



Citizen Stewardship

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Through the Chesapeake Bay Watershed Agreement, the Chesapeake Bay Program has committed to...



Goal: Increase the number and the diversity of local citizen stewards and local governments that actively support and carry out the conservation and restoration activities that achieve healthy local streams, rivers and a vibrant Chesapeake Bay.

Outcome: Increase the number and diversity of trained and mobilized citizen volunteers with the knowledge and skills needed to enhance the health of their local watersheds.

We Would Like the Management Board and Partnership To:

- **Commit to engage with us to learn how to use data to better design your public engagement, education, behavior change programs, etc.**
- **Commit to share info / spread word on availability of data to your local audiences and partners**
- **Support future data collections on a 3-5 year frequency**
- **Continue to advance social science approaches in the restoration effort**



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Setting the Stage:

What are our assumptions?

Citizen Stewardship Framework

Increasing citizen actions for watershed health





Logic Behind Our Outcome

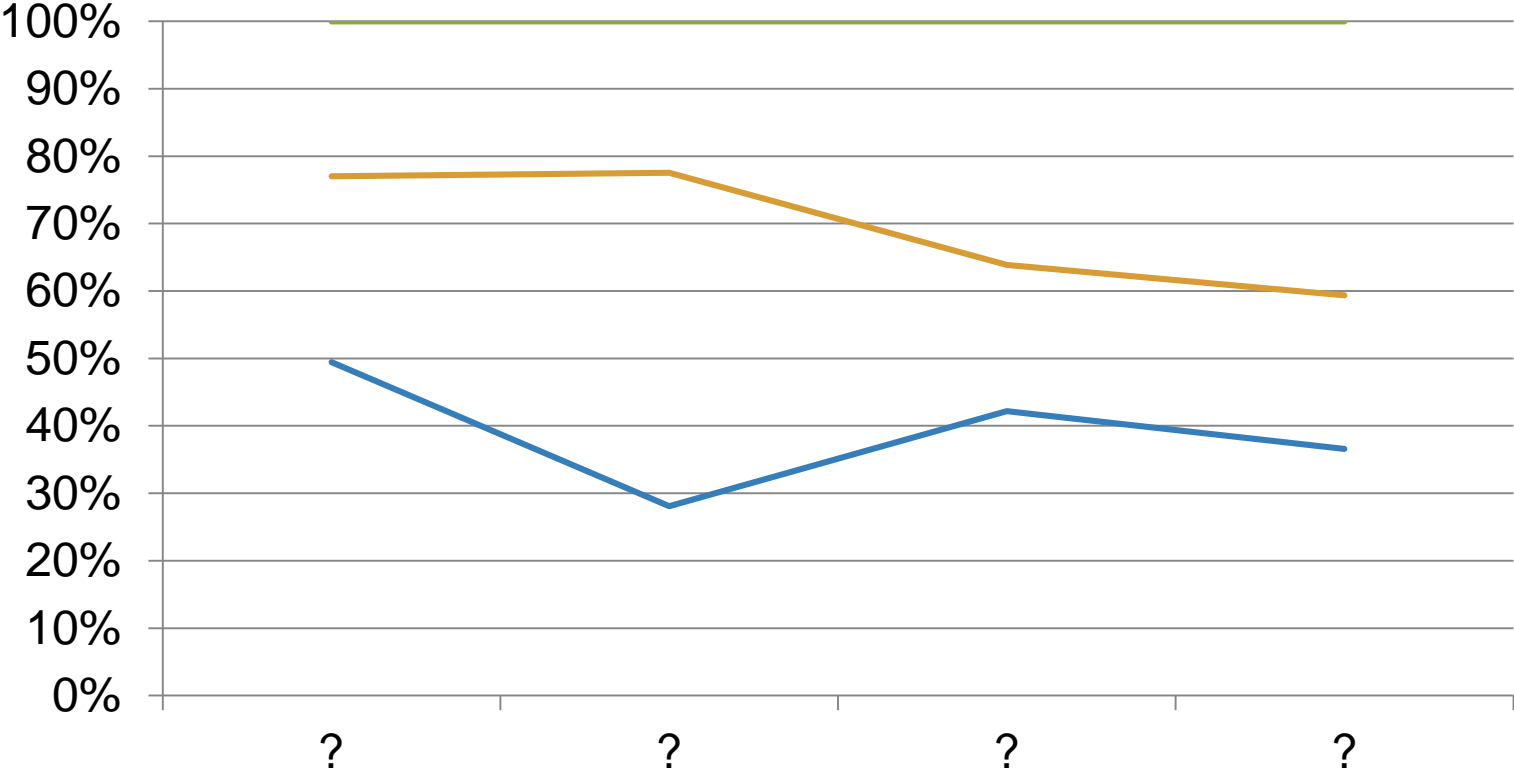
Following the Decision Framework:

**Factors
Influencing
Success**

**Current
Efforts
and Gaps**

**Management
Approaches**

Factor 1: Stewardship Program Progress ???



Factor 2: Programs are not designed for maximum impact



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Progress:

Are we doing what we said we would do?

Stewardship Behavior Criteria

1. Involves individual decision-making
2. Is repetitive and can be tracked over time
3. Can be broadly adopted
 - a. Not just by experts
 - b. Not pre-emergent
4. Has an impact on water health
5. And/or will engage the public



Survey Questions

- Selected key behaviors – performance and likelihood to perform
- Volunteerism
- Civic Engagement
- Influencing factors that drive stewardship behavior.

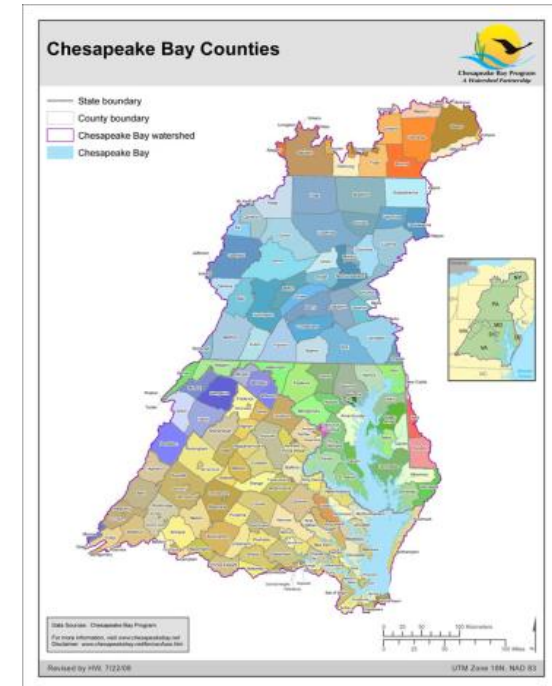
Measured Behaviors

- **Pet waste**
- **Leaves/Lawn clippings**
- **Litter**
- **Fats, grease/Medicines down the drain**
- **Fertilizer use/keep off hard surfaces**
- **Pesticide/Herbicide use**
- **Conservation landscaping**
- **Rain garden installation**
- **Septic system**
- **Tree planting**
- **Downspout redirect**
- **Rain barrel/Connected, emptied**
- **Water conservation**



What This Survey Can Do

- Measure and track Stewardship progress
- Inform behavior selection for practitioners
- Segment data by major jurisdiction, demographic
- Be a resource for other Bay Program priorities: Access, Diversity



What This Survey is Not

- The citizen stewardship index will NOT verify implementation of behaviors or practices per Bay Program protocols. Other tools like the Smart Tracker exist for this purpose.
- It will NOT answer why questions.
- It will NOT measure public policy preferences.
- It will not measure perceptions and attitudes, except those that directly drive stewardship behavior.

