

DEP Water Quality Standards Program

Semi-Annual Public Meeting

April 30, 2012

Protecting the environment depends on us.



Division of Water and Waste Management



Meeting Agenda/Overview

- Intro/WQS meeting purpose/goals
- Algae public opinion survey results
- WQS Program news/updates
- Other agency news/updates
- Open forum/adjournment



Meeting Purpose/Goals

- Previous feedback:
 - Need more outreach for WQS Program
- Public Meetings:
 - Informal format
 - Not bound by formal hearing procedures
 - Present information/gain feedback



Meeting Purpose/Goals (cont.)

- Information/Topics:
 - WQS Program related (47CSR2)
 - *46CSR6*
 - DWWM news/info
 - Other agency info (EPA, ORSANCO)
 - Other news/announcements
- No formal decisions/commitments



Meeting Purpose/Goals (cont.)

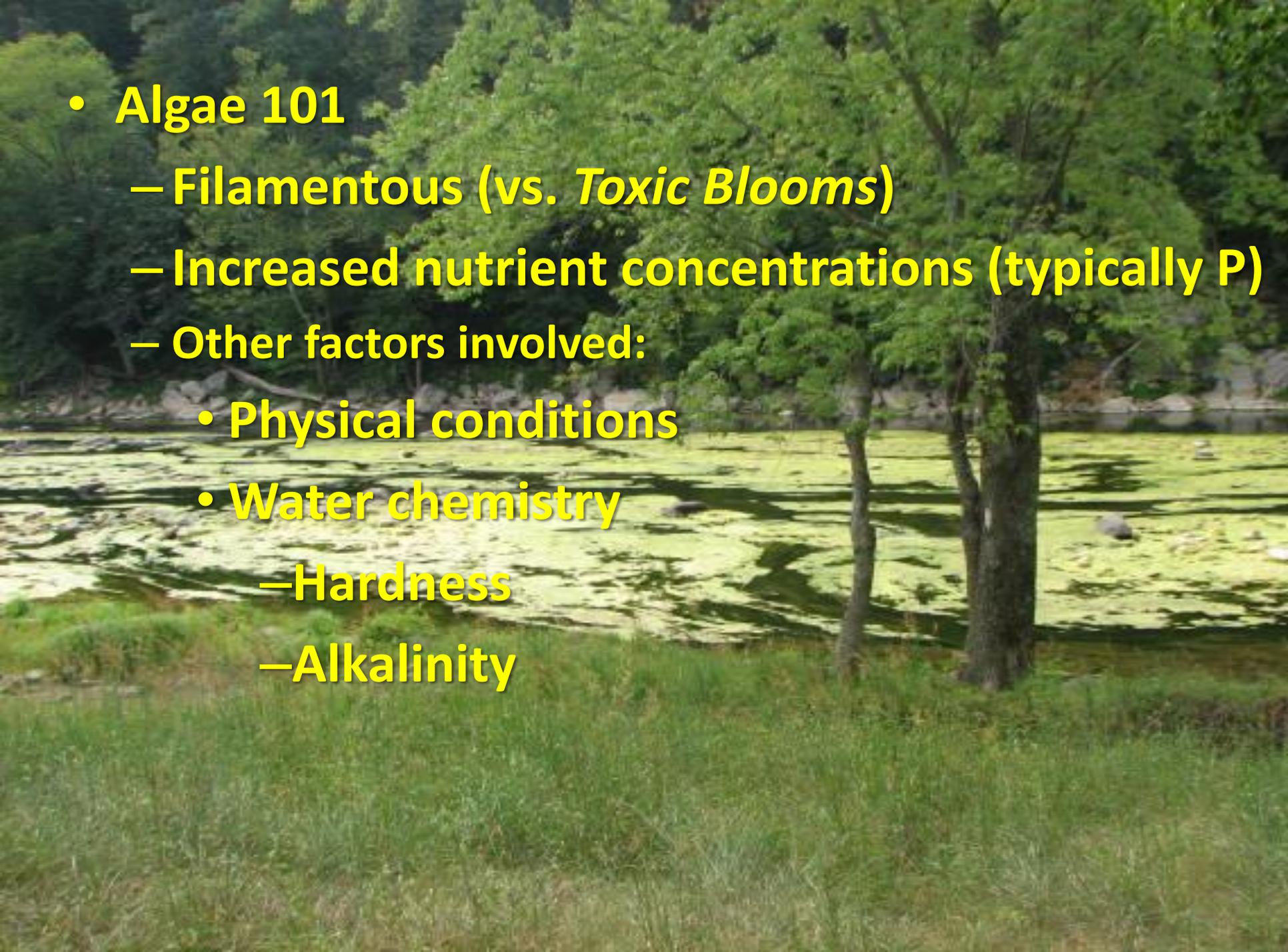
- 2011 schedule ~Quarterly*
- 2012 schedule:
 - “Semi-Annual”
 - April, August, December
 - Tentatively last week/end of the month



Algae
...a quick review...

...AGAIN...



