EPA MOVEMENT TOWARD CYANOBACTERIA REGULATION

- Cyanotoxins on the CCL (contaminant candidate list) since 1998. Making regulatory determinations requires adequate data on:

  Toxin occurrence, health effects & prevention, control, and mitigation of HABs

  - Toxin occurrence – data currently inadequate
    - Cyanotoxins prioritized in 2001 (Myc, Cyn, Anat-a)
    - Cyanotoxins on UCMR (unregulated contaminant monitoring rule) since 2001
    - Proposed for monitoring in 2015, during 2018-2020
      - Total Myc, 5 Myc congeners, Anat-a, Cyn, Nod
    - 4 agency satellite monitoring system

EPA MOVEMENT TOWARD CYANOBACTERIA REGULATION

- Health effects – data currently adequate
  - 10-day drinking water health advisory levels set in 2015
    - Microcystins
      - Preschool children $\leq$ 0.3 ug/L
      - Everyone else $\leq$ 1.6 ug/L
    - Cylindrospermopsin
      - Preschool children $\leq$ 0.7 ug/L
      - Everyone else $\leq$ 3.0 ug/L
  - Health effects data - inadequate for anatoxin-a, other
  - EPA developing guideline water quality criteria for recreational waters

EPA MOVEMENT TOWARD CYANOBACTERIA REGULATION

- Prevention, control, and mitigation – strategy developing

Long-term Vision for Assessment, Restoration, and Protection under CWA Section 303 (d) [by 2018]

- Compile inventory of approaches & rationales for near-term **alternative approaches to TMDL**
- Identify factors or tools to aid decision making
- Compile **examples of TMDL alternative approaches**
- Hold workshop and make blueprint **showing how adaptive management can be used with TMDL and non-TMDL approaches**
- Develop tracking method for **non-TMDL** projects

EPA MOVEMENT TOWARD CYANOBACTERIA REGULATION

- Prevention, control, and mitigation – strategy developing

EPA actions taken subsequent to development of the *Long-Term Vision*

- May 2014 – webinar on Adaptive Systems Approach
- September 2014 – webpage on WBM treatments
- June 2015 - *Recommendations for Public Water Systems to Manage Cyanotoxins in Drinking Water*
- September 2015 – public input on strategic plan
- November 2015 – submitted to Congress

Algal Toxin Risk Assessment and Management Strategic Plan for Drinking Water

EPA MOVEMENT TOWARD CYANOBACTERIA REGULATION

- Conclusions
  - The health advisories + UCMR4 cyanotoxin occurrence data + strategic plan for protecting source & drinking water = EPA able to make regulatory determinations by 2020
  - Recent EPA actions, and the Administrator's statement

"harmful algal blooms [HABs] are among America's most serious and growing environmental challenges,"

- **indicate the Agency is likely to regulate cyanotoxins**
  - The regulatory process is likely to take several years. Many states have guidelines, and some are likely to make regulations before EPA

EPA MOVEMENT TOWARD FRESHWATER MANAGEMENT POLICY CHANGE

- 3 recent EPA documents related to prevention, control, and mitigation of cyanotoxins indicate that the Agency is shifting policy to complement WSM with WBM - ASA
  - The *Long-Term Vision* enables states to use non-TMDL adaptive management approaches
  - The *Algal Toxin Strategic Plan* focuses on "a multi-barrier approach as well as adaptive management."
  - The *Recommendations for Public Water Systems* reviews WBM treatments of source waters
- Multi-barrier HAB management: WSM nutrient input reduction; WBM treatments to prevent and control HABs - ASA; & utility treatment of cyanotoxins

EPA, CYANOBACTERIA & FRESHWATER MANAGEMENT

- Current status
  - Cyanobacteria HABs & cyanotoxin occurrence are getting much more frequent
  - We're spending $Bs to reduce nutrient inputs to lakes (EPA-WSM), but it is not reducing HAB occurrence
    - NC legislators suspended a $2B WSM plan because it would only reduce phosphorus input by 5%, & no one thought that would stop the HABs
  - There is already so much nutrient in many freshwaters that HABs would continue for the foreseeable future even if we stopped all new nutrient inputs now
  - The GAO says it will take more than 1000 years to restore freshwaters with WSM & current funding levels

EPA, CYANOBACTERIA & FRESHWATER MANAGEMENT

- Cyanotoxin regulations
  - There are not any federal cyanotoxin regulations
  - Many states have guidelines. OH will regulate in June
  - EPA has had cyanotoxins on the CCL for 18 years
    - Need adequate occurrence, health effects, and prevention, control, and mitigation data to regulate
      - Planning to use the UCMR to get occurrence data by requiring utilities to monitor 2018-2020
      - Issued health advisories for microcystins and cylindrospermopsin in 2015
      - Published utility recommendations and strategic plan in 2015
  - EPA likely to propose regulations in early 2020s

EPA, CYANOBACTERIA & FRESHWATER MANAGEMENT

- Freshwater management
  - The CWA calls for WSM and WBM
  - EPA discontinued WBM early 1990s to focus on WSM
  - WBM plays a big part in EPA's recommendations for utilities to prevent, control & mitigate cyanobacteria
    - WSM is not stopping HABs, so EPA recommends treating source water to prevent HABs (WBM) & drinking water to remove toxins when needed
      - Treating source water is much more cost effective
    - EPA's long-term vision allows states to use WBM instead of, or with, TMDL (WSM) if thought best
  - EPA seems to realize that WSM is not adequate to stop HABs, and is putting new emphasis on needing WBM