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Results:

What did the data show?

Sampling Methodology

	2017 Baseline
	All states statistically significant N=5,212
VA	1,001 ($\pm 3.1\%$)
MD	1,005 ($\pm 3.1\%$)
PA	1,003 ($\pm 3.1\%$)
DC	801 ($\pm 3.5\%$)
WV	600 ($\pm 4.0\%$)
NY	400 ($\pm 4.9\%$)
DE	402 ($\pm 4.9\%$)

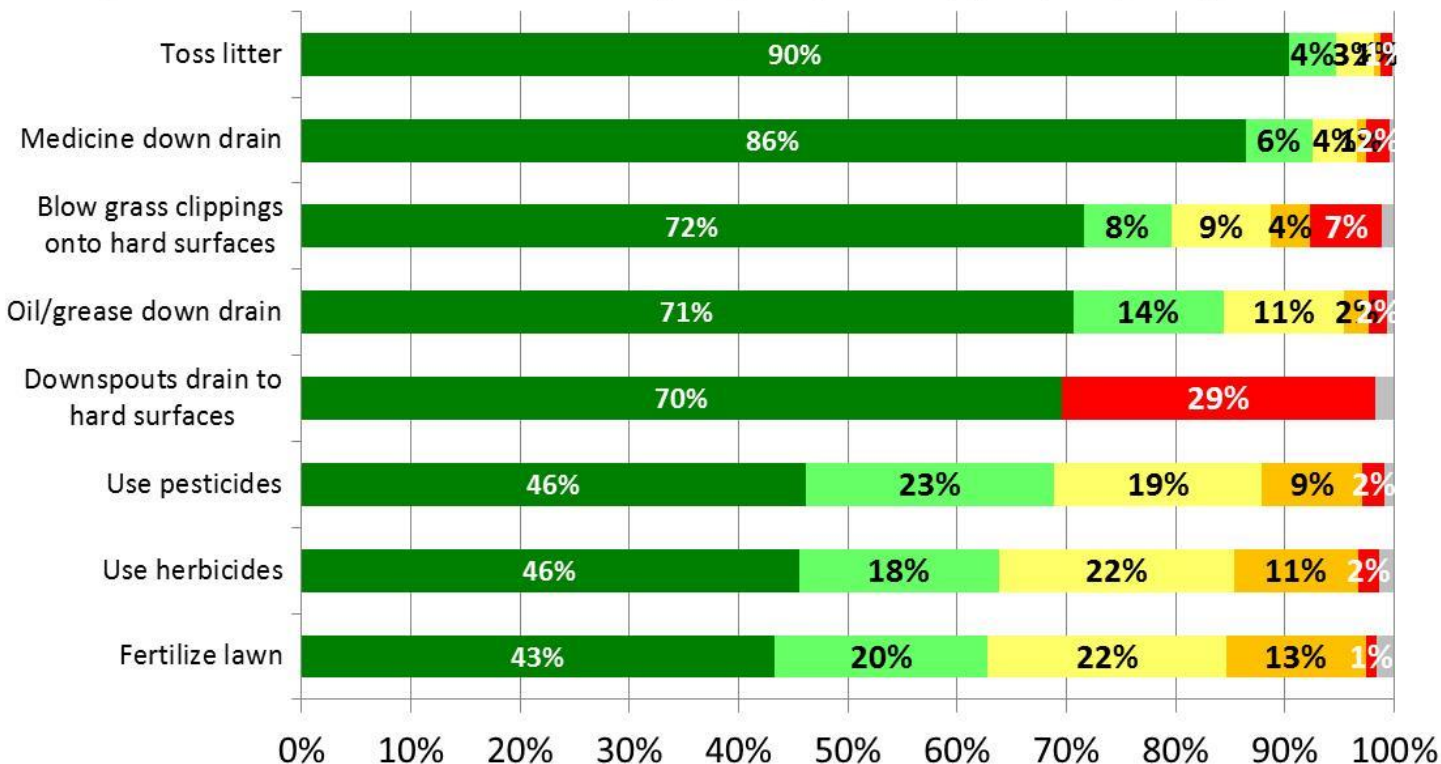
- Fielded March – May 2017
- 13 minute interview
- Wireless /Landline
- Spanish language interviewing

Citizen Stewardship Indicator: 2017 Final Baywide Data

Negative Behaviors

Desired = Never/No, or Seldom

■ Never/No ■ Seldom ■ Sometimes ■ Usually/Frequently ■ Always/Very Frequently/Yes ■ Not sure



