Appendix V

Yadkin-Pee Dee River Basin Workshop Summaries

What are the main threats to water quality in the Yadkin-Pee Dee River Basin?

Elkin Workshop

Improper use of fertilizers by homeowners
Homeowners, golf courses and municipalities
City waste treatment facilities
Large industries polluting streams
Nutrients (runoff and municipal WWTP discharges)
Industry and municipalities
Industries and cities
Sediment (3 responses)
Nonpoint sources of pollution (multiple types)
Urbanization
Channelization (2 responses)
Riparian vegetation cut down on streambanks
Exotic vegetation
Sediment pollution from streambank erosion
Streambank erosion and resulting sediment
Sedimentation from unstable streambanks
Sediment (3)
Towns and DOT
Erosion from DOT/developers/municipalities
Cities, housing development

Winston-Salem Workshop

Development
Erosion
Pesticide runoff/fertilizer
WWTP – package plants (poorly run)
Poor database to differentiate point source vs. nonpoint source (i.e., fecal coliform – livestock vs. human)
Aging infrastructure – sanitary sewers, age - harder to operate – large cities
Financial incentives for farmers to keep livestock out of stream
Exceed design capacity of infrastructure
Recreation – golf courses – runoff
Failing septic systems
Agriculture runoff
Altering stream hydrology
Channelization
Irrigation – reduction of streamflow
Development ↑ impervious surfaces
Shot gun approach – focus money prioritize on-site specific basis
Package plants
Golf courses, boats (other recreation)
Failing septic tanks
Poorly maintained collection systems
Landfills (old ones in particular) – old chemicals

Lawns (especially, commercially – maintained)
Discharges/collection systems in environmental sensitive areas
Lack of implementation/maintenance of BMPs during construction
Domestic animal waste
Wildlife waste
Illegal dumping
Too many people
Lack of implementation/maintenance of BMPs for impervious surfaces (roads)
Poorly maintained vehicles
Drought
Junkyards/tires
Litter
Agricultural runoff without proper implementation/maintenance of BMPs
Sedimentation from development
Urbanization
Lack of riparian buffers
Deforestation
Impervious surfaces
Landfills – older/not regulated
Septic tanks → lack of access to collection systems (WWTPs)
Private package plants (basinwide)
Fecal coliform
Growth management to protect resources
Wastewater lines (inflow/infiltration, leakage)

Uwharrie Workshop

Development
Discharges (especially from development around lakes)
Towns
Failing septic systems
Water withdrawals/interbasin transfers (pressure for more)
Policy that concentrates/regionalizes discharges – compounds problems when systems fail (need "back-up" between system and receiving water)
Lack of "big picture" understanding of water quality issues basinwide
Policy does not reflect "true sources" of problems, not just immediate sources
Collection system overflows
Consumptive use
Lack of BMPs
Better education in schools (required all the way through) and more education across board
- pay for with fine $$ (WWTP)

Poor handling flood flows by hydro projects
Development disguised as timber harvesting

Salisbury Workshop

Sedimentation – (throughout Yadkin)
Storm events – construction
DOT, small sites
Public education – public stormwater – pouring down drains

Impervious areas
Removal of buffer areas
Junk yard/salvage yard runoff
Package plants – SSOs – enforcement
Example of Sequoia – long time to get it fixed
Need more state funding
Nutrients
Early last year algal blooms, bad odors in WS (in Yadkin)
High grass areas – Wilkesboro – between Kerr Scott and Elkin
Aquatic weeds → moving down river
Livestock in streams
High Rock Lake water level fluctuations
Co-generations – discharge – prohibitions on withdrawal
Development (i.e., high density)
Urban – septics, impervious surfaces, stormwater BMPs
Faulty septic systems
Individual houses fertilizer application (i.e., riverside homes)
Sloped lawns to banks
Lack of buffer from lawn to water
Fighting buffer reduction rules
Water withdrawals and not putting it back into river cleaner
Development – stormwater, filling in of wetlands, sedimentation, erosion
Lack of policy for development in floodplains
Homeowners – pesticides and fertilizers, lack of sewage systems/faulty septic tanks
Small businesses – overlooked
Low water levels/drought effect on sampling?
Streambank erosion
Animal access to streams
Effects of recreational activities on lakes and rivers (jet skies, boats, ATVs)
Lack of enforcement
Faulty municipal lines

Fairview Workshop

Out of control construction – housing
Union County growth – very fast growth
Golf courses – chemical application – 3x4 times fertilizer than agricultural fields
Lawns – slope down by river – fertilizer – got to go somewhere
Fertilizer application – much greater on lawns than agriculture field
Highways shoulders – seeding, fertilizer
Stormwater management – impervious parking lots, rooftops, driveways
Forestry management practices