- 
- **Algae 101**
 - **Filamentous (vs. *Toxic Blooms*)**
 - **Increased nutrient concentrations (typically P)**
 - **Other factors involved:**
 - **Physical conditions**
 - **Water chemistry**
 - **Hardness**
 - **Alkalinity**

River	Avg. Hardness (mg/l)	Algae Development
Greenbrier River	65	Severe
North Fork Hughes River	63	Low ^T
Tygart Valley River	70	High
New River	79	Moderate ^D
Cacapon River	96	High
Bluestone River	121	Moderate
South Branch Potomac River	130	Moderate
Guyandotte River	145	None
West Fork River	190	None
Monongahela River	149	None
Tug Fork	178	None
North Branch Potomac River	214	None
Shenandoah River	174	None
Birch River	221	None
Coal River	284	None
Mud River	373	None

River	Avg. Alkalinity (mg/l)	Algae Development
Cheat River	17	None
Cherry River	18	None
Gauley River	24	None
Upper Greenbrier River	30	None
Lower Elk River	35	None
Tygart Valley River	44	High
Lower Greenbrier River	54	Severe
Cacapon River	56	High
South Branch Potomac River	97	Moderate

Below White Sulphur Springs



Below Ronceverte



Cacapon River





~ 1 mile below Caldwell – Howard Creek June, 2011



Timeline...Algae&WV...



Marching Orders...

- Appeal (10-AA-132) outlined questions that we (DEP) needed to answer including:

as “significant,” contained within the state water quality criteria; the WVDEP failed to determine what level of algae growth would be considered detrimental to the designated uses of the River;

(“How much is too much?”)





Below White Sulphur Springs



“How much is too much?”

Survey/Contractor Procurement

- Out for bid (RFP) - Fall of 2011
 - Process worked out over Fall/Winter 2011/2012
 - Responsive Management (RM) - Harrisonburg, VA
 - Vast experience with this type of work (DNR, DEP [WVU grad Ex Dir.]



“How much is too much?”

Survey Wish List...

- What we wanted?
 - Statewide survey (complete now vs later, more efficient use of resources)
 - Scientifically defensible/limit biases
 - Contractor with experience in development/implementation of surveys (lessons learned)

“How much is too much?”

Survey Development

- DEP/RM developed general approach
- RM submitted specific survey tool/DEP approved:
 - Survey WV residents
 - Utilize phone/internet
 - DEP/RM cooperative effort to increase # of respondents/save on costs (*worked*)



“How much is too much?”

Survey Implementation

- Basics steps:
 1. RM ID'd residents
 2. Call to confirm participation in survey (Y/N)
 3. Y = distribute survey via internet or mailings
 4. RM conduct survey/collect data, etc...



“How much is too much?” Survey - what was collected?

- 1st piece, population info:
 - Recreation, what types (fish, swim), how often, in what types (river, lake, pond)
 - When and where...

Types of Questions:

“How much is too much?” Survey -?’s

- Q22. *“...if you personally participated in any of the following activities on or in...”*
- Q30. *“...types of water bodies did you participate in these activities...”*
- Q100. *“...anyone if your household currently work as an outfitter or guide...”*

“How much is too much?” Survey - what was collected?

- 2nd piece, algae level info:
 - 1st - Knowledge of algae levels/impacts in WV
- Q53. *“How much would you say you know about algae in WV waters?”*
- Q54. *“...algae in WV waters has increased, stayed about the same, or decreased...”*

“How much is too much?” Survey - what was collected?

- 2nd piece, algae level info:
 - 2nd - Algae tolerance levels
 - Utilized photos
 - Respondents determined point when level becomes unacceptable
(Range of % cover low → high)



