



2014 Chesapeake Watershed Agreement

# Achieving the Goal of Stewardship

## Developing a Citizen Stewardship Indicator Pilot Survey Results

May 19, 2016

# Stewardship Goal

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



# Citizen Stewardship Framework

*Increasing citizen actions for watershed health*



# Why Measure Stewardship?

- Track progress in engaging the public
- Design social marketing campaigns for BMP adoption and behavior change
- Improve strategic communications to build public support for Bay restoration work
- Prioritize investments in citizen-led action
- Improve local decision-making



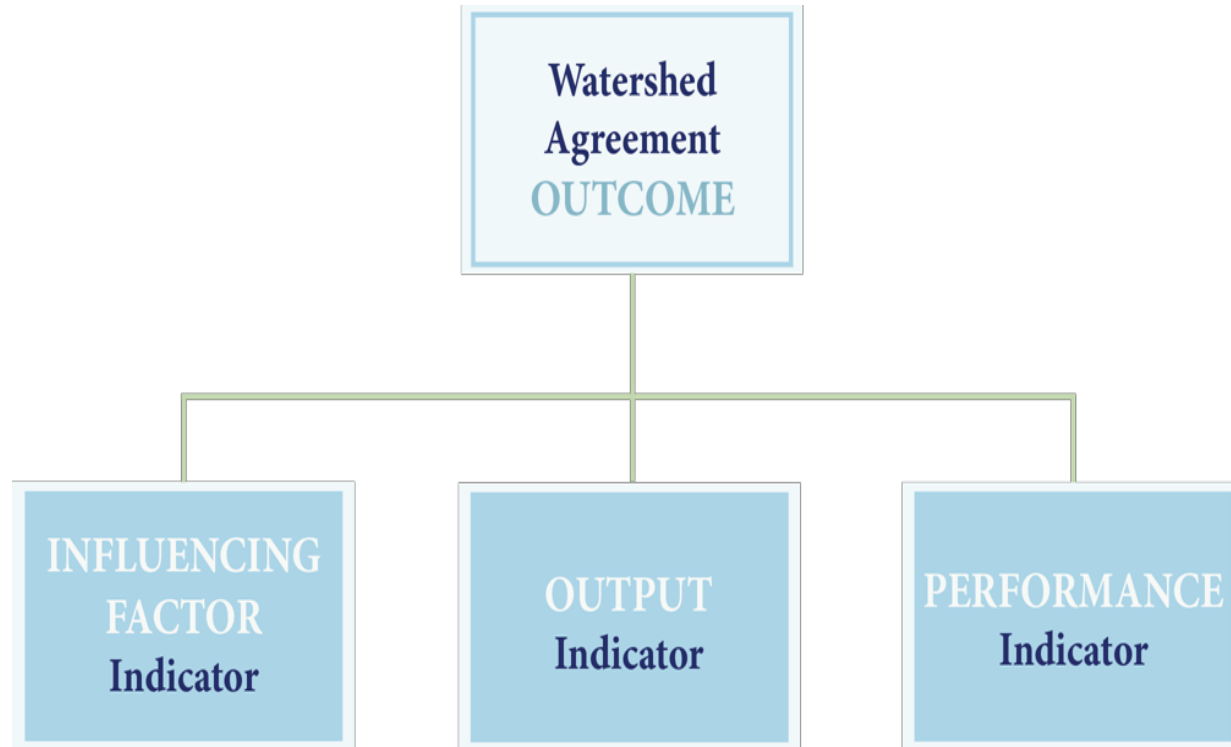


Photos Courtesy Chesapeake Bay Program

# STEWARDSHIP INDICATOR

# Chesapeake Bay Program Indicators Framework

Approved November 2015 Management Board Meeting



## Information Support

Three information types are needed to support adaptive management and communication needs.

Influencing Factors – What KEY influencing factors are impacting the achievement of an outcome?

Outputs – Are we doing what we said we would do in our work plans and management strategies?

Performance – Are we achieving the outcome?

