WISCONSIN DEPARTMENT OF NATURAL RESOURCES

CYANOBACTERIAL BLOOMS: THE BASICS

Northwoods Six-County Lakes and Rivers Meeting
11 July 2025 | Rhinelander

Gina LaLiberte, Bureau of Water Quality

What are cyanobacterial blooms?

Cyanobacteria = blue-green algae

Bloom = excessive growth to nuisance levels.

No official quantification exists.

K. Welke

Planktonic

Benthic

“spilled paint”

“pea soup”

J. Lepsch – WDNR

S. Caven

B. & G. Gustafson

actively growing: GREEN

J. Williamson

decomposing: pigments are released

M. Meade - WDNR

B. Butterfield

Planktonic blooms may be many different colors.


R. McLennan


N. Trombly


J. Williamson


T. Moris


Unknown CLA Volunteer


DLSD

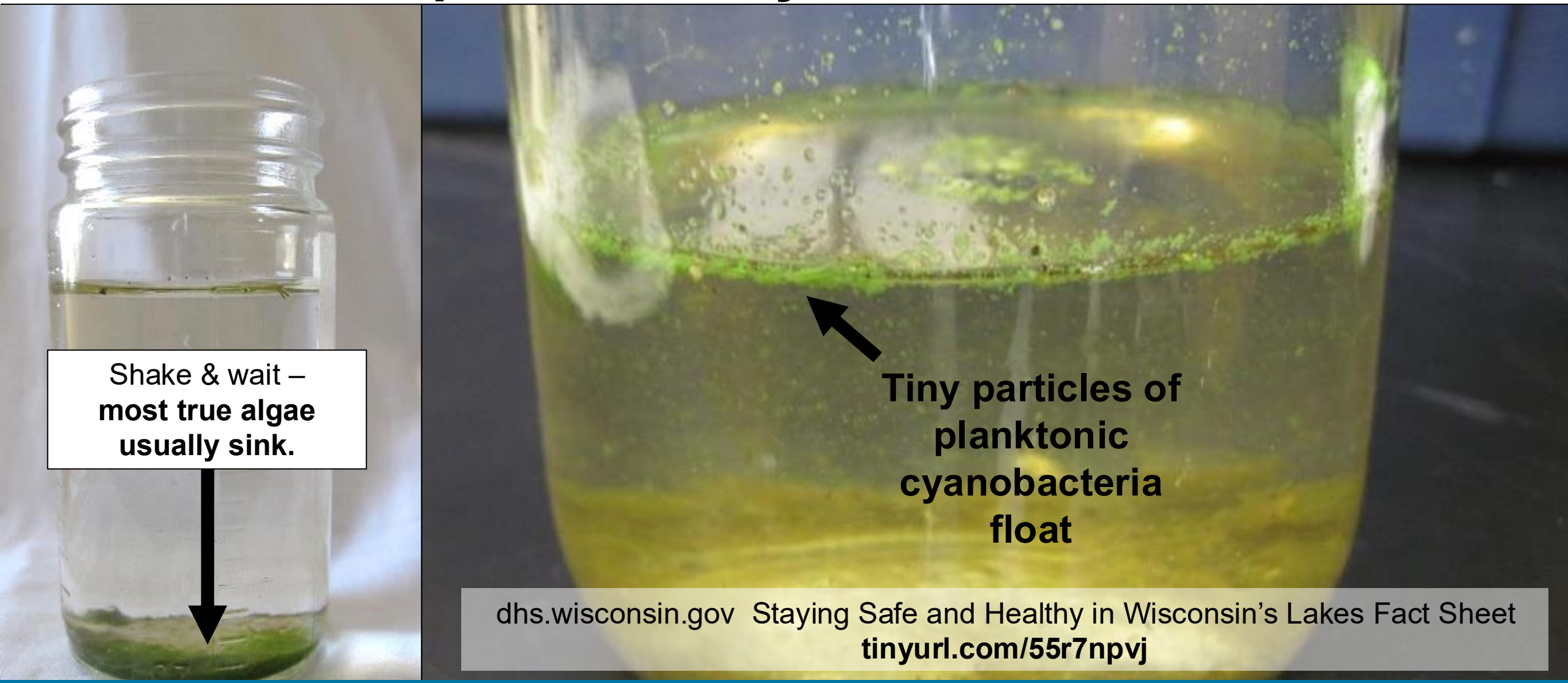

WDHS


J. Williamson


A. Dryja


Finn Ryan, yaharaproject.org

A “Jar Test” can indicate if green water contains planktonic cyanobacteria



dhs.wisconsin.gov Staying Safe and Healthy in Wisconsin’s Lakes Fact Sheet
tinyurl.com/55r7npvj

Are you seeing floating cyanobacterial mats or something else?