- cut and replace clear cut of hardwoods instead of selective (riparian buffers)
- mass conversion – hardwood → softwoods
- forestry management plans

City and industrial violations
Sewer spills – recent problem in Union County
Septic tanks – individual
Union County soils → problem with septics Anson

Streambank erosion → quickly urbanizing areas
Population projection for 2020 in Cabarrus (from 1998 plan) has been reached
Growth and development and associated sedimentation
Growth – more dischargers on Rocky River
Demand on water during drought
Minimum instream flows under low flow conditions
Lack of BMPs implemented and enforcement (urban)
Failure of erosion control not caught
Lack of stormwater regulations
Lack of education for public on how their actions impact water quality
Ammonia in tributaries (a parameter that is a problem for package treatment plants
Nutrients (including P)
Has source of ammonia been I.D.?
Impervious surfaces and runoff
How has drought affected water quality?
How has it been considered in monitoring?

Where are the problem areas or waters?
What recommendations do you have for improving them?

Elkin Workshop

Failure to follow-up on the proper implementation of BMPs.
- Fine those who break laws
- Use education and positive enforcement, not the creation of new laws.

Housing Developments

Good water quality (not impaired) seems to be in the farming and rural area. Degraded waters seem to be in urban areas – based on your presentation (such as Winston-Salem). Therefore, keeping land in agriculture and farming is important.
- Don't regulate the farmers off the land.

Runoff from urban/residential areas

Road and building construction

Ararat near Mount Airy (sediment)
- Restore buffers
- Fine those who break laws

In the Mitchell South Fork and Snow Creek – 20% of the length is eroding streambanks. These numbers are higher in the Fisher and Ararat.

South Fork Mitchell River Watershed
- Detailed assessment data (BEH1, landowner interest, photos)
- Local support (Surry County Soil and Water)

White Fork trib

Brushy Fork

Ararat River
- Buffers on all streams
- Increase fines for those that break laws

Scattered throughout – where there is a lack of riparian buffer then there are problems.

We don't have any problem areas on water problems except "LACK OF".

There are not that many problem areas in the upper basin.

Winston-Salem Workshop

Muddy Creek S. of Hwy 158
- Streambank erosion
- Evaluated for restoration
- Sewer line – stabilized bank
- Landfills – 100-year flood
- Affected flood area north of Hwy. 158

Salem Creek – downtown Winston-Salem – Erosion problem
- Water retention BMPs
- Restoration – part of stream – What value is it if not restore whole stream?

YPDRBA – monitoring, data goes to DWQ

Package plant – Sequoia – has been tied in Winston-Salem (Reynolds Creek)

Yadkin – upstream of Kerr Scott
- Herbicides and pesticides
- Alterations of tributaries
- Erosion as come across Yadkin floodplain

- potential restoration
- DWQ monitoring

Salem Creek, between RG Elledge WWTP and next one "black and bubbly dyes"
- stormwater BMPs

Rich Fork below High Point WWTP
Ebert Street tributary to Salem
- Sewer lines

Ararat River
Grants Creek – sediment
Fourth Creek – FC, nutrients
- buffers

Creek through Walkertown has package plant that malfunctions
Town Fork – water quality BMPs
Abbotts Creek – increasing development
Stormwater BMPs, wastewater treatment
Also channelized reaches, sediment
Salem Creek
- more bioassessment monitoring

Rich Fork Creek → High Point westside wastewater discharge
- take these discharges out to Yadkin River

Can DWQ address curb/gutter standards and water quality issues? How do these standards compare without road building techniques for water quality?
- Education about stormwater management and sedimentation – how to maintain BMPs – need better guidance – long-term maintenance
- DOT addressing stormwater at bridges – bioretention for filtration and treatment
- Need formalized process for ensuring that projects are inspected/maintained
- BMPs – needs to be done upfront
- Education basinwide → already happening in some areas

Uwharrie Workshop

New shcools on NC 49 (discharge)
Farmer Elementary School
- compliance with permit
- maybe look at limits (DWQ)

Major hydro projects
- better communication between dams to better handle flood flows downstream
- address during relicensing

Norwood (failing septic)
- ID locations and work with owners to correct it
- grant funding targeted to issue

Carson City (south of Mount Gilead) (on 109)
Failing septic b/c not proper conditions for on-site
- come up with alternatives

Developments on lakes designed for part-time use now with full time pressure (Badin Shores resort and Twin Harbors resort?)
- come up with alternatives for waste treatment

National Forest allowing ATVs that cause sediment problems [designated areas]; also camping along banks of Uwharrie

- design sedimentation basins and other "treatment" for designation areas
- comprehensive plan to address problems with whole forest
- ridership education when purchase ATV in order to use public lands