Citizen Stewardship Indicator: 2017 Final Baywide Data

Positive Behaviors: Lower Tier

Desired = Always/Very Frequently/Yes → Sometimes

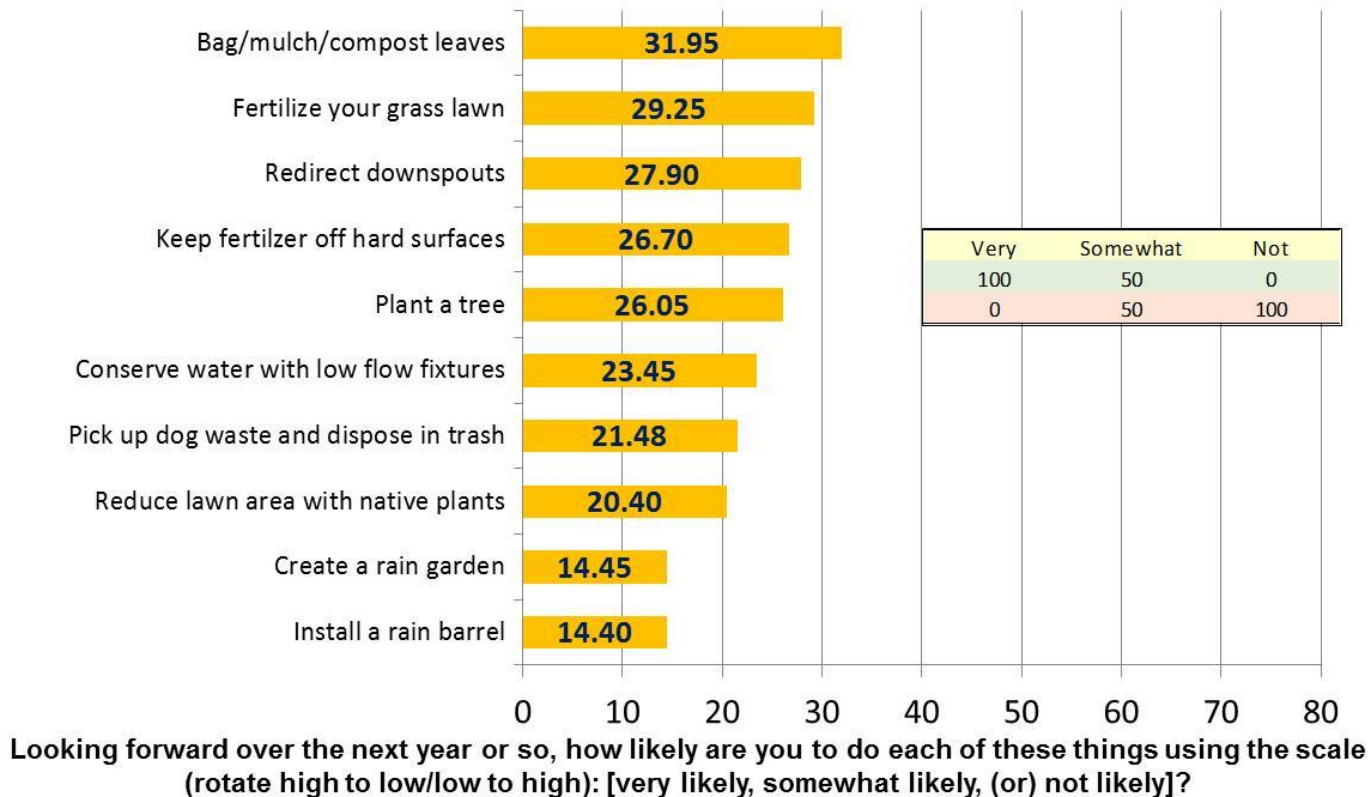
■ Always/Very Frequently/Yes ■ Usually/Frequently ■ Sometimes ■ Seldom ■ Never/No ■ Not sure



Citizen Stewardship Indicator: 2017 Final Baywide Data

Behaviors Less Susceptible to Change

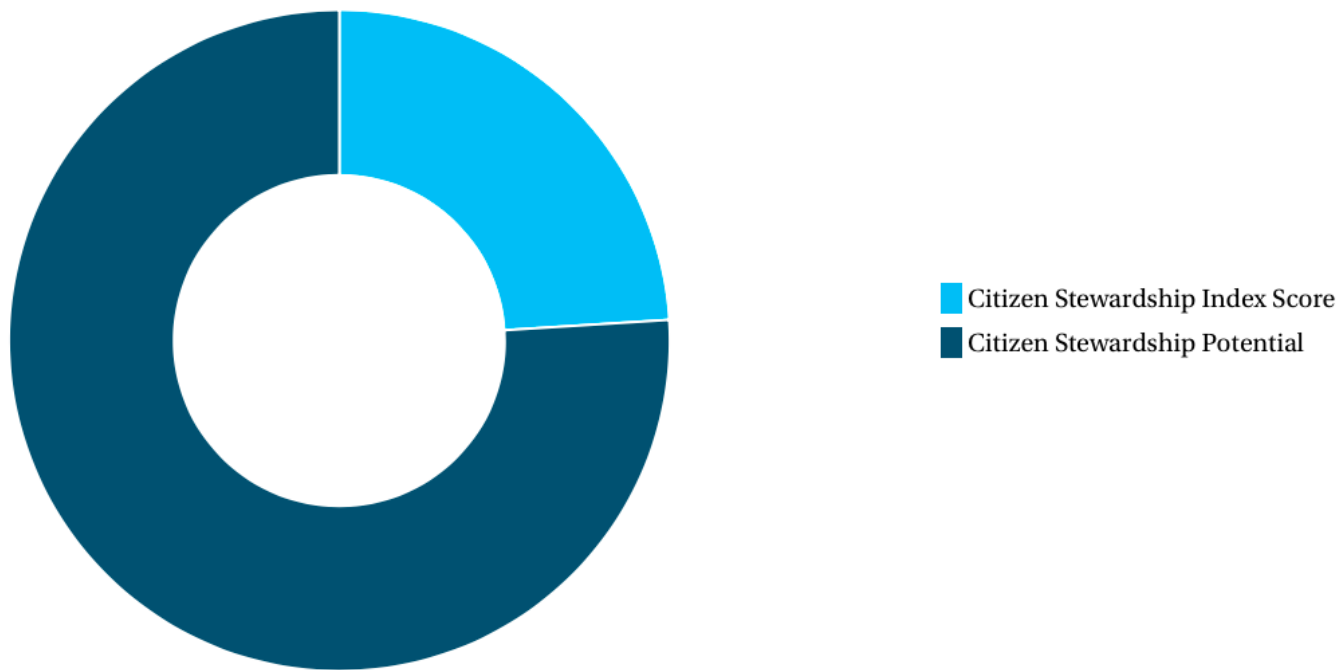
Asked Only of Those Not Taking the Desired Action Today



Citizen Stewardship in the Chesapeake Bay Watershed (2017)



To earn a score of 100, everyone in the region would need to do everything they could in their daily lives to improve water quality and environmental health, including personal actions, volunteering and advocating for the environment.

