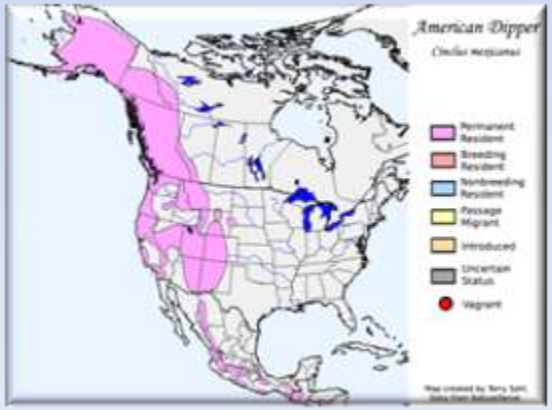
Oregon DEQ's 2012 Monitoring Summits: Why did we do it and what did we learn?

Presented by Aaron Borisenko

NWQMC November 14th, 2012



Why did we do it?

- As an environmental laboratory and data provider, we wanted understand the data and information needs of our stakeholders.
- We wanted to emphasize the important role of environmental data in an adaptive management process.
- We wanted to make sure stakeholders new about our specific monitoring programs and capabilities.
- We wanted information to update our monitoring strategy.
- We wanted to lay a foundation for a future monitoring collaboration and data sharing.
- We wanted participants to share their perspectives with each other.

We stressed values of clean water

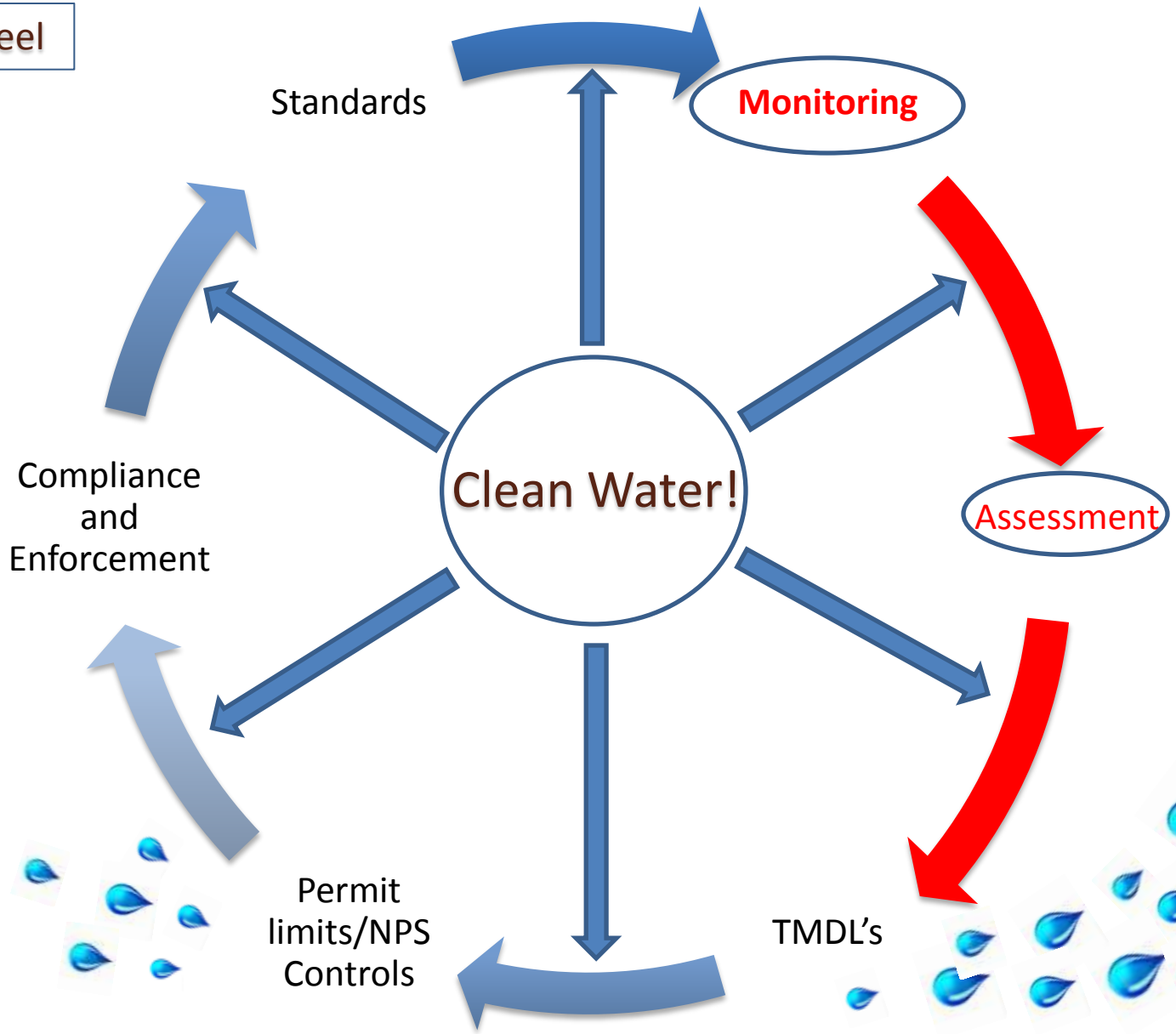
“Beneficial use” is a bureaucratic term for the values we share around clean water. It is these values people really care about and calling out our shared values fostered a more collaborative atmosphere for both our summits.

Clean water is important to all of us

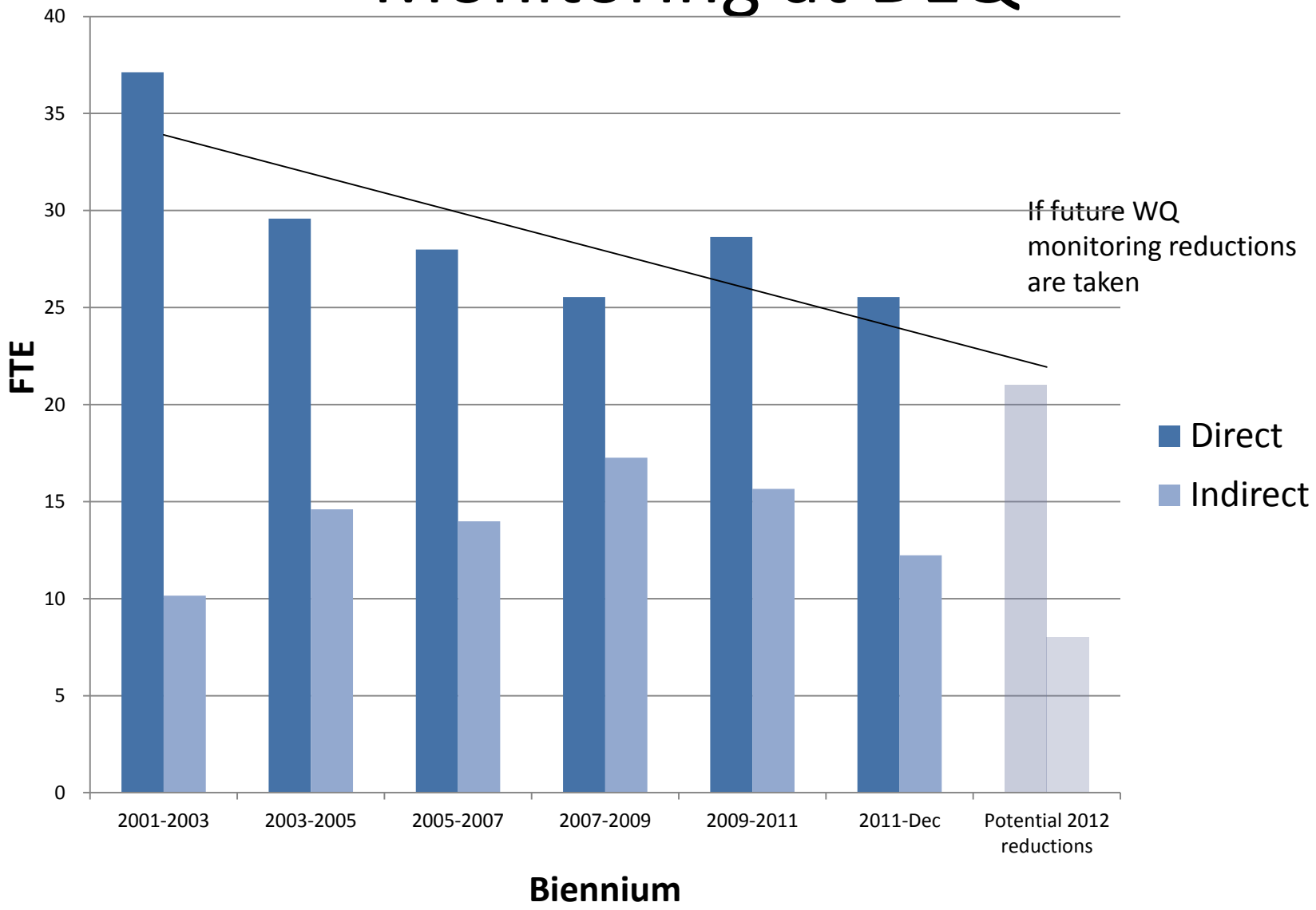
We still have work to do

We can succeed by working together!

The water wheel



Direct work on Water Quality Monitoring at DEQ



A monitoring program that meets the Clean Water Act objectives should be able to answer the following five questions:

1. What is the overall quality of waters in the State?
2. To what extent is water quality changing over time?
3. What are the problem areas and areas needing protection?
4. What level of protection is needed?
5. How effective are clean water projects and programs?

Subject	Water Quality Monitoring Summit	Run Dates	November 1-2, 2011
Facilitator	Aaron Borisenko	Time: Start	11:00 AM Tuesday
Location	Laboratory Environmental Assessment Division	Time: End	3:00 PM Wednesday
Attendees: Required	Representative Water Quality staff from Divisions and Headquarters		
Attendees: Optional	Water Quality Managers		

Tuesday, November 1

Session	Topic	Session Lead	Duration
11-1-11	*Welcome, Introductions, Objectives, Agenda Overview, Plenary: Aaron Borisenko/Greg Pettit*	John Taylor Aaron Borisenko Greg Pettit	11 - 12 AM
	Lunch (bring your own)		12:00 – 1:00 PM
Session #1	*What data do you need to support your work?*	Jim Coyle	1:00 - 2:00 PM
Session #2	*What is the overall quality of waters in the State and to what extent is water quality changing over time?*	Shannon Hubler	2:00 - 3:15 PM
	Break		3:15 - 3:30 PM
Session #3	*What are the problem areas and areas needing protection?*	Doug Drake and Aaron Borisenko	3:30 - 4:30 PM
	Recap/ parking lot issues		4:30 - 5:00 PM

Wednesday, November 2

Session	Topic	Session Lead	Duration
11-2-11	**Recap/Questions**	John Taylor	8:00 - 8:30 AM
Session #4	***How effective are clean water projects and programs?***	Steve Hanson Aaron Borisenko	8:30 – 10:00 AM
	Break		10:00 -10:15 AM
Session #5	***Toxic Monitoring Presentation /Data needs for toxics***	Lori Pillsbury Jim Coyle	10:15 – 12:00 PM
	Working Lunch (at laboratory provided)		12:00 – 1:00 PM
Session #6	***Assessment and Collaboration***	Lori Pillsbury/ Mike Mulvey Aaron Borisenko	1:00 – 2:15 PM
	Recap, next steps, adjourn	John Taylor, Aaron Borisenko	2:15 -3:00 PM
	Optional: Lab Tour/Individual discussions		3:00 – 5:00 PM

DEQ Water Quality Monitoring Summit Results

State of Oregon Department of Environmental Quality

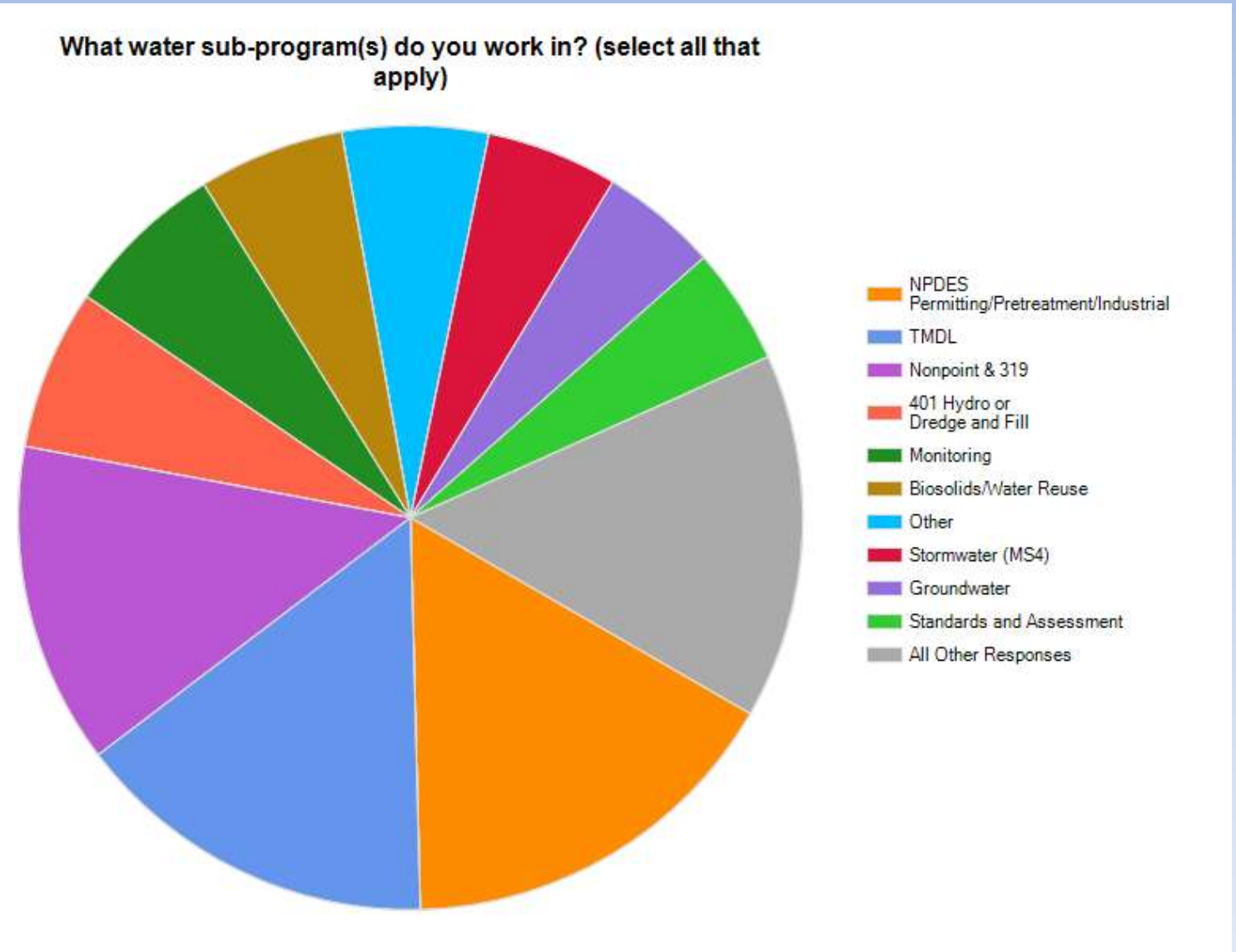
DEQ Water Quality Monitoring Summit, November 2011

Who participated?

