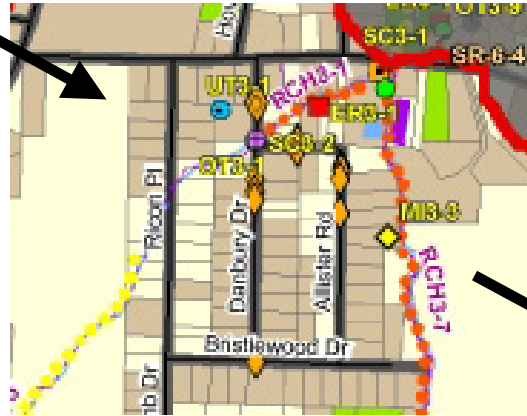
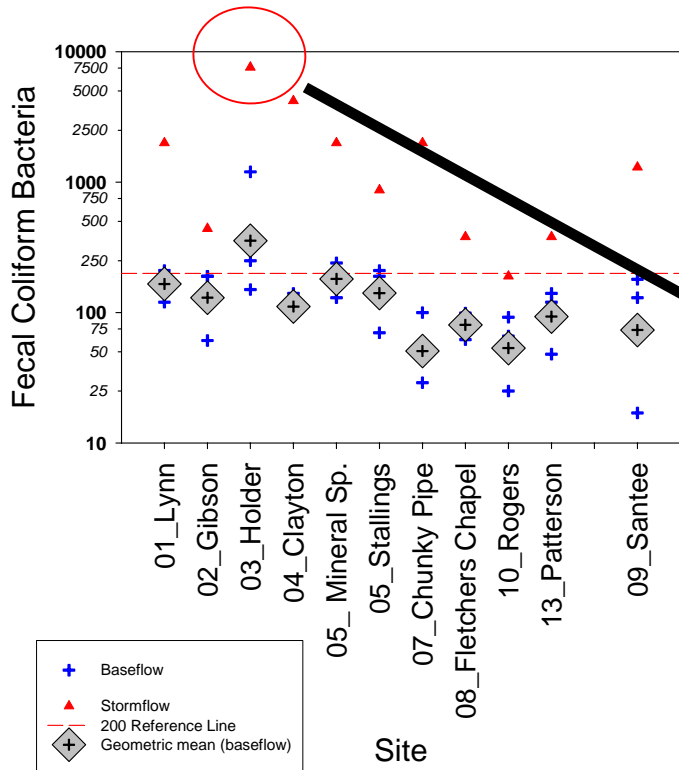
# Lick Creek Planning Process

## 3. Analyze possible causes of stream impairment.



# Lick Creek Planning Process

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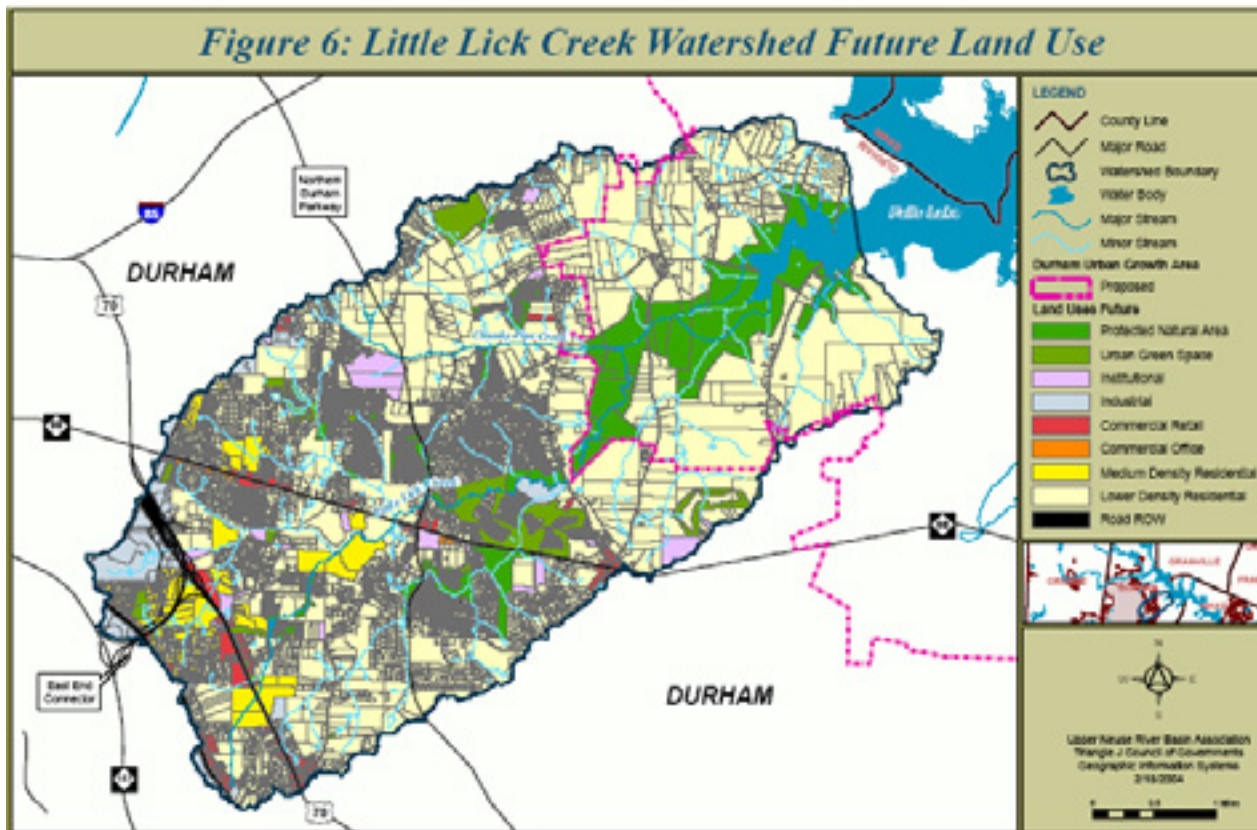


Cause?

