



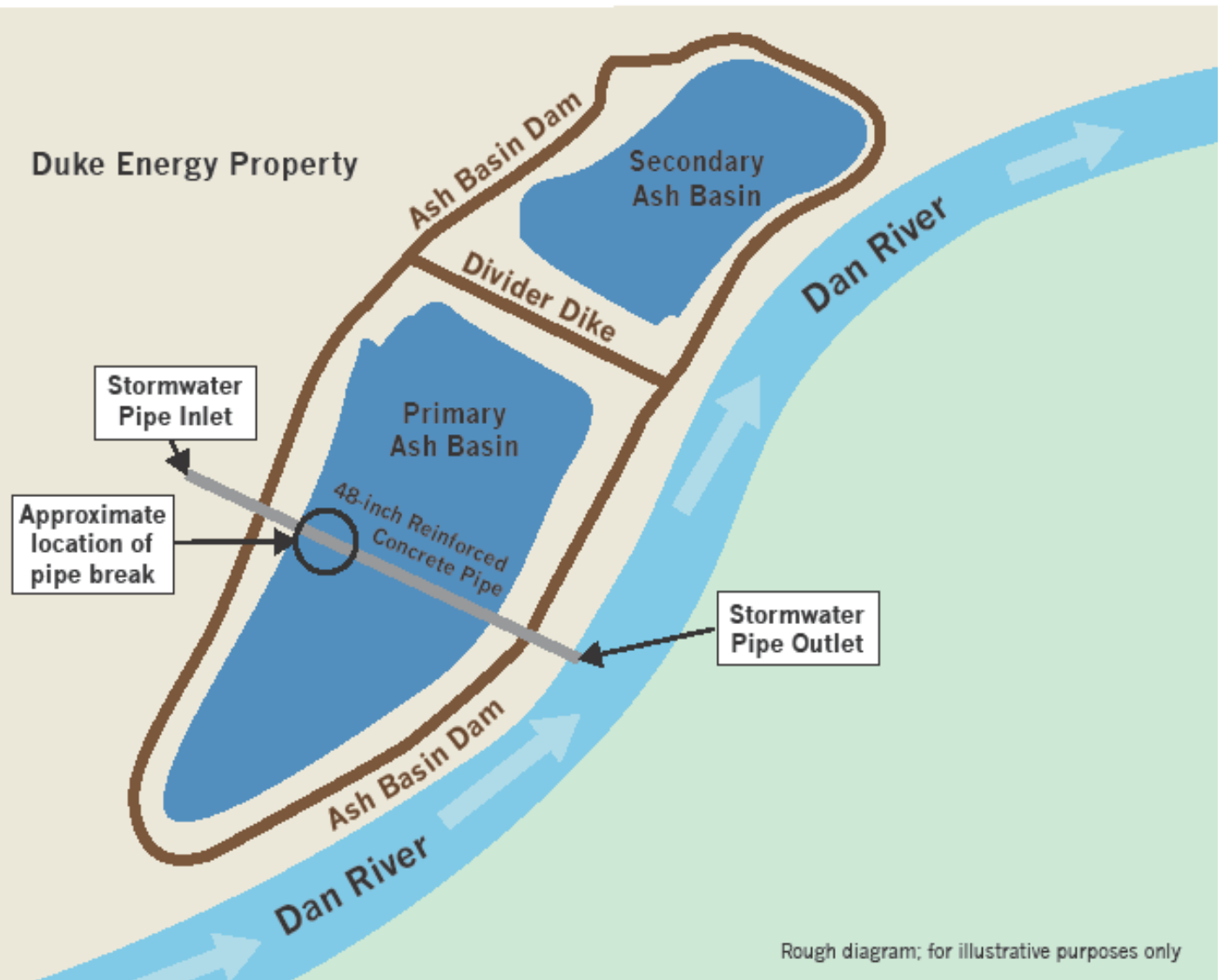
# DENR Coal Ash Update

Environmental Review Commission  
April 22, 2014

# Overview

- Dan River site activities
- Dan River remediation efforts
- Dan River sampling & analysis
- Dan River long term monitoring plan
- Comprehensive inspections
- Enforcement activity