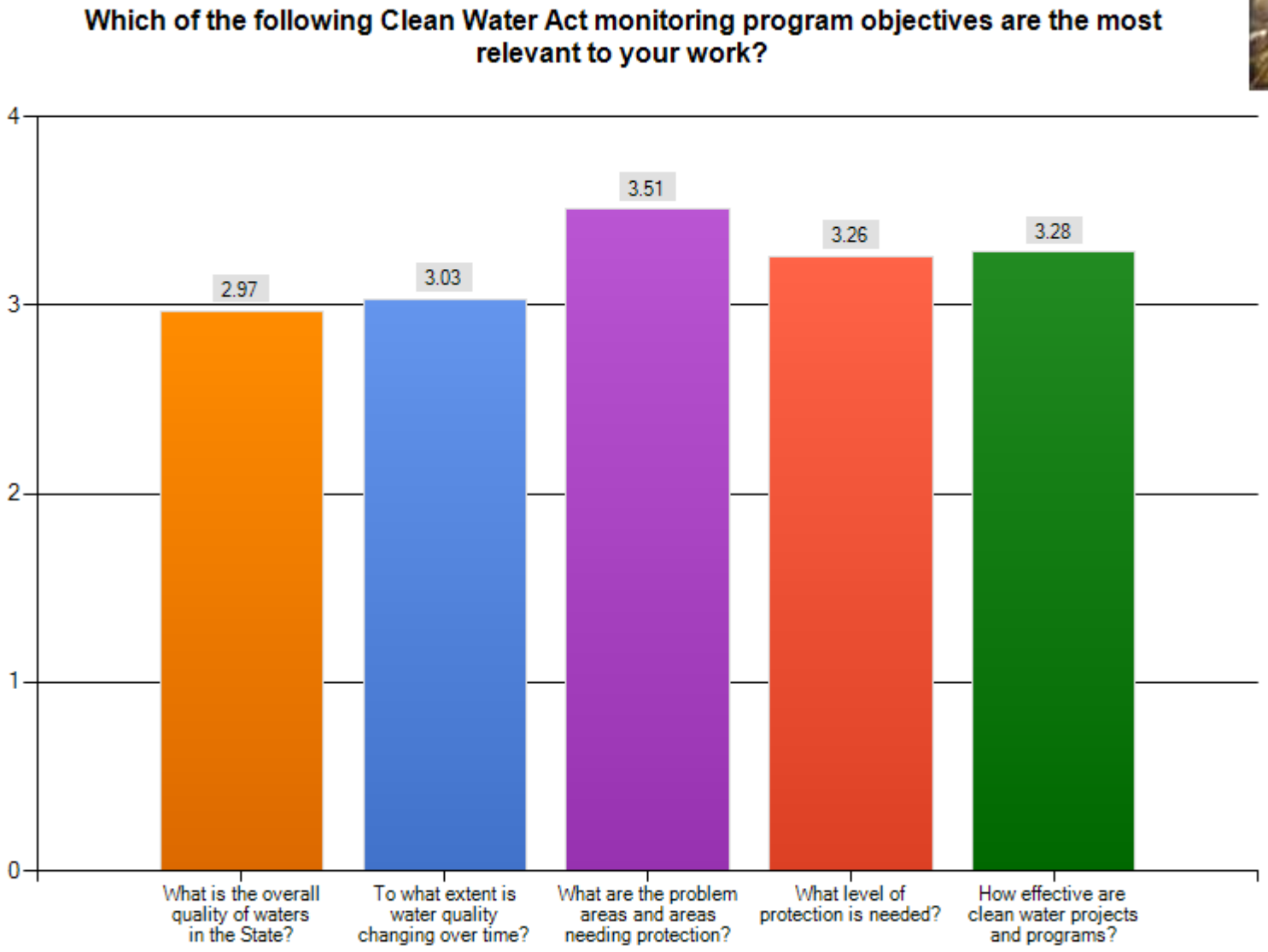
- We invited DEQ water quality staff from all of our programs and regions to discuss water quality data and information needs.
  - TMDL, Permitting, Non-point source, Standards, Groundwater, Communications, Stormwater, Basin Coordinators
- We also conducted an online survey to collect more information from staff that could not attend.

Participants

Selected survey results

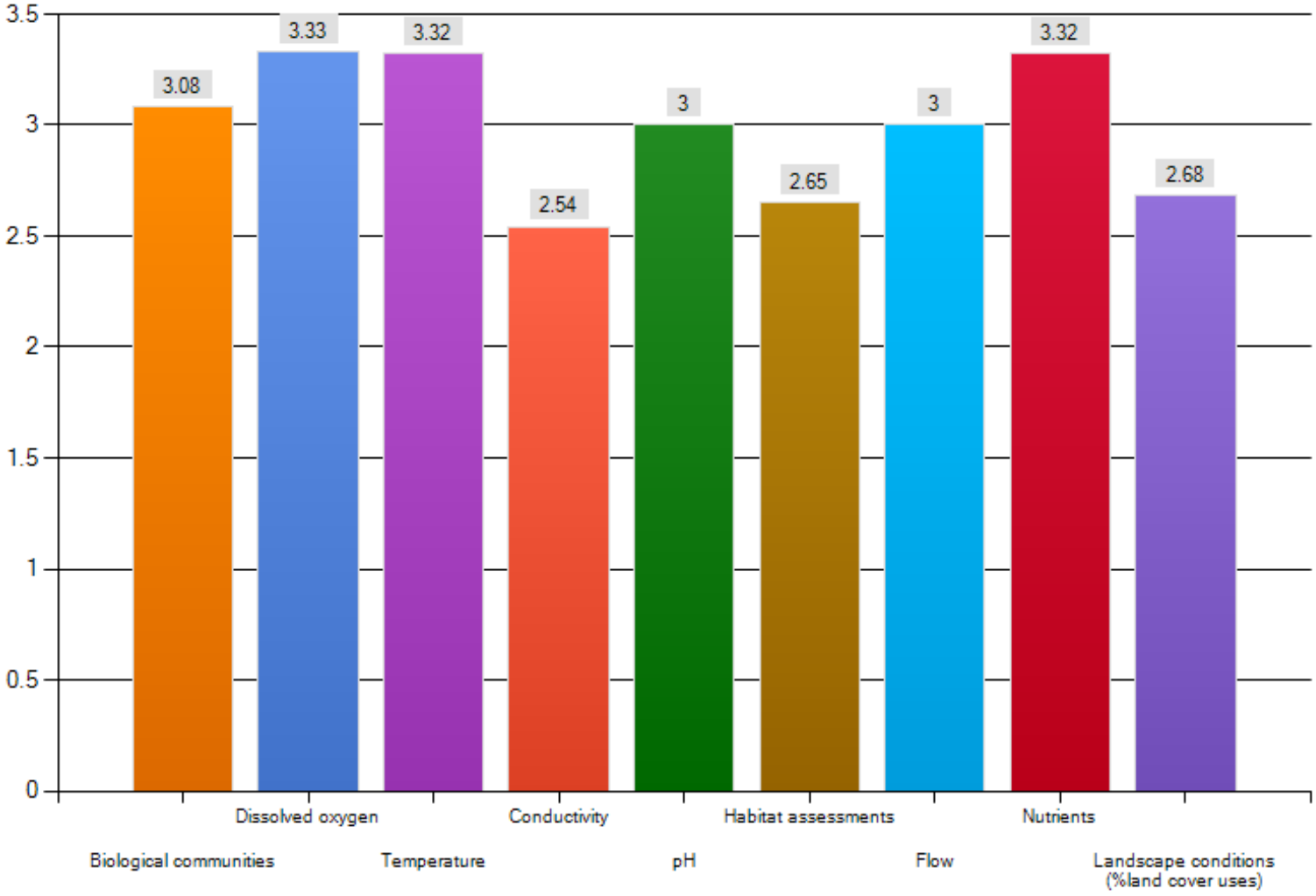


Monitoring objectives



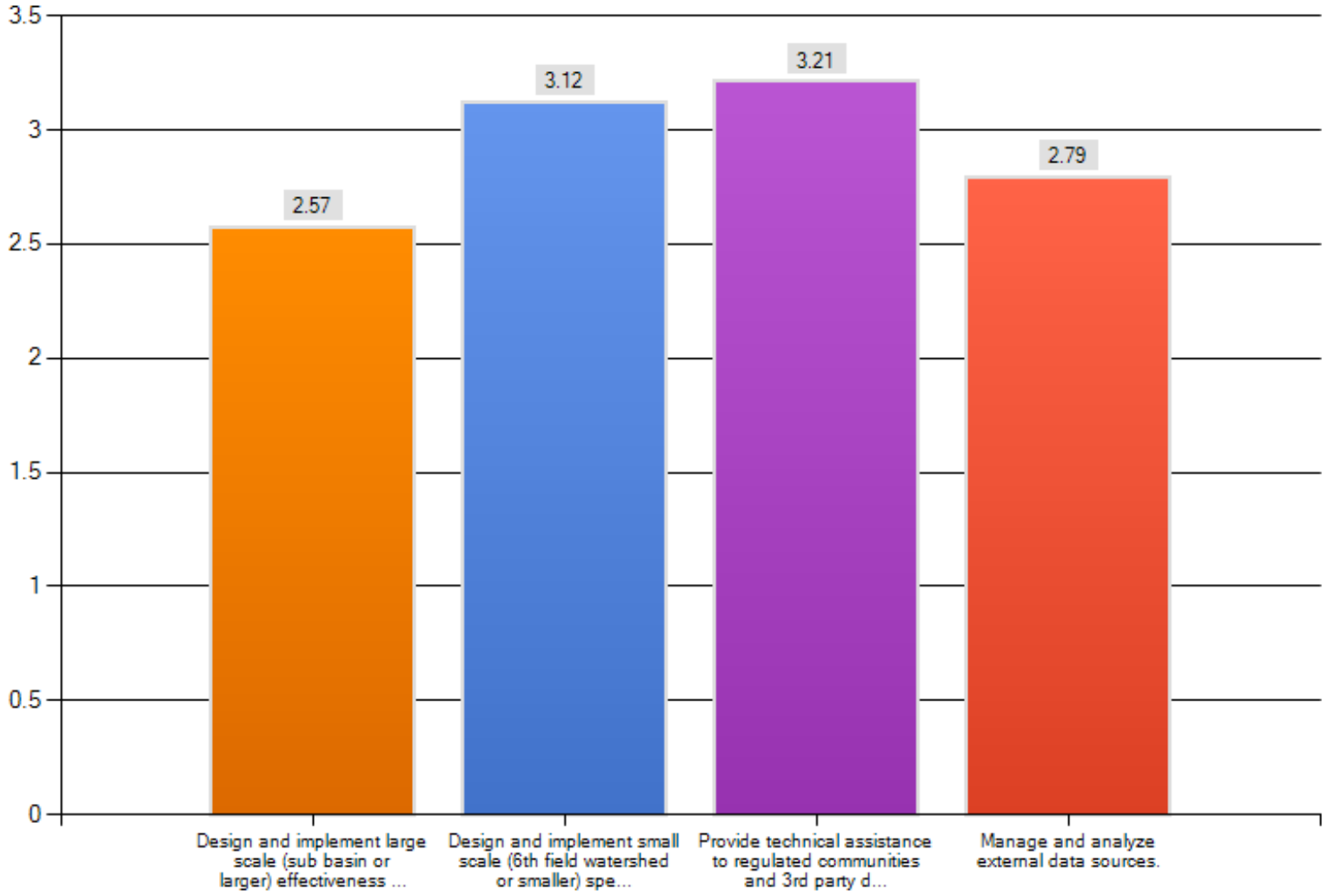
Indicators

Which of the following EPA aquatic life/ wildlife indicators in your geographic area are most important for the DEQ laboratory to monitor over time?

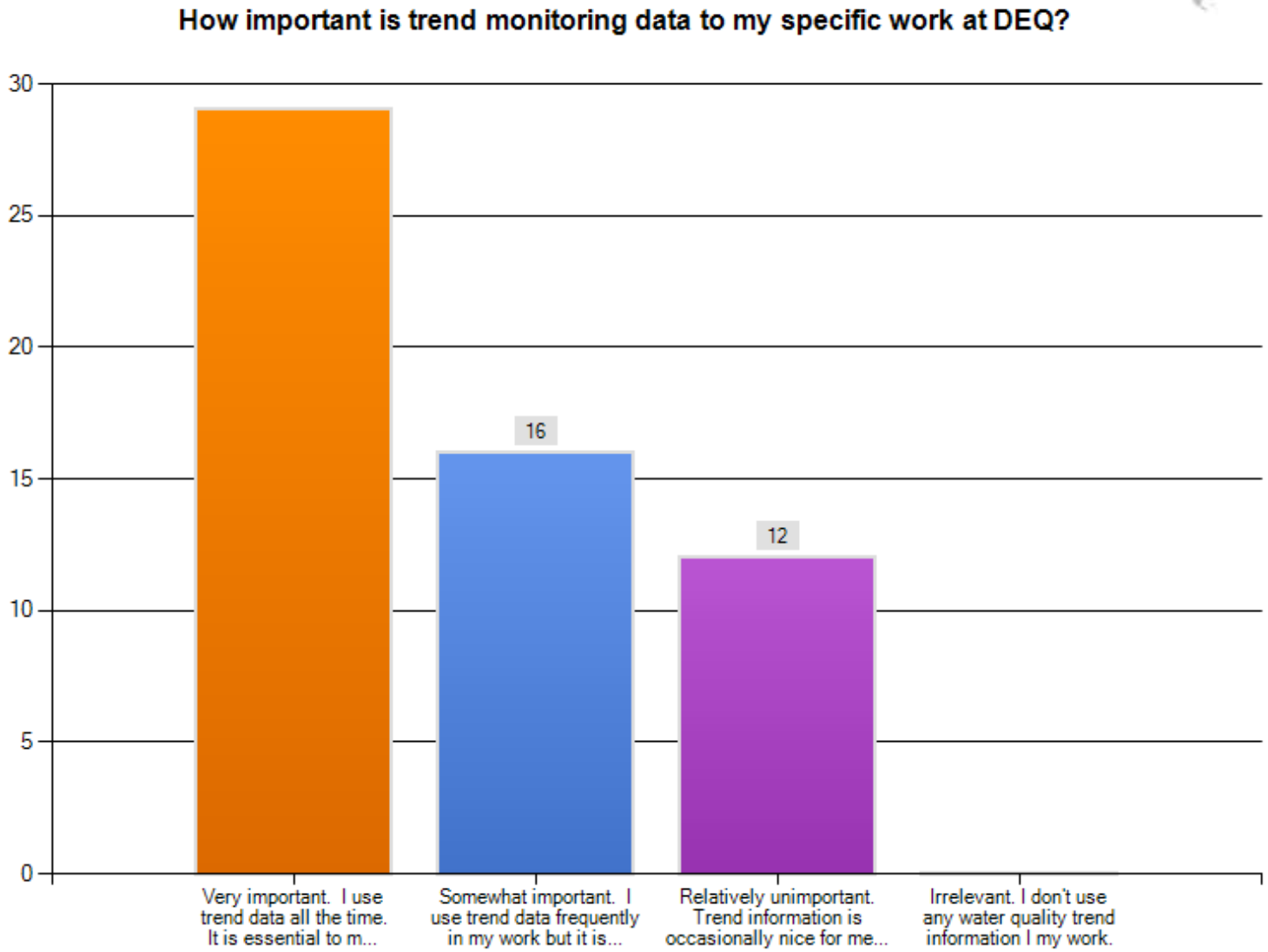


Effectiveness Monitoring

Rank the work you want the lab to do in supporting effectiveness monitoring for the agency.