"**Stick Test**" – does it coat a stick like paint?
Does it drape over a stick like green hair?
(There is 1 exception, so look at color.)

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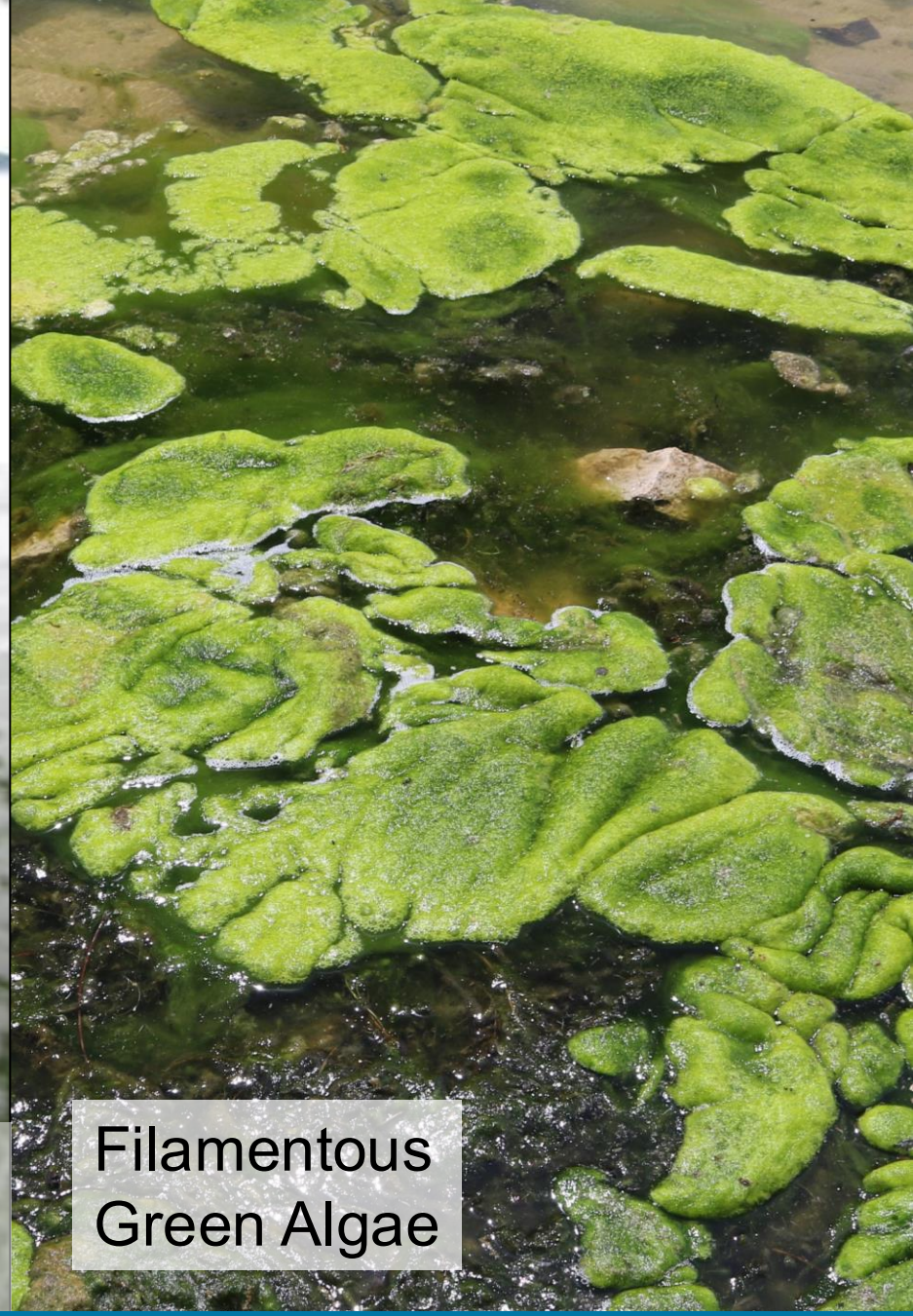