# Lick Creek Planning Process

## 4. Predict future water quality degradation in the watershed.

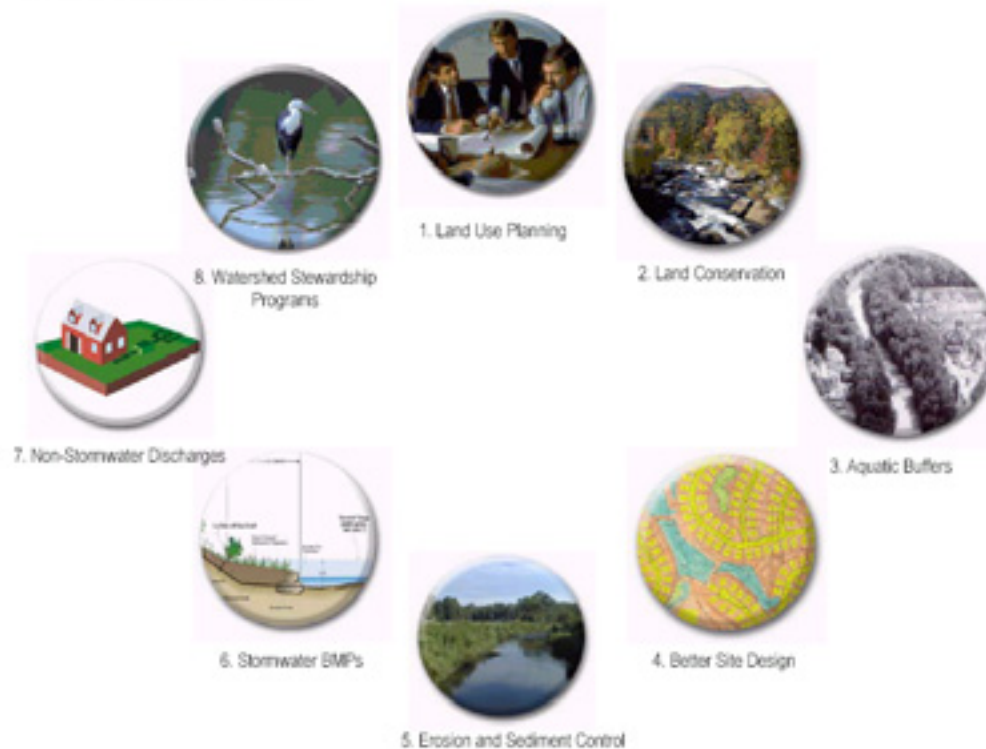
Figure 6: Little Lick Creek Watershed Future Land Use



# Lick Creek Planning Process

5. Identify management strategies for meeting restoration goals.

EXHIBIT 1-5  
Eight Tools of Watershed Protection



*(from Center for Watershed Protection)*

# *Lick Creek Planning Process*

6. Write and review Lick Creek Watershed Restoration Plan

# *Lick Creek Planning Process*

7. Assist stakeholders in implementing the plan.

# *Lick Creek Group Charter*



# *Ground Rules*

- A. Make every effort to attend the meetings, and send alternates when possible.
- B. Treat each other with respect at all times and put personal differences aside
- C. Stick to the topics on the agenda, be concise, and not repeat themselves.
- D. Speak one at a time.
- E. Work as team players and share all relevant information.
- F. Ask if they do not understand.
- G. Openly voice any disagreement with other members.
- H. Look for mutually beneficial solutions.
- I. Follow through on their commitments.
- J. Share information discussed in meetings with the group they are representing.
- K. Encourage free thinking and sharing of all ideas.
- L. Commit to issues in which they have an interest.

# *Consensus*

Not majority rules or unanimity...somewhere in between.

Consensus is meant to find the best alternative to which everyone can basically agree.

# *Stakeholder vs. Project Partner*

Project Partners address:

- Fieldwork
- Guiding technical processes
- Reviewing of technical analysis

Partners will communicate with project partners/manager outside of the stakeholder meetings.

Partners may be excused from some stakeholder meetings

# *Stakeholder Meeting Schedule*

Meeting 1: Stakeholder introductions, establish group charter, provide an introduction to the Lick Creek Watershed, provide an overview of the watershed restoration planning process, discuss watershed management goals (January 2007).

Meeting 2: Review water monitoring scoping-level analysis, monitoring plan, and land use analysis; establish watershed management goals and discuss objectives (February 2007).

Meeting 3: Review subwatershed-level assessment. Discuss fieldwork and restoration project prioritization criteria (March or April 2007).

Meeting 4: Review fieldwork findings and discuss prioritization criteria (June 2007).

Meeting 5: Review Watershed Treatment Model. Establish project prioritization criteria (August 2007).

Meeting 6: Review Critical Lands Protection Analysis. Establish criteria for prioritizing land protection projects (October 2007).

Meeting 7: Review and revise initial restoration and preservation priorities; review and revise long-term monitoring recommendations (December 2007).