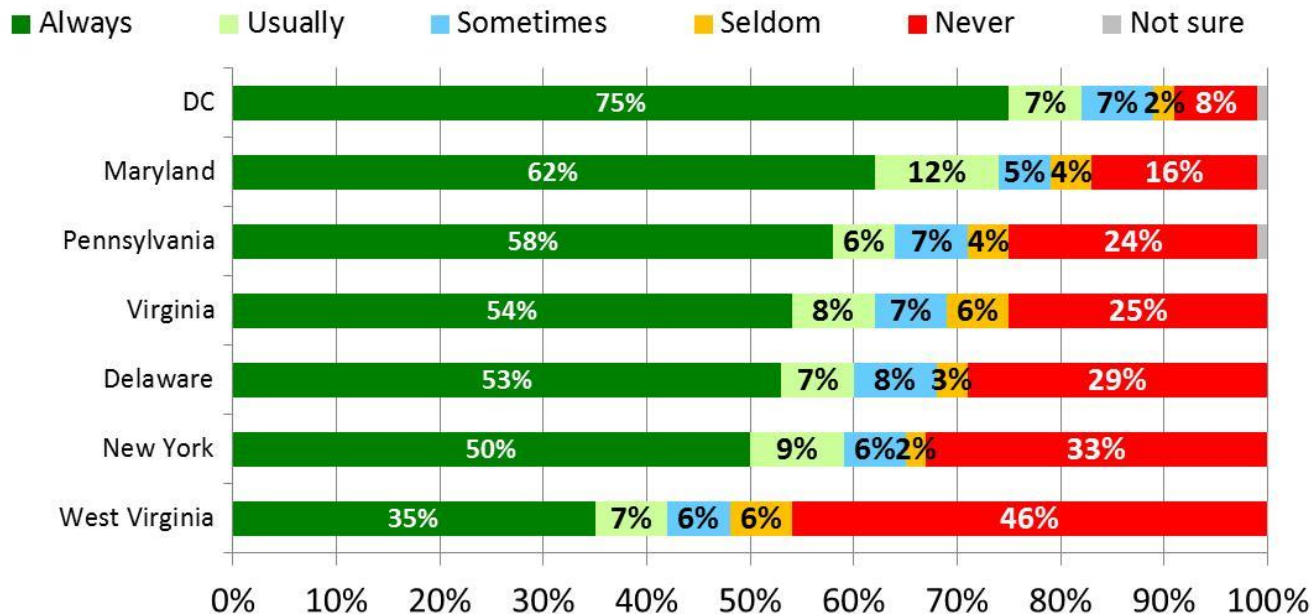


Segmentation Opportunities

- **Jurisdiction**
- **Age**
- **Educational attainment**
- **Health status (self-assessed)**
- **Household size, presence of children**
- **Home ownership**
- **Housing type**
- **Community size**
- **Agriculture**
- **Religious affiliation, worship frequency**
- **Race/ethnicity**
- **Household income**
- **Gender**

Citizen Stewardship Indicator: 2017 Final Baywide Data

Focus Behavior: Picking up Dog Waste



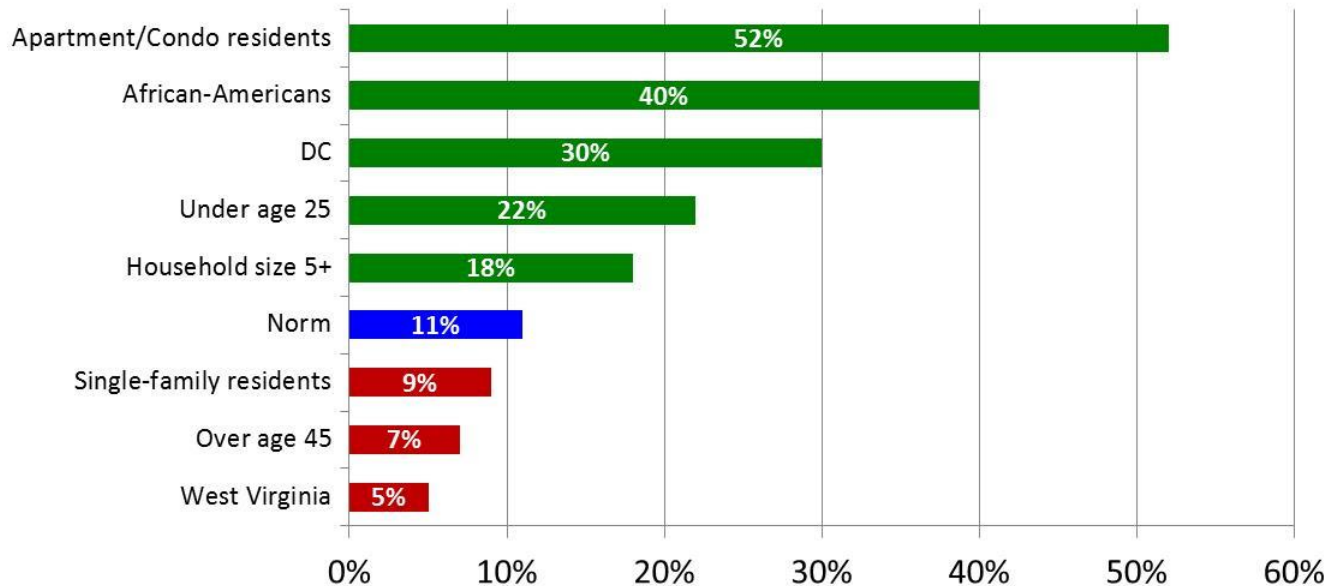
For each of the following things, please tell me if you never, seldom, sometimes, usually, or always do it.

Pick up your dog's waste and dispose of it in the trash when you are...
...On your own property.

Citizen Stewardship Indicator: 2017 Final Baywide Data

Focus Behavior: Picking up Dog Waste

"Very Likely" to Begin Picking Up



Looking forward over the next year or so, how likely are you to do each of these things using the scale
very likely, somewhat likely, or not likely?

Pick up your dog's waste and dispose of it in the trash when you are...
...On your own property.



Analysis

- **Most Critical to Date:**
 - **Management Approach:** Establish mechanism to measure impact of stewardship programs
 - **Action:** Development and implementation of stewardship survey and index
- **Most Critical in Future:**
 - **Management Approach:** Provide assistance to develop and implement programs for maximum impact
 - **Develop actions** under this approach

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Challenges:

Are our actions having the expected effect?



Challenges

- **Optimism**

We were too optimistic about how much we could accomplish. Work Plan was too ambitious.

- **Capacity**

Unique membership/limits of capacity within the workgroup.

- **Funding**

- GIT Funding responsible for enabling us to accomplish this work. Without it, we would not be where we are today.
- Need for continued funding to support future data collection and coordinate implementation

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Adaptations:

How should we adapt?



Based on what we've learned, we plan to...

- **Streamline our work plan**
- **Share citizen stewardship data**
 - **Work with/support GITs, workgroups, jurisdictions and partners to understand the value of the data and use it to help achieve goals/outcomes, inform outreach and engagement plans, etc.**
 - **Work with the Communications Team to develop outreach messages.**
 - **Develop on line tool for easy access and analysis of data**
- **Develop strategies to improve the effectiveness of local behavior change programs and expand volunteerism**
- **Support the development of local champions**

Agreement Goals and Outcomes



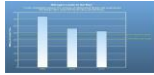
Sustainable Fisheries

- Blue Crab Abundance
- Blue Crab Management
- Oyster
- Forage Fish
- Fish Habitat



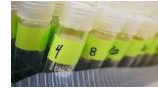
Vital Habitats Goal

- Wetlands
- Black Duck
- Stream Health
- Brook Trout
- Fish Passage
- Submerged Aquatic Vegetation (SAV)
- Forest Buffer
- Tree Canopy



Water Quality Goal

- 2017 Watershed Implementation Plans (WIP)
- 2025 WIP
- Water Quality Standards Attainment and Monitoring