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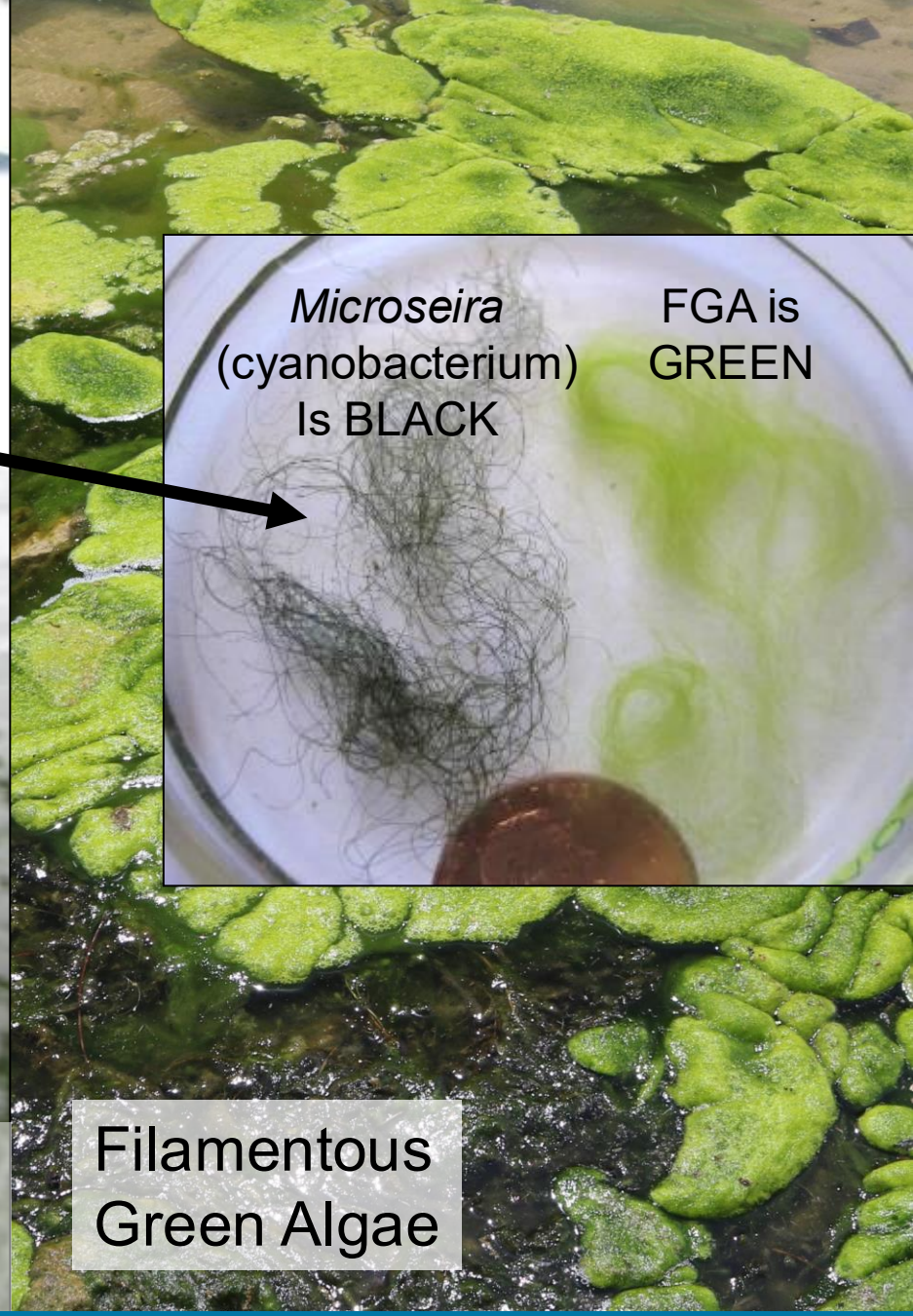