# From 2015 Stakeholder Process:

- ✓ 2025 time horizon for this Indicator.
- ✓ Tracking human behavior.
- ✓ Measure:
  - Stewardship Behaviors
  - Future Likelihood of Adoption
  - Volunteerism
  - Keys to Individual Engagement
  - Civic Engagement Behaviors

# What This Survey Tool 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.





## Puget Sound Behavior Index

- Measures 28 positive and negative behaviors
- Stratified for 12 counties
- Conducted biennially by telephone
- 3,131 interviews (2013)
- Measures progress; drives decision-making

# Stewardship Behavior Measurement Criteria

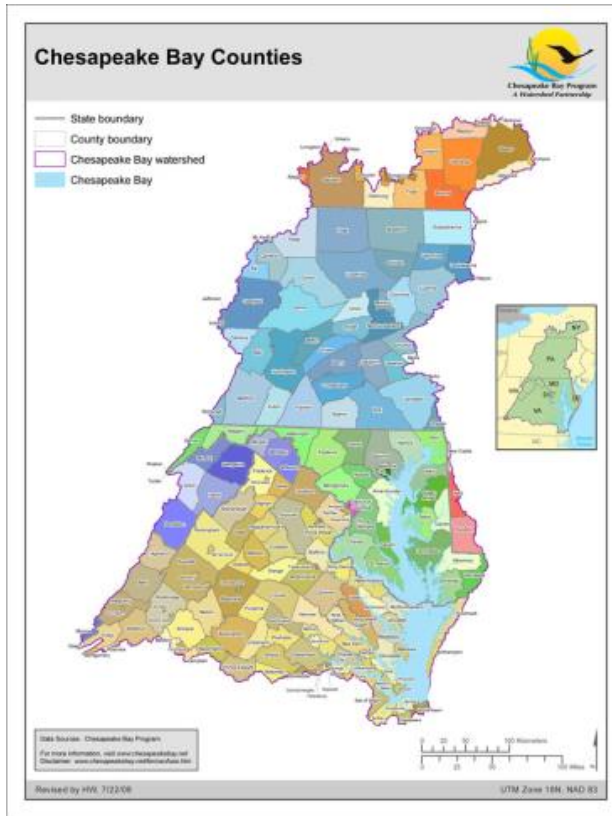
1. Involves individual decision-making
2. Is repetitive and can be tracked over time
3. Can be broadly adopted
  - A. Not just by experts
  - B. Not pre-emergent
4. Has an impact on water health
5. And/or will engage the public

# Measured Behaviors

- **Pet waste**
- **Leaves/Lawn clippings (2)**
- **Litter (2)**
- **Fats, grease, contaminants down the drain (2)**
- **Fertilizer use (2)**
- **Pesticide/Herbicide use (2)**
- **Conservation landscaping**
- **Rain garden installation**
- **Septic system**
- **Tree planting**
- **Downspout redirect**
- **Rain barrel (2)**
- **Water conservation**

# Citizen Stewardship Index

## Pilot Sampling Methodology



	Pilot Program Feb 2016
	N=2,000
DC	402 ( $\pm 4.9\%$ )
MD	400 ( $\pm 4.9\%$ )
PA	398 ( $\pm 4.9\%$ )
VA	400 ( $\pm 4.9\%$ )
WV	199 ( $\pm 6.9\%$ )
NY	101 ( $\pm 9.8\%$ )
DE	100 ( $\pm 9.8\%$ )