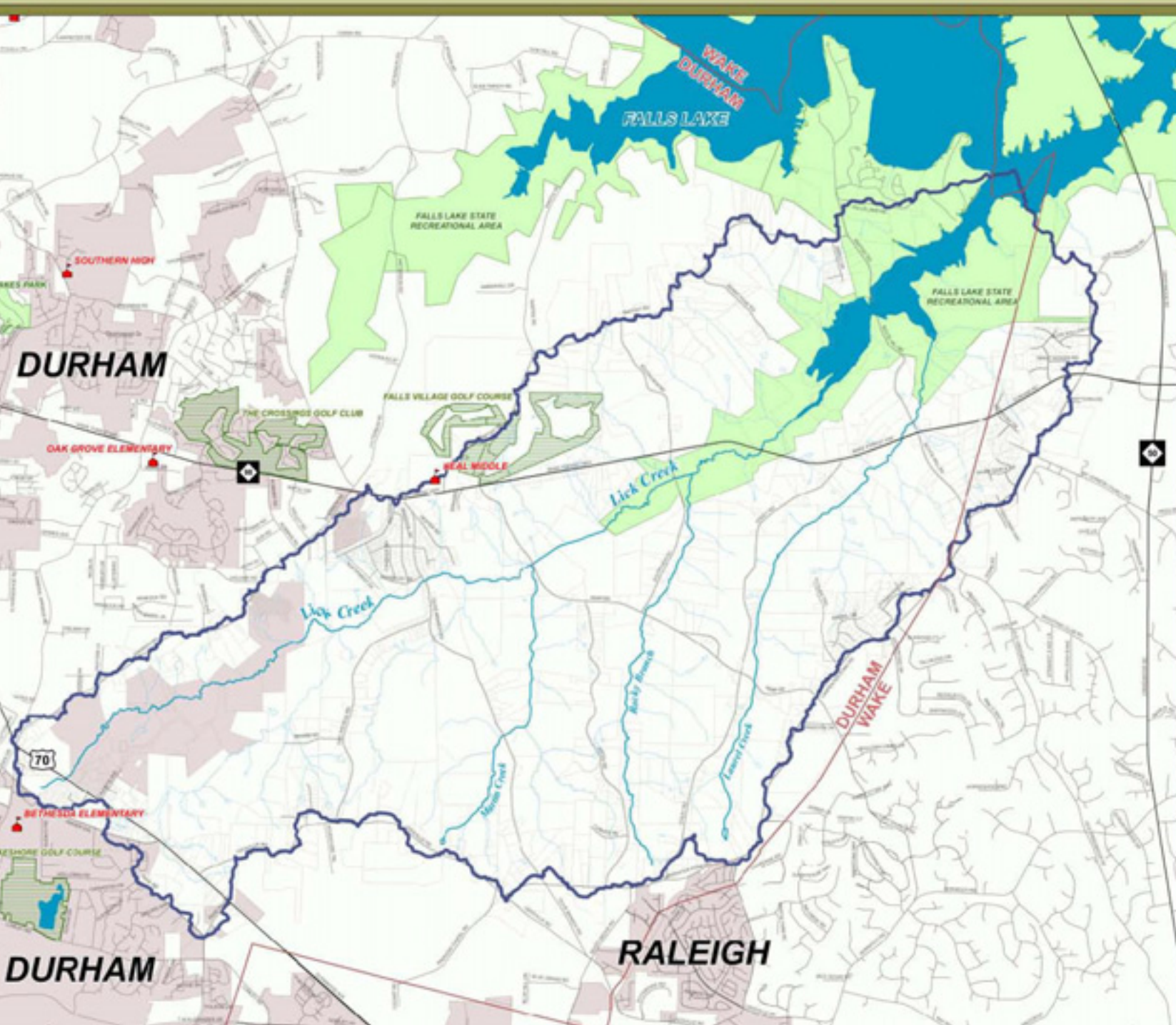
Meeting 8: Discuss comprehensive watershed management strategies (January 2008).

Meeting 9: Discuss comprehensive watershed management strategies (February 2008).

Meeting 10: Review Draft Lick Creek Watershed Restoration Plan. (April 2008).

