

Little Lick Creek Watershed Plan

Technical Team Meeting 1
Tuesday, January 18, 2005

Agenda

2:00 Welcome & introductions

2:15 Project overview and progress updates

2:45 Group charter*

5-minute break

3:00 Draft Watershed Planning Goals*

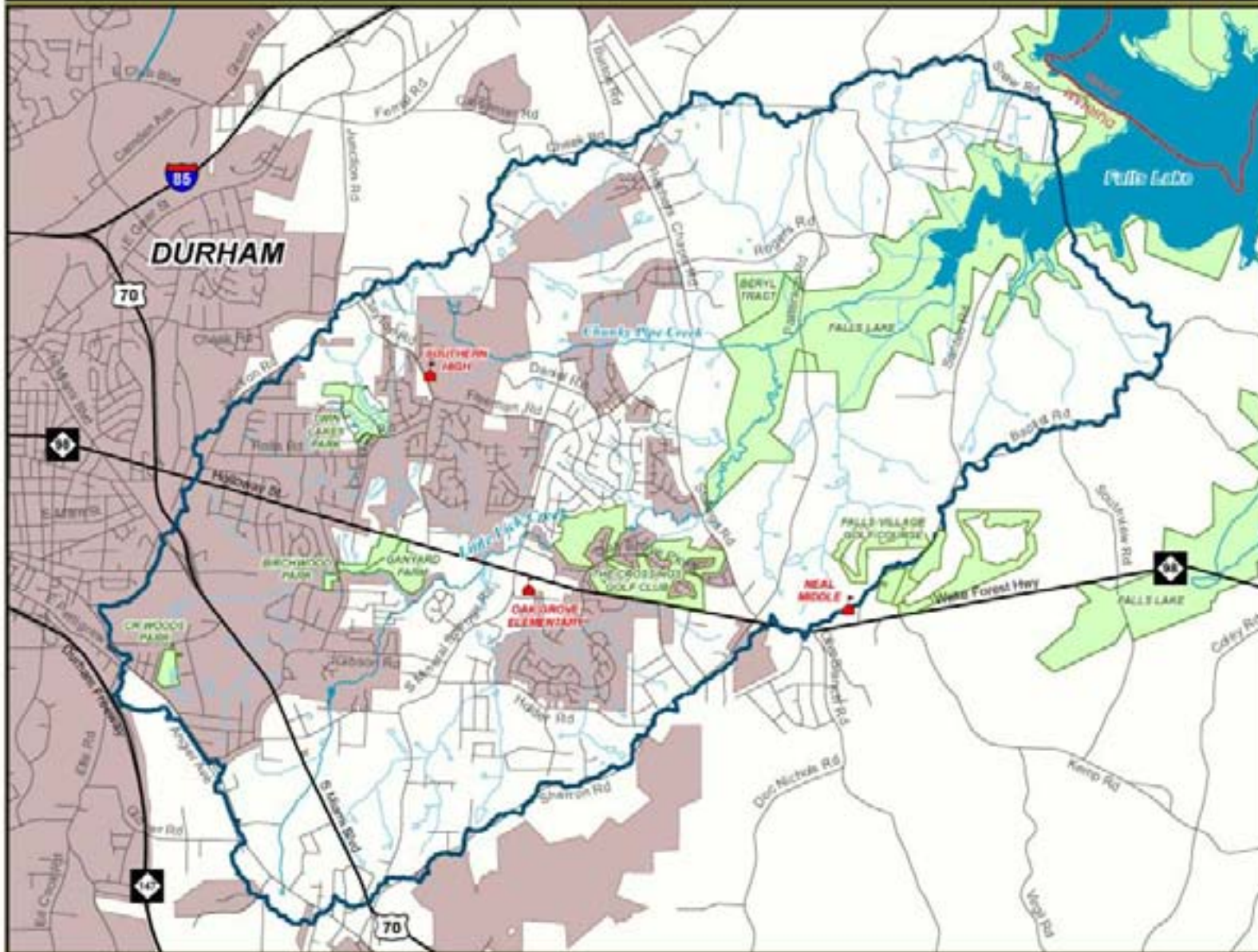
3:30 Initial Subwatershed Prioritization Exercise*