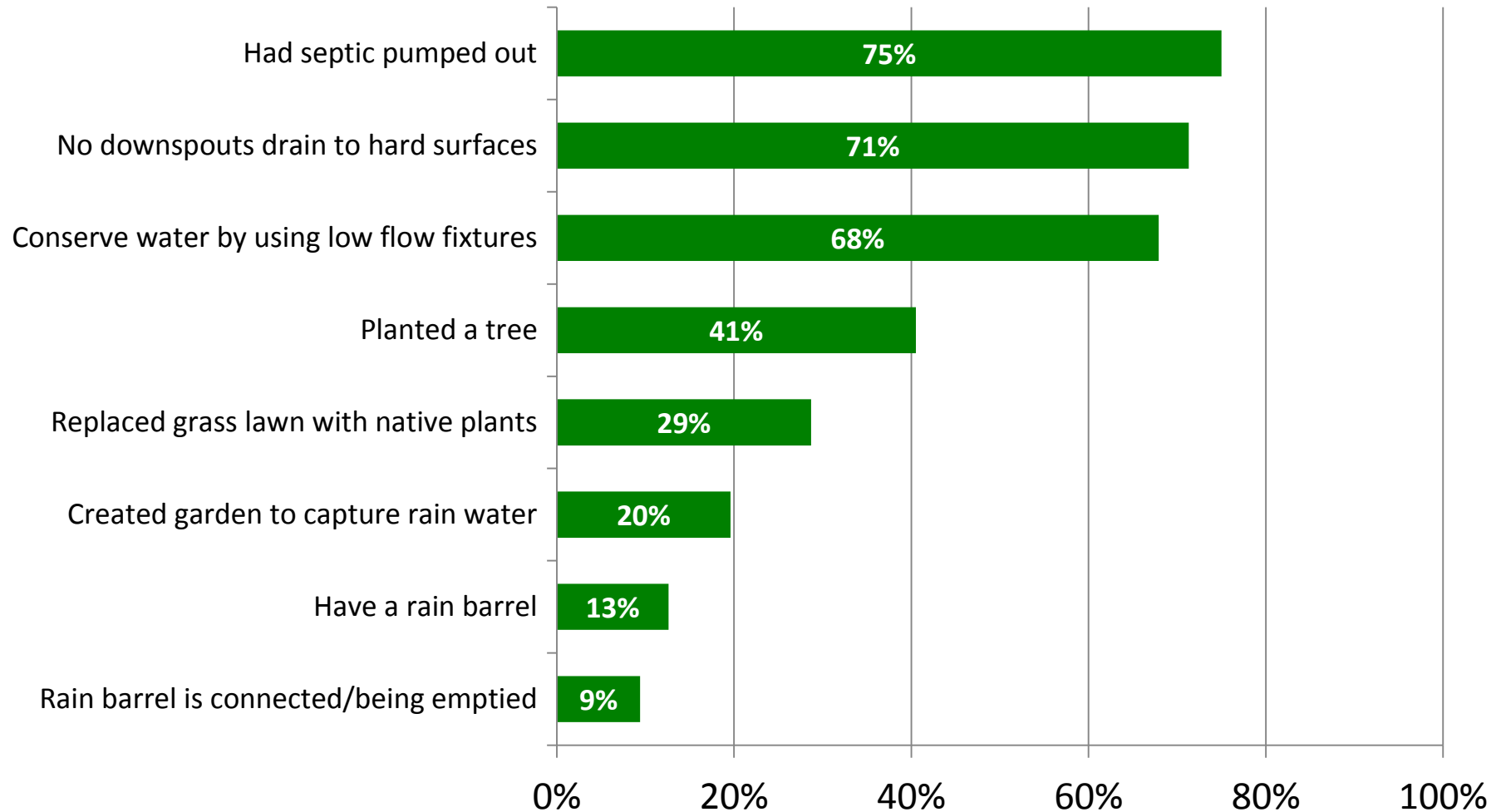
23 days in field  
13-minute interview  
43% cell/57% landline