# Dan River Steam Station



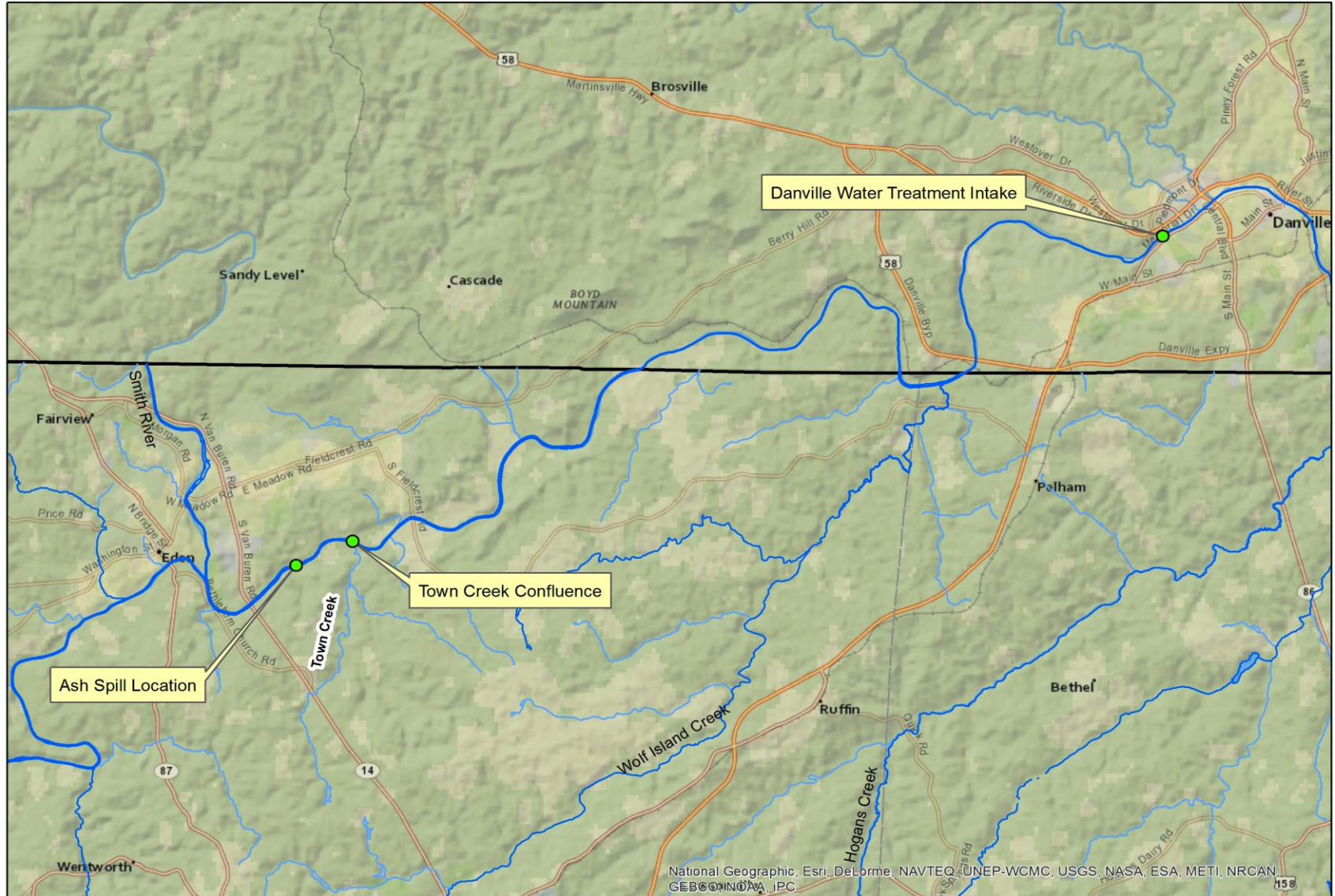
# Dan River Site Activities

- 48" stormwater pipe plugged on February 8
- 36" stormwater pipe plugged on February 21
  - 36" pipe was determined to be leaking constituents of coal ash
- Pipes plugged with grout and concrete
- 48" pipe bricked up and sealed