# *Housekeeping*

# *Lick Creek Watershed Background*



**LEGEND**

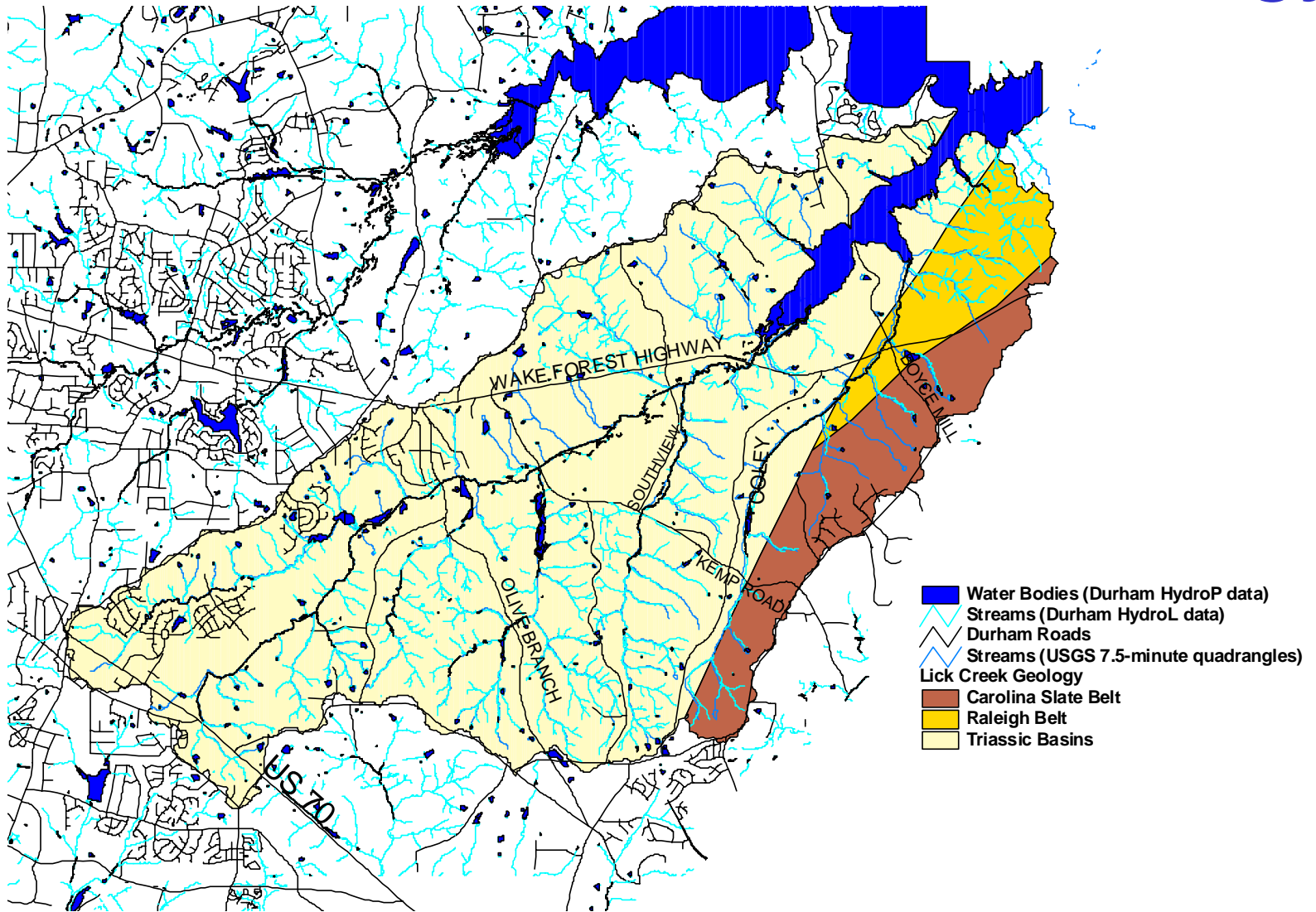
- Municipal Boundary
- County Line
- Major Roads
- Streets
- Watershed Boundary
- Water Bodies
- Major Streams
- Minor Streams
- Parks & Protected
- Golf Course
- Lick Creek Parcels
- Schools



Upper Neuse River Basin Ass...

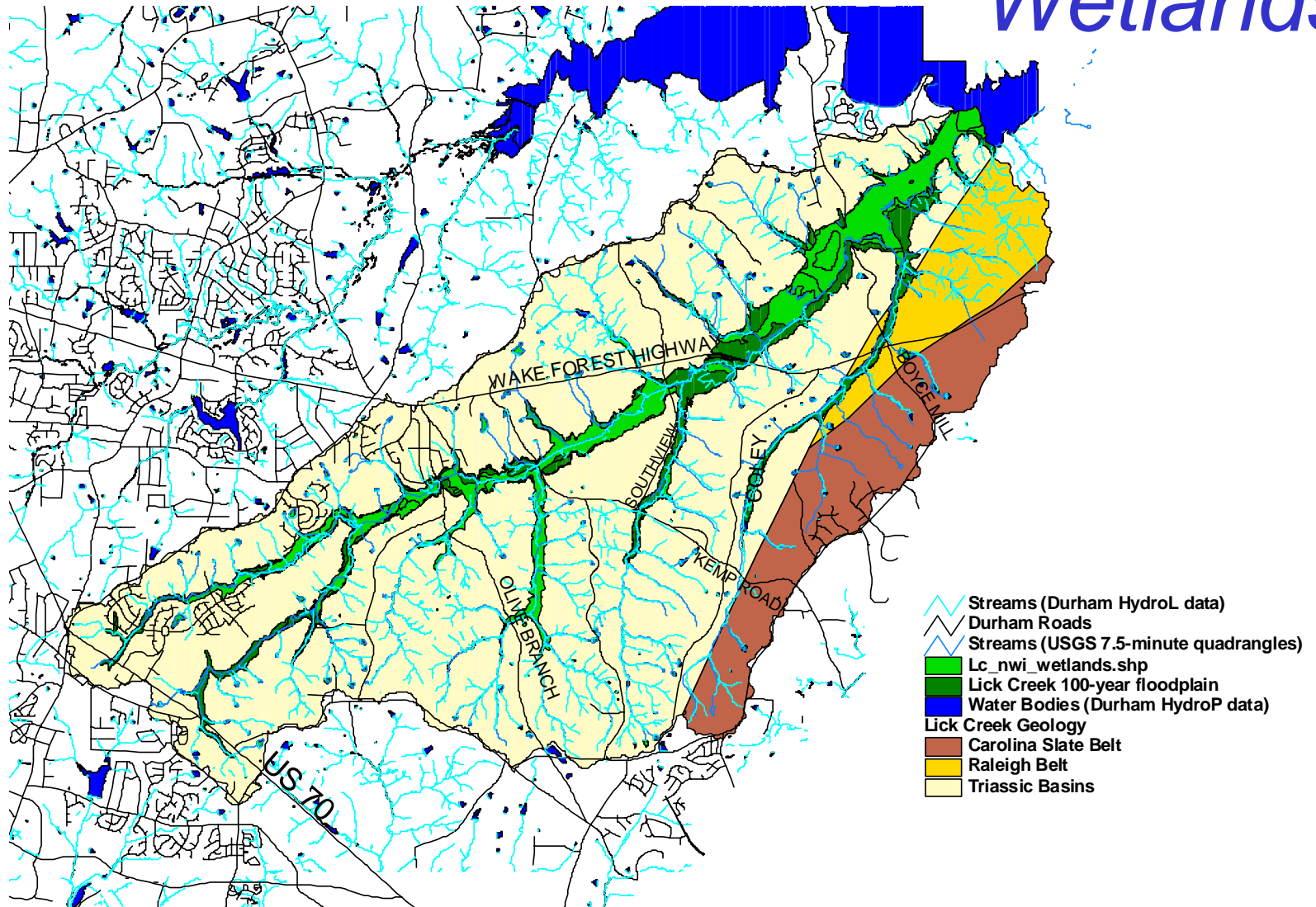
Triangle J Council of Govern  
Geographic Information S...