Toxic Contaminants Goal

- Toxic Contaminants Research
- Toxic Contaminants Policy and Prevention



Healthy Watersheds Goal

- Healthy Waters



Stewardship Goal

- Citizen Stewardship
- Local Leadership
- Diversity



Land Conservation Goal

- Protected Lands
- Land Use Methods and Metrics Development
- Land Use Options Evaluation



Public Access Goal

- Public Access Site Development



Environmental Literacy Goal

- Student
- Sustainable Schools
- Environmental Literacy Planning



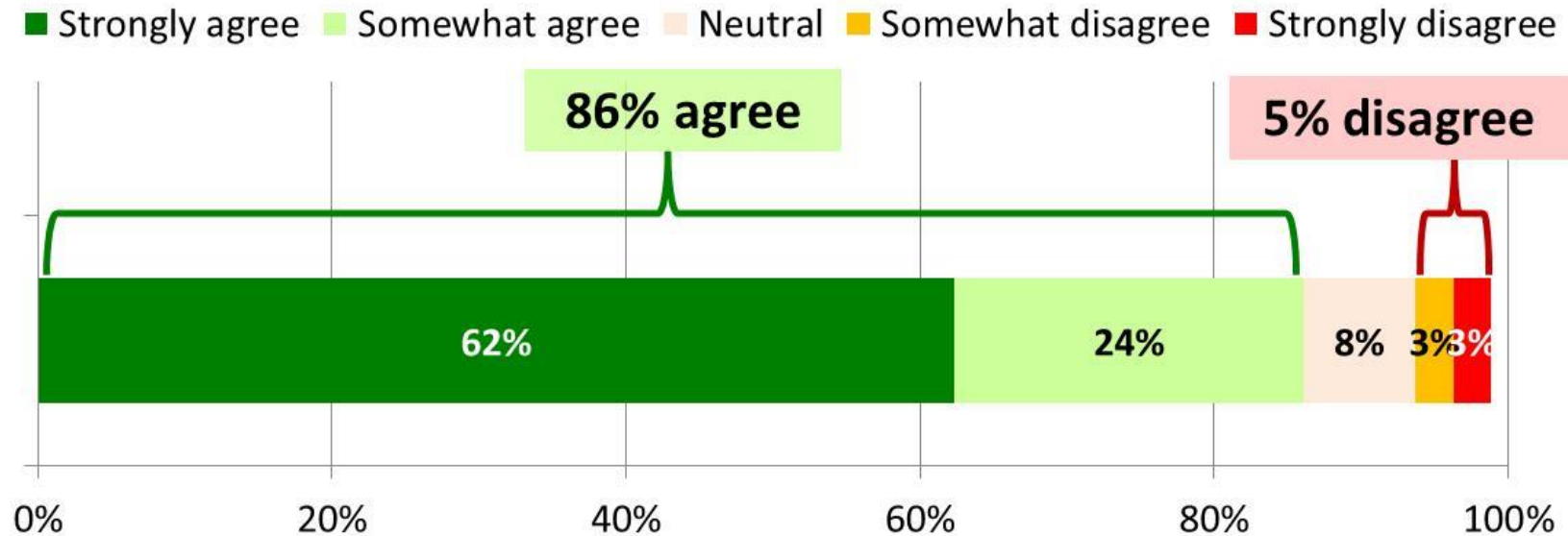
Climate Resiliency Goal

- Monitoring and Assessment
- Adaptation Outcome

Citizen Stewardship Indicator: Local Leadership

If people work together, water pollution around here can be fixed.

Level of Agreement

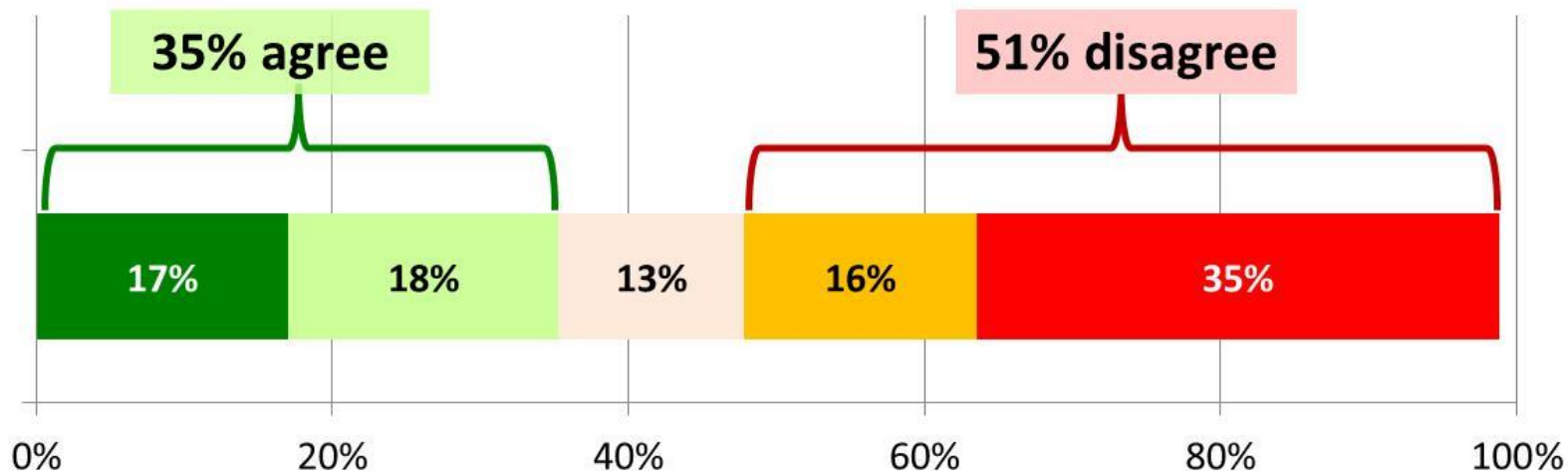


Citizen Stewardship Indicator: Local Leadership

My actions contribute to water pollution where I live.

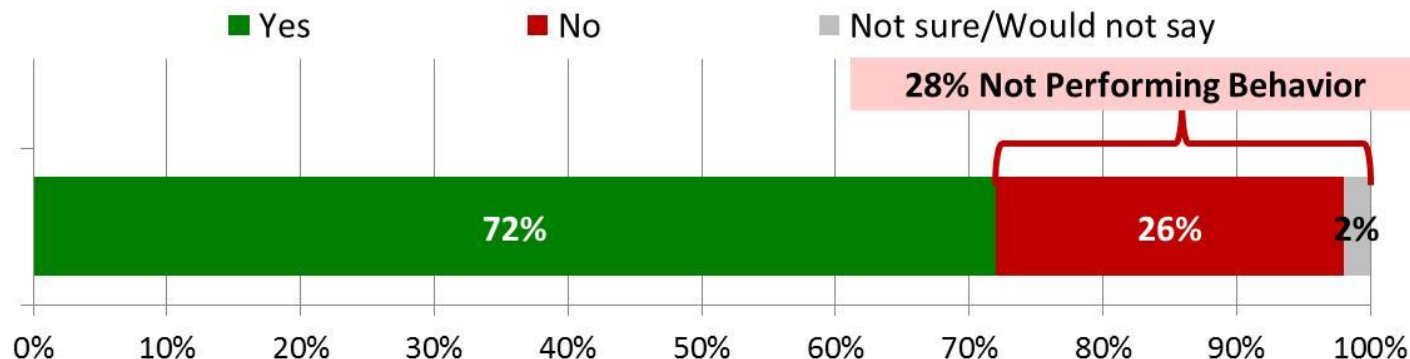
Level of Agreement

■ Strongly agree ■ Somewhat agree ■ Neutral ■ Somewhat disagree ■ Strongly disagree