# Identified Dan River Coal Ash Deposit Sites



# Dan River Remediation Activities

- Three ash deposits identified
  - Immediately downstream of 48" stormwater pipe
  - Upstream of Danville treatment plant (Schoolfield Dam)
  - Near the confluence of Town Creek (in NC)
- Ash by stormwater pipe removed 11-12 Feb, 2 & 5 March
  - Approximately 22 cubic yards removed
- Danville deposit approx. 3000 cubic yards
  - Appropriate fed/State permits being secured
  - Professional dredging contractor has been hired
  - Contractor currently mobilizing on site: May 1 start date
  - 2 to 3 months in duration







# Dan River Remediation Activities

- Town Creek deposit approx. 40 to 50 cubic yards
  - Possible bucket and shovel removal operation
  - Conducted simultaneously with Danville removal
- Duke working with Danville & South Boston to remove sediment/ash in Water Treatment Plant filters
- No ash deposits located in Kerr Lake to date
- Efforts will continue by Duke/State/Federal agencies to locate/map any other ash deposits that may exist

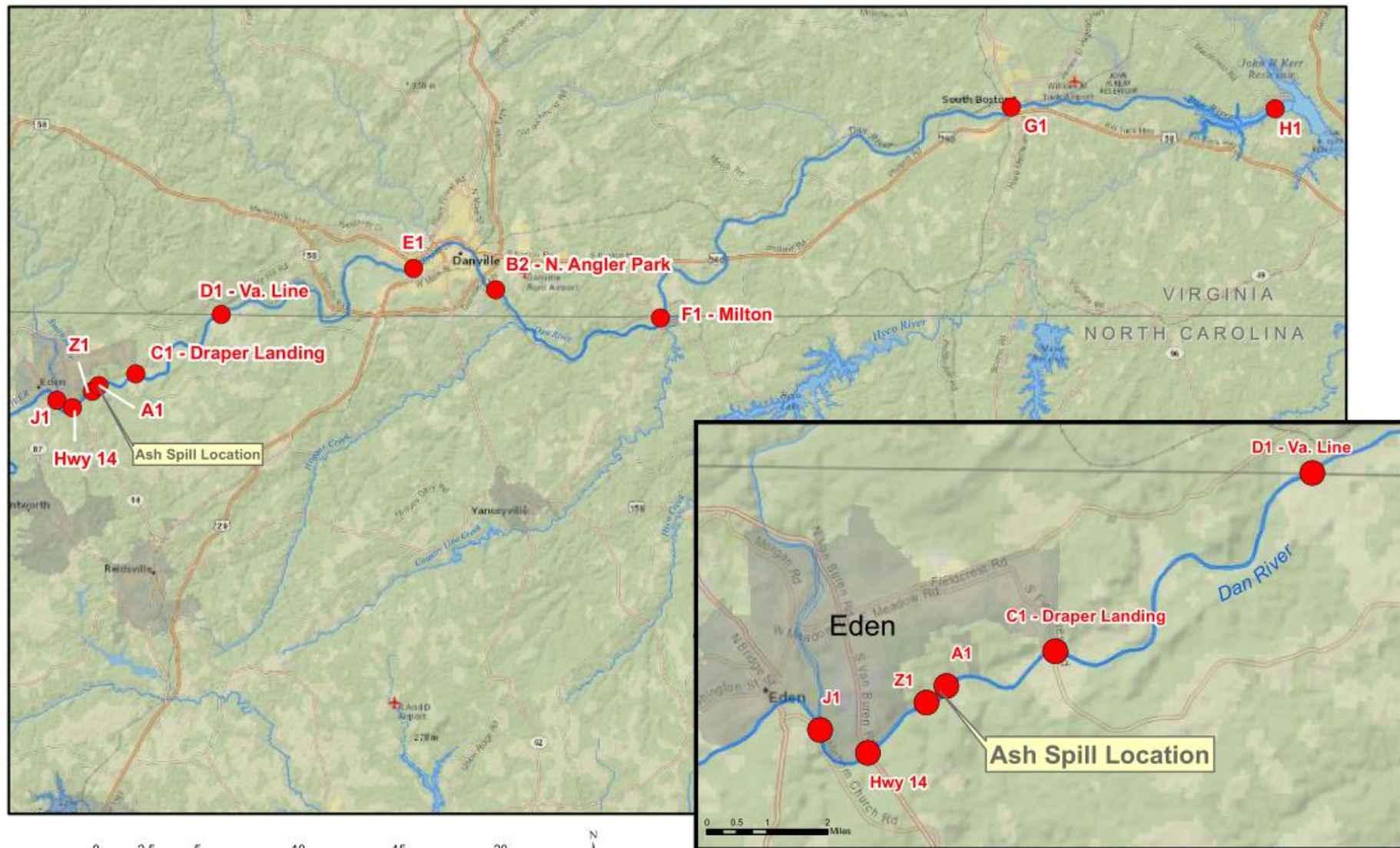
# Dan River Long Term Remediation

- Sec. Skvarla requested EPA take role of lead agency under CERCLA for response to Dan River release
- Response crosses state lines
- Long term activities being coordinated between EPA, DENR, VA DEQ, Duke, USFWS, Army Corps, Rockingham County, Danville, South Boston, Clarksville, Coast Guard
- Stakeholders meet every Wednesday at Eden
- Stakeholders share and discuss sampling results:
  - Chemical analysis, sediment sampling, fish community, benthic data, etc...

# Dan River Sampling & Analysis To Date



# Duke Power Eden Coal Ash Spill and Monitoring Locations for Dan River, NC



● Coal Ash Spill Monitoring Stations

# Current Sampling Activities

- Weekly water sampling & analysis for:
  - Metals
  - Hardness
  - Solids
  - pH
  - Temperature
  - Dissolved Oxygen
  - Specific Conductivity

# Water Sampling Results

- Surface Water – thru 3/14
  - Arsenic decreased from 40 ug/L (immediately after release) to less than 2.0 ug/L at Draper Landing
    - NC Standard = 10 ug/L human health
  - Aluminum & Iron remain high at all stations due to background contributions