4:00 Adjourn

* Decision Item

Project Overview

Little Lick Creek Watershed



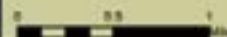
LEGEND

- County Line
- Municipal Boundaries
- Watershed Boundary
- Water Bodies
- Major Streams
- Minor Streams
- Major Roads
- Streets
- Schools
- Parks & Protected Lands



Upper Neuse River Basin
Association

Triangle J Council of Governments
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Project Objectives

1. Identify watershed problems & possible causes
2. Planning, fieldwork, and monitoring to analyze problems
3. Recommend management strategies
4. Create a Watershed Management Plan and implement through partnerships (a focus on NC EEP-specific projects)

Project Steps

1. Involve Stakeholder Group
2. Analyze Existing Data
3. Identify Project Area
4. Set Goals
5. Subwatershed Assessment
6. Monitoring
7. Fieldwork
8. Initial Findings
9. Recommend Management Strategies
10. Implement Highly Ranked Management Strategies

Objective 1: Identify Problems

Desktop analysis

Figure 2: Little Lick Creek Geology

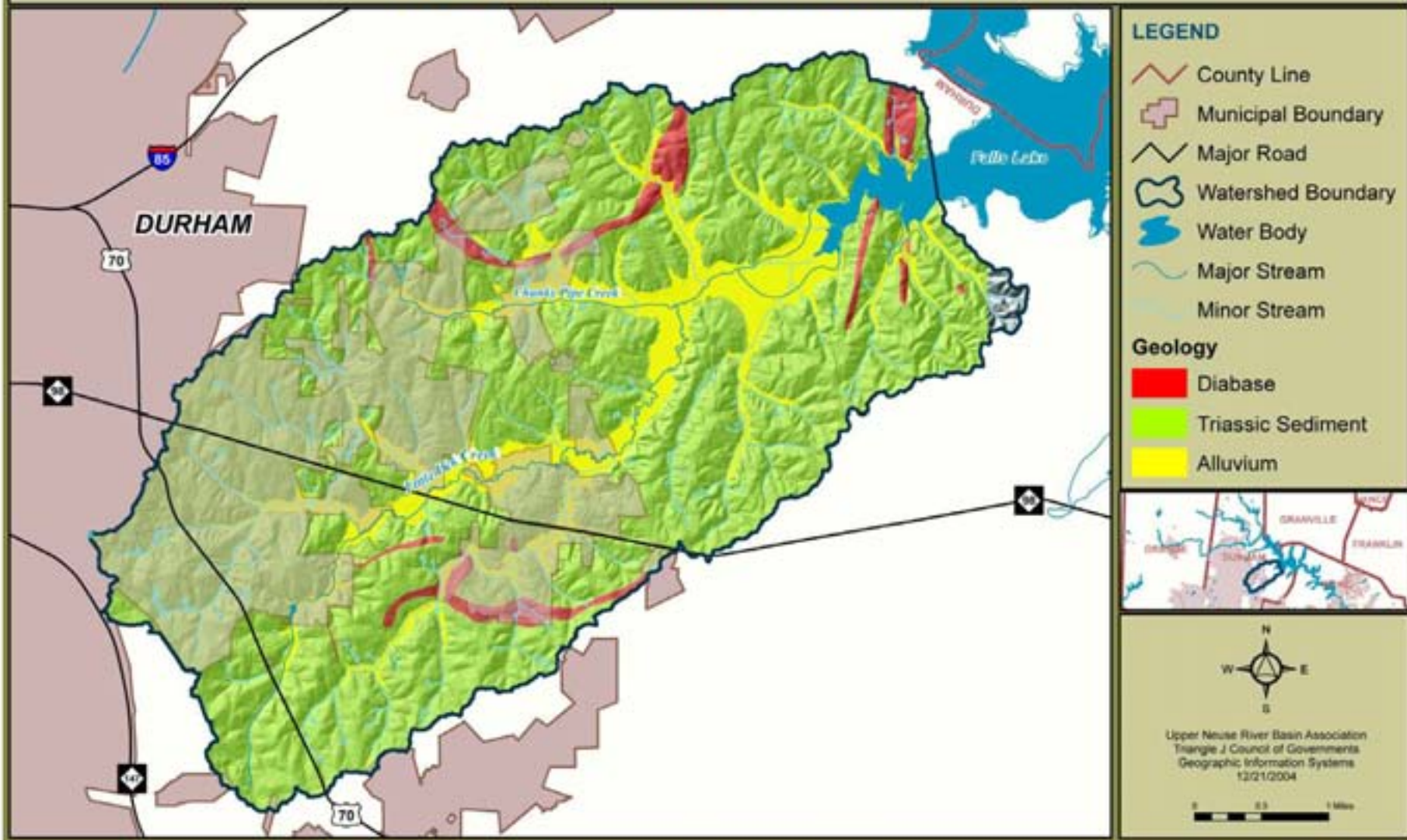


Figure 3: Little Lick Creek Soils

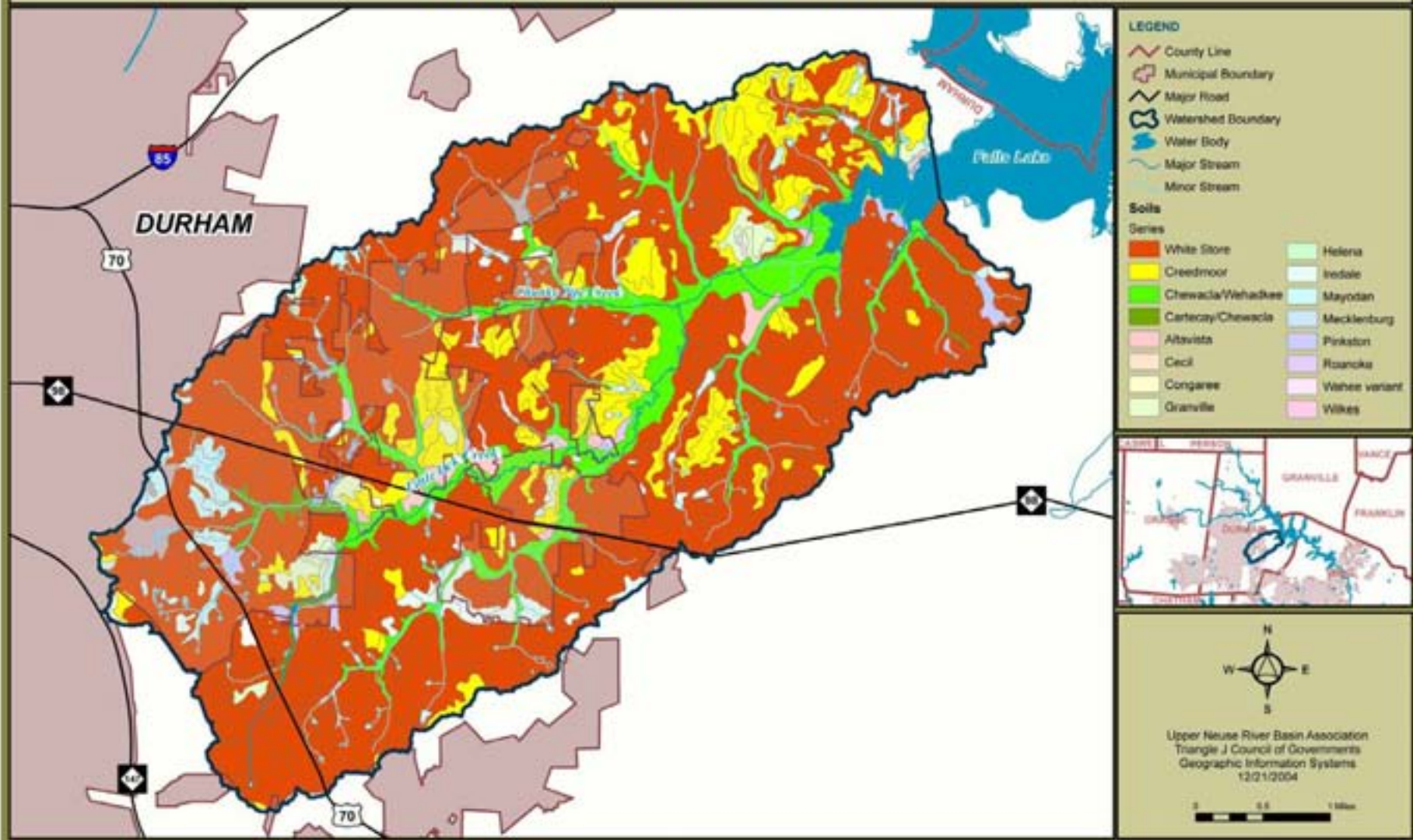
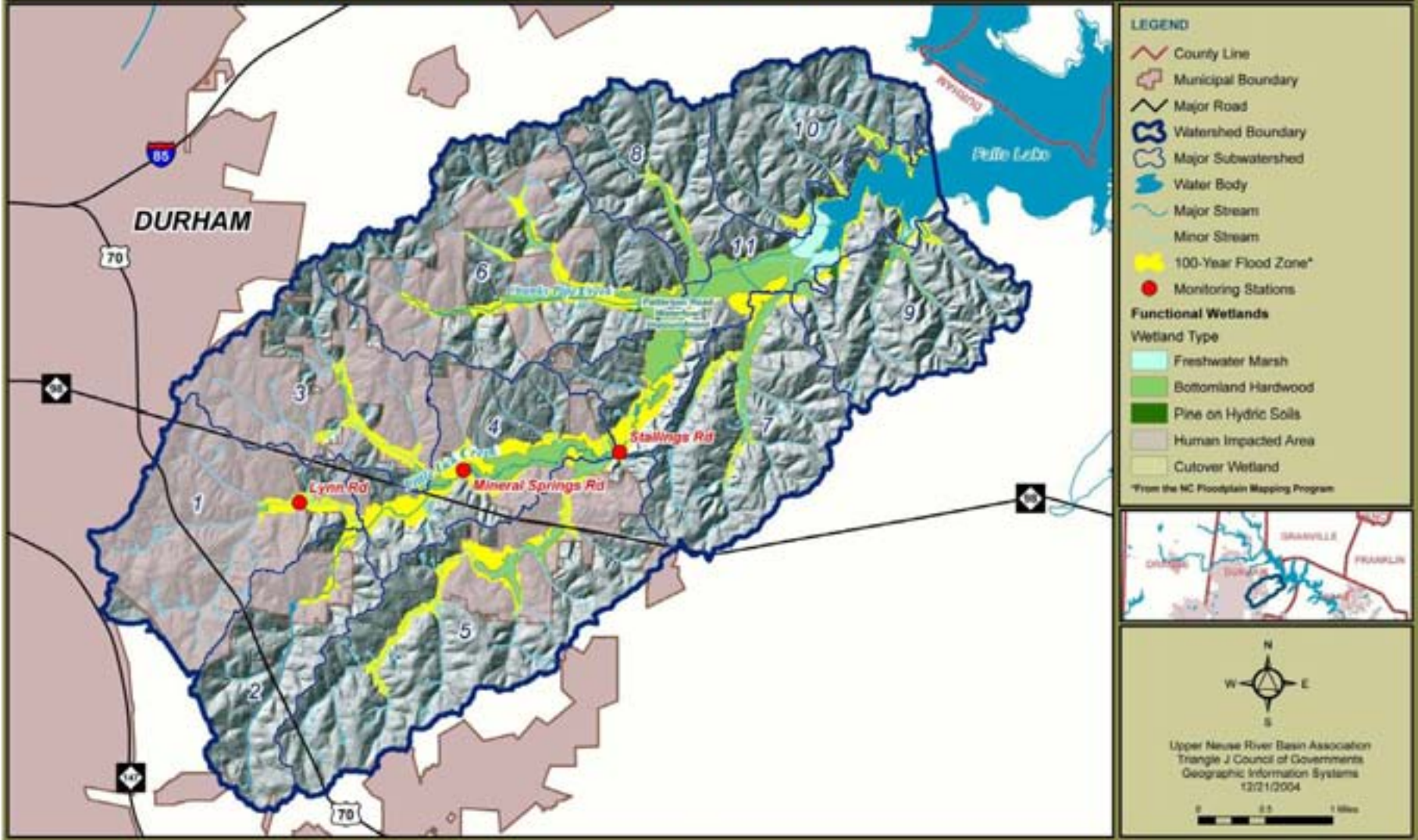