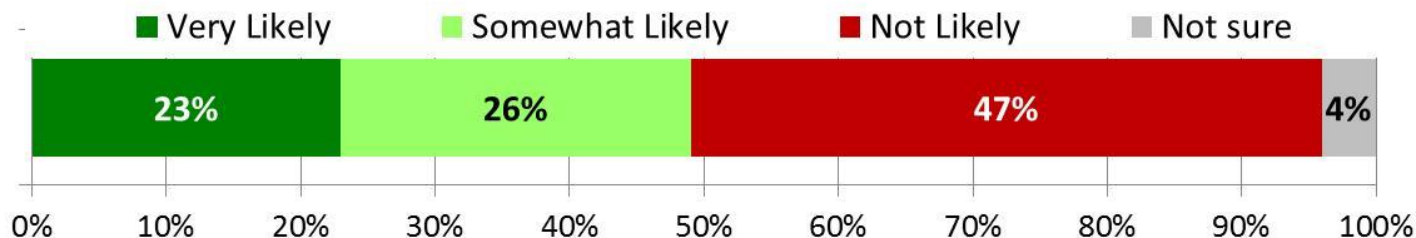


Citizen Stewardship Indicator: Water Quality

Septic System Inspected or Pumped Out



Likelihood among Non-Performers:



(Asked of those with a septic system):

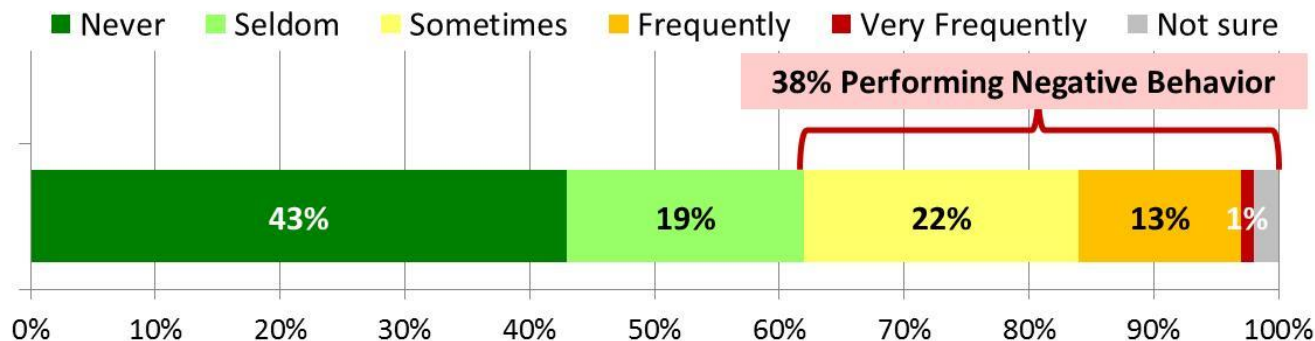
"In the last several years, have you...Had your septic system inspected or pumped out?"

(If no or not sure): "Looking forward over the next year or so, how likely are you to do each of these things using the scale very likely, somewhat likely, or not likely?"

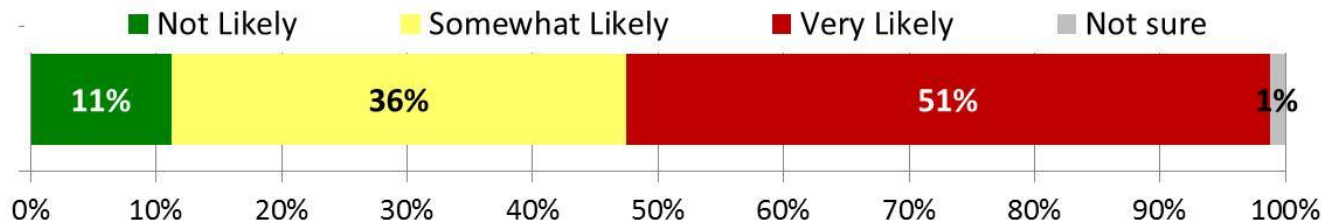
...Have your septic system inspected or pumped out."

Citizen Stewardship Indicator: Water Quality

Fertilizing



Likelihood among Negative Performers:



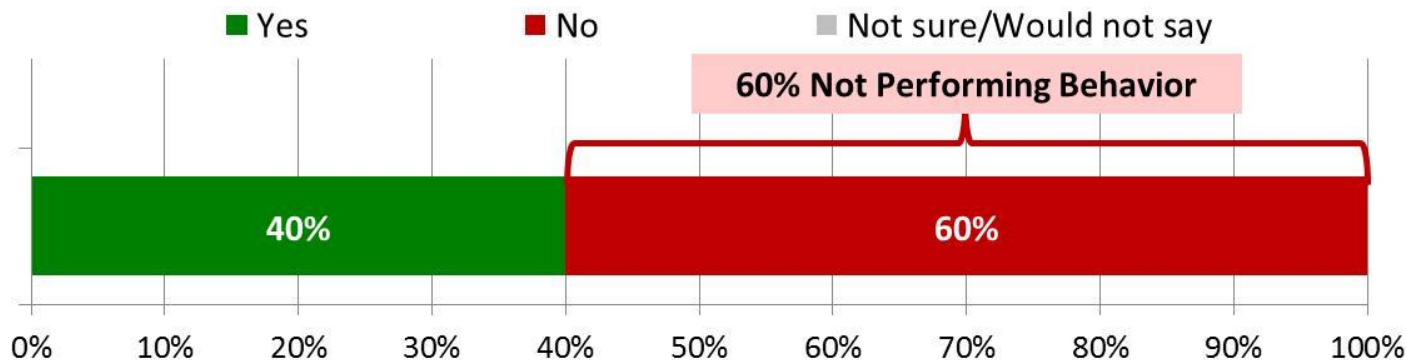
(Asked of those with a grass lawn they are responsible for maintaining):

“For the next few things, please tell me if you never, seldom, sometimes, frequently, or very frequently do it....Put fertilizer on your grass lawn.”

