



IOWA DEPARTMENT OF NATURAL RESOURCES

LEADING IOWANS IN CARING FOR OUR NATURAL RESOURCES

Water Quality Monitoring and Assessment

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2017 Fall SHL Symposium

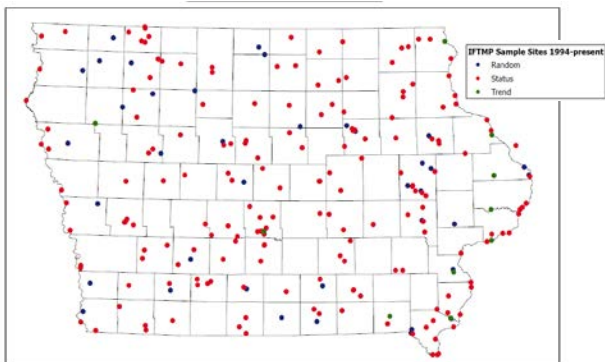
September 28, 2017

DMACC Ankeny Campus

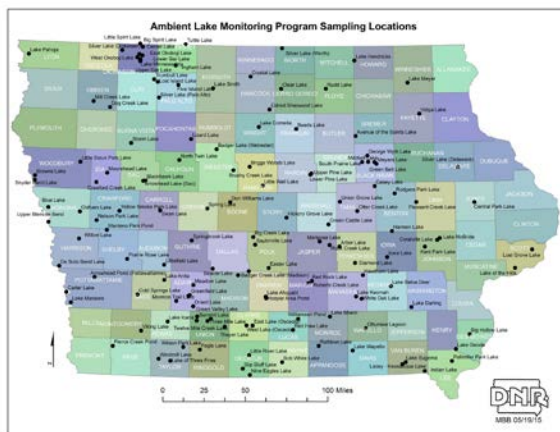
Iowa DNR Ambient Surface Water Monitoring Program

- Ambient monitoring = surrounding or background conditions
- Historic ambient data going back to 1980's (limited data available before then)
- Program plans/updates completed 1986, 1990, 2000, 2005, 2016
- Monitoring of fish tissue, groundwater, lakes, streams and wetlands
- Current program funded by the state at \$2.995 M
- Contract with SHL for field and laboratory services

