

Request Approval of 2014 303(d) Listing Methodology

Kathy Stecker, DWQ

Schedule for 2014 List

- ▶ Public comment period for 303(d) methodology
 - September – November 2012
- ▶ DWQ requests WQC/EMC approval of methodology
 - January 2013
- ▶ Public comment period for 303(d) list
 - January – February 2014
- ▶ EMC information item on 303(d) list
 - March 2014
- ▶ List submitted to EPA for approval
 - **APRIL 1, 2014** (*40 CFR 130.7*)

Outline

1. 303(d) Listing Methodology
2. Comment Summary
3. Recommended Changes
4. Request Approval

303(d) Listing Methodology

- ▶ Background
 - Federal
 - State
 - General process
- ▶ Data
 - Sources
 - Locations
- ▶ Assessment
 - Categories
 - Water quality standards
 - Uses, criteria

Background

- ▶ Federal **Clean Water Act** (1972)
- ▶ **§303**: States must submit to EPA *for approval*
 - **(d)(1)(A) List** of waters not meeting standards
 - **(d)(1)(C)** “Total Maximum Daily Load” (**TMDL**) for all waters/pollutants on list

Background

- ▶ 1997 – NC General Statutes
 - 143B-282(c)
EMC shall implement Section 303(d) by identifying and prioritizing impaired waters...

Clean Water Act Section 303(d)

- ▶ Each State shall identify waters that do not meet any **water quality standard** applicable to such waters
- ▶ This is the *“303(d) List”*
- ▶ EPA shall approve or disapprove list

40 CFR 130.7

- ▶ State shall submit list to EPA by April 1 of every even-numbered year

Federal Requirements

- ▶ 303(d) List
 - Identify waters that don't meet standards
 - And need TMDL
 - Consider all existing and readily available data and information
 - De-listing only with good cause
 - Delineate assessment units
 - Listing methodology consistent with state WQ standards

Federal Requirements

- ▶ **Public comment** (40 CFR 25)
 - Takes place early in even-numbered years
- ▶ **EPA decision** (40 CFR 130.7)
 - Approval, disapproval, partial approval
 - Conduct independent assessment
 - Add waters if necessary



303(d) in Context

1. Adopt, review **standards**
2. Monitor, collect **data**
3. Assess data v. standards
 - *303(d) list and other reports*
4. Plan, act to protect, restore
 - *TMDLs, permits, other plans and actions*
5. Measure progress, assess effectiveness