# Watershed Geology

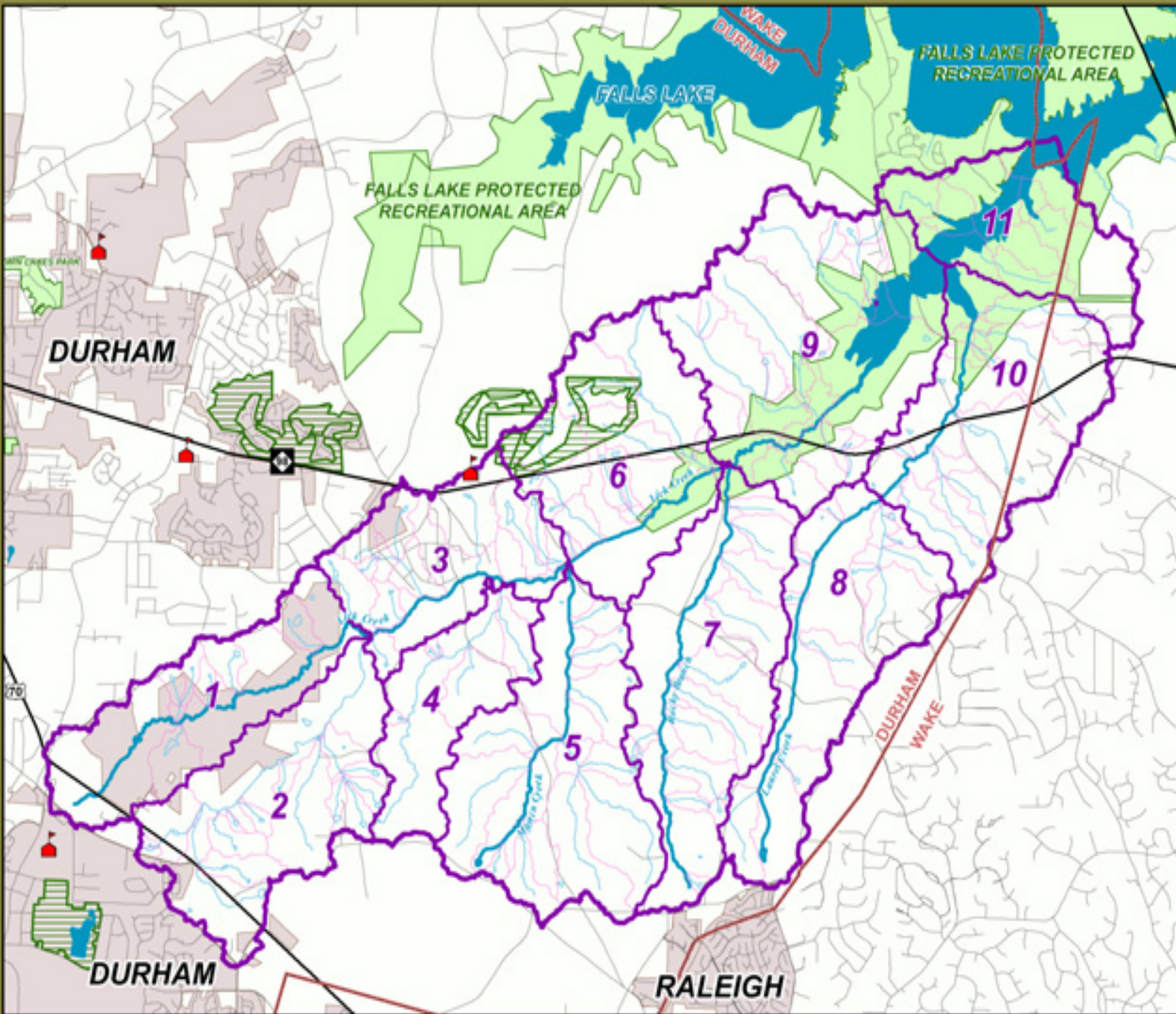




# Watershed Floodplains and Wetlands



# Lick Creek Major Subwatersheds



- LEGEND**
- Municipal Boundaries
  - County Line
  - Major Roads
  - Streets
  - Watershed Boundary
  - Major Subwatersheds
  - Catchments
  - Water Bodies
  - Major Streams
  - Minor Streams
  - Parks & Protected Lands
  - Golf Course
  - Schools