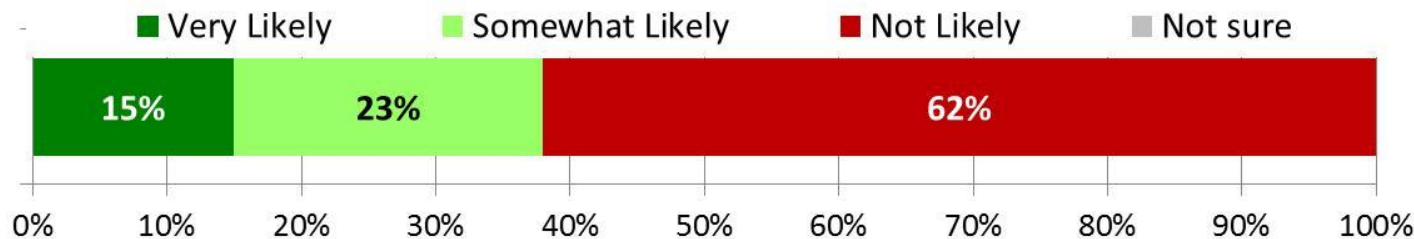
(If at least sometimes): “Looking forward over the next year or so, how likely are you to do each of these things using the scale very likely, somewhat likely, or not likely?
...Put fertilizer on your grass lawn.”

Citizen Stewardship Indicator: Tree Canopy

Tree Planting



Likelihood among Non-Performers:



(Asked of those with a grass lawn they are responsible for maintaining):

"In the last several years, have you...Planted a tree?"

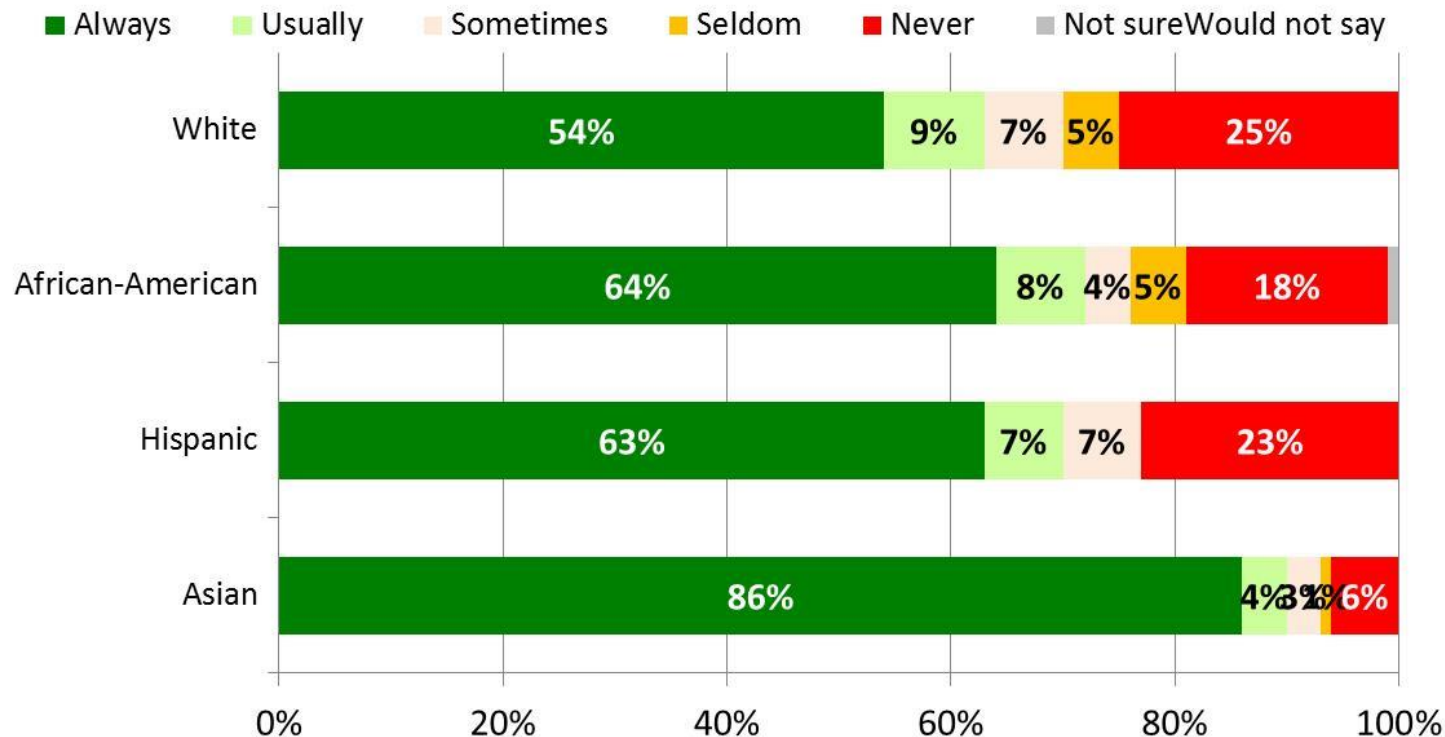
(If no or not sure): "Looking forward over the next year or so, how likely are you to do each of these things using the scale very likely, somewhat likely, or not likely?"

...Plant a tree."

Citizen Stewardship Indicator: Diversity

Pick up Dog Waste on Your Own Property

Analysis of Demographic Subgroups

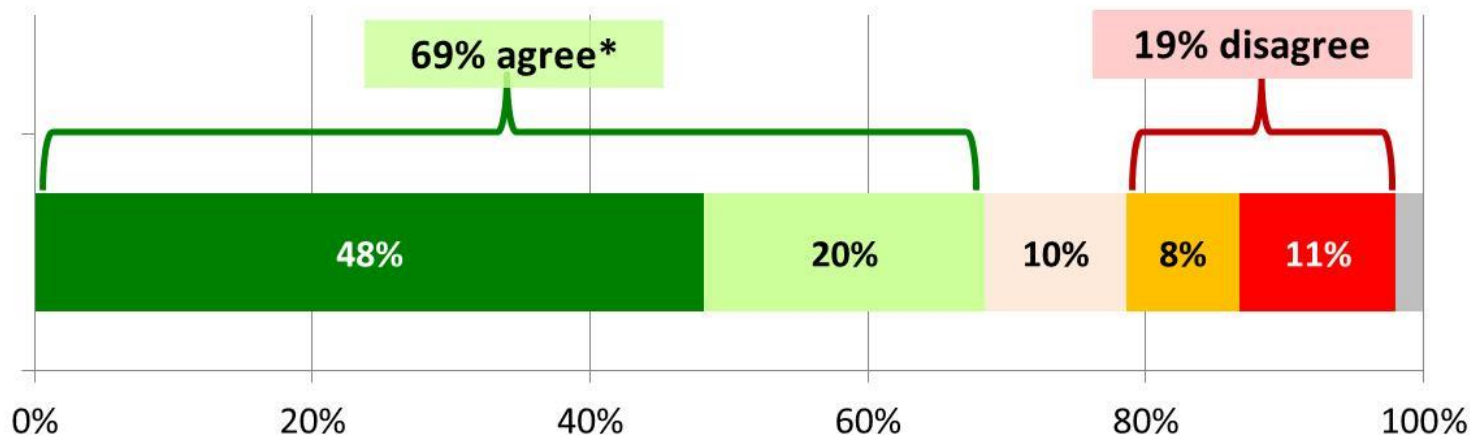


Citizen Stewardship Indicator: Public Access

There is convenient access to the water for boating, fishing, or swimming near where I live.