Photo: 002



Photo: JS1



Photo: 2229



Photo: 009



Photo: 2213



Photo: 2241



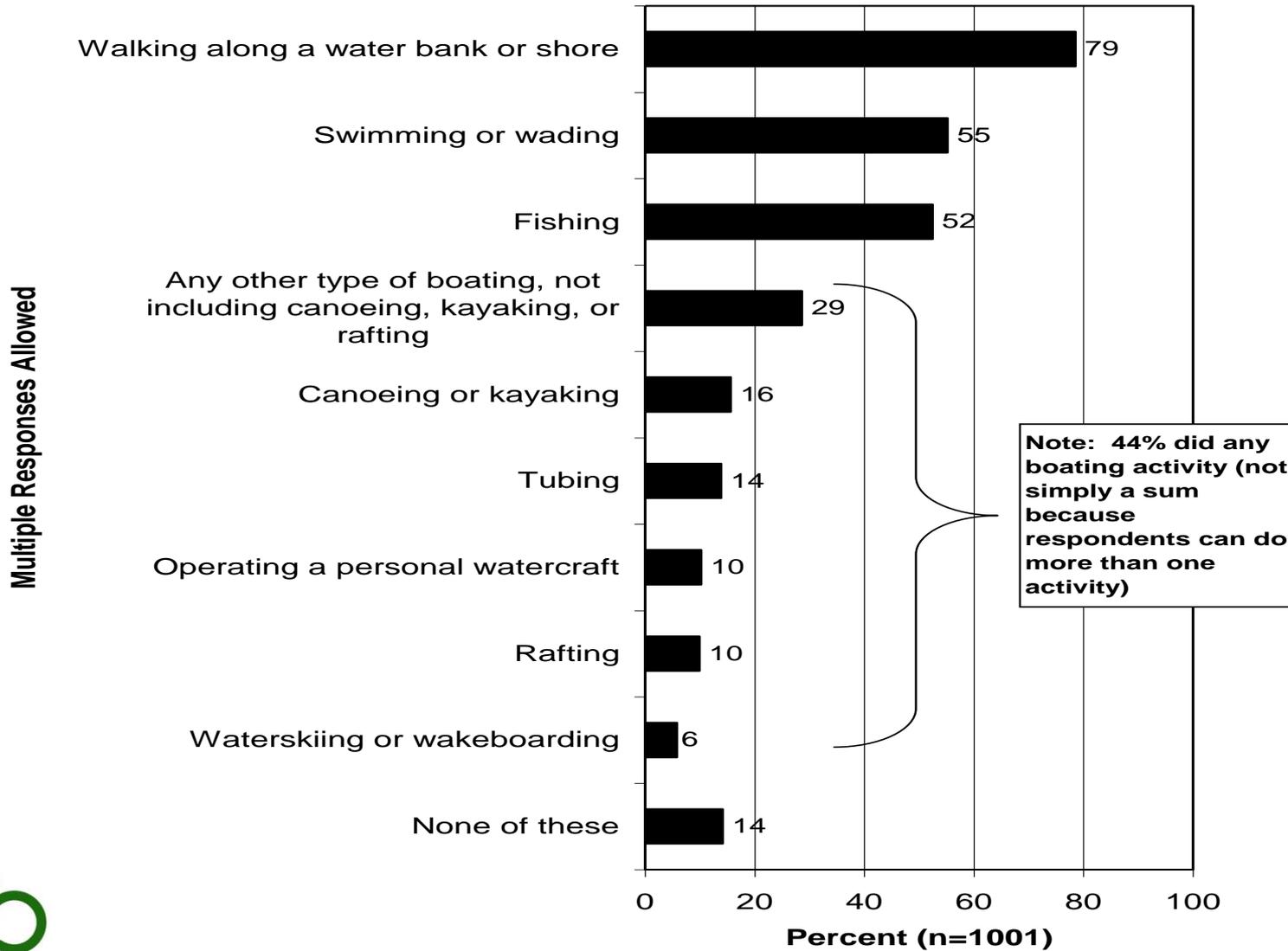
Photo: 2691

“How much is too much?”

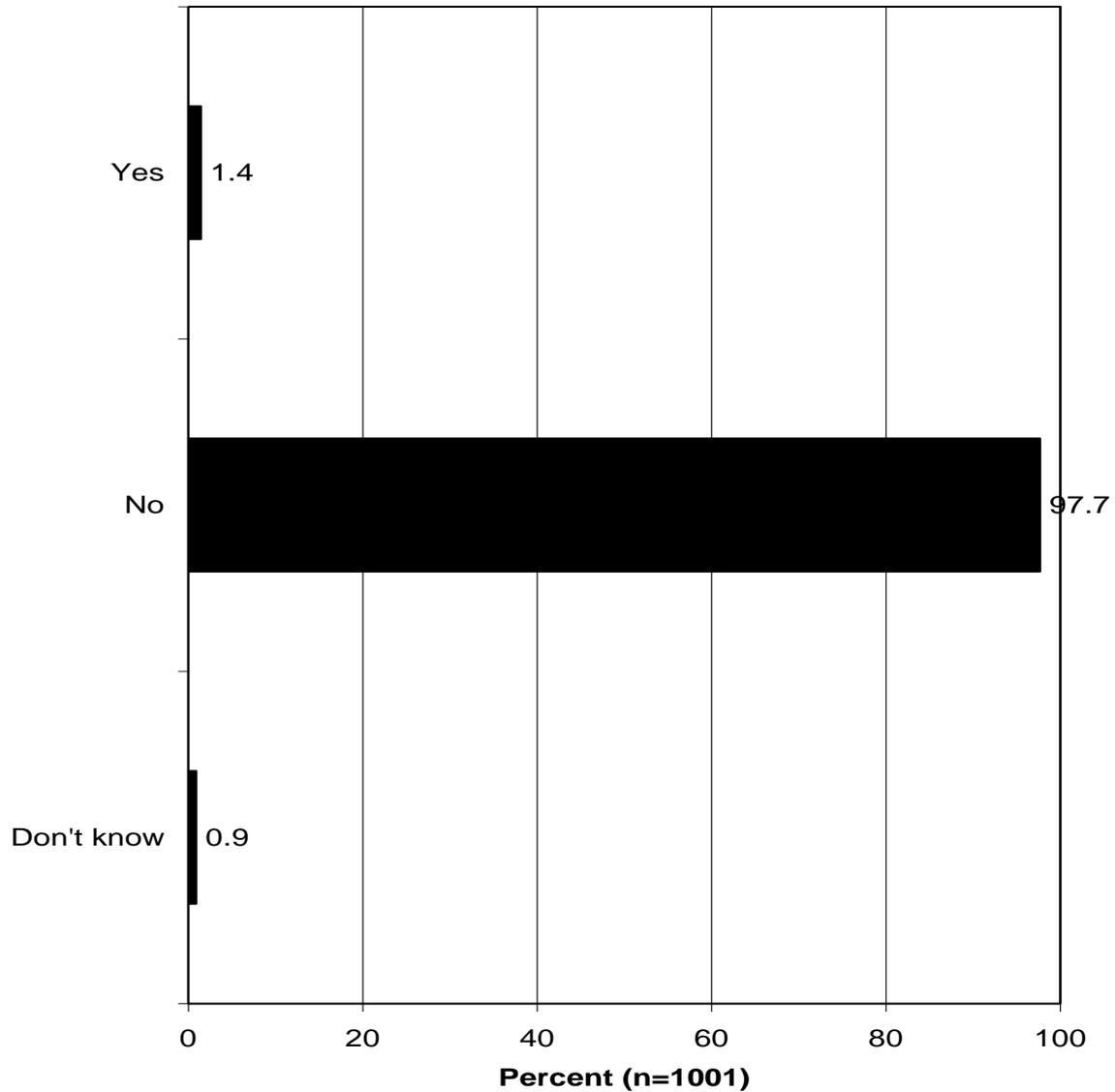
Survey Results

- Completed February/March 2012
- N = 1001
- Significant response to mailings
 - Surprising result (uncommon in other surveys) - significant % of mailing returned