Upper Neuse River Basin  
Association

Triangle J Council of Governments  
Geographic Information Systems  
11/16/2006

# *Watershed Geology and Hydrology*



**Subwatershed 7, Rocky Branch**



**Subwatersheds 8 & 10, Laurel Creek**

# *Watershed Geology and Hydrology*



## WHY A WATERFOWL IMPOUNDMENT ...AND WHY HERE?

Waterfowl are important to the  
ecosystem. They are a source of  
food for many other animals and  
are also important to the  
ecosystem as a whole. The  
impoundment was created to  
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### NOTICE

General  
Impoundment  
Warning

### WARNING

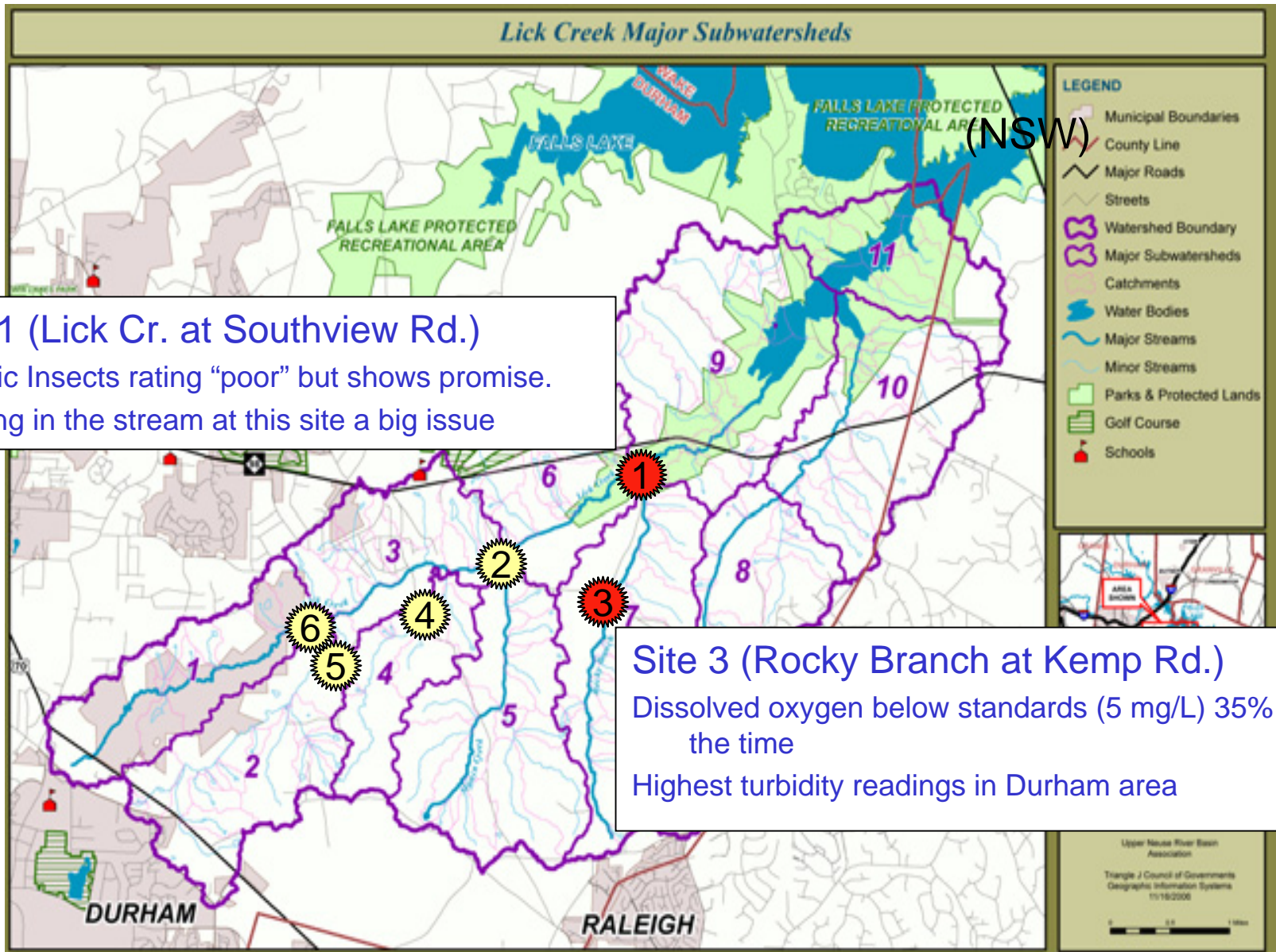
Impoundment  
Warning

# Water Quality

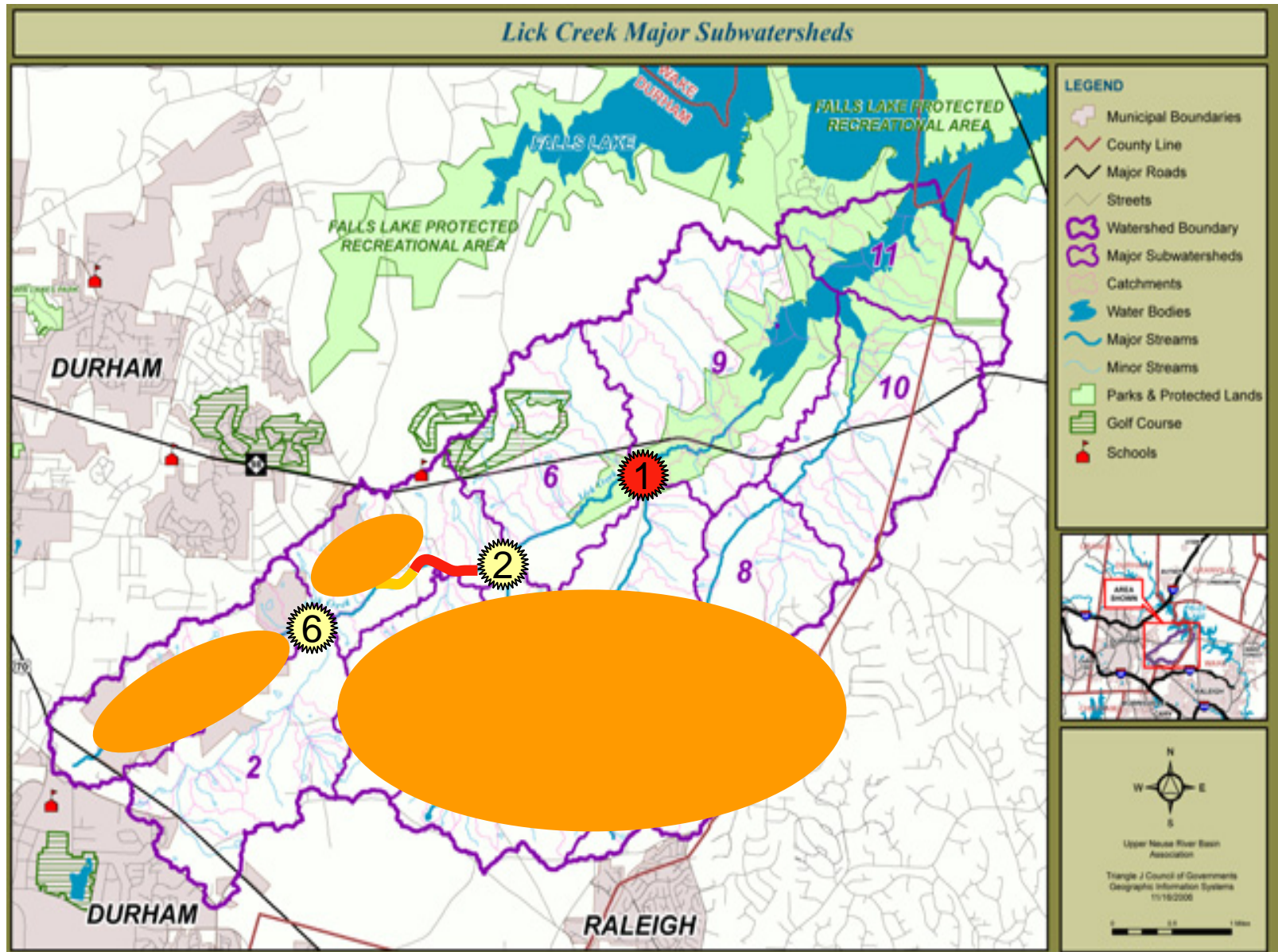


Biological impairment – the loss or reduction of biological communities as the result of one or more external factors, such as low dissolved oxygen, toxic chemicals, excessive sedimentation, or disturbance.

# Water Quality Monitoring (Jan. 04-Apr. 05)



# Other water quality issues of interest...



# *Lick Creek Watershed Land Use*



# *Historic Land Use*

- Native Americans used the lowlands around the Neuse extensively.
- Lick Creek was part of the Oak Grove Township, which was taken from Wake County to form the new Durham County around 1911.
- By 1920's, tobacco, cotton and corn were the major cash crops.
- Significant farming existed in east Durham until the 1980's and 1990's.

# Lick Creek Watershed Existing Land Use Analysis

## LEGEND

- County Line
- Municipal Boundaries
- Watershed Boundary
- Major Roads
- Streets
- Water Bodies
- Major Streams
- Minor Streams