# **Performance: Stewardship Behaviors**

# Pilot Citizen Stewardship Indicator

*Weighted Data: (4/12/2016)*

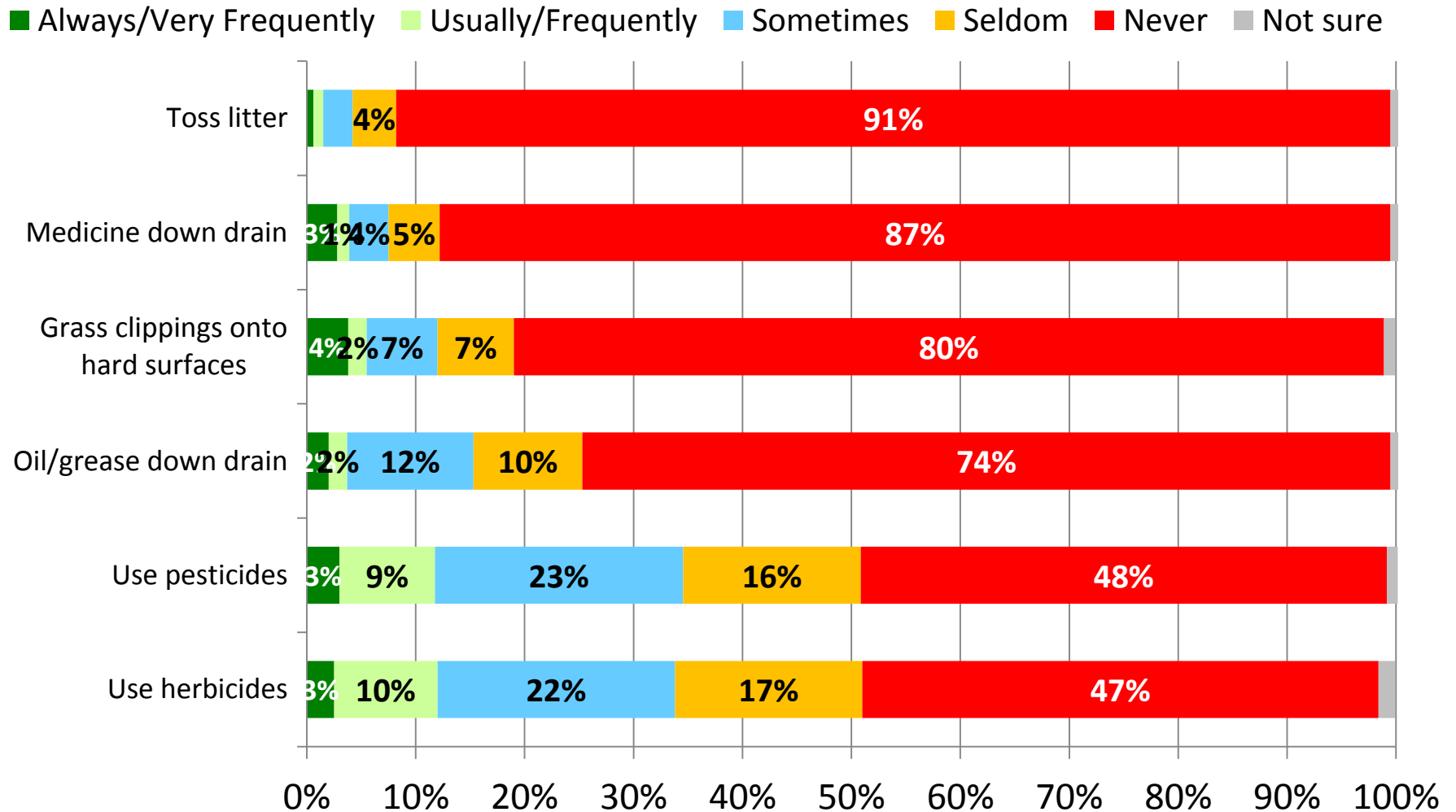
## Performance of Behaviors (Yes/No)



# Pilot Citizen Stewardship Indicator

Weighted Data: (4/12/2016)