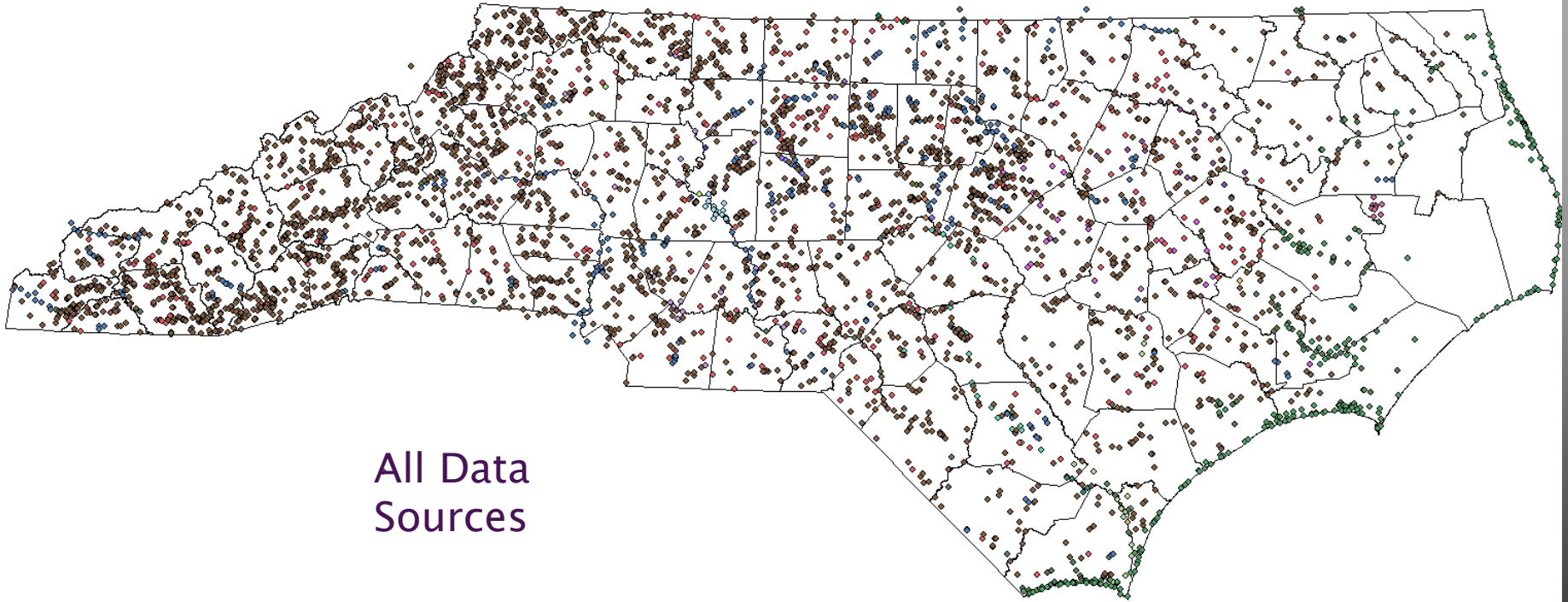
303(d) List Process

- ▶ Compile data from rivers, lakes, estuaries
- ▶ Confirm data quality
- ▶ Compare data to **standards**
- ▶ Compile list of waters that do not meet standards and need TMDLs
- ▶ Provide for public review and comment
- ▶ Respond to comments
- ▶ Submit list to EPA for approval
 - Listing methodology submitted but not approved
- ▶ Repeat (continuous 2-year process)

Data Considered

- ▶ Five-year time period
- ▶ Approximately one million observations from all sources
 - DWQ
 - Wastewater coalitions (municipalities & industries)
 - Other state agencies
 - Federal agencies
 - Universities
 - Local governments
 - Utilities

Data Collection Sites



All Data
Sources

Assessment Categories

1 Not impaired

2

3 No info/inconclusive

4



5 Impaired

303(d) List

Assessment and Standards

- ▶ Water quality standards = uses and criteria
 - Aquatic Life Use
 - Numeric + narrative criteria
 - Recreation Use
 - Numeric + narrative criteria
 - Water Supply Use
 - Numeric criteria
 - Shellfishing Use
 - Narrative criteria
 - Fish Consumption Use
 - Narrative criteria

2012 Aquatic Life Assessment

Biological Integrity
(Narrative Criteria)

Chemistry Data
(Numeric Criteria)

Benthos

Fish Community

Not impaired

Excellent,
Natural, Good,
Good-Fair
Bioclassifications

Excellent, Good,
Good-Fair
Bioclassifications

Less than 10%
Exceedance of
Standards

303(d) List

Poor, Fair or
Severe
Bioclassifications

Poor or Fair
Bioclassifications

Greater than 10%
Exceedance of
Standards

2012 Recreation Assessment

Pathogen Indicators (Numeric Criteria)

Fresh waters

Estuarine/ocean waters

Fecal Coliform Bacteria

Enterococci

Geometric Mean
less than 200

Less than 20%
above 400

Geometric
Mean less than
35

Geometric Mean
greater than 200

Or greater than
20% above 400

Geometric Mean
greater than 35

Not impaired

303(d) List

2012 Water Supply Assessment

Chemistry Data (Numeric Criteria)

Not impaired

Less than 10%
Exceedance of
Standards

303(d) List

Greater than 10%
Exceedance of
Standards

WS Classified waters only

2012 Shellfishing Assessment

SA Classified waters only

Growing Area Classification (Narrative Criteria)

Not impaired

Approved for Shellfish
Harvesting

303(d) List

Not Approved for
Shellfish Harvesting

2012 Fish Consumption Assessment

Fish Consumption Advisories (Narrative Criteria)

Not Impaired

No Fish Consumption
Advisory

303(d) List

Site Specific
Consumption
Advisory

Statewide
Mercury
Consumption
Advice

Outline

1. 303(d) Listing Methodology
2. **Comment Summary**
3. **Recommended Changes**
4. **Request Approval**

Comment Summary

- ▶ September – October 2012
 - Public comment on EMC involvement
- ▶ November 2012 EMC
 - EMC will approve future 303(d) listing methodologies
- ▶ September – November 2012
 - Public comment on 303(d) listing methodology

Comment Summary

- ▶ 12 organizations and individuals
 - Bill McLarney
 - Charlotte Mecklenburg Storm Water Services
 - City of Charlotte Stormwater Services Division
 - NC Farm Bureau
 - US EPA
 - Duke Energy
 - Waterkeepers Carolina
 - NC League of Municipalities
 - NC Department of Transportation
 - Michael Mallin, UNCW
 - Steve Tedder, Tedderfarm Consulting
 - NC Water Quality Association