Figure 4: Little Lick Creek Watershed Hydrology



- LEGEND**
- County Line
 - Municipal Boundary
 - Major Road
 - Watershed Boundary
 - Major Subwatershed
 - Water Body
 - Major Stream
 - Minor Stream
 - 100-Year Flood Zone*
 - Monitoring Stations
- Functional Wetlands**
- Wetland Type
- Freshwater Marsh
 - Bottomland Hardwood
 - Pine on Hydric Soils
 - Human Impacted Area
 - Cutover Wetland
- *From the NC Floodplain Mapping Program



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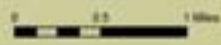
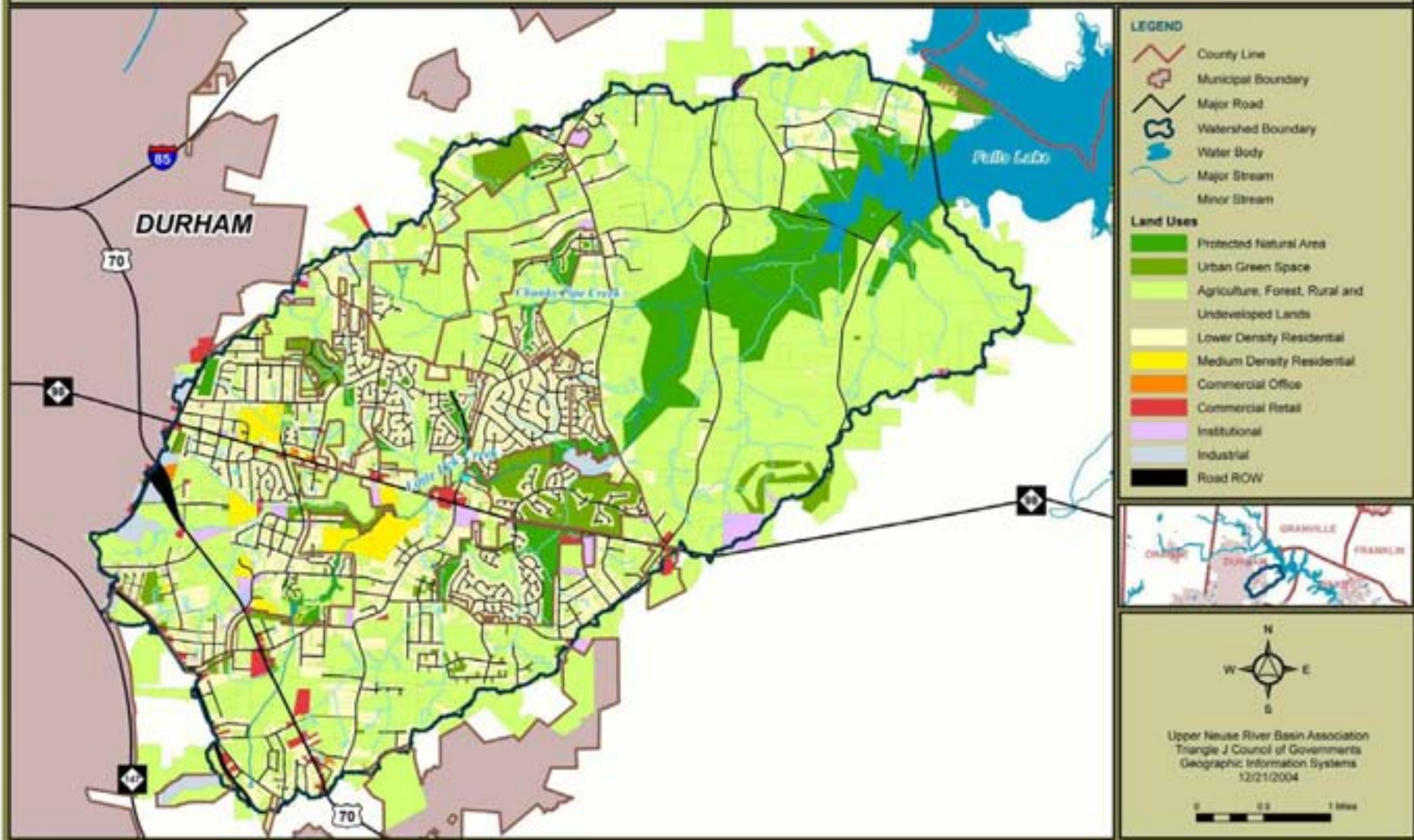