## Top Performing Behaviors (Scaled)

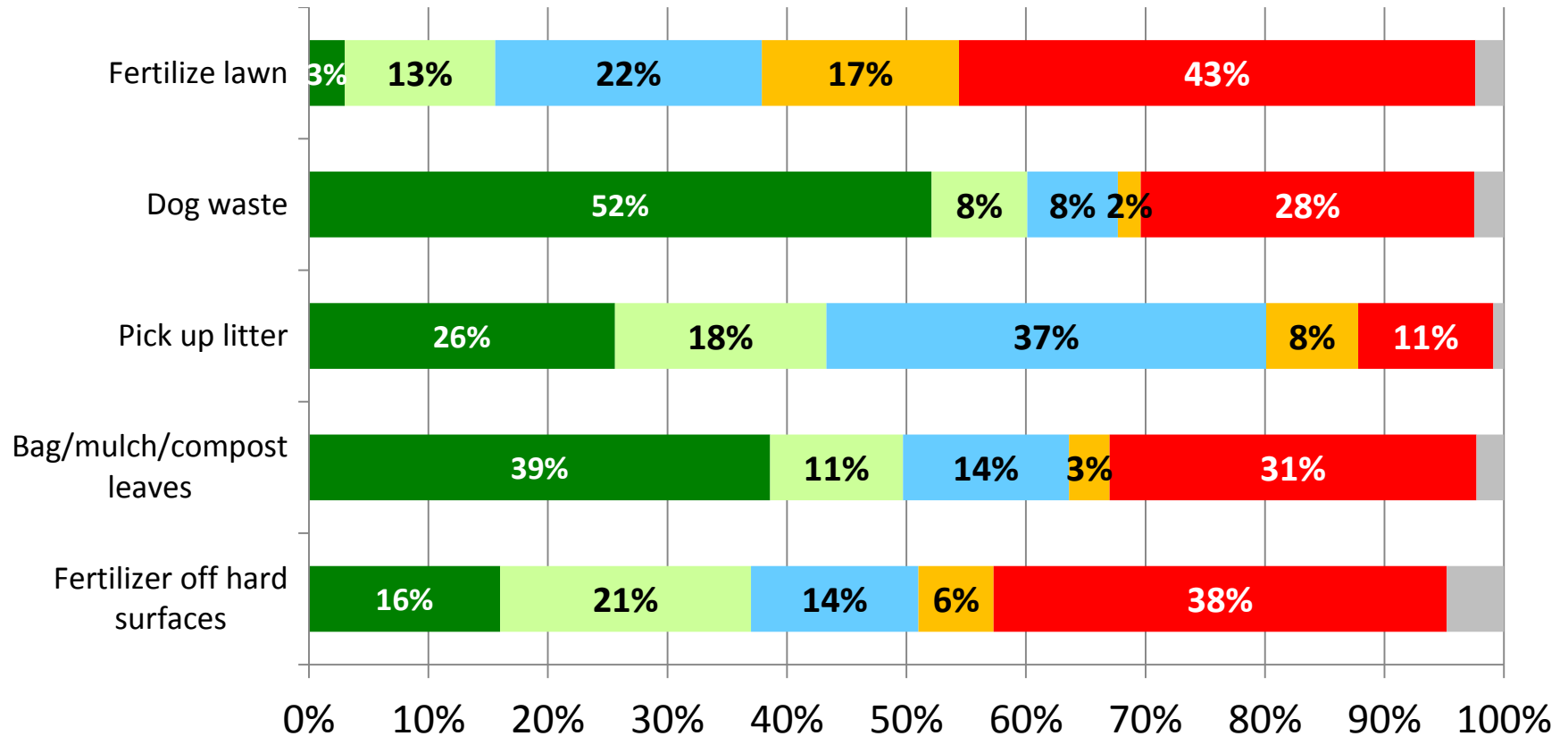


# Pilot Citizen Stewardship Indicator

Weighted Data: (4/12/2016)

## Second Tier Behaviors (Scaled)

■ Always/Very Frequently ■ Usually/Frequently ■ Sometimes ■ Seldom ■ Never ■ Not sure