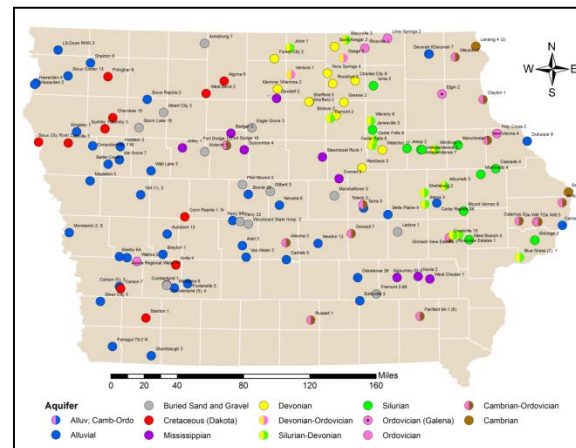
Ambient Water Monitoring Locations



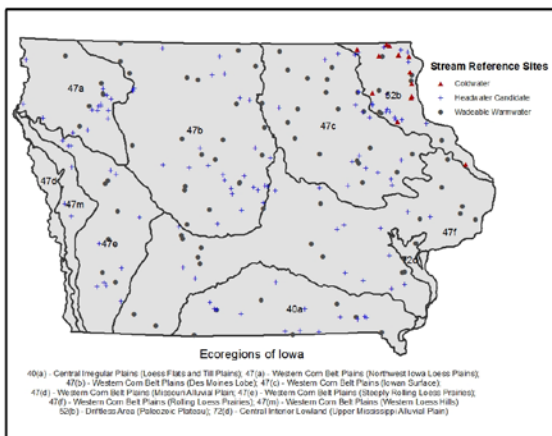
Fish Tissue Contaminants



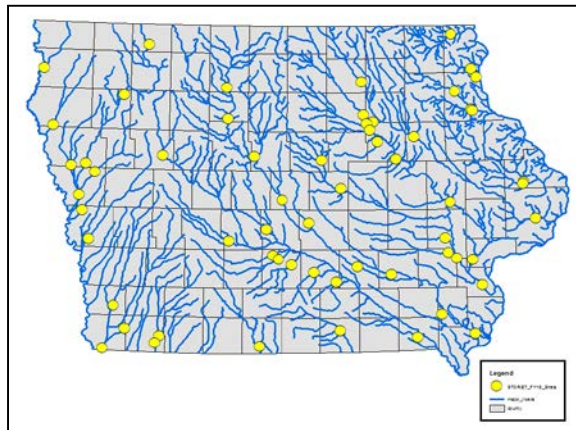
Lakes and Reservoirs



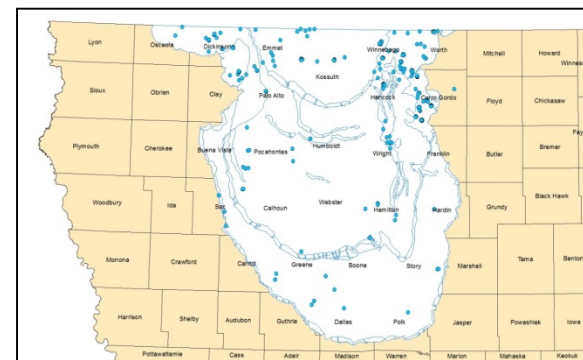
Groundwater



Stream Biological



Stream Water Quality



Wetlands

Waterbody Assessment Components

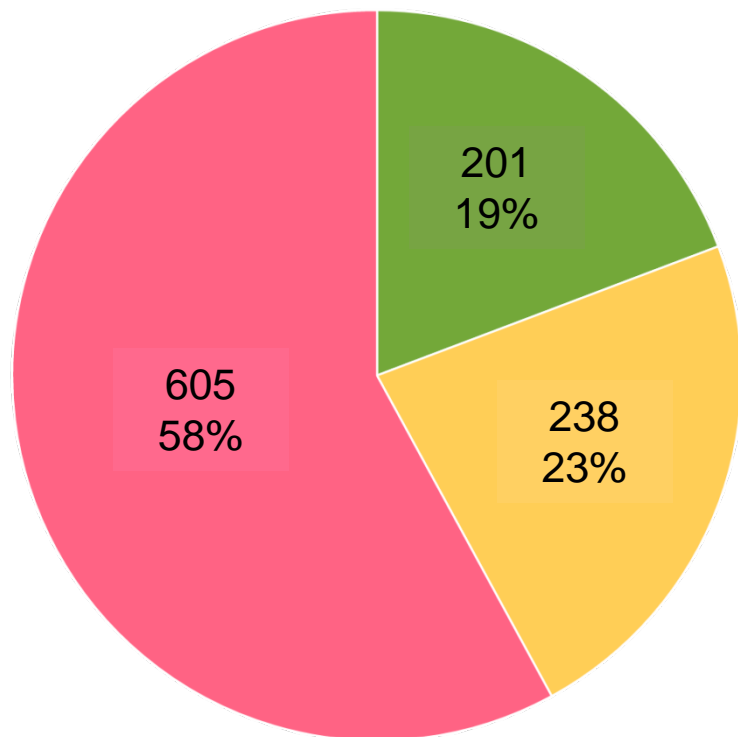


Waterbody Assessment Process for the Biennial Water Quality Report

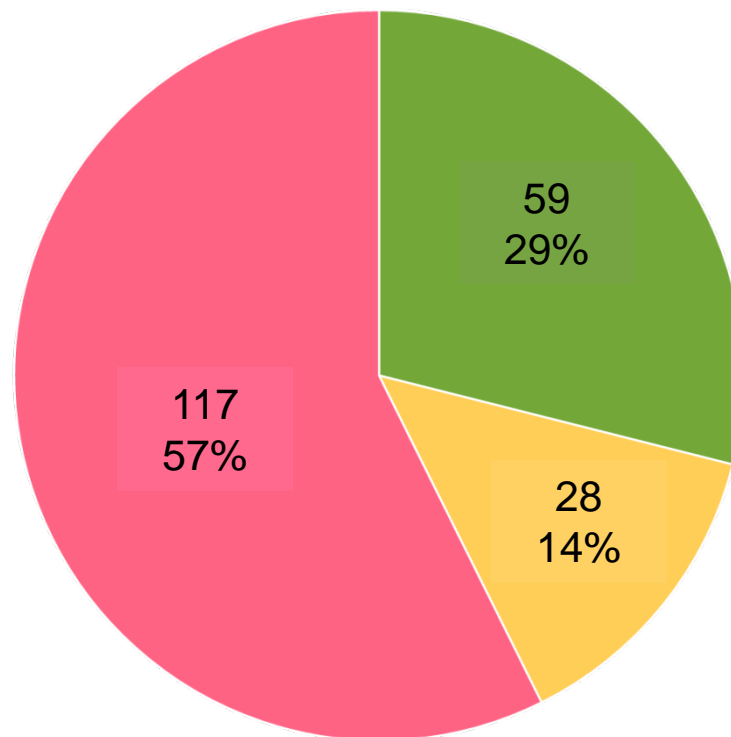
- Gather and prepare available DNR and external data
- Compare data to water quality standards for designated uses
- Prepare data interpretation summary
- Assign use support category
- Identify waters belonging on Section 303(d) list of impaired waters