Comment Summary

1. **Changes to 303(d) listing methods**
2. **Additional methods needed**
3. **Clarification requested**

4. **Data acceptance and availability**
5. **Changes to other programs**

Comment Summary

▶ 303(d) listing methods

1. Use/don't use 10% for toxics
2. Use different statistical approach
3. Don't use benthos or fish community alone
4. Don't use single benthos or fish community results
5. Use/don't use shellfish harvesting classifications
6. Don't carry forward old listings if conditions change
7. Base fish consumption listings on site-specific data
8. Use weight-of-evidence approaches more

Comment Summary

▶ Additional listing methods needed

1. Assess all narrative & numeric criteria in 15A NCAC 02B .0208, 0211, 0219, 0220, 0222
2. Assess Nutrient Sensitive Waters & nutrient management strategies
3. Assess short & long-term impairment of benthic & fish communities
4. Assess for threatened waters & antidegradation

Comment Summary

- ▶ **Clarifying language requested**
 1. Why 10%
 2. “Swamp-like” waters
 3. Division of Marine Fisheries’ shellfish area classifications
 4. How Action Levels are considered
 5. Require rationale for each listing
 6. How evaluate “natural background conditions” (turbidity)
 7. Natural conditions
 8. All assessment categories
 9. More specifics on data acceptability, QA/QC
 10. De-listing process
 11. Prioritization for TMDL development

Recommendations

1. No change
2. Change for 2014
3. Options for 2016

2012 Aquatic Life Assessment

No change recommended

Biological Integrity
(Narrative Criteria)

Chemistry Data
(Numeric Criteria)

Benthos

Fish Community

Not impaired

Excellent, Natural, Good, Good-Fair Bioclassifications

Excellent, Good, Good-Fair Bioclassifications

Less than 10% Exceedance of Standards

303(d) List

Poor, Fair or Severe Bioclassifications

Poor or Fair Bioclassifications

Greater than 10% Exceedance of Standards

2012 Recreation Assessment

No change recommended

Pathogen Indicators (Numeric Criteria)

Fresh waters

Estuarine/ocean waters

Fecal Coliform Bacteria

Enterococci

Not impaired

Geometric Mean
less than 200

Less than 20%
above 400

Geometric
Mean less than
35

303(d) List

Geometric Mean
greater than 200

Or greater than
20% above 400

Geometric Mean
greater than 35

2012 Water Supply Assessment

No change
recommended

Chemistry Data
(Numeric Criteria)

Not impaired

Less than 10%
Exceedance of
Standards

303(d) List

Greater than 10%
Exceedance of
Standards

WS Classified waters only

2012 Shellfish Harvesting Assessment

No change
recommended

SA Classified waters only

Growing Area Classification
(Narrative Criteria)

Not impaired

Approved for Shellfish
Harvesting

303(d) List

Not Approved for
Shellfish Harvesting



2014 Fish Consumption Assessment

Fish Consumption Advisories (Narrative Criteria)

Not impaired

No Fish Consumption
Advisory

303(d) List

Site Specific
Consumption
Advisory Based
on Data

Change Recommended – 2014

- ▶ **Clarifying language in listing methodology**
 1. Why 10%
 2. “Swamp-like” waters explanation
 3. Link to Division of Marine Fisheries’ shellfish area classifications
 4. How Action Levels are considered
 5. How to obtain rationale for each listing

Clarifying Language

- ▶ **To be on web site**
 1. Natural conditions
 2. All assessment categories
 3. More specifics on data acceptability, QA/QC
 4. De-listing process
 5. Prioritization for TMDL development

Recommended for 2016

- ▶ Evaluate other statistical approaches
- ▶ Not recommended for 2014 because
 - No public review
 - No process in place
 - Programming, training needs
 - Insufficient time to meet April 1, 2014 deadline
- ▶ Offer options for public comment May 2014

Schedule for 2014 List

- ▶ Public comment period for 303(d) methodology
 - September – November 2012
- ▶ DWQ requests WQC/EMC approval of methodology
 - January 2013
- ▶ Public comment period for 303(d) list
 - January – February 2014
- ▶ EMC information item on 303(d) list
 - March 2014
- ▶ List submitted to EPA for approval
 - **APRIL 1, 2014** (*40 CFR 130.7*)

RESERVE



Dissolved Oxygen Assessment Method- Aquatic Life