"Steel bridge" on Lake Tillery

Salisbury Workshop

Dye Branch – Chlorine toxicity
- Mooresville WWTP – toxicity sampling – ↑ TRC

South Yadkin – Impacted by suspended sediment, from 40
DOT construction – development
Grants Creek
- Small WWTP to be removed
- Salisbury has been removed

W/S, Salisbury
Stormwater impacts ↑, nutrients, metals
- Local training of contractors program - clear water contractor
- Equipment beyond compliance BMPs
- Training – certificate
- Citizen participation – storm chasers
- Local county sediment/erosion control doing better than state

Marinas
- restriction on gas filling at marinas
- above ground tanks
- buffers

Recreation – golf courses
- certification program/training
- sources of pollution away from waterways
- On-site non-discharge for wastewater constructed wetlands for treatment [Walnut Cove plant good example]
- Citizens – watershed education in schools hard o get people to come to meetings
- Land Use Planning/Zoning

Lake Tillery
High Rock Lake
Fourth Creek
- BMP $ for non-agricultural areas → for nonpoint sources

Lack of trailer park inspections
- Stop building houses along banks
- Educate local decision-makers to implement
- Implement buffer requirements
- Sediment and erosion controls to more stringent rules

Badin Lake – company holding sludge on property prior to use – needs regulating
Third Creek in Iredell and Rowan counties – color, needs better monitoring
Rocky River – aquatic concerns; development control
Grants Creek – development problems; needs better BMPs
- Better stormwater management
- BMPs for urban development
- Better monitoring of streams; verify 303(d) list
- Limit setbacks, density development

- Regulate landscapers/lawn contractors

Fairview Workshop

Same as in 1998 – Coddle Creek and Cabarrus County – Sedimentation and nonpoint sources
- $$ to hire erosion control for enforcement
- control growth in Cabarrus

Are BMPs required working? (State monitors 11% of construction projects)
- Partner with Soil & Water Conservation District for erosion control since they have existing knowledge
- Have local administration of state erosion control and sediment law

Septic systems? Potential problem for failures and no good means for monitoring
- needs to be a methodology

Growth will continue to pressure for wastewater discharges in Rock River
Education → need to take care of what we've got
Water as a limiting factor
Wastewater line ruptures (potential for future in Goose Creek)
Sensitive placement of sewer lines to prevent failures affecting Goose Creek
All along rivers and lakes – houses along rivers/lakes
Western portion of Union County – 2000 houses
- Erosion
- Fertilizer, lawns on new developments

Town sewage spills
Sewage treatment plants, manholes
Uneven news coverage of municipal spills vs. agricultural spills → more coverage
Example of spills in Mecklenburg (minimal coverage) vs. spill of hog lagoon – statewide coverage.

What local agencies or organizations should be involved?

Elkin Workshop

Soil and Water Conservation Districts – give them the sources to educate landowners and provide incentives for conservation.
County/city governments (Farm organizations)
Soil and Water Districts – NRCS – NC Forest Service – Town officials
Local problems need to be solved by Local Agencies ONLY !!
The local soil and water board
The local soil conservationists

Winston-Salem Workshop

Local governments
State government
BOMA – Building and Office Management Association – could be used as a clearinghouse
Triad Apartment Association
Duke Power
Winston-Salem stormwater
COG (205j)
All local municipalities
Yadkin-Pee Dee River Basin Association
Clean Sweep/Adopt-A-Stream
Voluntary agencies/nonprofits
Co-operative extension – stormwater management
Education
Local environmental groups
Soil and water districts
RC&Ds
Interfaith Partners for the Earth
Forsyth Friends of the Land
Land trusts
Cattleman's Association [every county]
Sierra Club (local)
TNC
Farm Bureau
Keep Iredell Clean
HBA
Neighbors for Better Neighbors – Winston Salem
Landscape Architects
Turf Grass
Trout Unlimited (Surry and Wilkes)
ALCOA
Economic development
PT Partnership
Yadkin-Pee Dee Lakes Project
Airport Authority

Uwharrie Workshop
National Wildlife Refuge in Anson County
Chambers of Commerce and EDC Boards
Ducks Unlimited; Wild Turkey Federation

Salisbury Workshop
Chambers of Commerce
Economic Development
Farm Bureau
Land Trust for Central NC
Keep Iredell Clean
Yad-Pee Dee Lakes Project
Ruritan/Civitan Clubs
Quail Unlimited – Ducks Unlimited
National Wild Turkey Federation
Badin Lake Environmental Group (Homeowners)
High Rock Homeowners Association
Land Stewardship Council of NC
Clean Water for NC
Housing Development Builders Association