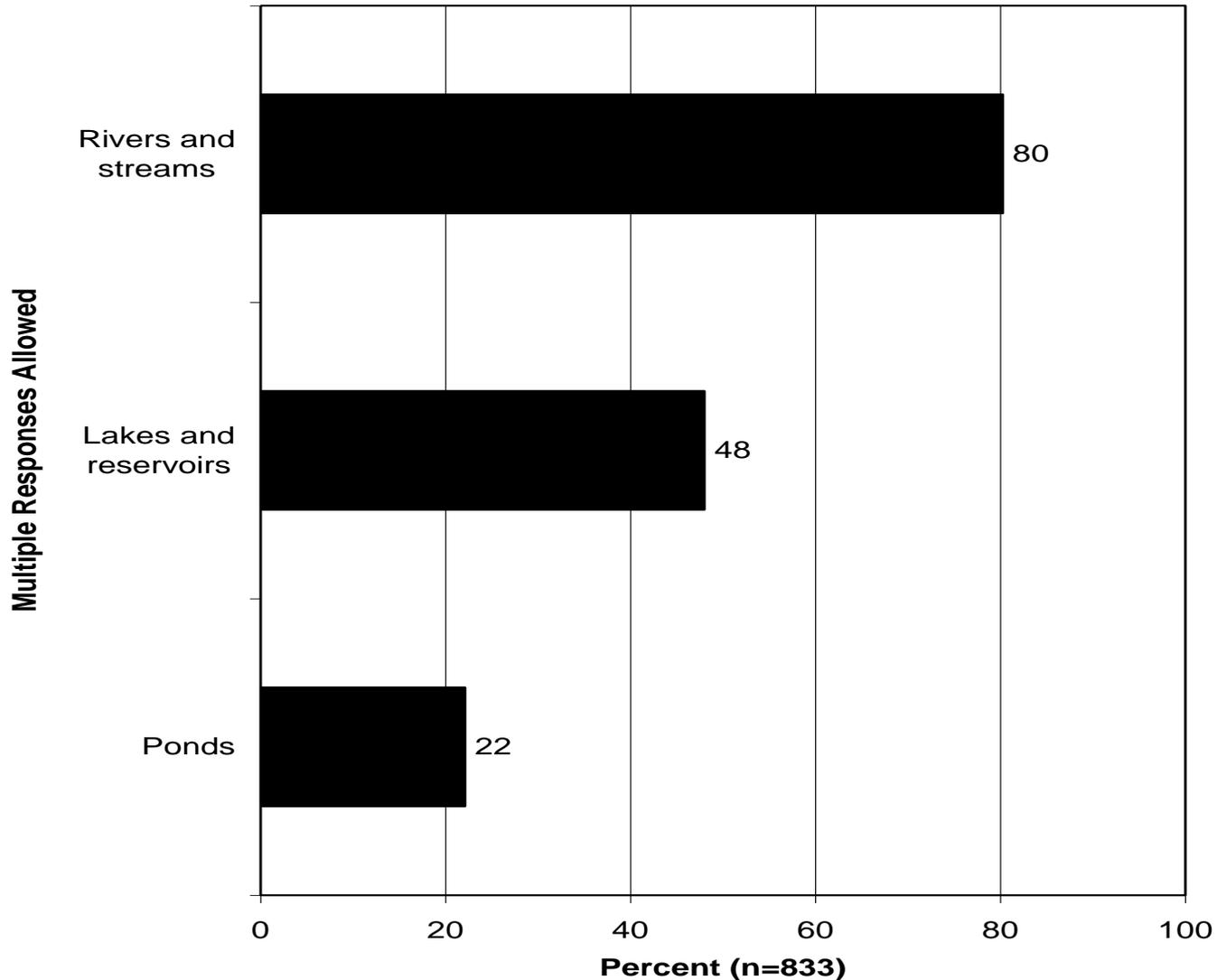
Q22. I would like to know if you personally participated in any of the following activities on or in West Virginia waters, including rivers and streams, lakes and reservoirs, and ponds, in the past 2 years.