# **“Threshold” Behaviors**

**Not highly penetrated  
Require intentionality/effort**

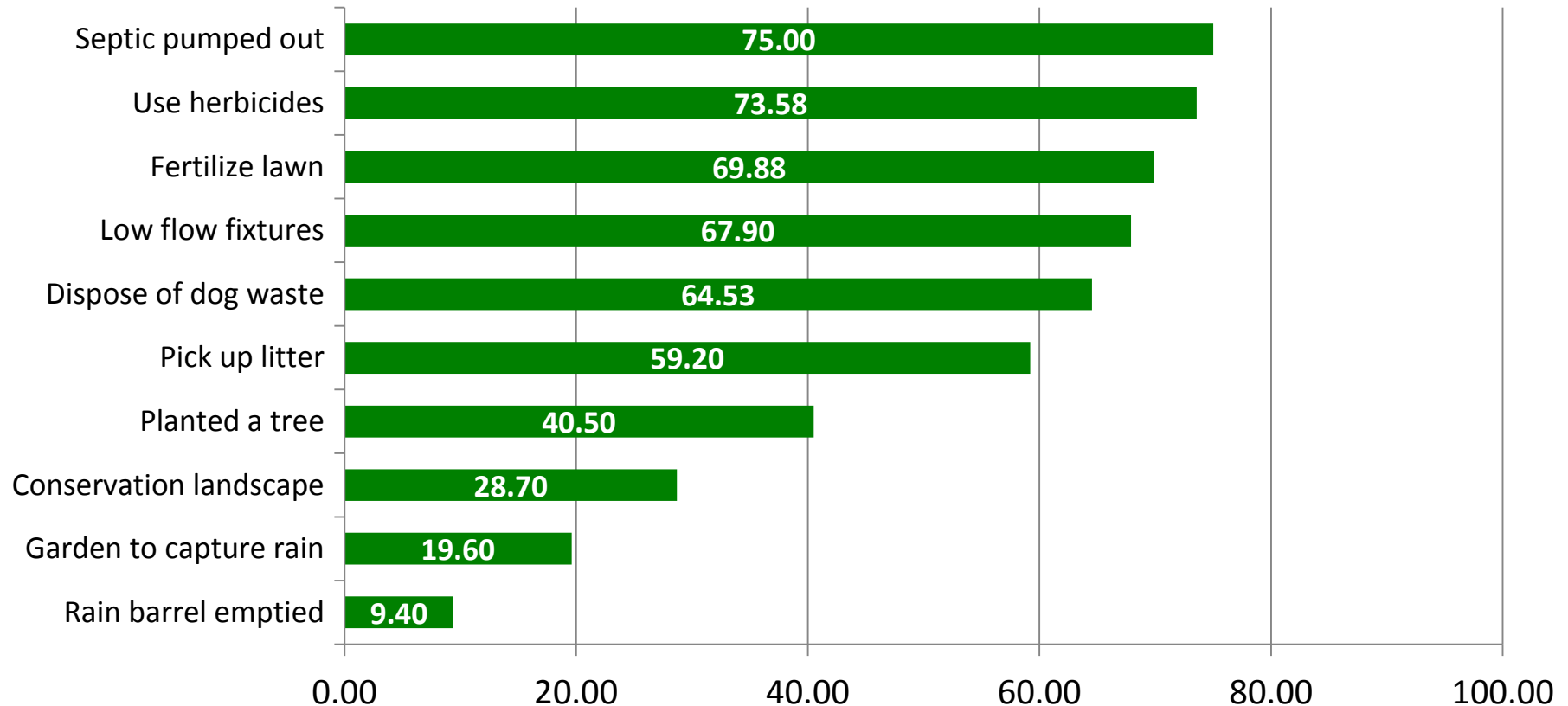
- 1. Conservation landscaping**
- 2. Rain garden installed**
- 3. Septic system pumped out**
- 4. Planted a tree**
- 5. Rain barrel connected and emptied**
- 6. Conserve water at home**
- 7. Pick up and dispose of pet waste**
- 8. Pick up litter**
- 9. Fertilizer use**
- 10. Herbicide use**

# Pilot Citizen Stewardship Indicator

Weighted Data: (4/12/2016)