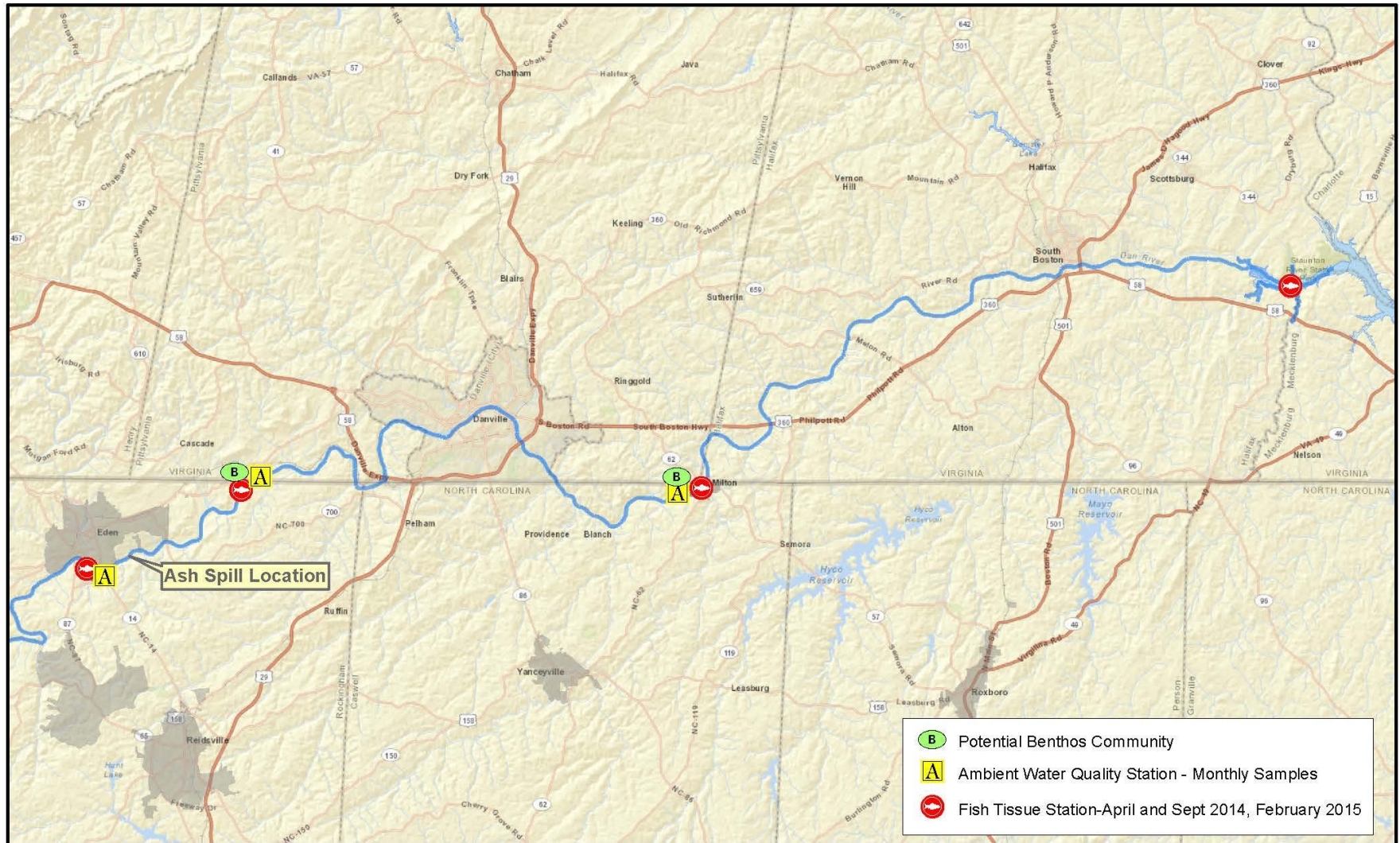
# Sediment Sampling Results

- Sampled on Feb 7<sup>th</sup>
- 100 yards from release:
  - Aluminum, Arsenic, Barium, Copper, Iron, & Mercury above EPA Screening Values
- At Danville:
  - Aluminum, Boron, Iron, & Strontium above EPA Screening Values

# Dan River Long Term Sampling & Monitoring Plan

- Surface water sampling commenced on Feb 3
- Continued on a daily basis until through early March
- Surface water sampling conducted weekly since then
- Sampling coordinated w/ EPA, VA DEQ, USFWS, DENR
- In addition to State/federal efforts, Duke is conducting:
  - Surface water sampling
  - Sediment sampling
  - Fish tissue sampling
  - Benthos sampling