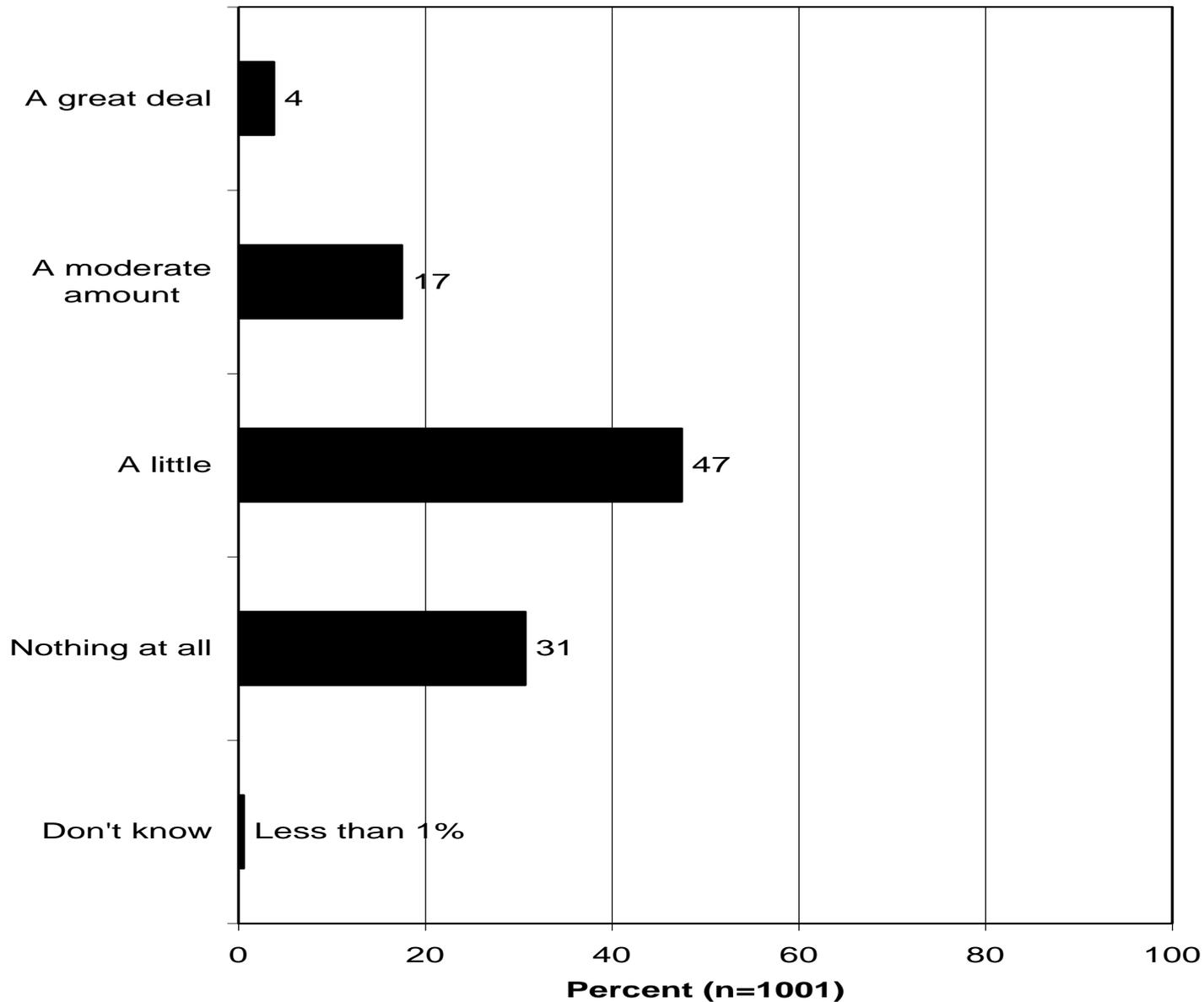
Q100. Do you or does anyone in your household currently work as an outfitter or guide on or associated with West Virginia waters?



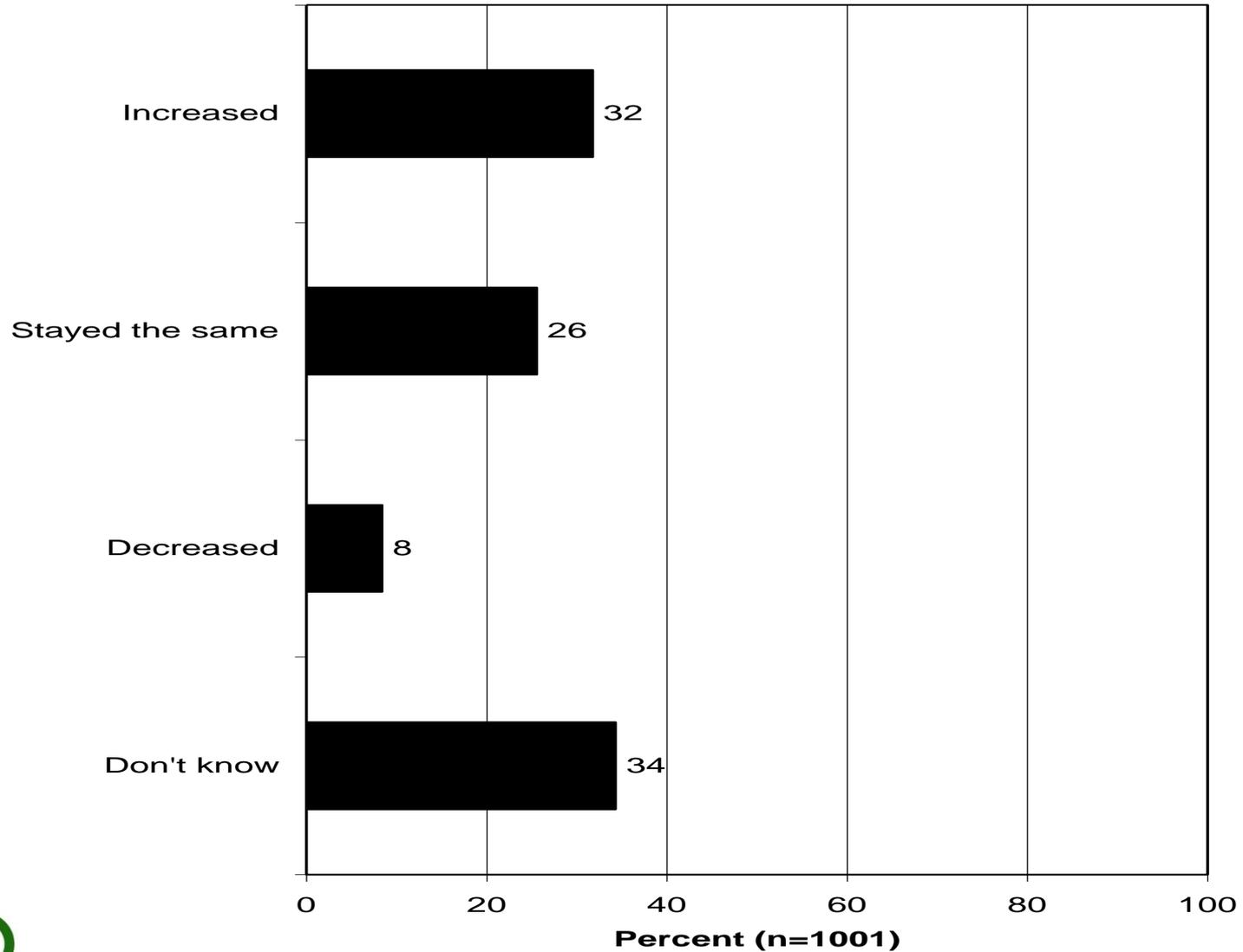
Q30. In which of the following types of water bodies did you participate in these activities in West Virginia? (Asked of those who participated in at least one activity on or in West Virginia waters in the past 2 years.)