## Threshold Behavior Performance

*Converted to 0 – 100 Scale*



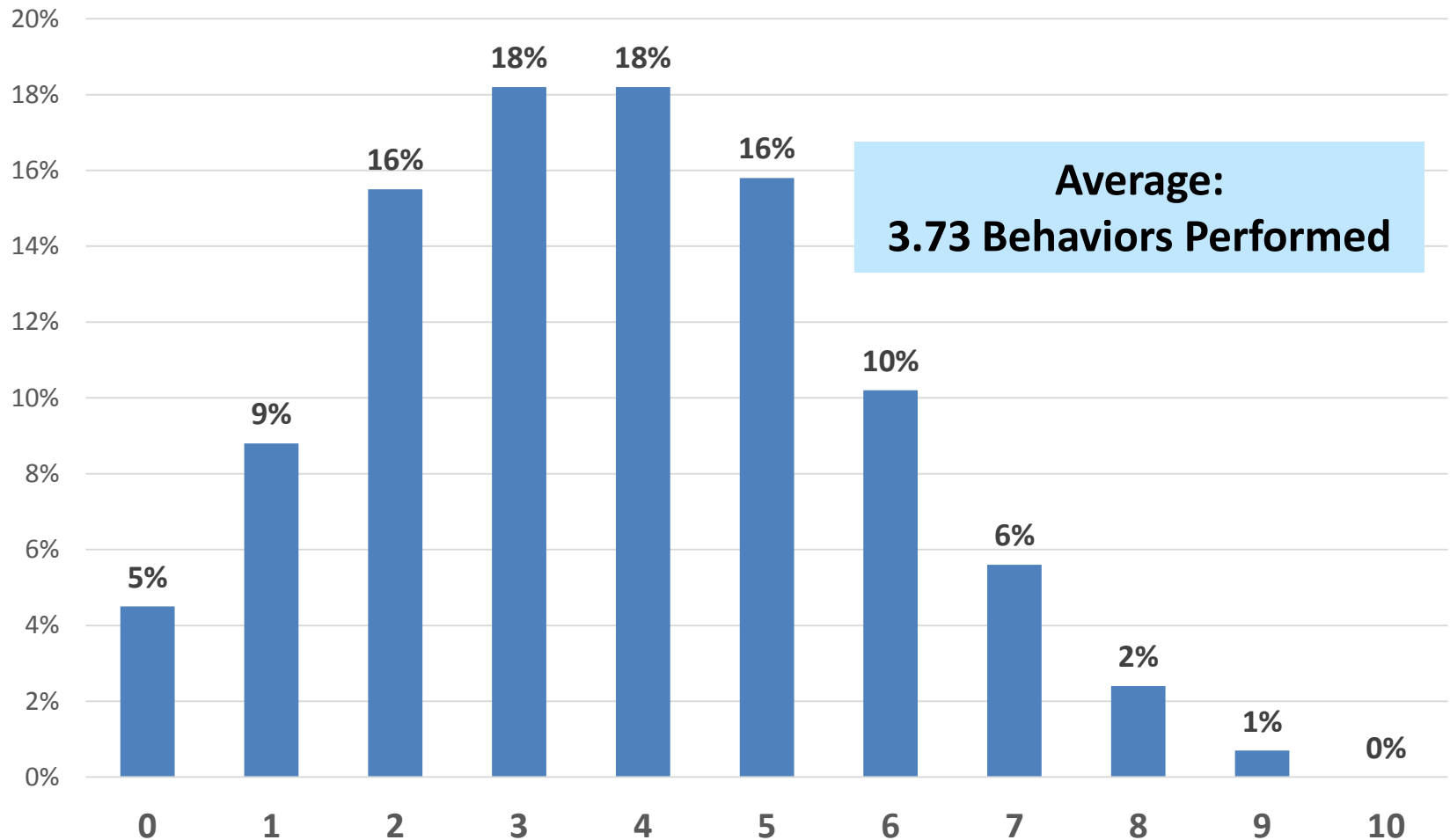
Never	Seldom	Sometimes	Usually	Always
Never	Seldom	Sometimes	Frequently	Very frequently
Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
0	25	50	75	100
100	75	50	25	0

# Pilot Citizen Stewardship Indicator

Weighted Data: (4/12/2016)