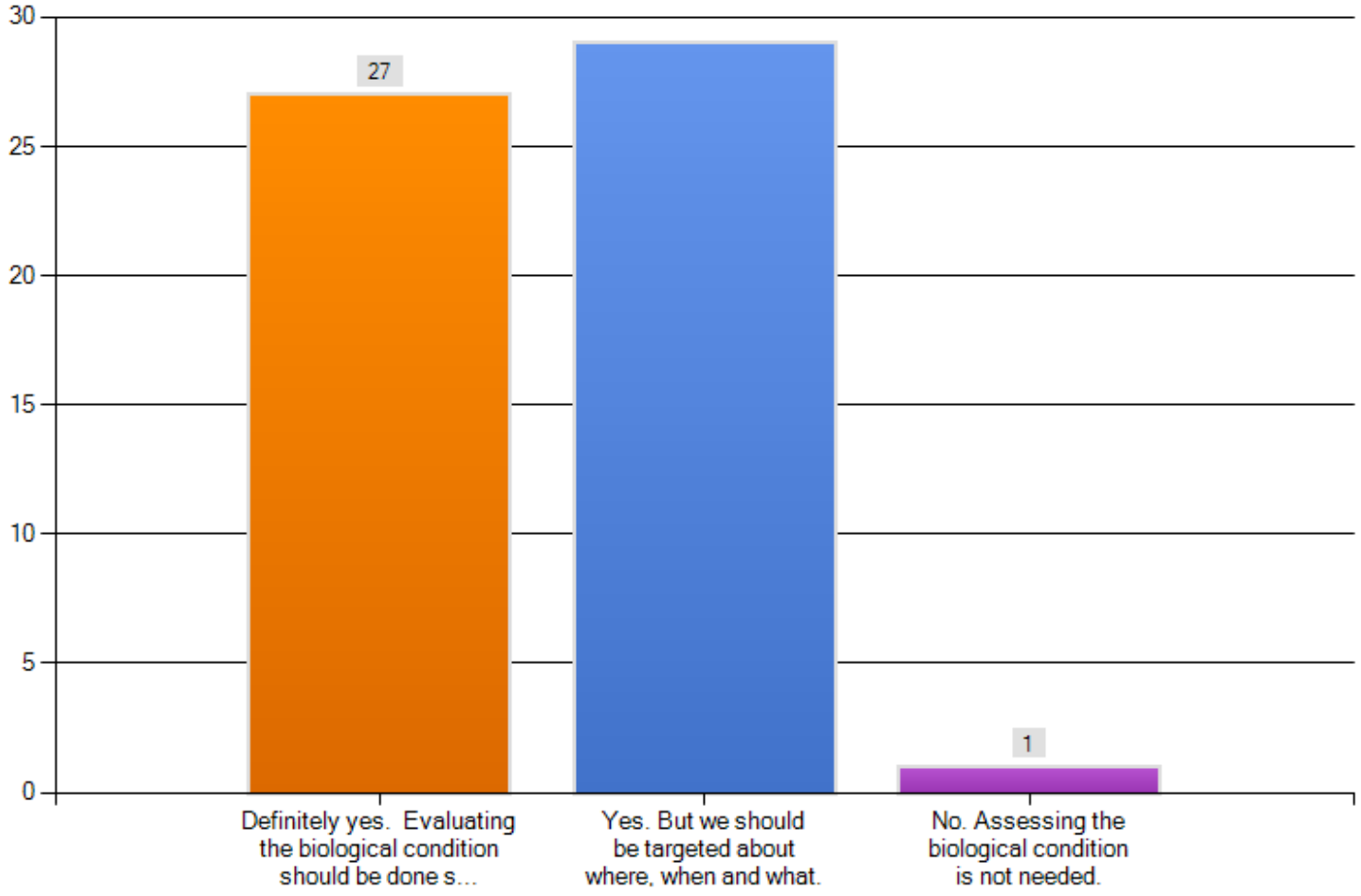


Trend Monitoring

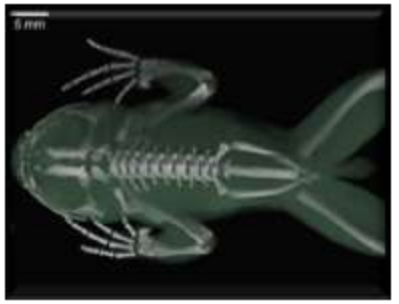


Biomonitoring

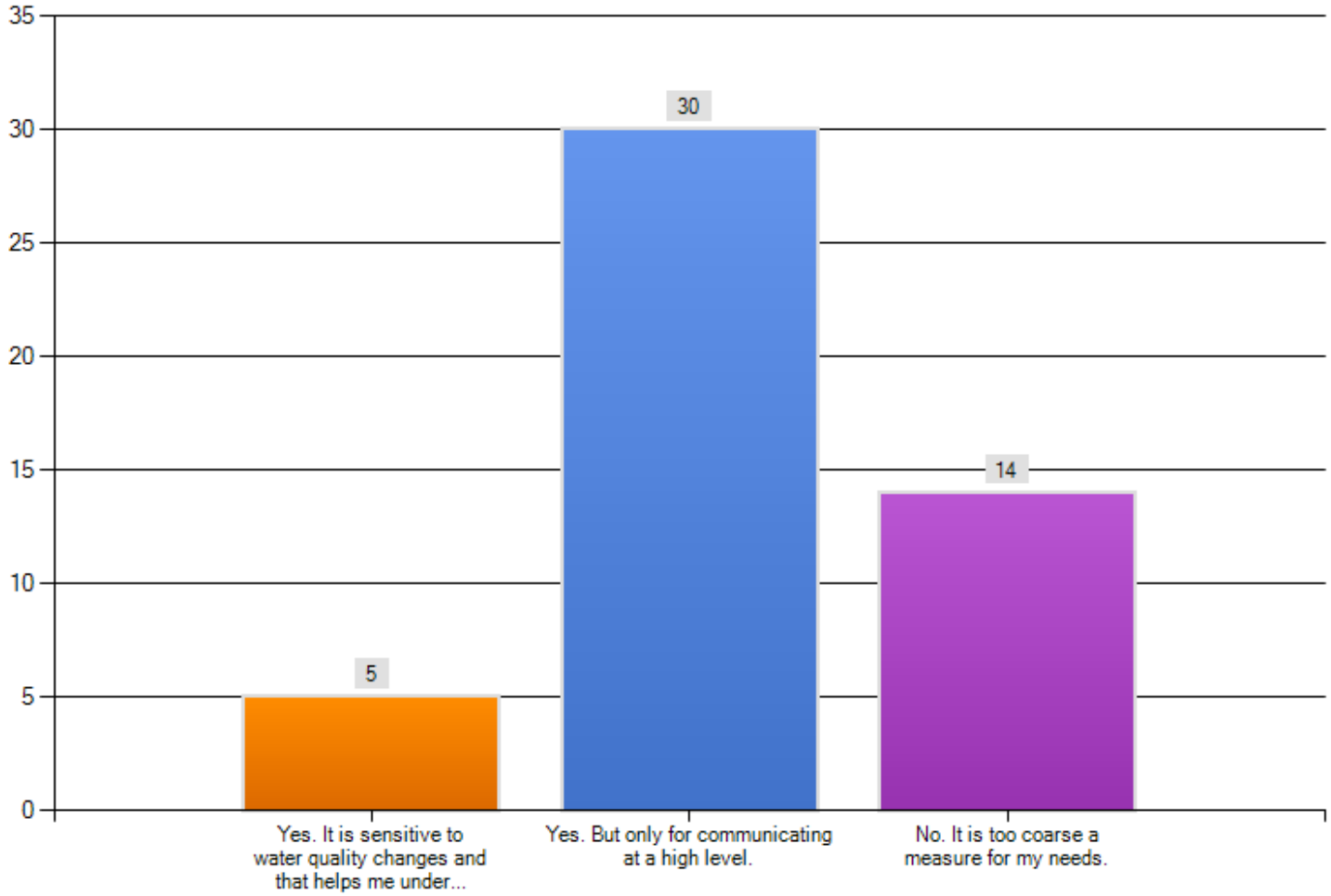
Biological communities, bugs, fish and periphyton can be used as screening tools for identifying water quality and watershed problems. Should trend monitoring include periodic assessments of biological conditions?



Oregon Water Quality Index



Do you think the Oregon Water Quality Index is a useful tool for describing general water quality?



What themes emerged at our internal water quality summit?

- Capacity Building
  - Provide Technical assistance.
  - Leverage other data sources.
  - Work with other partners to help build their monitoring capacity.

continued

- Improve communication of findings and delivery of information.

- Work with Basin coordinators to target regional monitoring efforts.

- Provide easier access to the data we collect.

- Maintain or enhance the Ambient WQ Monitoring Network. (toxics)

- Biological monitoring is valuable.

External Water Quality Monitoring Survey Results

State of Oregon Department of Environmental Quality

DEQ Water Quality Monitoring Summit, February 8, 2012

Who participated?

- We tried for a balance of stakeholder groups
  - State and Federal agencies, Tribes, Environmental organizations, Business organizations, Watershed Councils
  - We had 30 participants + about 15 DEQ presenters/guests.
- We conducted a pre-meeting online survey followed by a post meeting online survey.

How was it organized?

- We provided informational presentations that were relevant to the breakout session discussions?
- Breakout session were organized by stakeholder group.
  - We wanted candid conversations and we wanted people in their comfort zones.

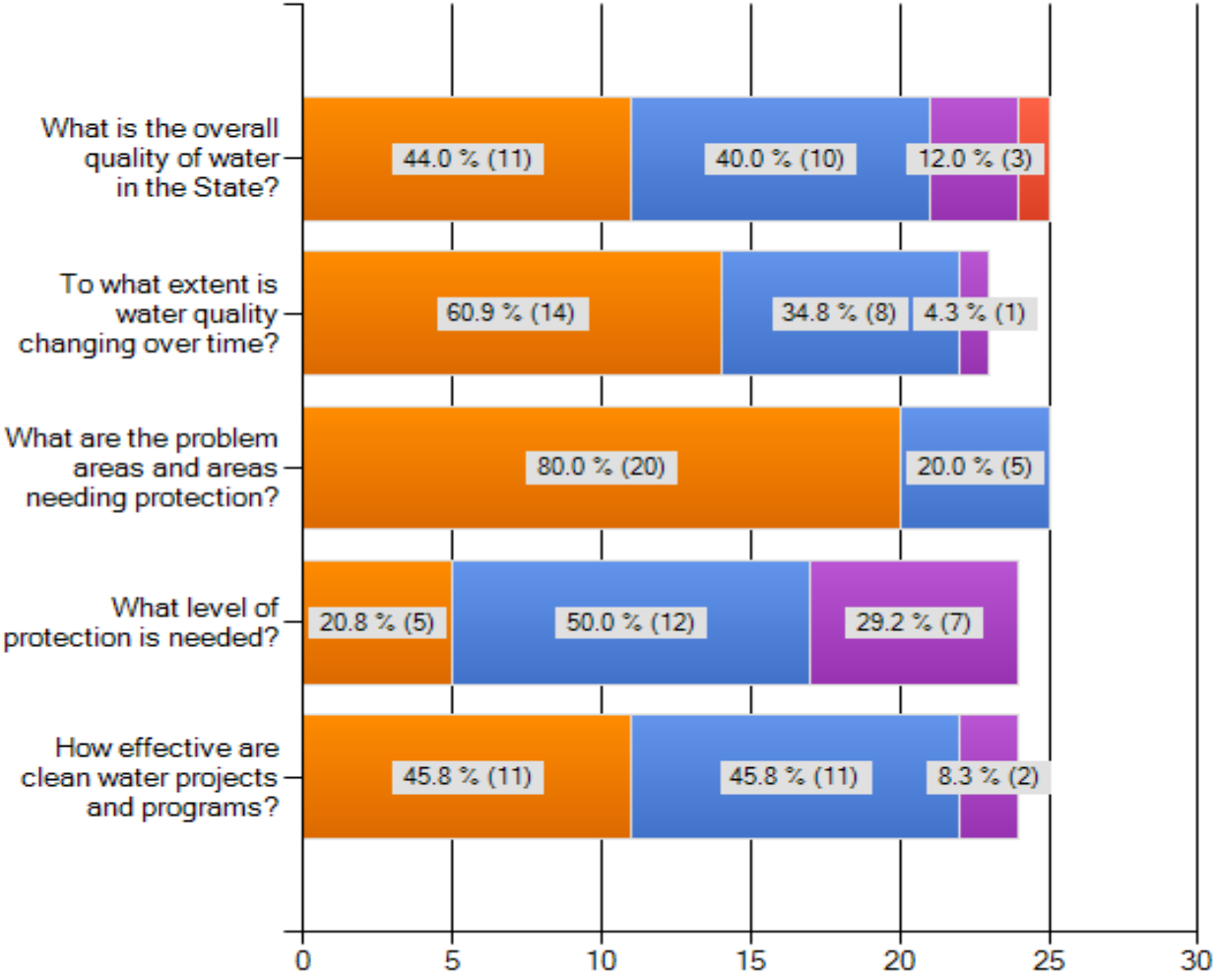
WQ Monitoring Summit:
Past, Present and Future
February 8, 2012