# Duke Power Eden Coal Ash Spill and Monitoring Locations for Dan River, NC



0 2.5 5 10 15 20 Miles

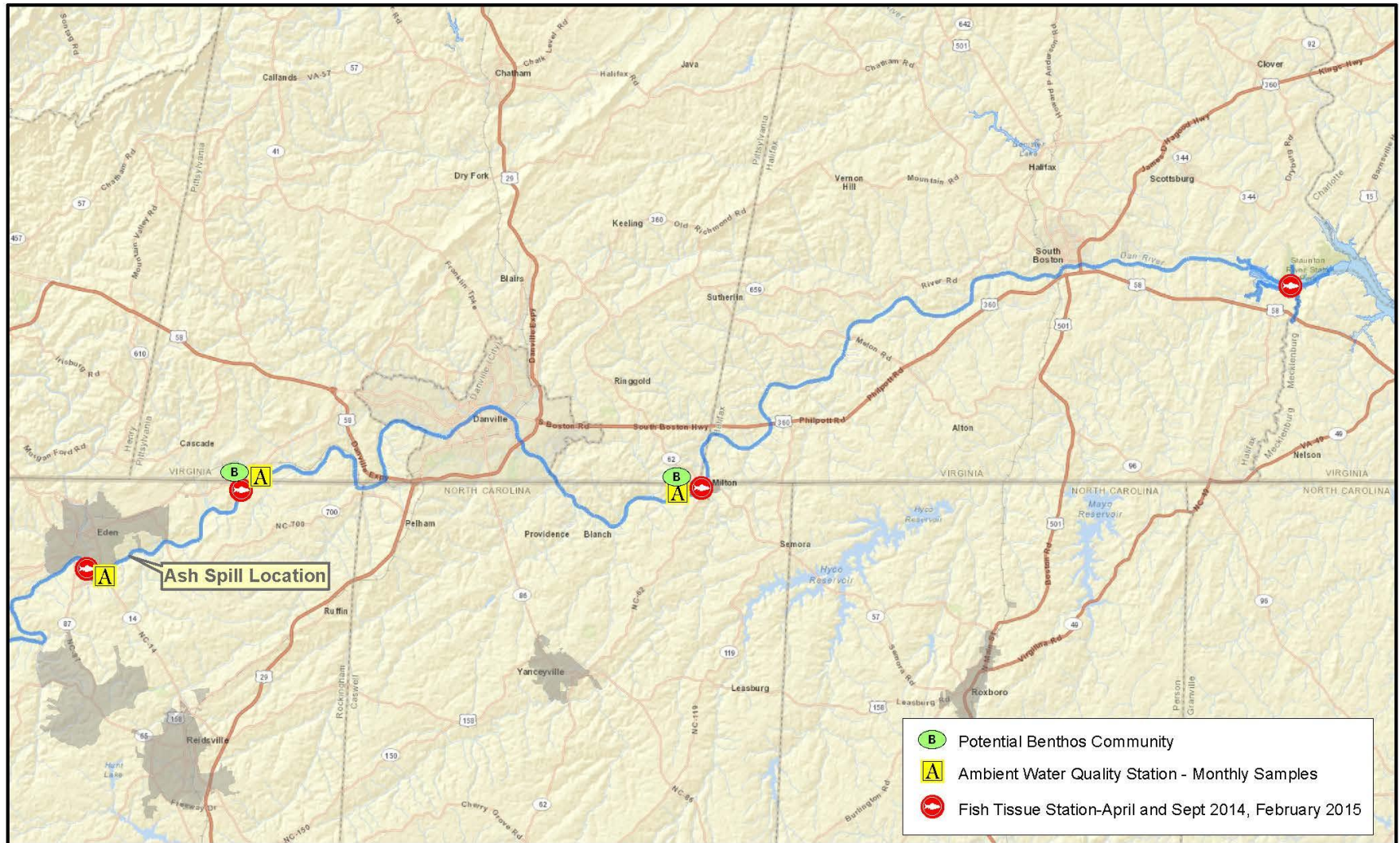




# Dan River Long Term Sampling Plan

- Water Column Chemistry
  - Monthly sampling
  - Water column analyzed for chemical constituents
- Fish Tissue Chemistry
  - Assess possible bioaccumulation of coal ash constituents in fish
  - Baseline sampling being conducted now
  - Follow-on sampling at 1 month, 6 months, and 1 year later

# Duke Power Eden Coal Ash Spill and Monitoring Locations for Dan River, NC



0 2.5 5 10 15 20 Miles



# Dan River Long Term Sampling Plan

- Aquatic Macroinvertebrates (Benthos)
  - Excellent indicator of overall stream health
  - Sampling is dependent upon river stage & flow
- Sediment Chemistry
  - Additional sediment sampling may be conducted on an as needed basis

# Comprehensive Coal Ash Facility Inspections

- All coal ash facilities inspected from Mar 10-21
- All visible discharge or outflows sampled
- Comprehensive photographic record completed
- All info will be available on DWR web pages



# Enforcement Activities

- Sec. Skvarla invited EPA to partner w/ DENR on Clean Water Act enf. activities related to Duke coal ash in NC
- DENR now conducting joint enforcement actions with EPA
- NOVs Issued to date by DWR
  - Dan River facility: for coal ash release
  - Cape Fear facility: for unauthorized pumping
- Other NOVs possible from information gathered during comprehensive inspections

# Enforcement Activities

- NOVs issued by DEMLR for failure to obtain proper stormwater permits:
  - Belews Creek
  - Cliffside
  - Dan River
  - Lee
  - Roxboro
  - Sutton

# Permit Reopenings

- DWR has provided Duke with 60-day notice that it intends to reopen the NPDES Permits for the following facilities:
  - Dan River
  - Asheville
  - Sutton
  - Riverbend

# Contact Information

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