Figure 5: Little Lick Creek Watershed Existing Land Use



Objective 1: Identify Problems

Little Lick Creek is impaired from its source to Falls Lake. Impairment upstream of Patterson Rd. due to low levels of dissolved oxygen.

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.*

Objective 2: Field Verification

Water Quality Monitoring:

1) Review existing data

2) Conduct project-specific monitoring

Objective 2: Field Verification

Subwatershed data:

1) *Stream Assessment—Jan. 24-28*

2) *Upland Reconnaissance—March 14-17*

Short-Term Monitoring Recommendations

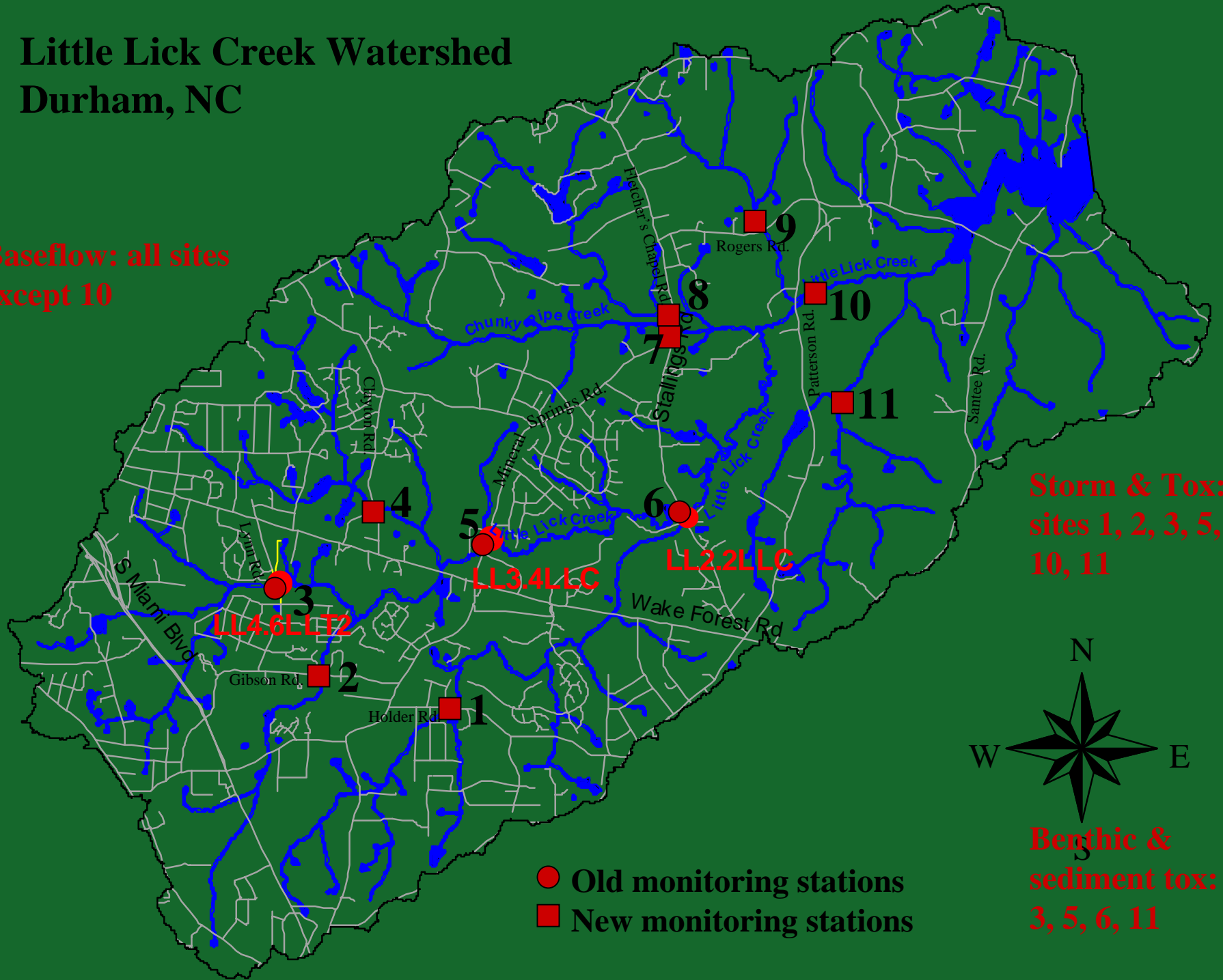
- **Monthly baseflow monitoring on main stem Little Lick Creek and major tributaries**
- **Stormwater monitoring at least once on main stem Little Lick Creek and major tributaries**
- **Stormwater toxicity testing (*Daphnia* or *Ceriodaphnia* feeding inhibition studies) at least once on main stem Little Lick Creek and major tributaries**
- **Sediment toxicity testing (Microtox) at all benthic macroinvertebrate sampling stations**
- **Seasonal continuous monitoring of dissolved oxygen compared with a reference stream**