800 -830	*Coffee and snacks 1940's Willamette WQ*	
830-845	Welcome & Logistics, Why we are gathered, Outcomes for our time together, Water Quality Monitoring Strategy Revision Input	John Taylor Aaron Borisenko Greg Pettit
845-930	**Group introduction**: Name, affiliation and *briefly* how do you/your group interact with DEQ, do you use data /information generated by DEQ?	John Taylor
930-1000	Overview of EPA Monitoring Strategy Requirements Introduction of the 2005 Monitoring Strategy *What the DEQ Lab does/does not do:* • *DO: sample collection and analyzing samples, generating and analyzing data, writing reports* • *NOT DO: initiate enforcements, set policy etc*	Aaron Borisenko
1000-1015	Morning Break	
1015-1045	Overview of Water Quality Monitoring at DEQ: Past, Present and Future • Assessing the status and trend of Oregon's water: The Ambient Network, Groundwater monitoring, Volunteer monitoring, Beach monitoring, probabilistic monitoring (Oregon Plan) • Targeted monitoring: Identifying pollution sources to implement pollution control: 303d list, TMDLs, point source evaluations: Mixing zone surveys	Mike Mulvey
1045-1100	Your Water Quality Monitoring Survey Results	Aaron Borisenko
1100-12	**Break-out Session 1: What type of information would be most useful to your organization?** – includes 5 minutes for session introduction, 30 minutes for break-out, & 25 minutes for report to group & discussion	All
1200-100	Working Lunch with special guests (**The Turbo Turtles**)	
100-145	Overview of Water Quality Monitoring at DEQ: Past, Present and Future • Improve protection of public health and environmental health: Toxics monitoring • Effectiveness monitoring • The Watershed Approach	Jim Coyle Steve Hanson
145-215	Information approaches for conveying water quality data: Indexes, Report Cards, Watershed Assessments	Lori Pillsbury Shannon Hubler
215- 230	Water Quality Monitoring Survey Results (DEQ results)	Aaron Borisenko
230-245	**Afternoon Break**	
245-345	**Break-out Session 2: Prioritizing monitoring and assessment: with a limited budget, what is most important?** - includes 5 minutes for session introduction, 30 minutes for break-out & 25 minutes for report to group & discussion	All
345-400	Data sharing and collaboration Capacity Building: Involving other agencies and community partners: volunteer monitoring, watershed councils, municipalities, business Sharing and Collaboration.	Aaron Borisenko
400-430	Closing Thoughts & Wrap-up	John Taylor Aaron Borisenko Group
430 - 500	**Lab Tour/Individual discussions**	Lab Managers

Turbo Turtles Lego Team

Ranking Water Monitoring Issues

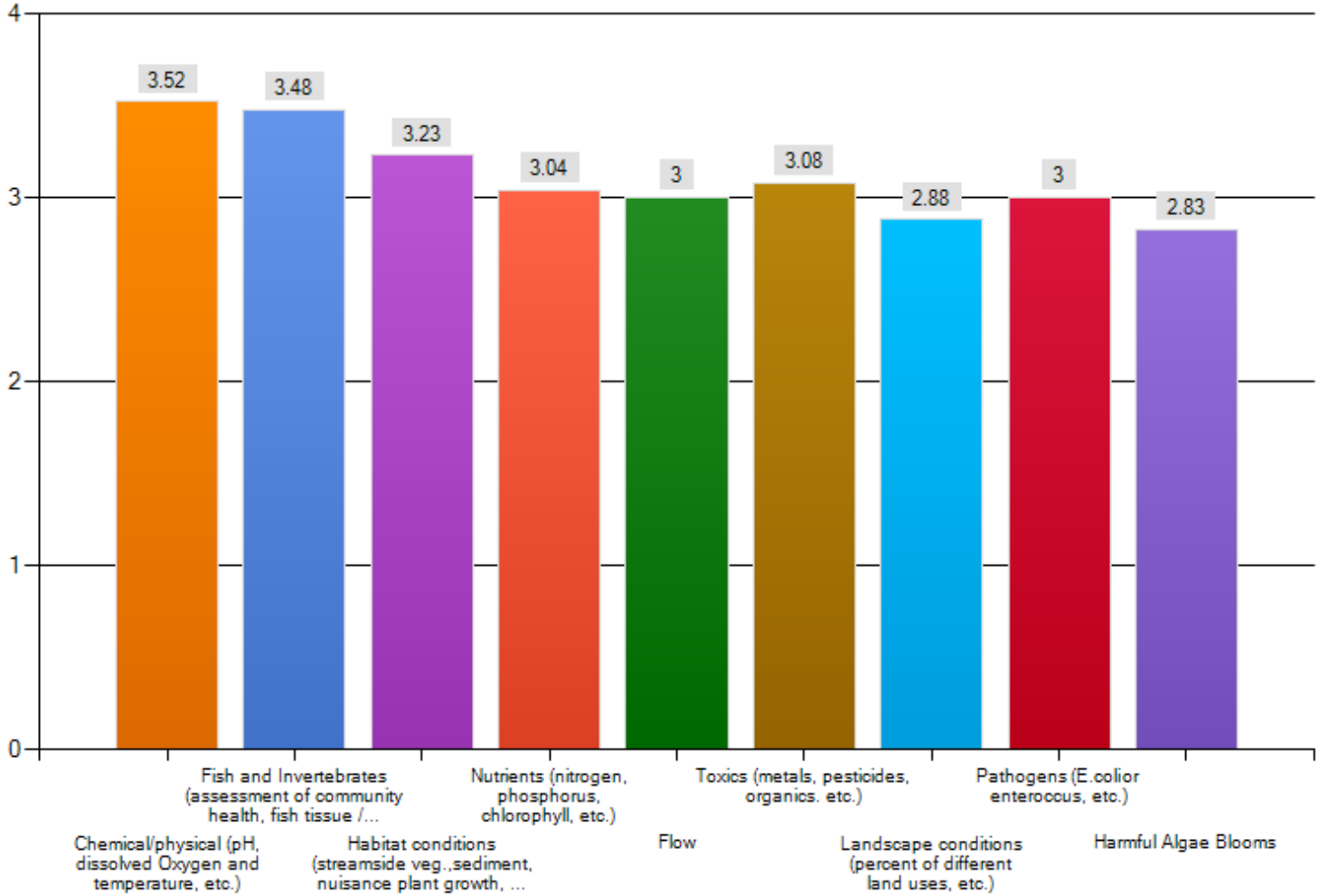
Which of the following EPA water monitoring program questions are most relevant to your organization?



Other responses:

1. How to define reference condition & develop credible sampling methods
2. Clean water projects and programs should be evaluated separately
3. Effective & timely reporting of data in hand very important
4. Are we meeting water quality standards?
5. Which contaminants pose the greatest threat to human health and aquatic life in Oregon? What are their sources.

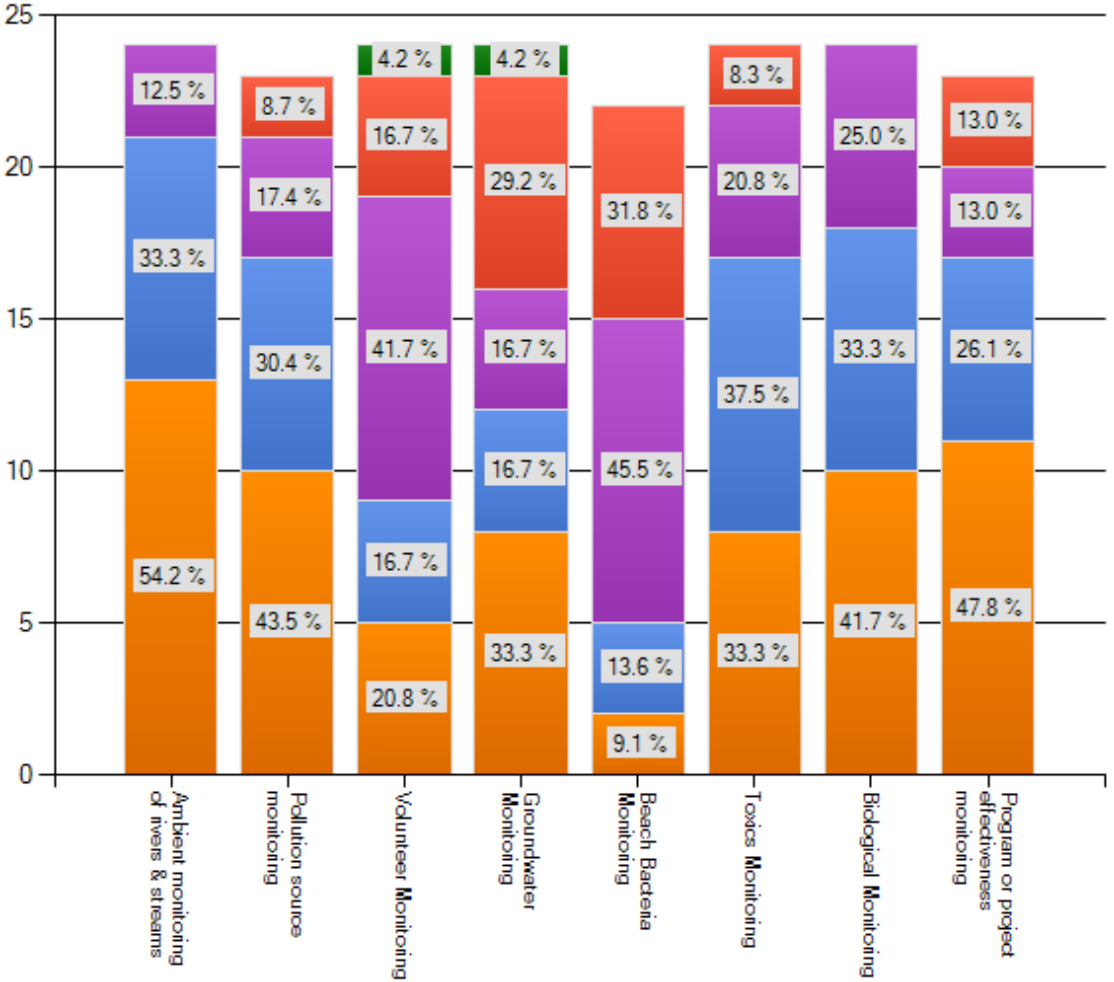
Which EPA recommended aquatic health indicators for wildlife, recreation, drinking water and fish/shellfish consumption are the most relevant to your organization's information needs?



Other responses:

1. The State Board plans to adopt quantitative biocriteria during 2012 for macroinvertebrates and during 2013 for soft-bodied algae and diatoms.
2. Answers depend on type of water body and scale
3. Highest priority is contaminants that harm human health.

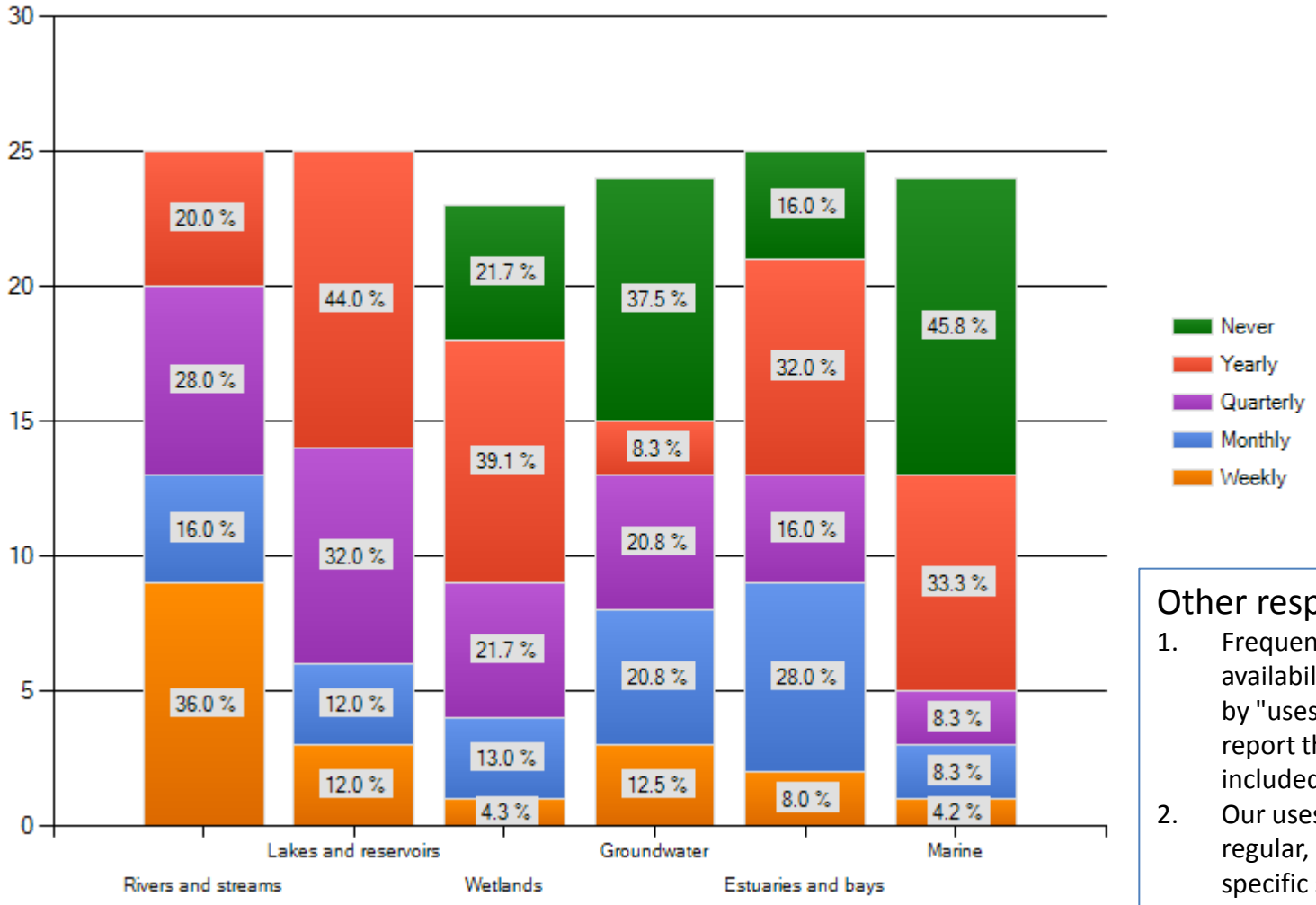
Please rank the following water quality monitoring activities in terms of relevance to your organization's information needs.



Other responses:

1. Activities are less relevant when resources are lacking to monitor at the appropriate scale (for example, pollution sources). Biological monitoring to develop stressor tools and reference conditions are more relevant than broad-scale monitoring. I'm unaware if any program monitoring or evaluation has been done.
2. In addition to monitoring toxics and pollutants that threaten human health, we are interested in monitoring that can help determine whether programs are working or not, particularly for nonpoint sources like agriculture and urban runoff.