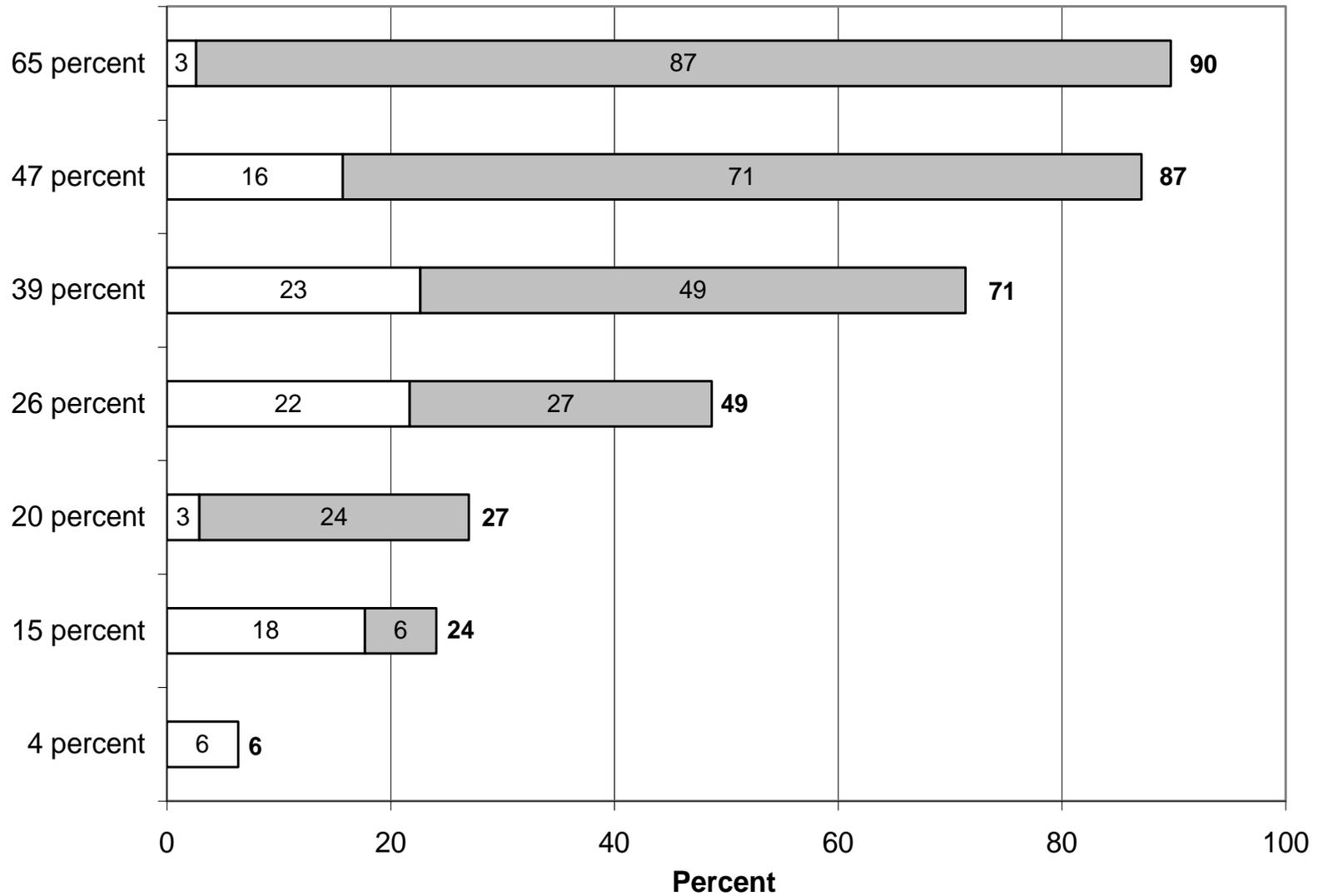
Q53. How much would you say you know about algae in West Virginia waters?



Q54. Would you say algae in West Virginia waters has increased, stayed about the same, or decreased in the past 2 years?