Summary of Iowa's draft 2016 CWA Integrated Report

Rivers and Streams-
1044 Assessed



Lakes and Reservoirs-
204 Assessed

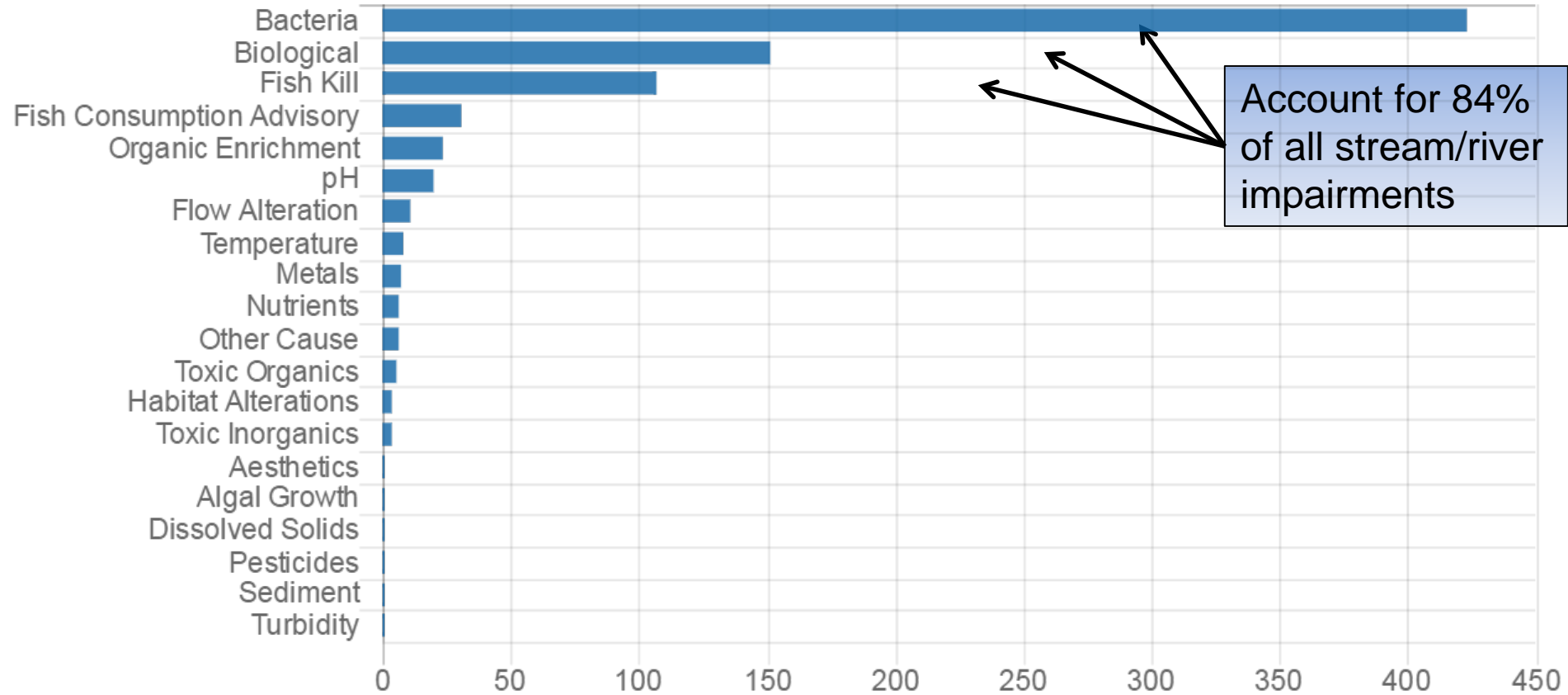


 Fully meet WQ Standards  Potentially Impaired  Impaired

“Potentially impaired” waters are placed on Iowa’s list of Waters in Need of Further Investigation (WINOFI)