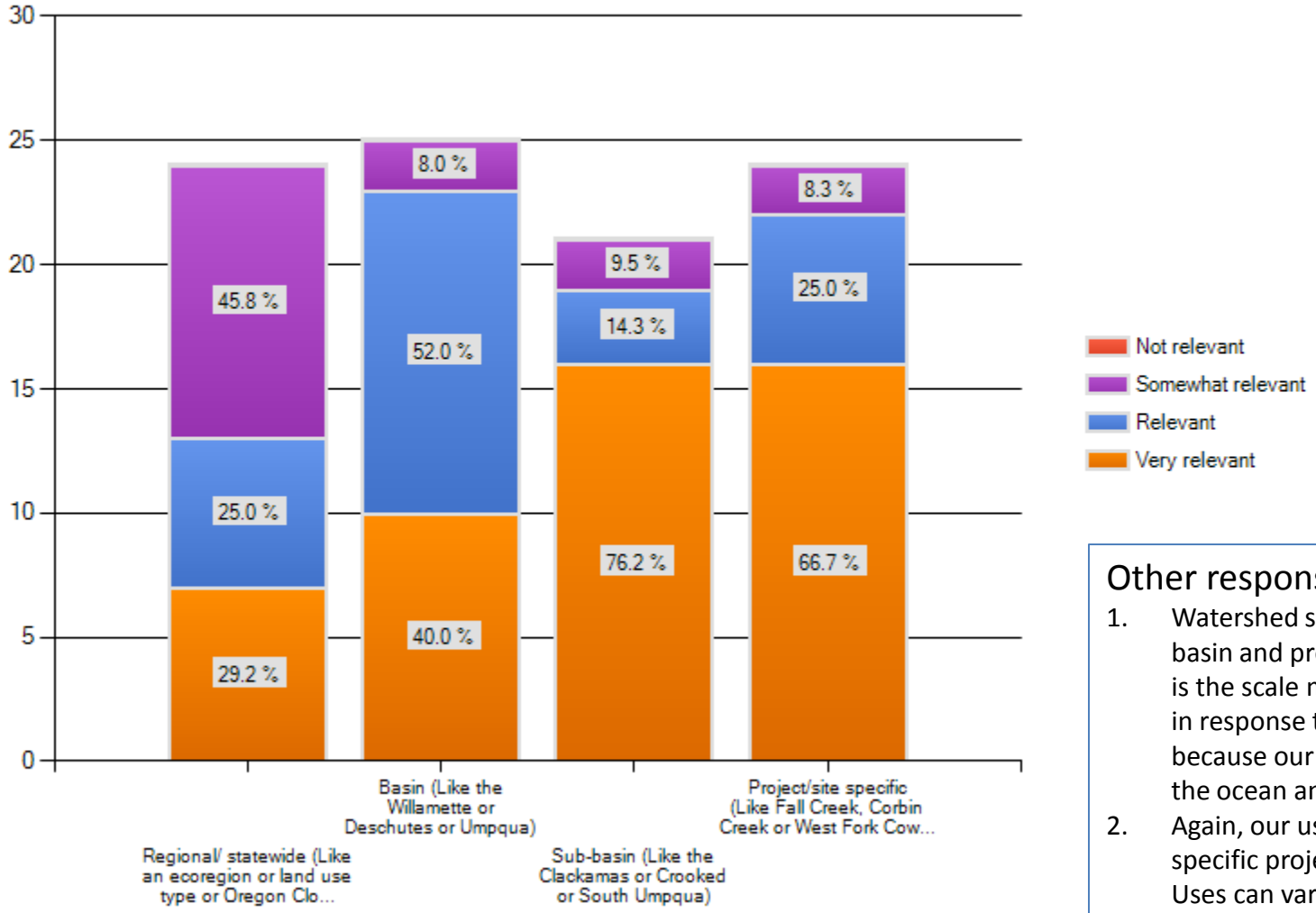
Please indicate the frequency with which your organization uses the following types of monitoring data or information.



Other responses:

1. Frequency depends partly on availability. What do you mean by "uses" - is reviewing a report that contains data included?
2. Our uses are not necessarily regular, but are more tied to specific studies or projects and their timelines. Mostly we use our own data but often use DEQ and other organizations depending on the questions.

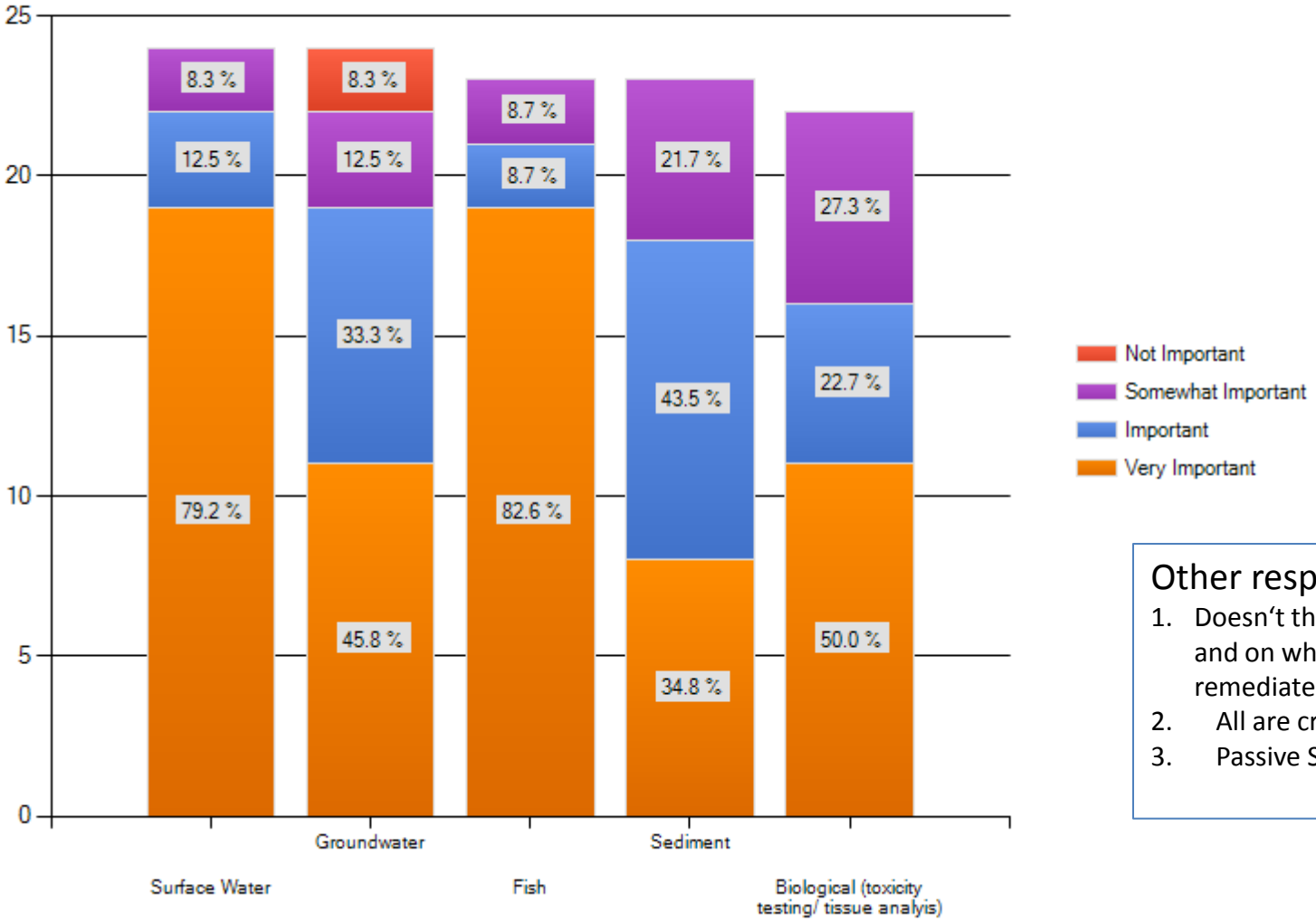
Please indicate the spatial scale of (water quality) data collection that is most relevant to your organization.



Other responses:

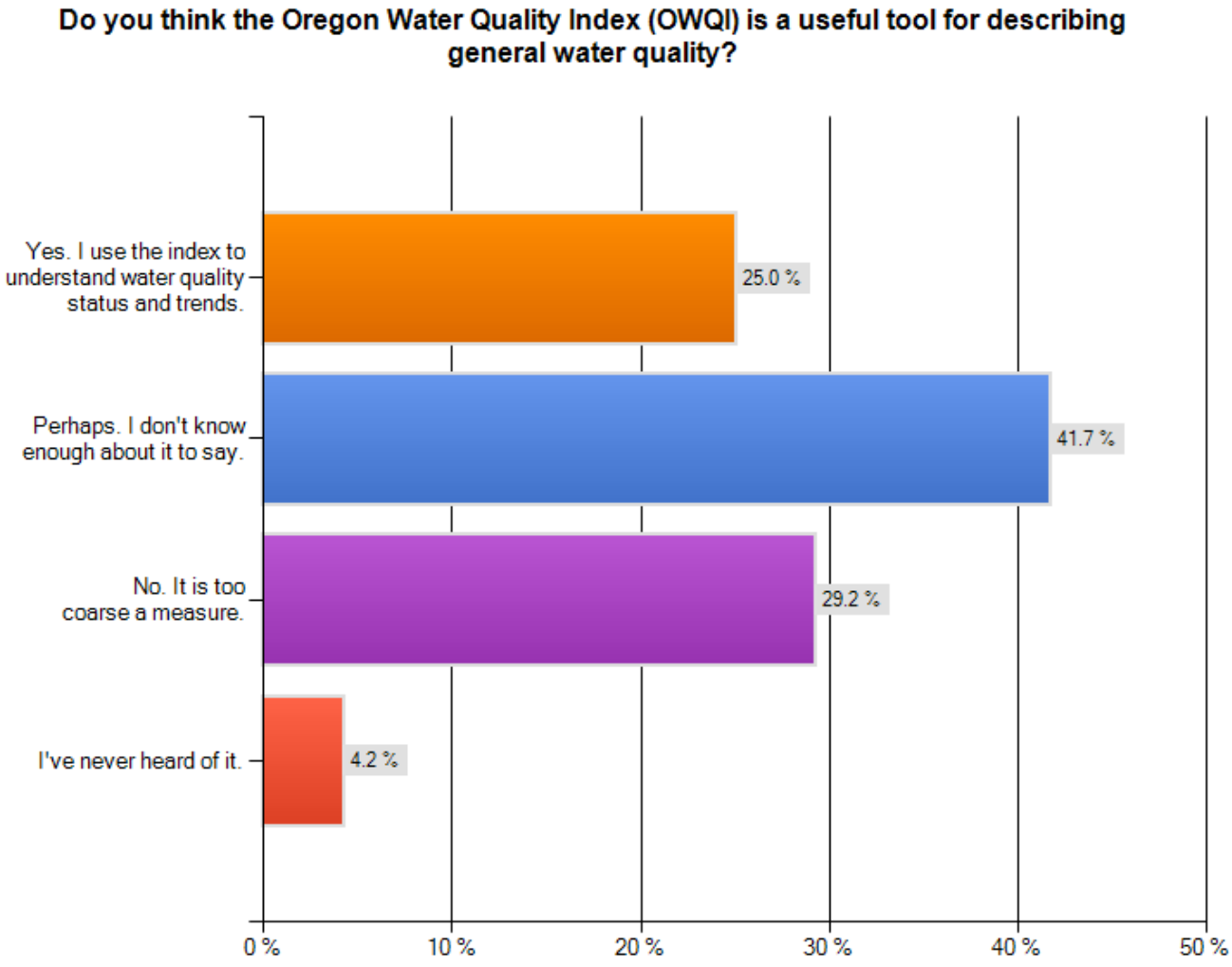
1. Watershed scale is between sub-basin and project/site specific. It is the scale more likely to change in response to our actions, because our watersheds drain to the ocean and have estuaries.
2. Again, our use depends on specific project and objectives. Uses can vary considerably over time.
3. Columbia River Basin

Please rank the importance of the following media for understanding the risk of toxic pollutants to human health and ecosystem health?



Other responses:

1. Doesn't this depend on the toxin, and on whether the goal is to remediate or set intake limits?
2. All are critical.
3. Passive Samplers -- Important

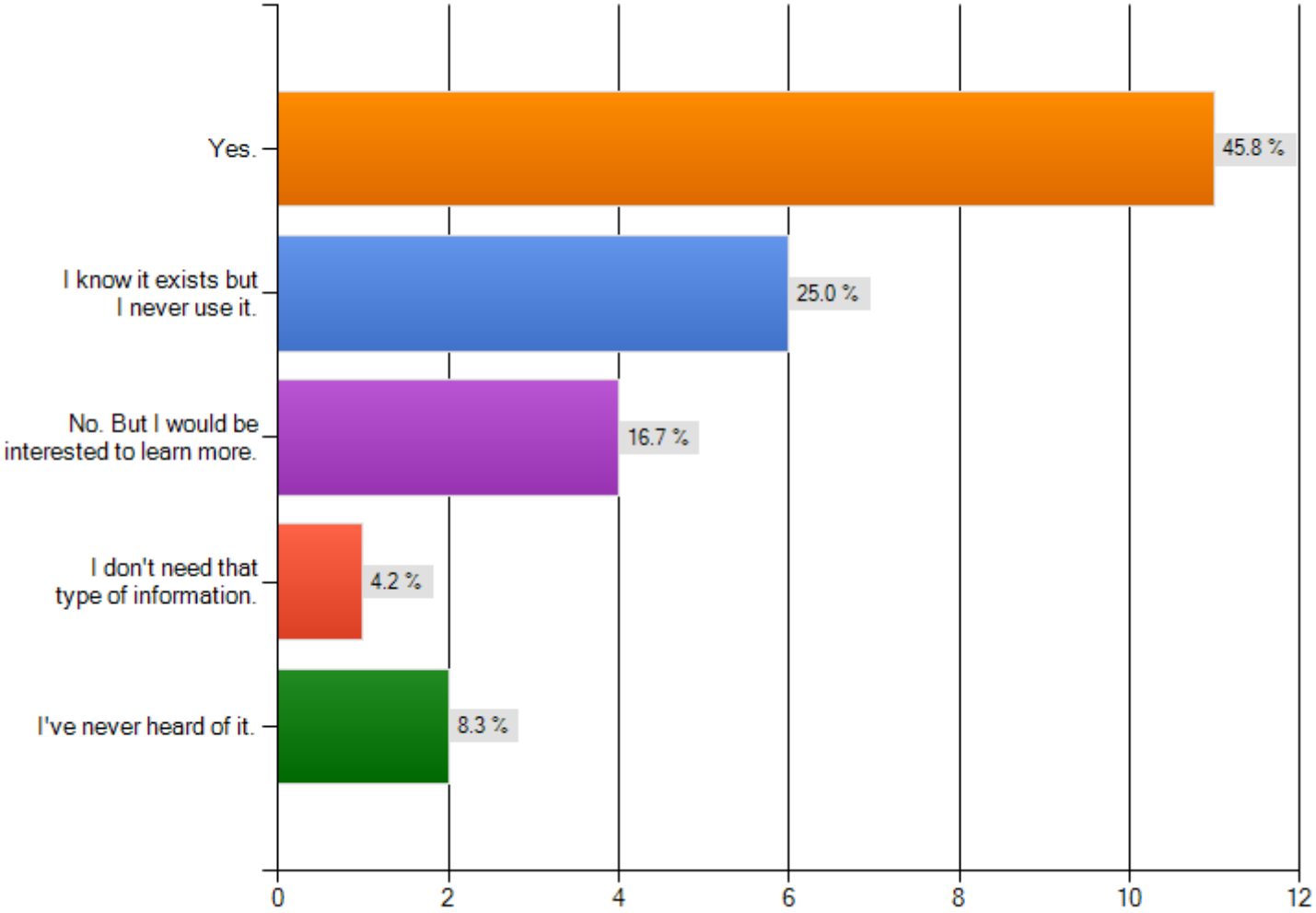


Other responses:

1. The index is potentially driven by modeling parameters that are less influenced by human activities compared to annual conditions. Could it be modified to be less dependant on annual conditions?
2. But it has limitations - diurnal and storm variability are poorly captured.
3. It would be more useful if it included some toxics.
4. I think it is useful but shouldn't be the only tool used. I rarely use it except as an indicator.
5. Maybe--it has strengths and weaknesses

#12

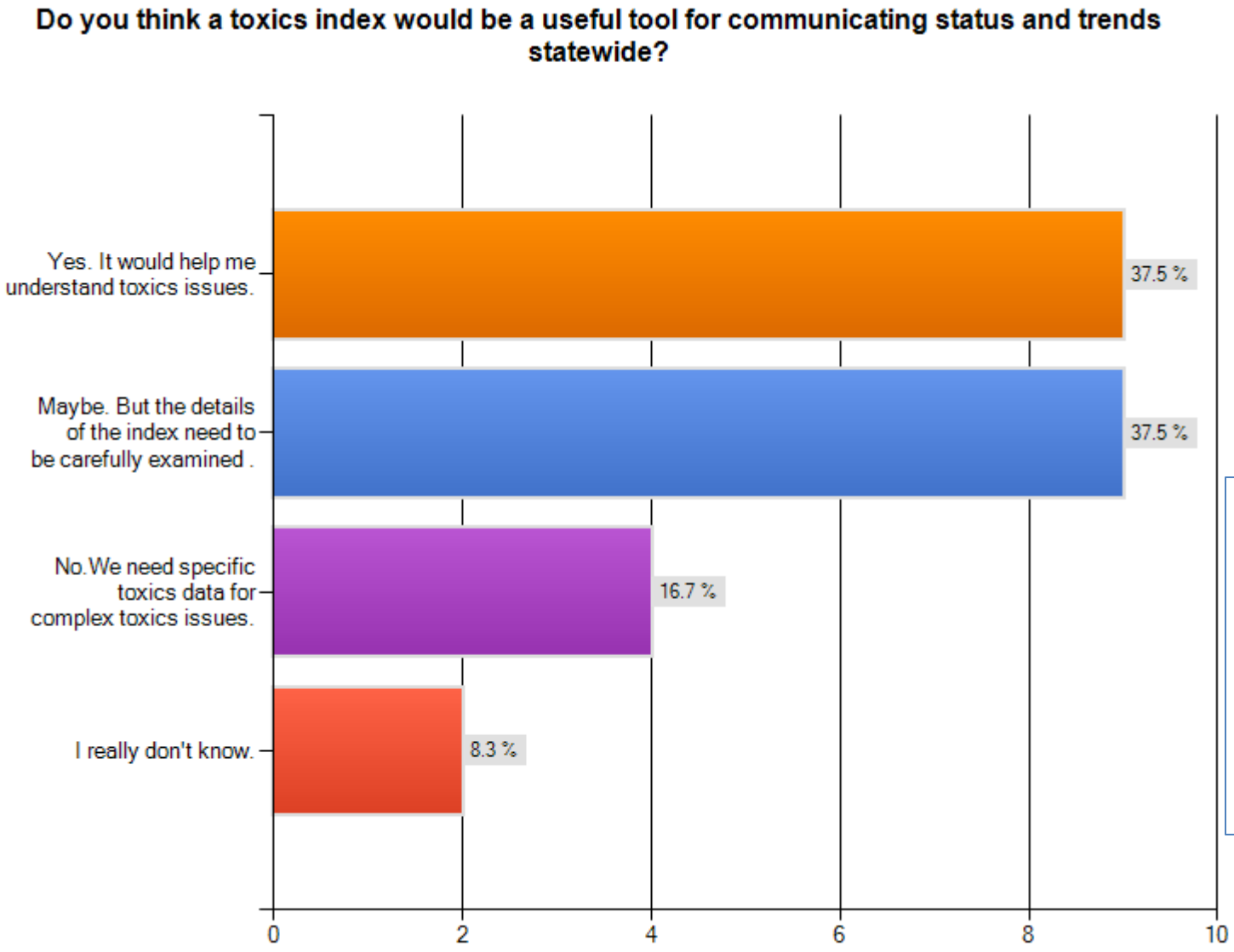
Are you aware that DEQ has an index (PREDATOR) for assessing aquatic health using macroinvertebrates communities (aquatic insects and other invertebrates)?



Other responses:

1. Like IBI? Good stuff, but not high priority for my organization.
2. Others in my organization may be using it.
3. I have done surveys using this index

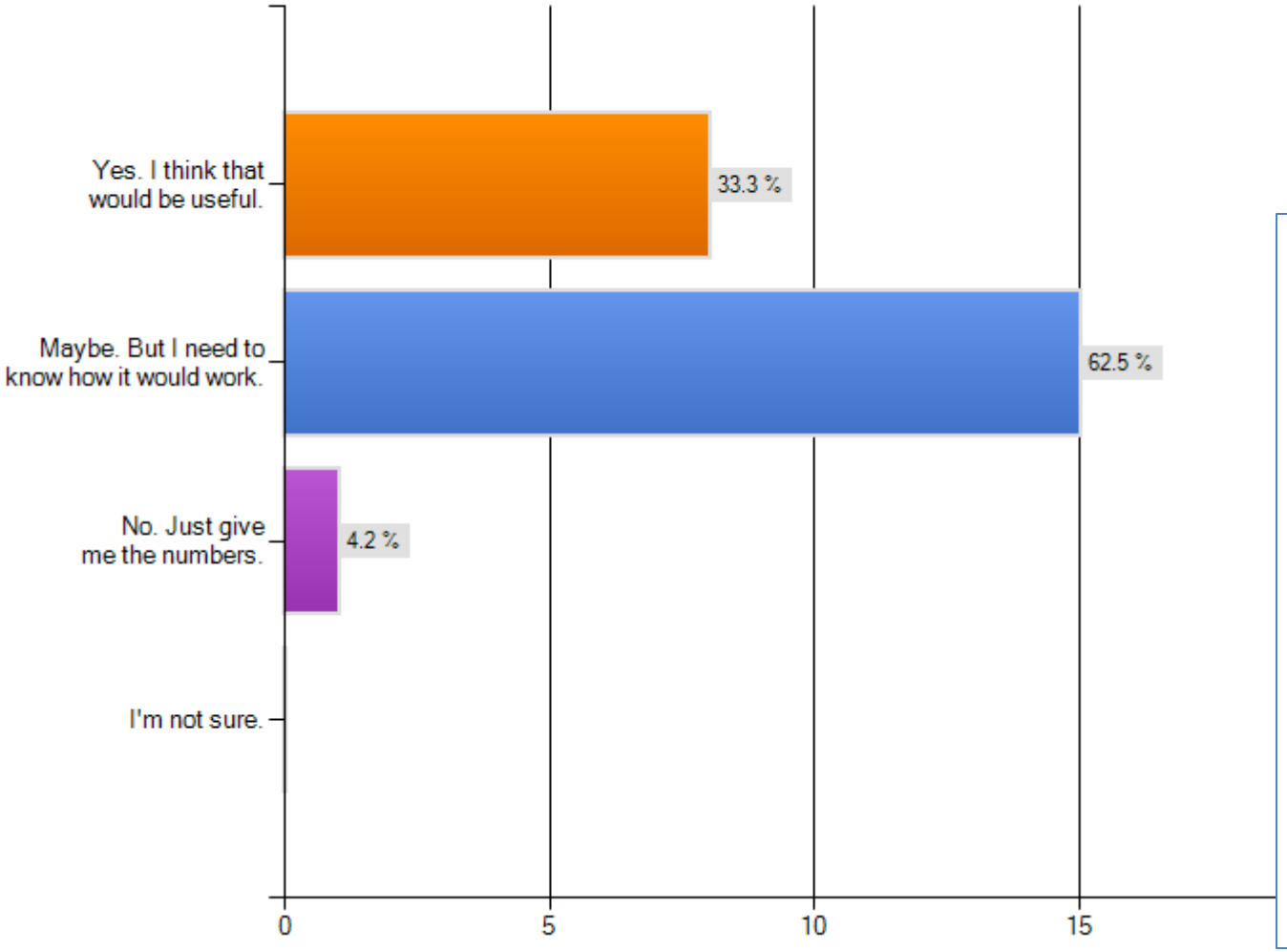
#13



Other responses:

1. Needs to be integrated with biological index
2. Yes, and the devil is in the details (since use of one chemical may replace another over time). Would be very useful for some chemical classes

Do you think DEQ should develop a "report card" to assist in communicating water quality data?



Other responses:

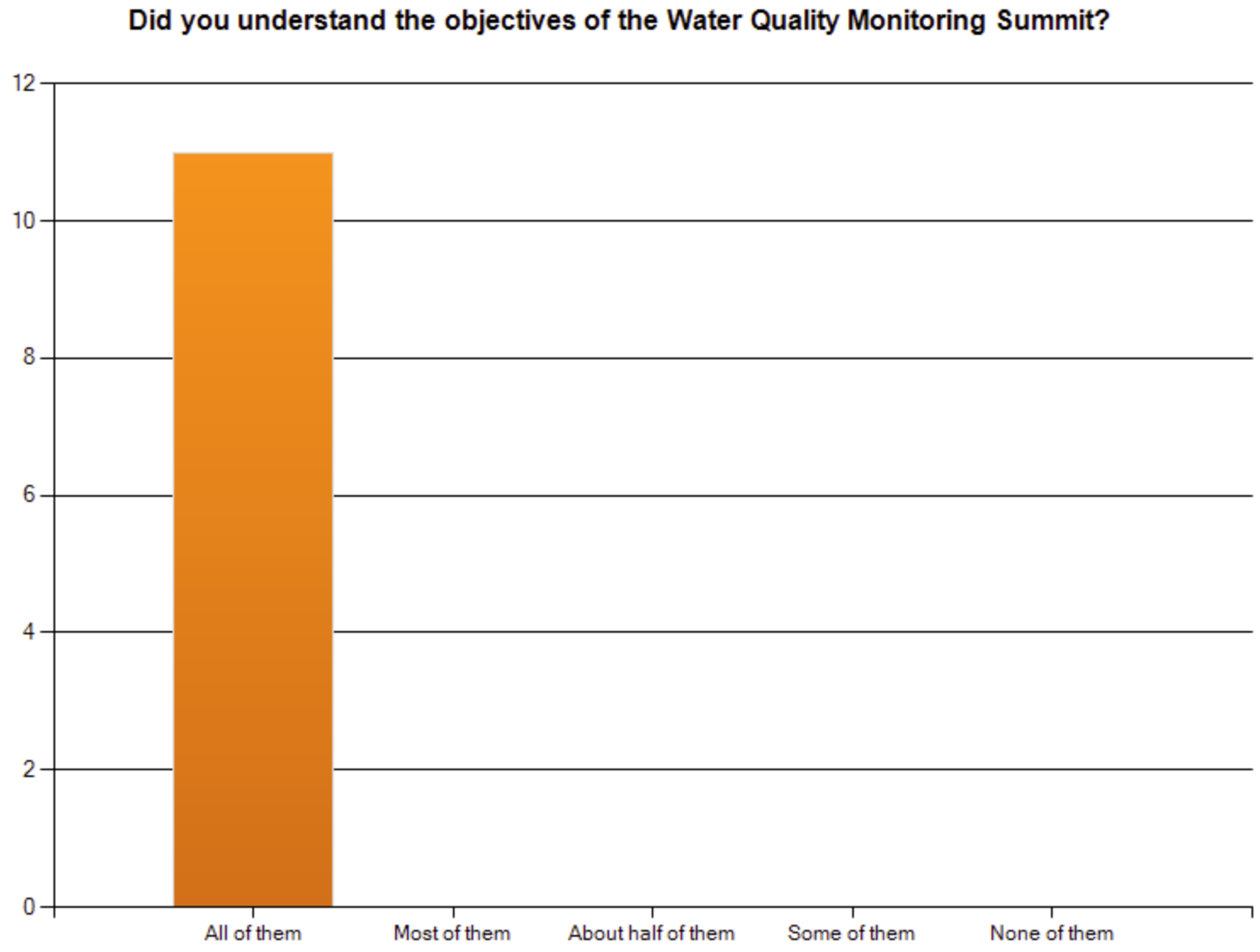
1. In doing so it would be beneficial to correlate other aspects of watershed health including the above listed PREDATOR tool and potentially any fish or other biologically related data.
2. Yes. The public is completely unaware of water quality issues. Look at the "report card" OEC did based on the Integrated Report. http://www.oeconline.org/our-work/rivers/cleaner-rivers-for-oregon-report.
3. I think it would be more useful to DEQ or other agencies than to my agency

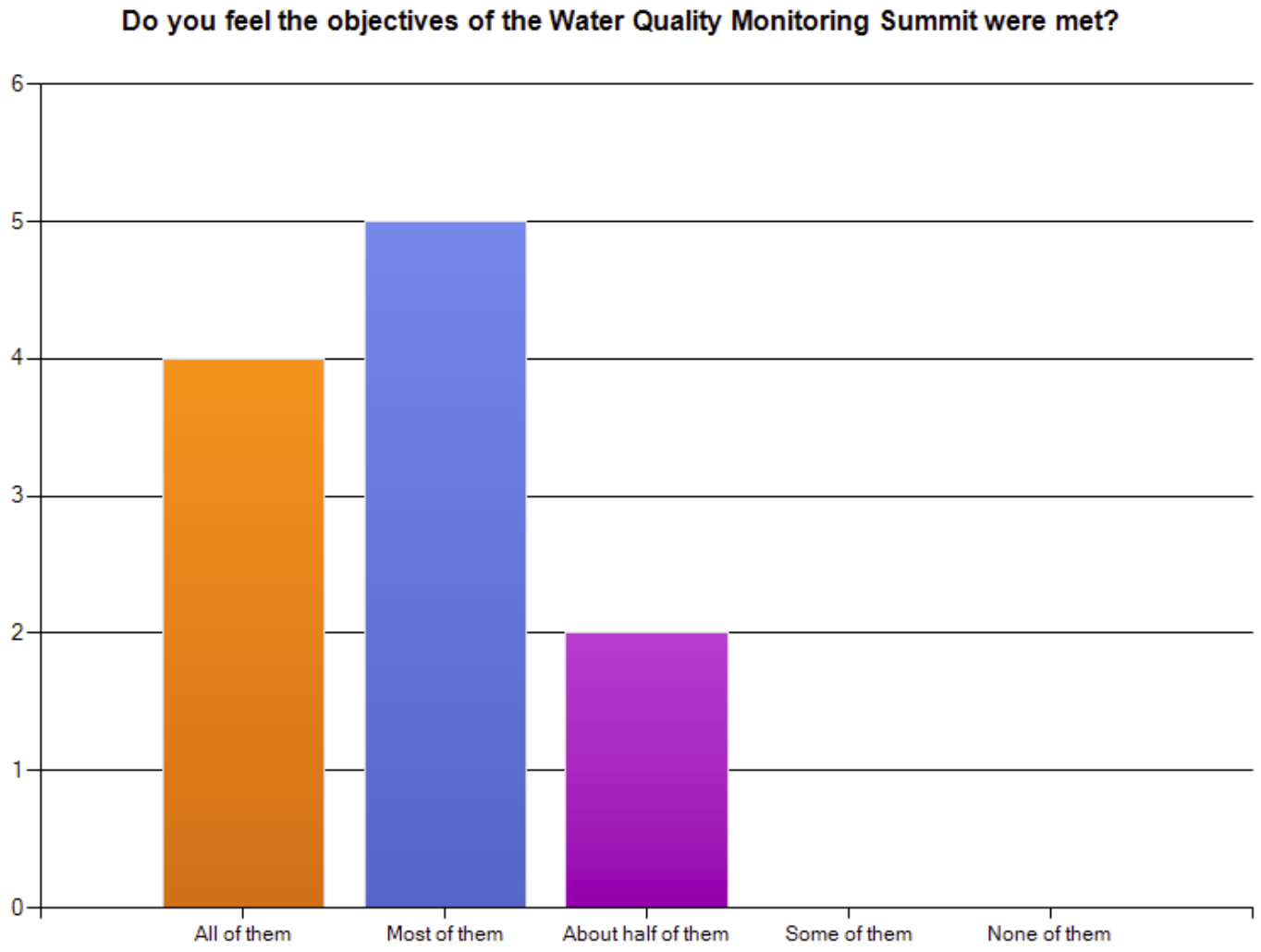
What general themes emerged at our external water quality summit?