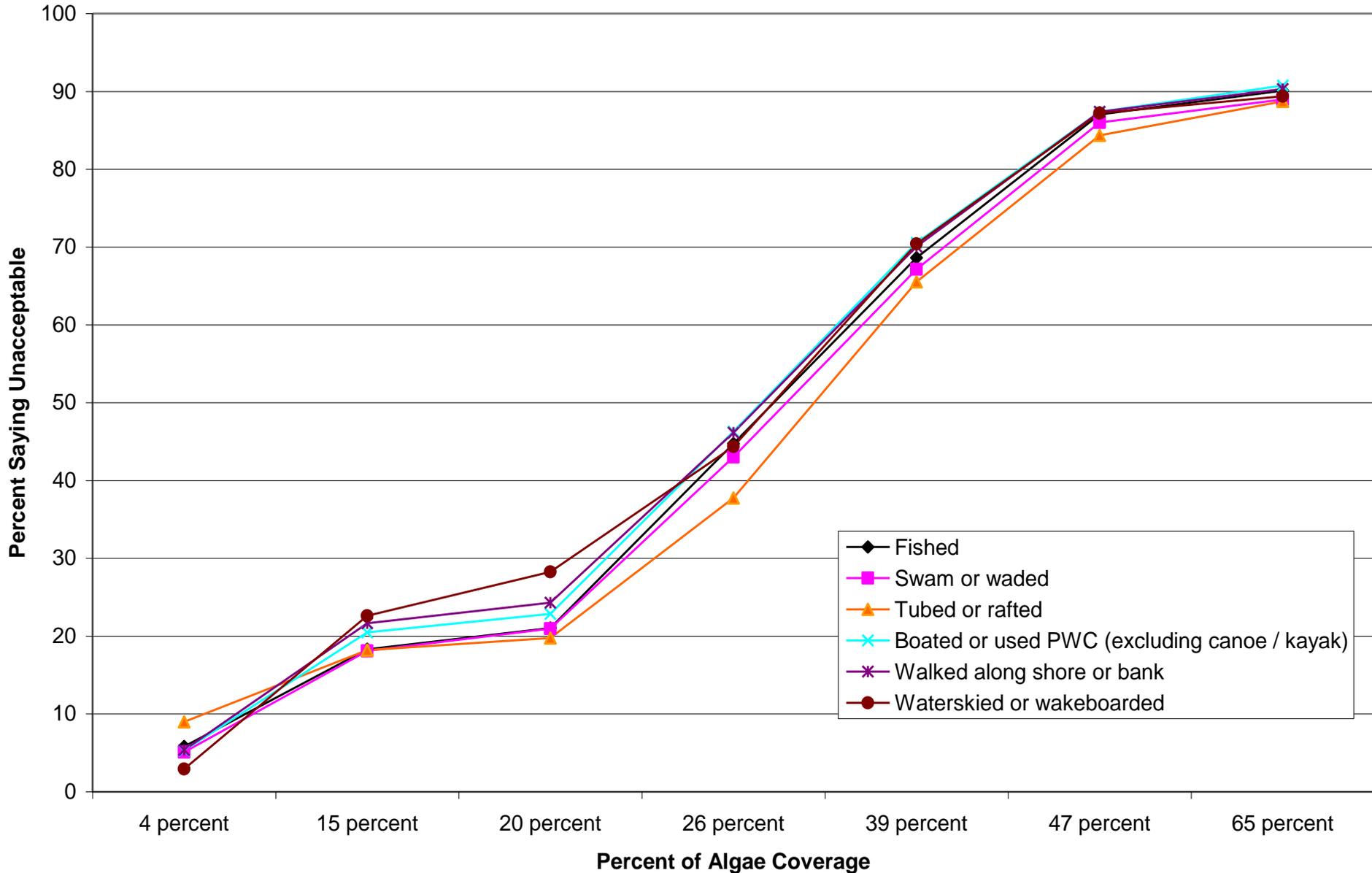
Percent Saying Algae Level Is Unacceptable



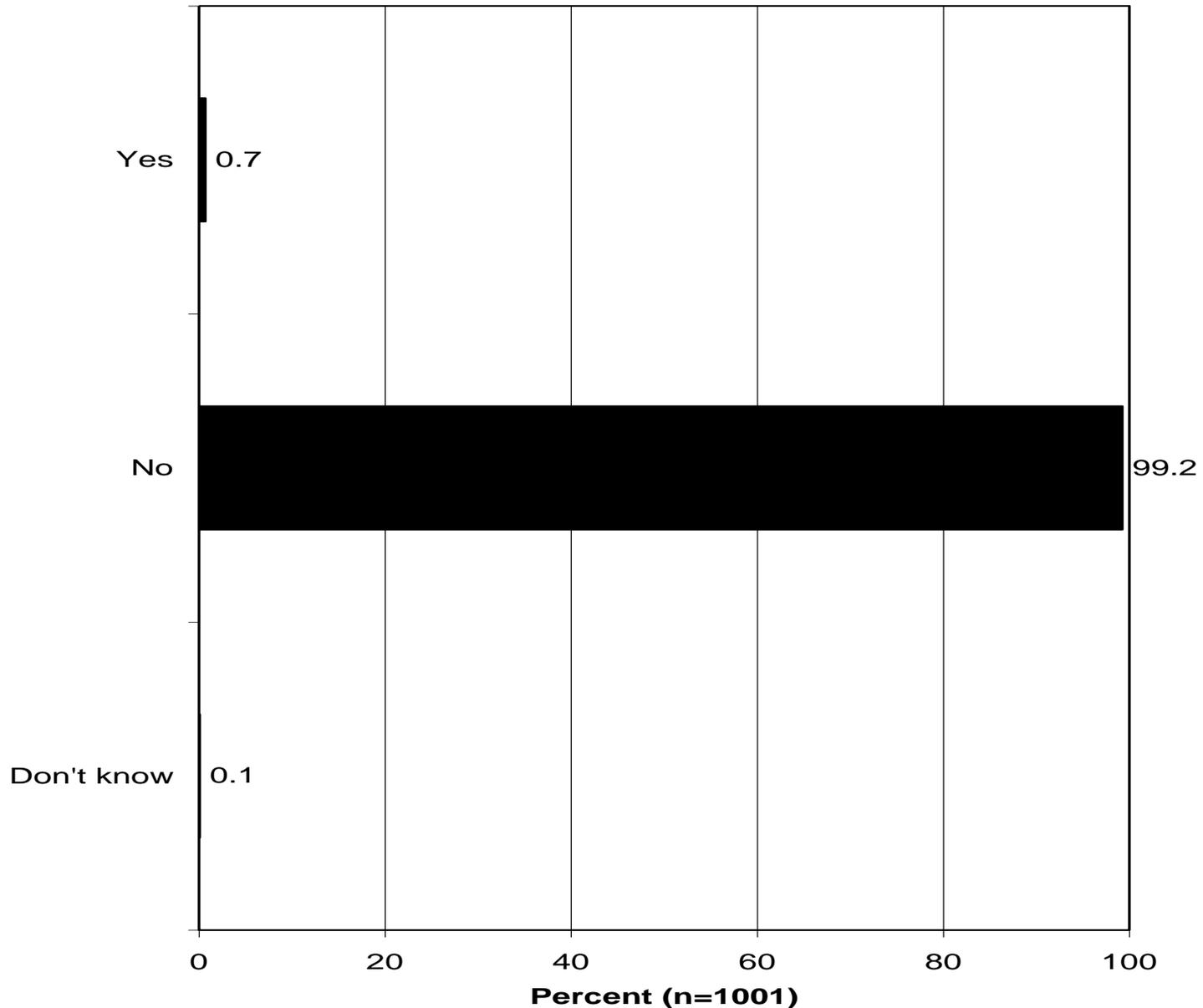
□ Percent saying this level is unacceptable