Short-Term Monitoring Recommendations

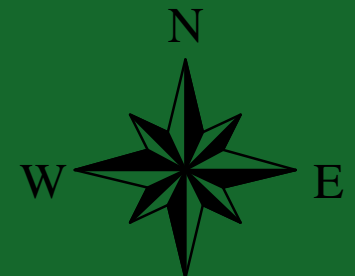
- **Full habitat assessments at all benthic macroinvertebrate monitoring stations during biological assessment activities**
- **Benthic macroinvertebrate monitoring on the mainstem of Little Lick Creek and selected tributaries**
- **Fish sampling on Little Lick Creek and selected tributaries**
- **Continuous monitoring of stream flow and water level on Little Lick Creek**
- **Benthic macroinvertebrate monitoring and fish sampling during the same time period on a relatively undisturbed Triassic Basin creek (such as Smith Creek) for use as a reference for comparison with Little Lick Creek.**

Little Lick Creek Watershed Durham, NC

Baseflow: all sites
except 10



Storm & Tox:
sites 1, 2, 3, 5, 6,
10, 11



Benthic &
sediment tox: 2,
3, 5, 6, 11

- Old monitoring stations
- New monitoring stations

Objective 3: Management Strategies

EXHIBIT 1-5

Eight Tools of Watershed Protection



8. Watershed Stewardship Programs



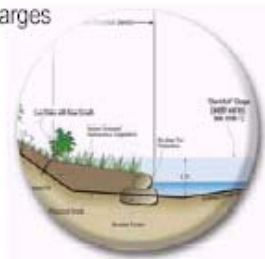
1. Land Use Planning



2. Land Conservation



7. Non-Stormwater Discharges



6. Stormwater BMPs



5. Erosion and Sediment Control



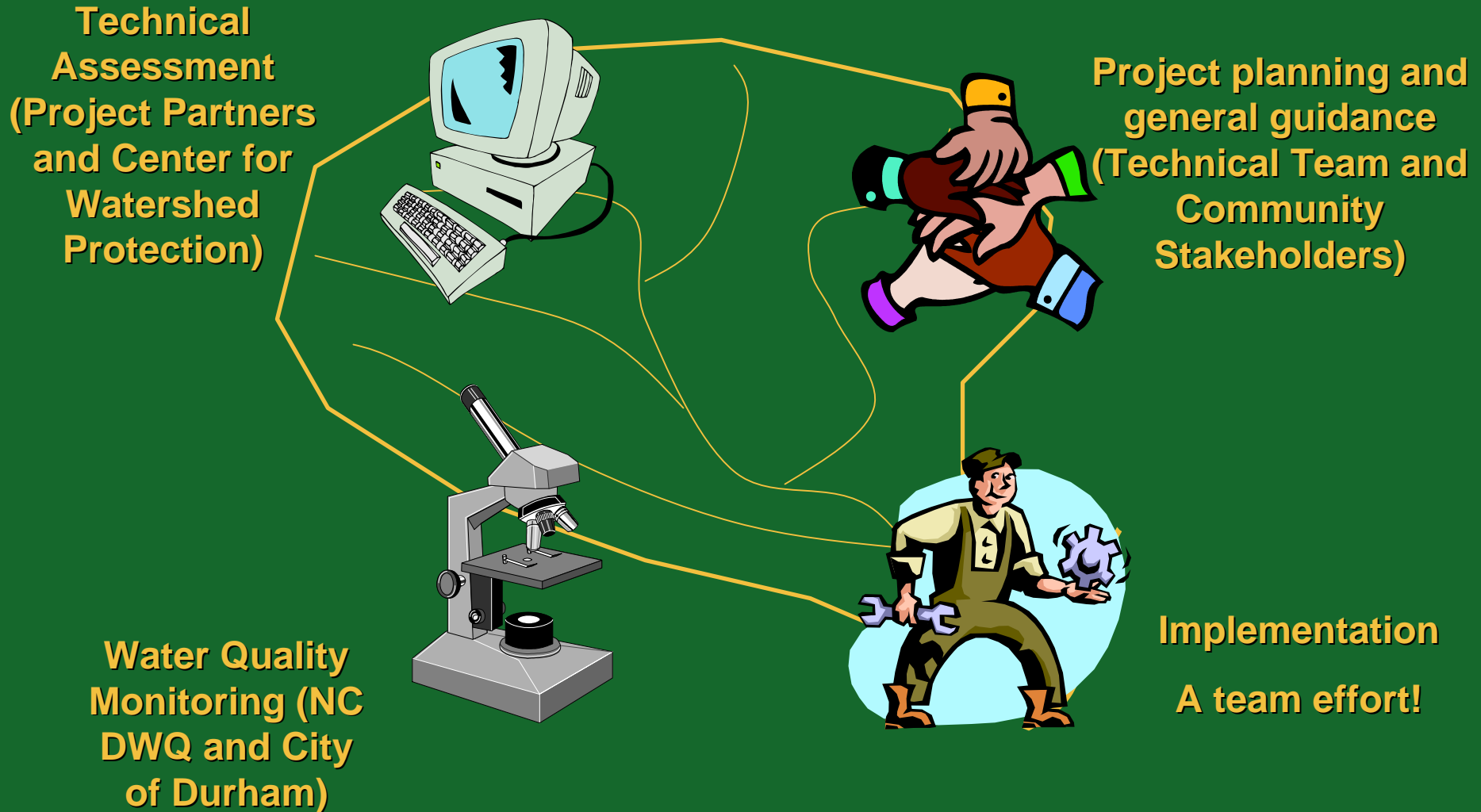
3. Aquatic Buffers



4. Better Site Design

Objective 4: Implements Project

Ingredients of a *successful* Local Watershed Plan



Objective 4: NC EEP Implements Projects



**The best
projects**

Group Charter

BREAK

Watershed Planning Goals

See Draft Watershed Planning Goals handout

Subwatershed Prioritization

See LLC Subwatershed Land Use and
Draft Pollutant Loading Spreadsheet

Subwatersheds are the basis for:

- Watershed assessment
- Fieldwork
- Watershed management
- Project prioritization (or ranking)