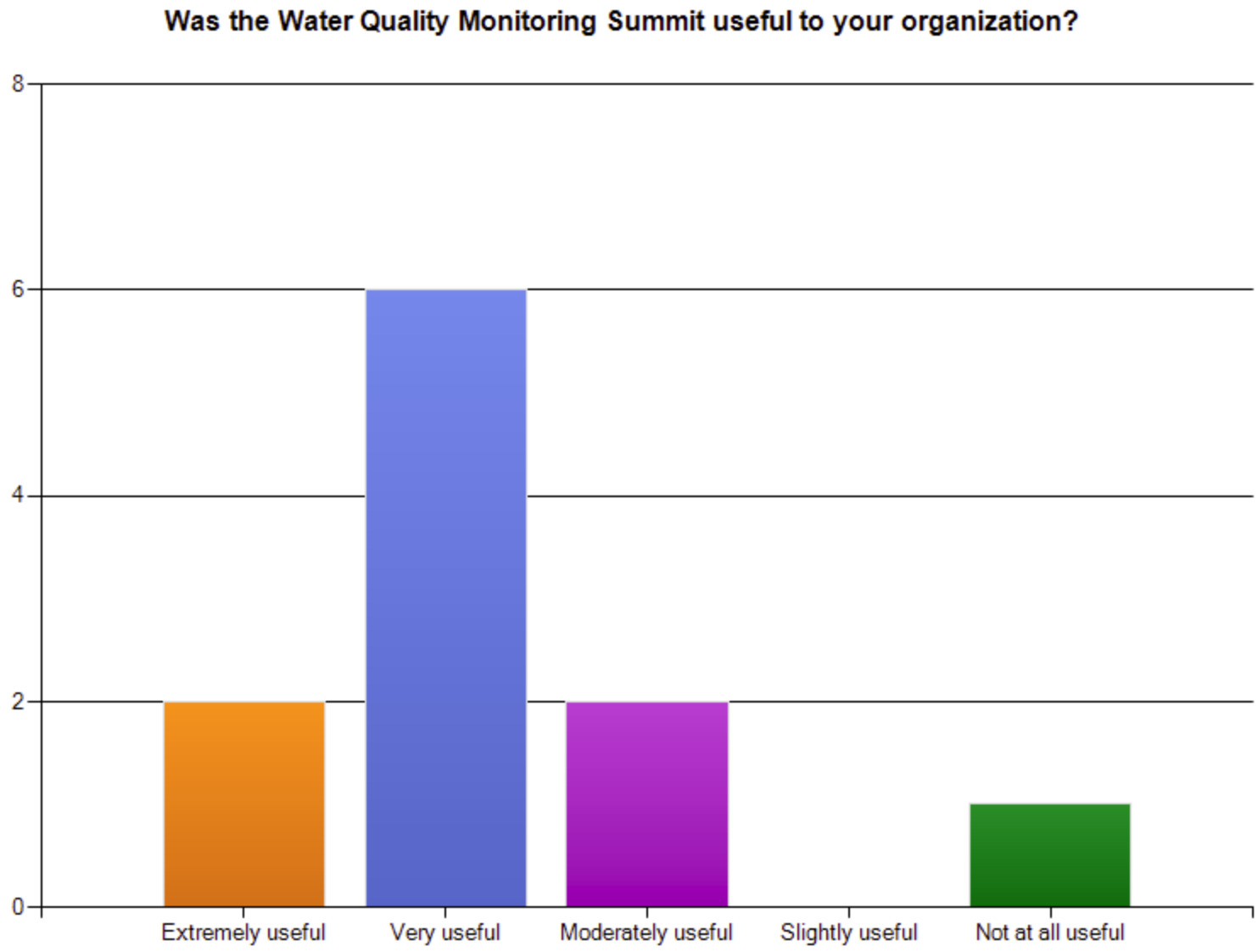
- Provide technical assistance.
- Develop partnerships and coordination of monitoring effort.
- Get the information out.
- Biomonitoring is valuable.
- Focus on areas of monitoring expertise. Ambient program, toxics.
- Scale (geographically focused)

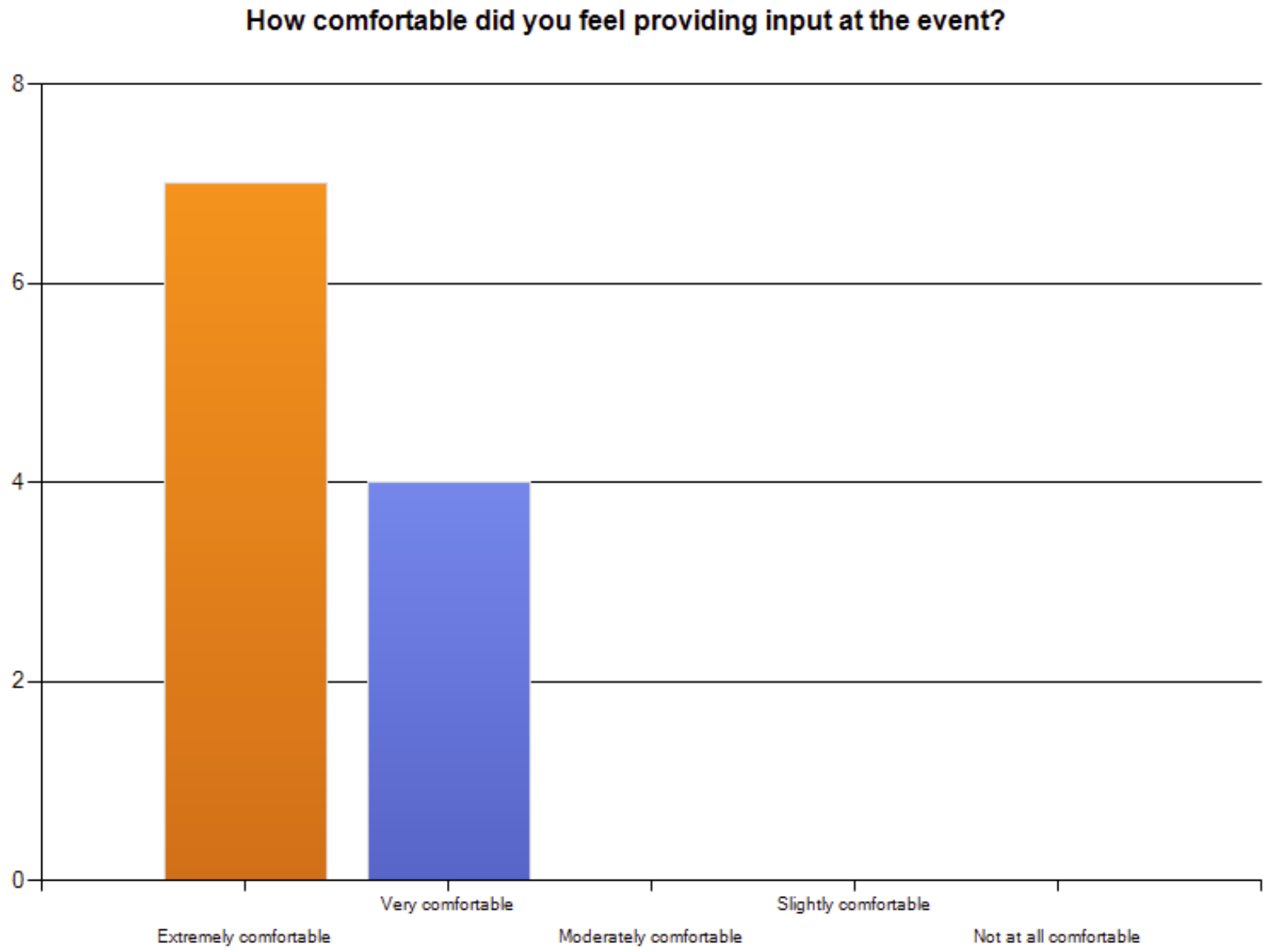
Overlapping themes

- Technical assistance and expertise.
- Data and information sharing and delivery.
- Partnerships and collaboration.
- Issues of scale. (geographic focus)
- Interest in toxics monitoring.
- Value in biomonitoring.

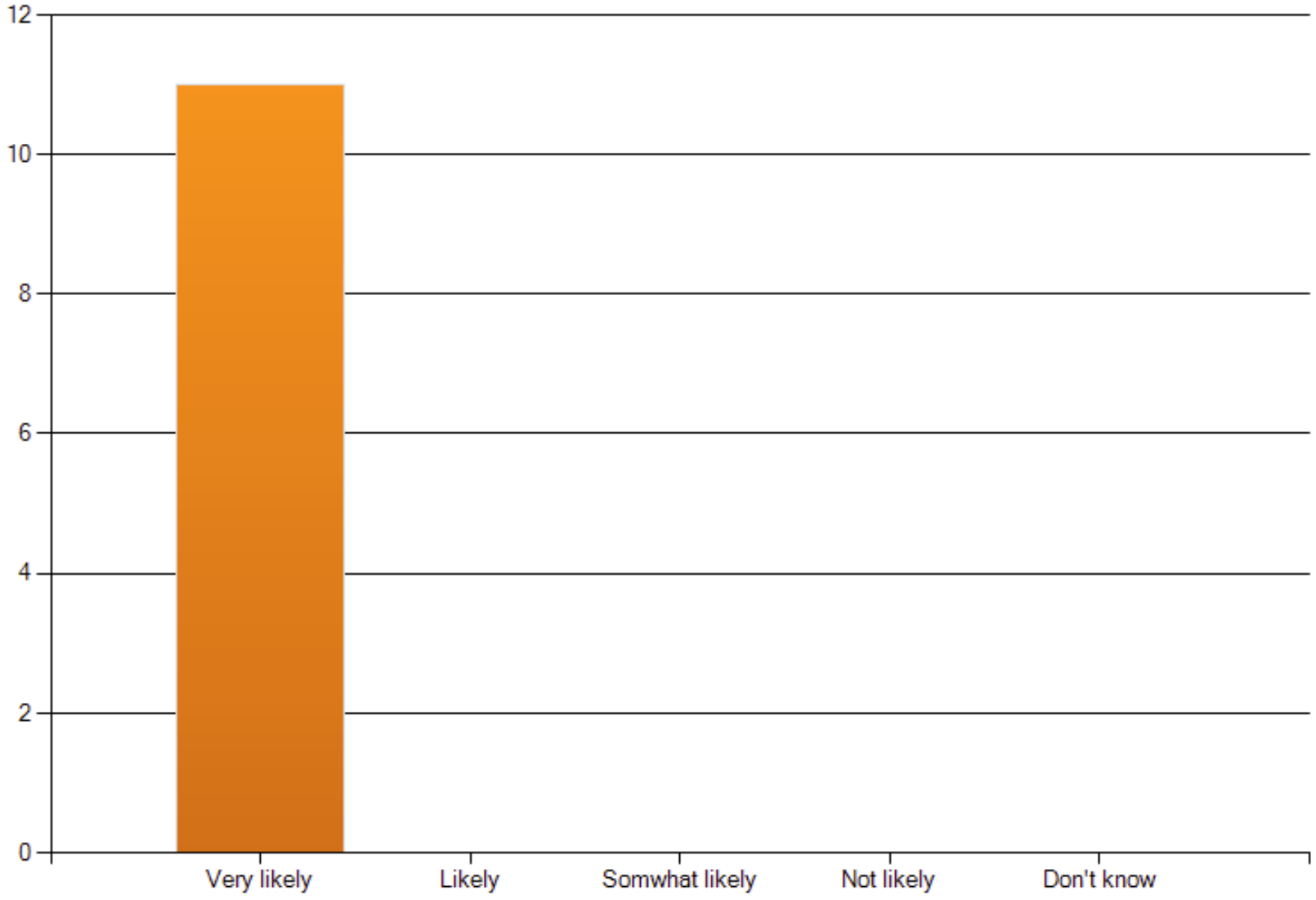

Did you understand the objectives of the Water Quality Monitoring Summit?
12
10
8
6
4
2
0
All of them
Most of them
About half of them
Some of them
None of them