■ Percent saying lower level is unacceptable

Percent Saying Algae Level Is Unacceptable



Q87. Have you contacted the DEP about algae in West Virginia waters in the past 2 years?



“How much is too much?”
Next Steps

- Finalize report
- Post to web - please contact me with any comments/questions
- Statistical analysis/incorporate into assessment analysis
- Continue approach in 2012 sampling*

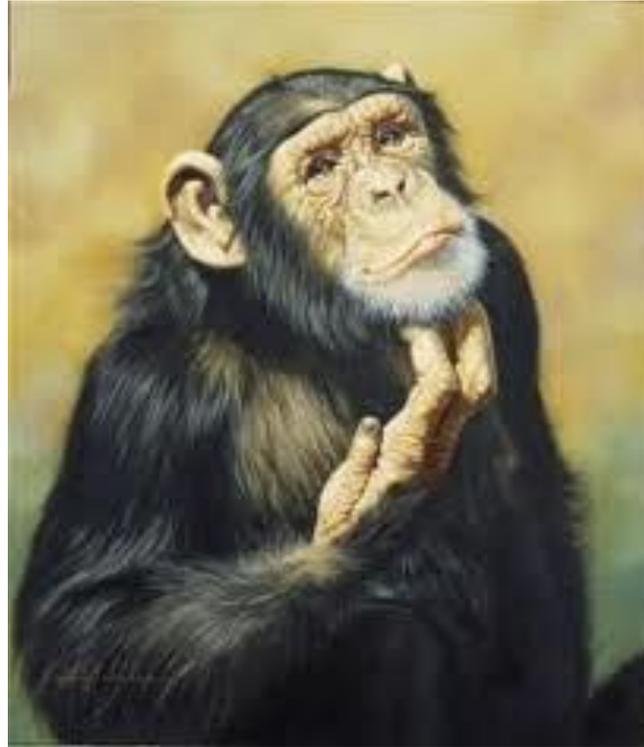


2012 Algae Sampling

- Continue Greenbrier River sampling
- Cacapon River/South Branch Potomac
 - Potential partnership with ICPRB
- Tygart River
 - Cooperative effort with TMDL sampling
- Continue observations in Bluestone, Hughes, other systems



Algae Questions?



WQS Program Update

- 47CSR2
 - Approved by EPA January 2012
- What was/wasn't approved?
 - Most everything approved except:
 - *8.3.a.3. - T Phos./chlor-a matrix/impairment decision...*
 - *“Independent Applicability”*



46CSR6 Revisions

- EPA provides guidance in CWA and in WQS handbook
- WV Rules basically mirror federal guidance
- Process outlined in 47CSR2 & 46CSR6:
 - Cumbersome, timely, consistency?
 - Varies from State 2 State, Region 2 Region, Year 2 Year...
 - Can be a “*frustrating process*”
(no laughing please)



46CSR6 Revisions (cont.)

- WVDEP “*Procedural Rule*”
 - Unlike “Legislative Rule” does not go through same process
 - Required - review/comments/hearing (summer 2012)

Edits:

~~*Environmental Quality Board*~~ *Department of
Environmental Protection*

~~*Chief Secretary*~~



WQS Program Update (cont.)

- Continue application reviews
- Prepare for next Triennial Review of WQS
 - Requirement every three years (2010/11)
 - Formally initiate review in 2013 for 2014 session
 - May start informal process 2012 (~August meeting)



Agency Updates

EPA/ORSANCO

- EPA
 - New criteria pending - when?
 - Bacteria - Fecal to *E. coli*
 - Draft posted, ~ finalized end of 2012/early 2013 (*consent decree*)
- ORSANCO
 - Proposed PCS revisions this summer



Thank you
Next meeting - August 2012
Questions? Comments? Discussion?



Division of Water and Waste Management