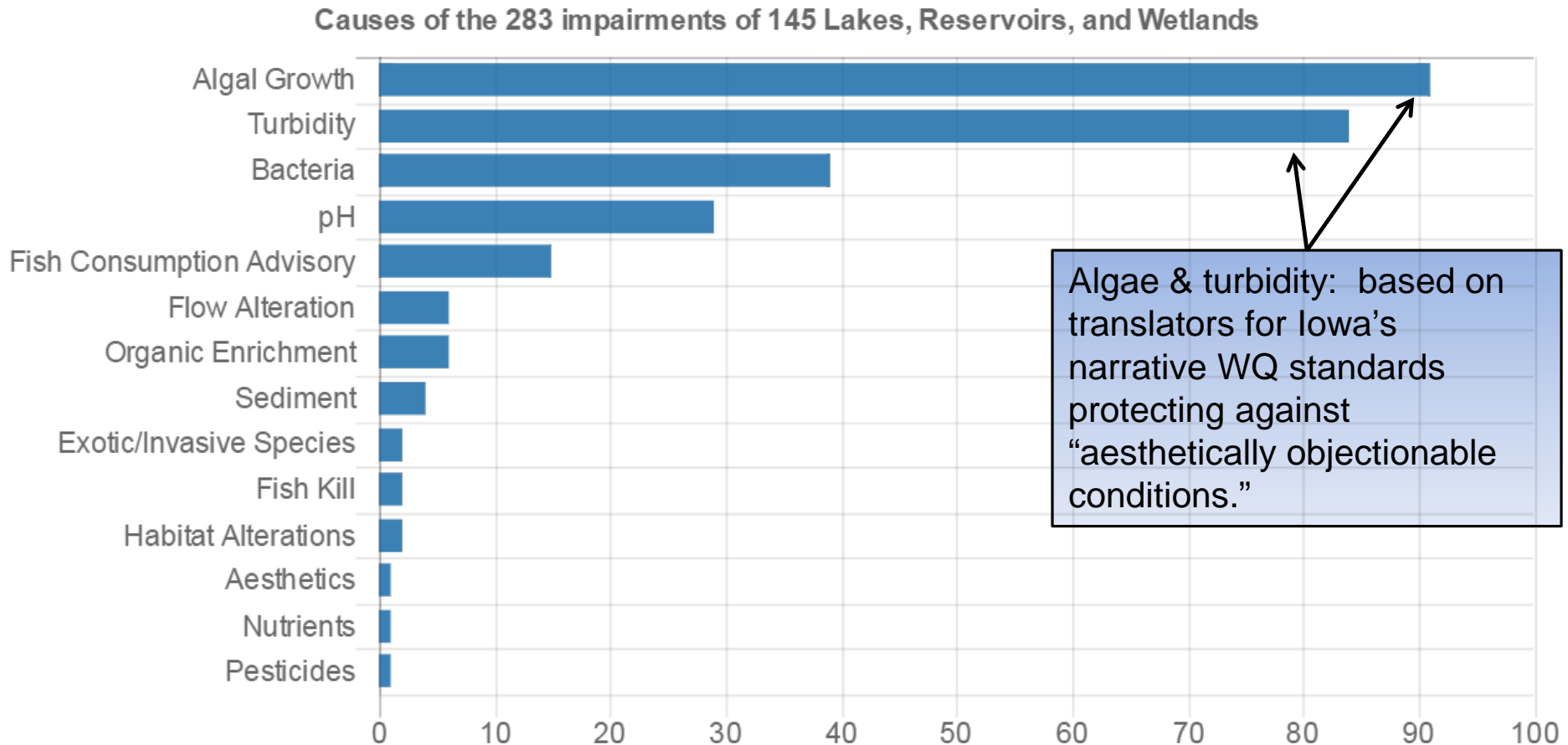
Causes of impairment in Iowa rivers & streams:

Causes of the 813 impairments of 605 stream/river segments



Account for 84% of all stream/river impairments

Causes of impairment at Iowa lakes:



Integrated Report Categories (according to EPA guidance)