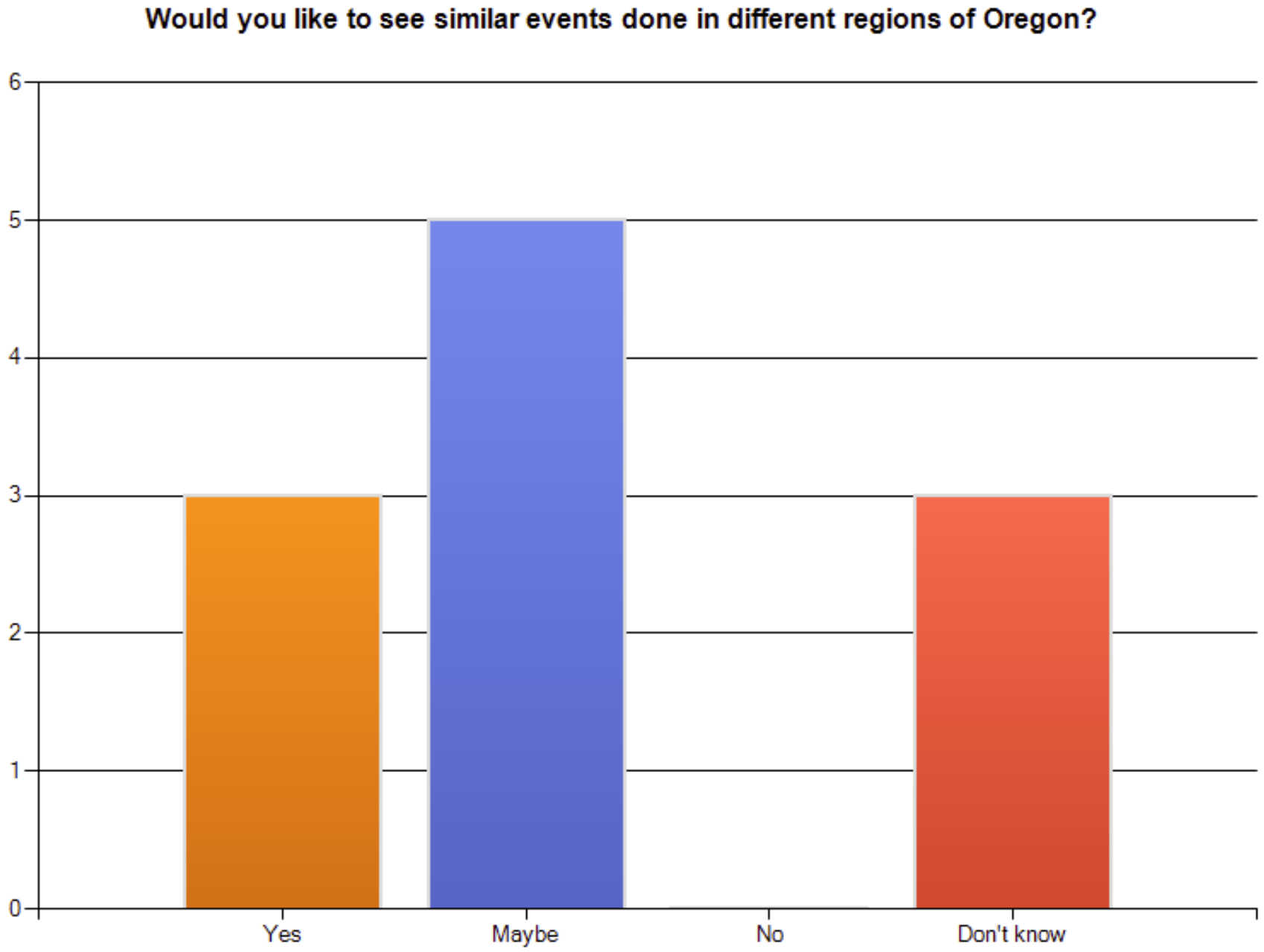

Do you feel the objectives of the Water Quality Monitoring Summit were met?
6
5
4
3
2
1
0
All of them
Most of them
About half of them
Some of them
None of them

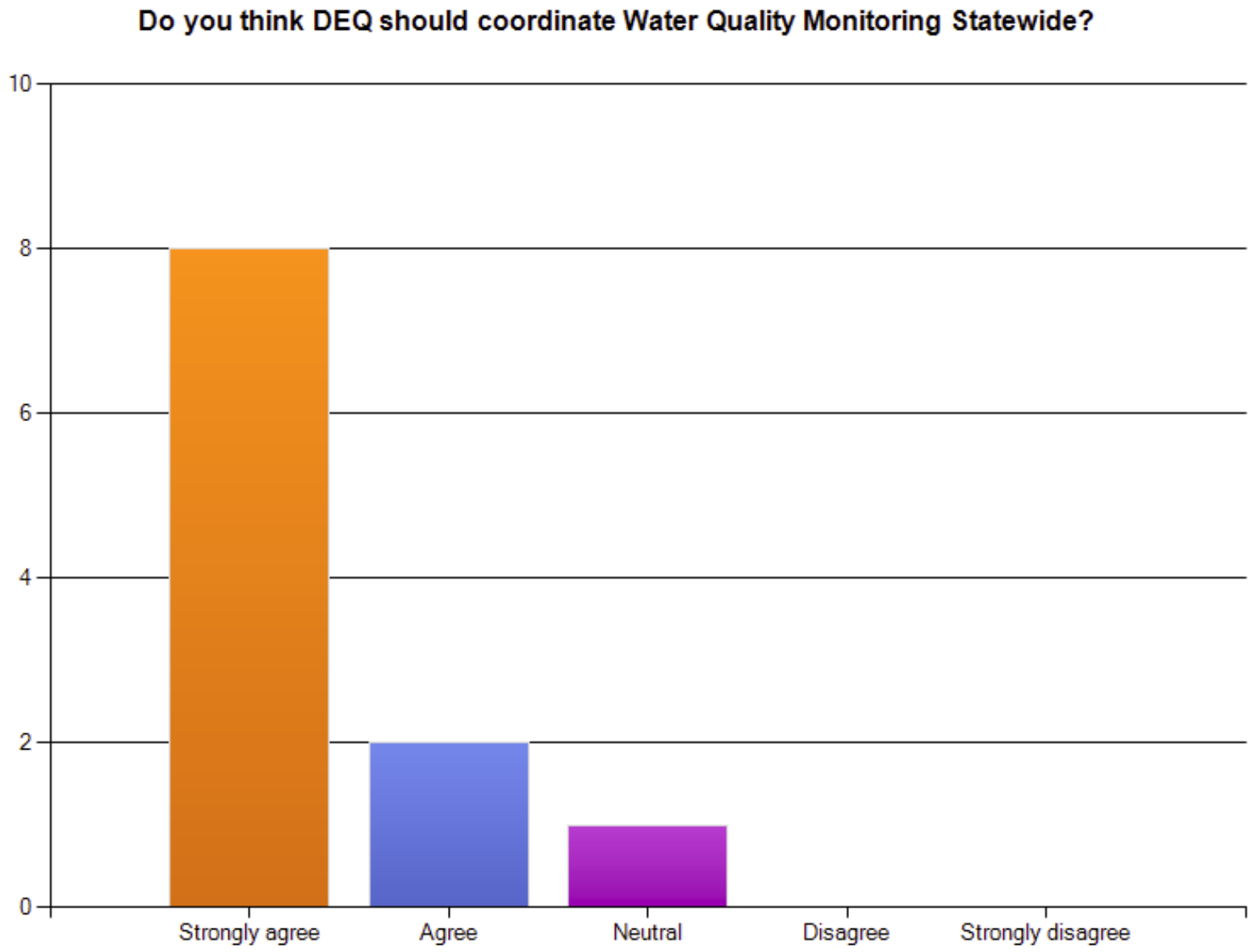

Was the Water Quality Monitoring Summit useful to your organization?
8
6
4
2
0
Extremely useful
Very useful
Moderately useful
Slightly useful
Not at all useful

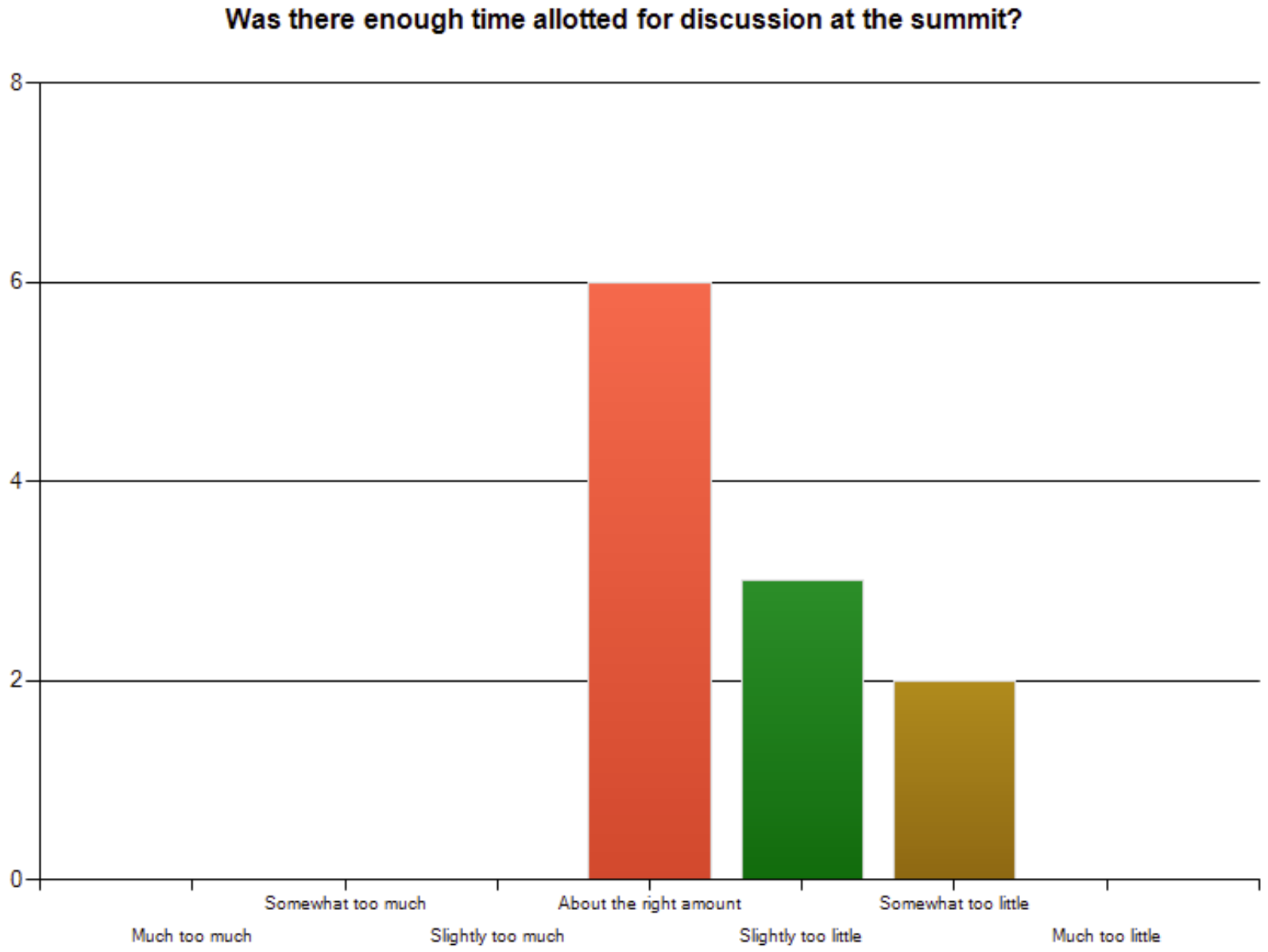

How comfortable did you feel providing input at the event?
8
6
4
2
0
Extremely comfortable
Very comfortable
Moderately comfortable
Slightly comfortable
Not at all comfortable

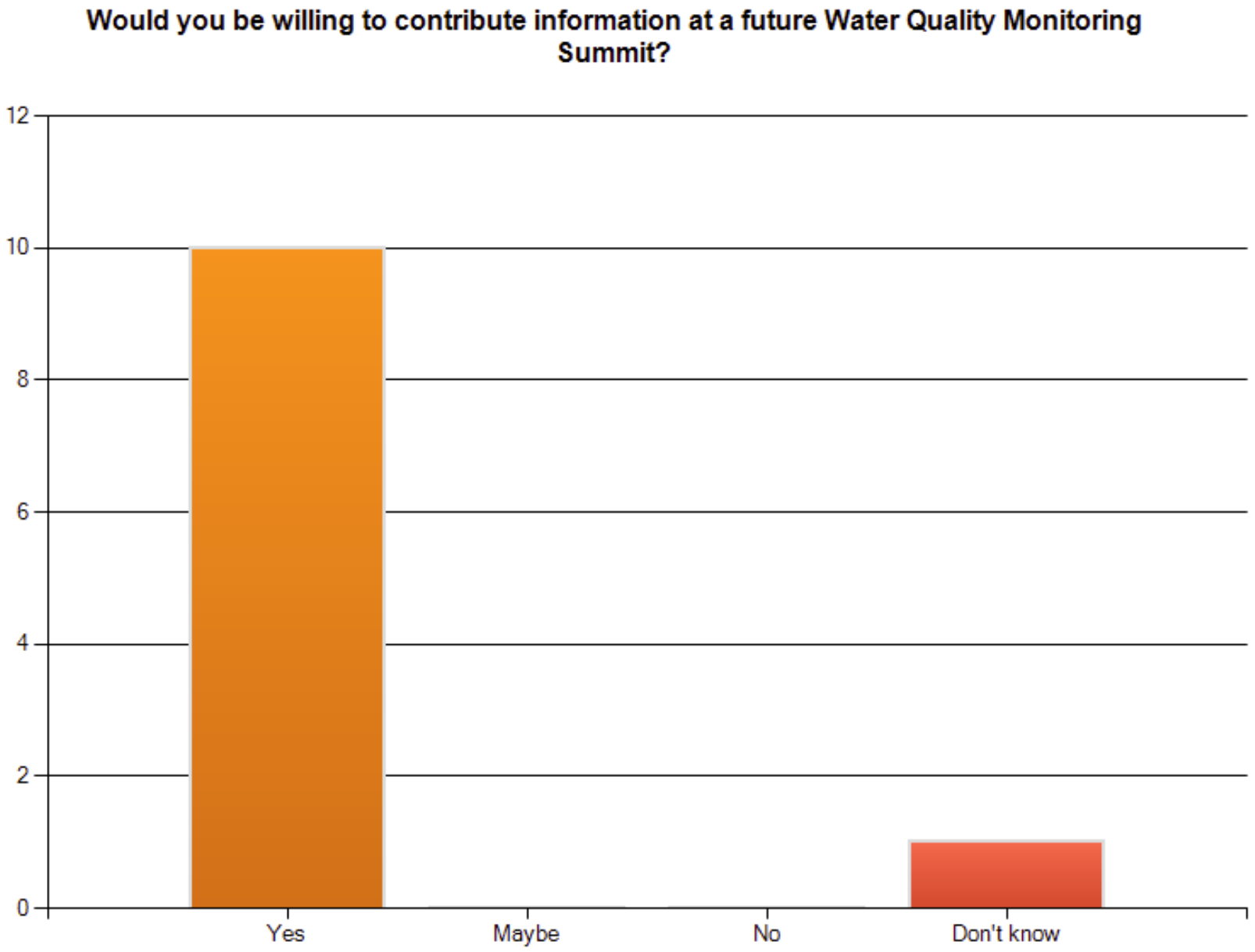
Would you or your organization be willing to participate in future events promoting the sharing of water quality monitoring efforts and information?




Would you like to see similar events done in different regions of Oregon?
6
5
4
3
2
1
0
Yes
Maybe
No
Don't know


Do you think DEQ should coordinate Water Quality Monitoring Statewide?
10
8
6
4
2
0
Strongly agree
Agree
Neutral
Disagree
Strongly disagree


Was there enough time allotted for discussion at the summit?
8
6
4
2
0
Much too much
Somewhat too much
Slightly too much
About the right amount
Slightly too little
Somewhat too little
Much too little


Would you be willing to contribute information at a future Water Quality Monitoring Summit?
12
10
8
6
4
2
0
Yes
Maybe
No
Don't know

A note about my staff

- They were amazing and really engaged the participants in both summits.
- The participants took away a real appreciation for the work we do at the lab.

Next steps

- Do it again but with others contributing water quality information. i.e. share the ownership.
- Take a geographic approach to the summit.
- Develop a monitoring map to share monitoring locations, indicators and contacts.
- Update Monitoring Strategy to incorporate major themes.


I’m going to look for some bugs!