Nutrients fertilize the growth of plants, algae, and cyanobacteria

- Phosphorus
- Nitrogen
- Internal P loading from sediments
- Leaky septic systems

Physical causes: wind (or lack thereof)

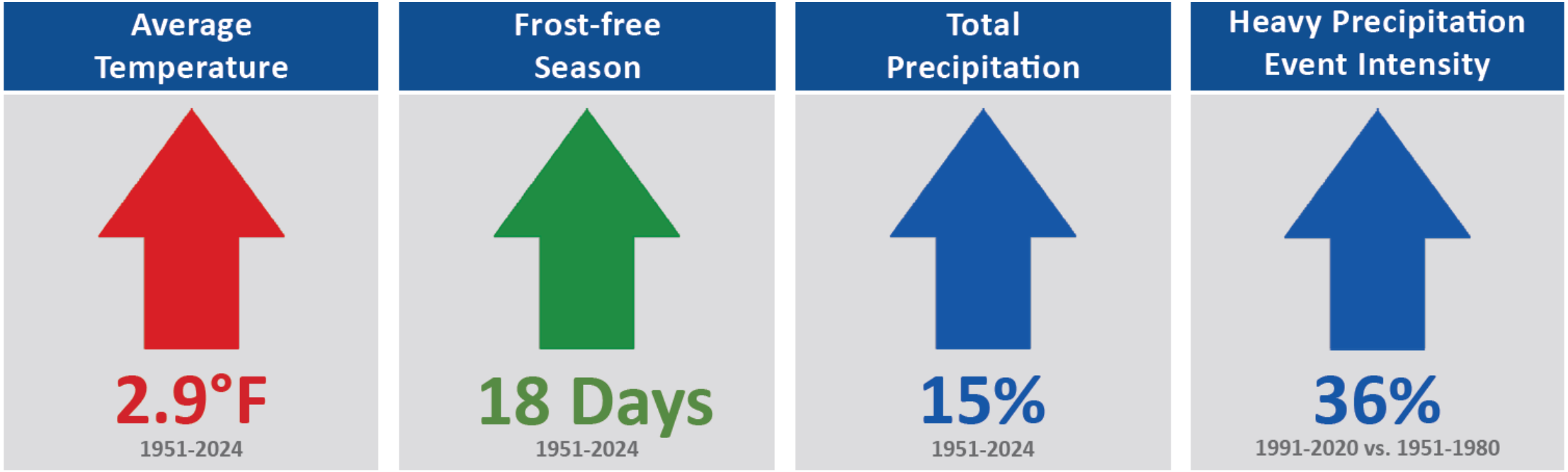
No wind = scums at surface

UW Center for Limnology

downwind shore accumulation

K. Heim

Climate change is an overlying driver



glisa.umich.edu/summary-climate-information/

- Cyanobacteria grow better in warm water.
- Earlier ice-off & longer open water season help cyanobacteria persist.
- More runoff = extra nutrients and high water levels.

Blooms & Health: Toxins & Exposure Routes

- Cyanobacteria make many bioactive compounds; some are toxins.
- Exposure routes are:
  - Ingestion
  - Inhalation
  - Skin exposure
- Not all cyanobacteria make toxins, and those that can don't make toxins all the time.
- You cannot tell if toxins are present by looking at a bloom.


M. La Pergola on Unsplash


J. Orrico on Unsplash


WDNR

You can see the blooms that are of highest concern

Surface scums or opaque “pea soup” water indicate **possible high toxin concentrations** *if toxins are being produced*.

Water is never 100% safe – other bacteria, viruses, and parasites may be present.

Judgement calls?

Chunks of material floating or growing on lake bottom

Fine dust on surface

CONNECT WITH US

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Send bloom reports & photos to
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/WIDNR

@WIDNR

@WI_DNR

/WIDNRTV

"WILD WISCONSIN:
OFF THE RECORD"