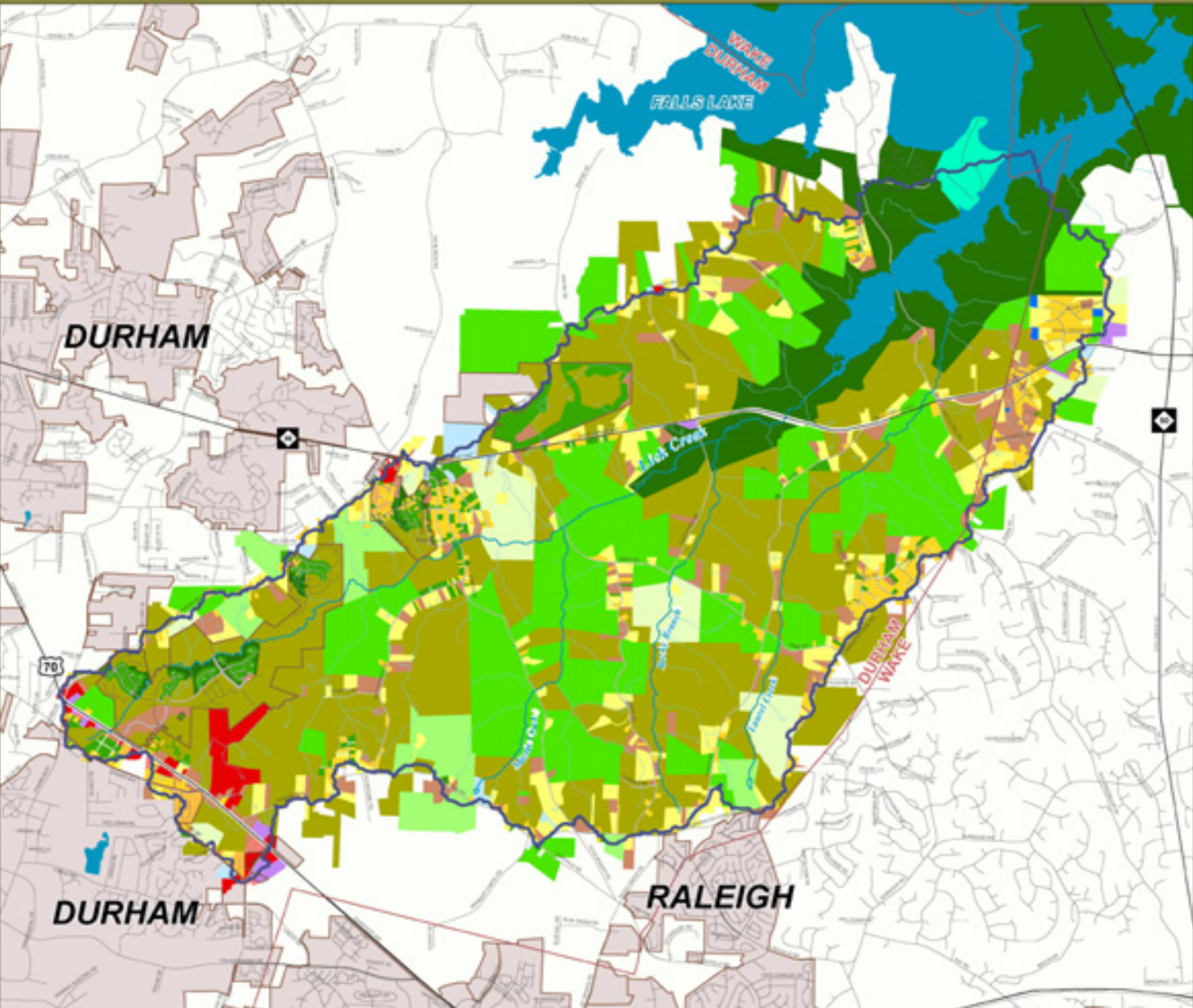
## Lick Creek Land Use

- Protected Natural Area
- Urban Green Space
- Forestry
- Agriculture - Row Crop
- Agriculture - Pasture
- Unmanaged Rural Lands
- Undeveloped Land
- Rural/Semi-Rural Residential
- Lower Density Residential
- Medium Density Residential
- Commercial - Office
- Commercial - Retail
- Institutional
- Industrial
- Special Use - Marina
- Special Use - Well Site



Upper Neuse River Basin Association

Triangle J Council of Governments  
 Geographic Information Systems  
 1/24/2007



# Future Land Use?

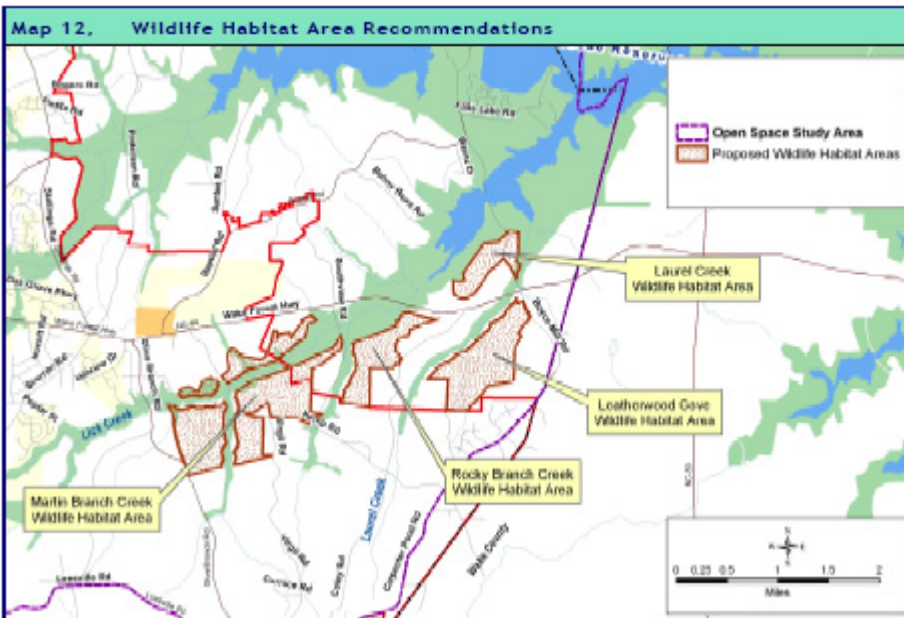
The Durham News  
SATURDAY, JANUARY 13, 2007

ADVERTISING SUPPLEMENT OF THE NEWS & OBSERVER/THE DURHAM NEWS

## Real Estate

**Strong residential and commercial growth makes 2007 the year of the building permit**

Durhamites needn't worry about lack of growth, as new construction projects push Durham east and redevelopment polishes downtown. About 1,200 projects made their way through Durham's planning department last year, said Frank Duke, planning department director.



*Lick Creek Watershed  
Management Goals  
(part 1)*

# *Driving Forces behind restoration plan*

- Lick Creek's 303(d) listing as an "impaired water body" that will possibly require a federally-regulated Total Maximum Daily Load (TMDL) process (Restoring habitat and water quality).
- The Falls Lake Nutrient Management Strategy, driven by the federal TMDL process and a new state law (protecting drinking water, fishing, and recreation).
- The Durham Comprehensive Plan and UDO, which plan for suburban development in Lick Creek.
- The goal of Open Space in the East Durham Plan.

# *Envisioning the watershed...*

Questions:

1. What do you want the watershed to be like in 20 years?
2. How does this match the list of driving forces I have provided?

*Wrap Up*