Level of Agreement

■ Strongly agree ■ Somewhat agree ■ Neutral ■ Somewhat disagree ■ Strongly disagree ■ Not sure



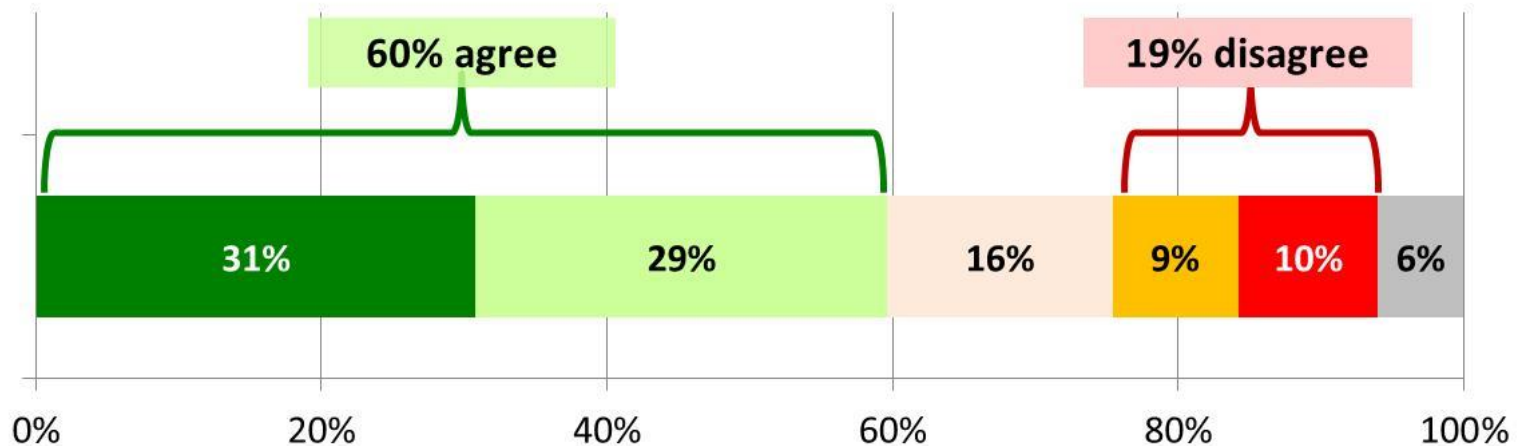
*Numbers may not always appear to add correctly due to rounding.

Citizen Stewardship Indicator: Public Access

The water near where I live is healthy and safe for boating, fishing, or swimming.

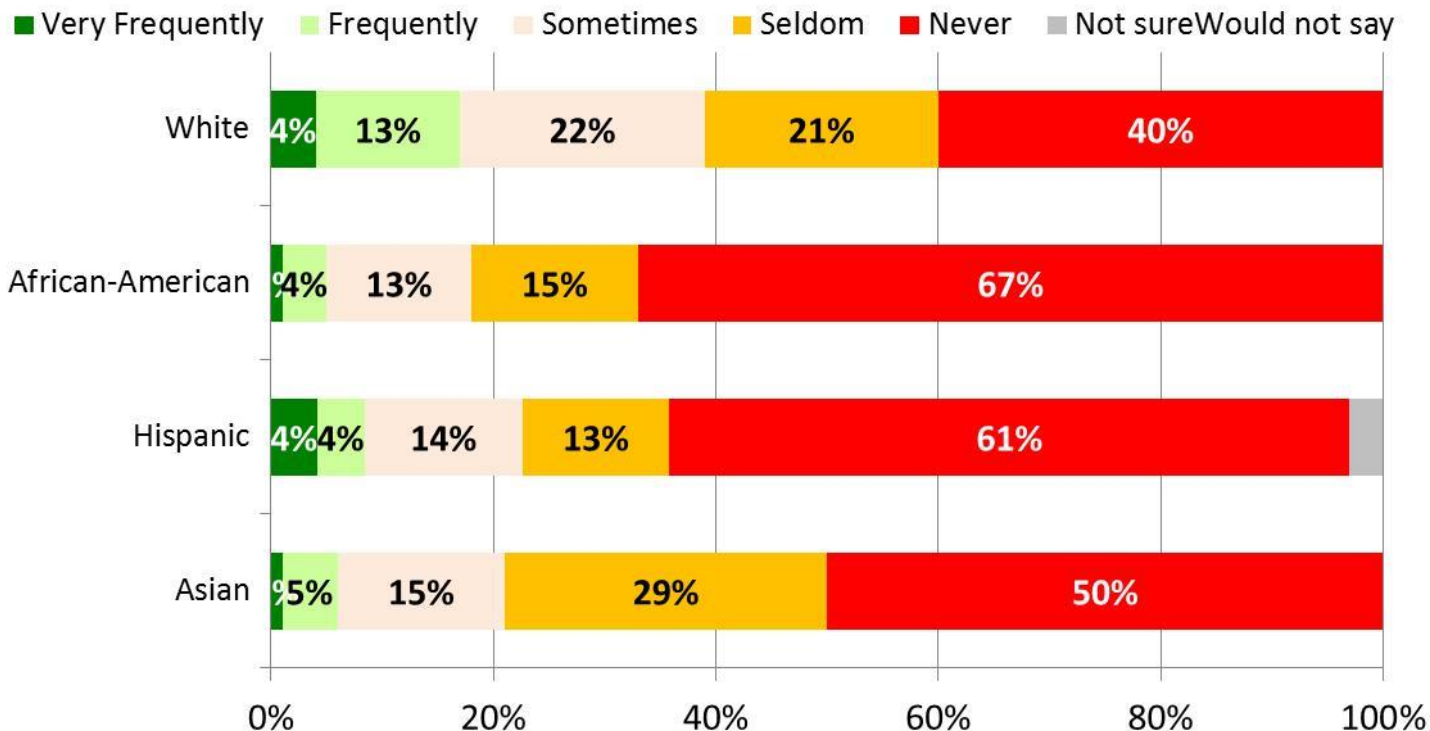
Level of Agreement

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Citizen Stewardship Indicator: Public Access / Diversity

Frequency of Kayaking, Canoeing, Boating, Fishing, or Crabbing



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Discussion