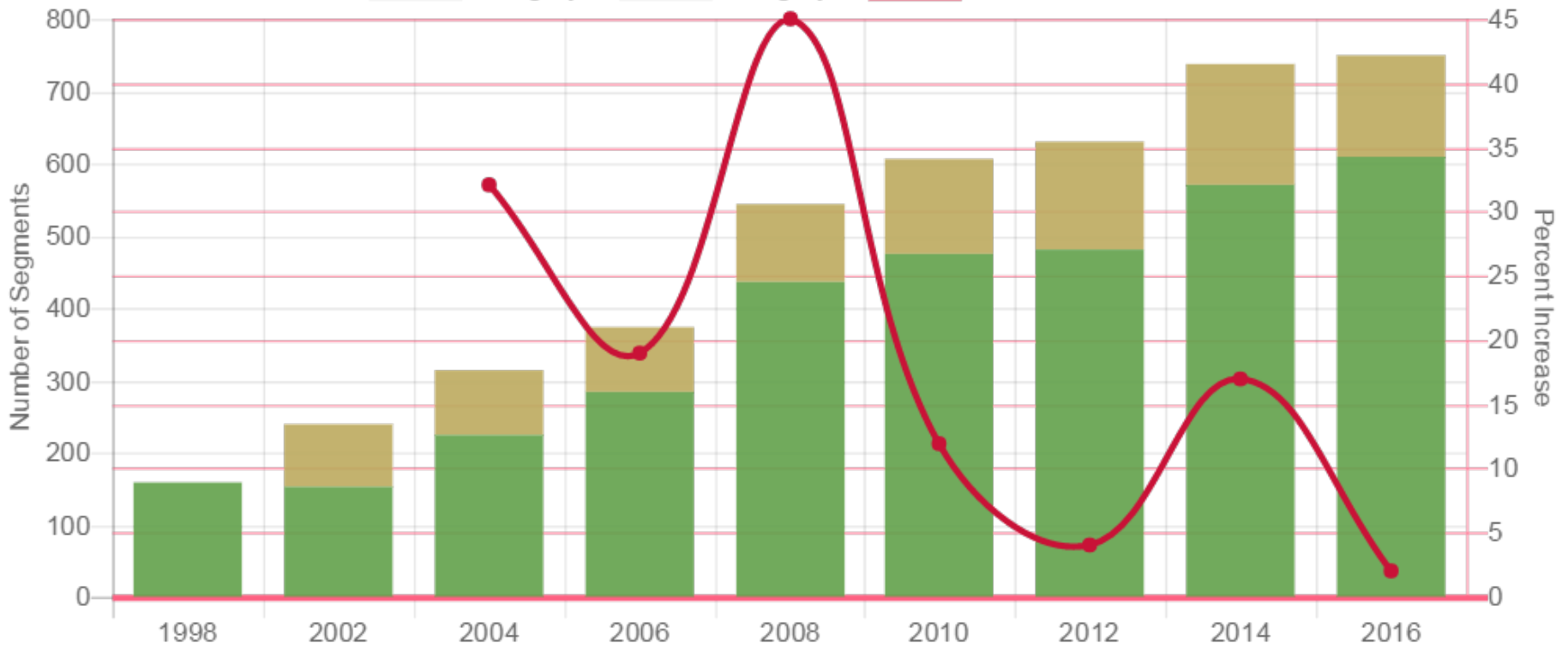
THE FIVE CATEGORIES:

1. All designated uses (swim, fish, &/or DW) met
2. Some uses met; insufficient data to determine if other uses are met
3. Insufficient data to determine if any use met
4. Impaired but a TMDL is not needed
5. Impaired and a TMDL is needed (=303(d) list)

Numbers of impaired waters in Iowa, 1998-2016

Numbers of impaired waters in Iowa, 1998-2016

Category 4 Category 5 Percent Increase



More information:

- Iowa DNR Water Quality Monitoring & Assessment Program

<http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Water-Monitoring>

- *STORET Water Quality Database*

<https://programs.iowadnr.gov/iastoret/>

- *BioNet Stream Biological Monitoring Database*

<https://programs.iowadnr.gov/bionet/>

- *Water Quality Assessment Database (ADBNet):*

<https://programs.iowadnr.gov/adbnet/>

- *Impaired Waters Web Site:*

<http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Water-Monitoring/Impaired-Waters>

- *2016-2021 Ambient Water Monitoring Strategy*

<http://publications.iowa.gov/23682>

- Iowa Water Quality Standards

<http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Water-Quality-Standards>