## Number of Behaviors Performed

*Of 10 "Threshold Behaviors"*

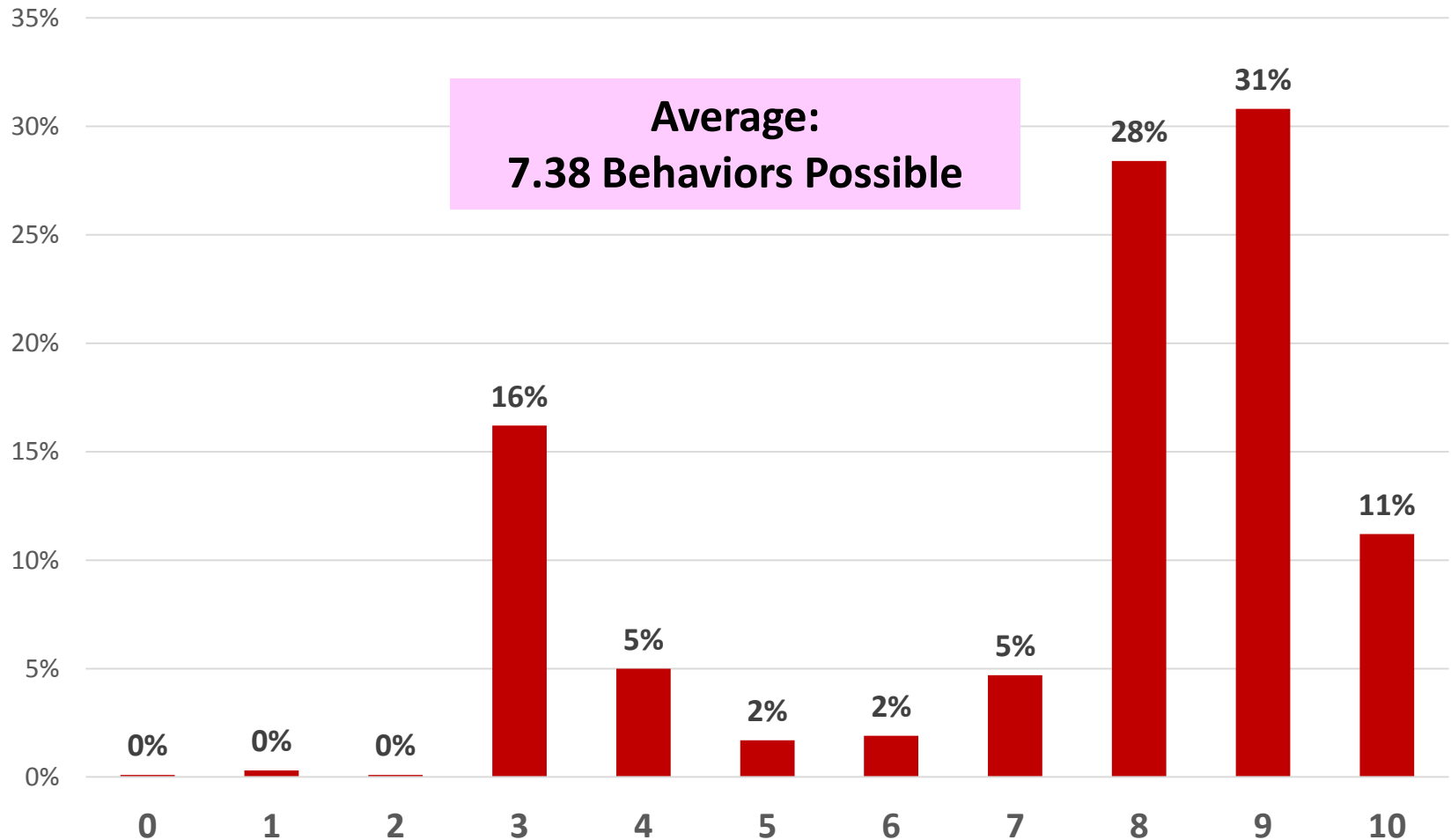


# Pilot Citizen Stewardship Indicator

Weighted Data: (4/12/2016)

## Number of Behaviors Possible

*Of 10 "Threshold Behaviors"*

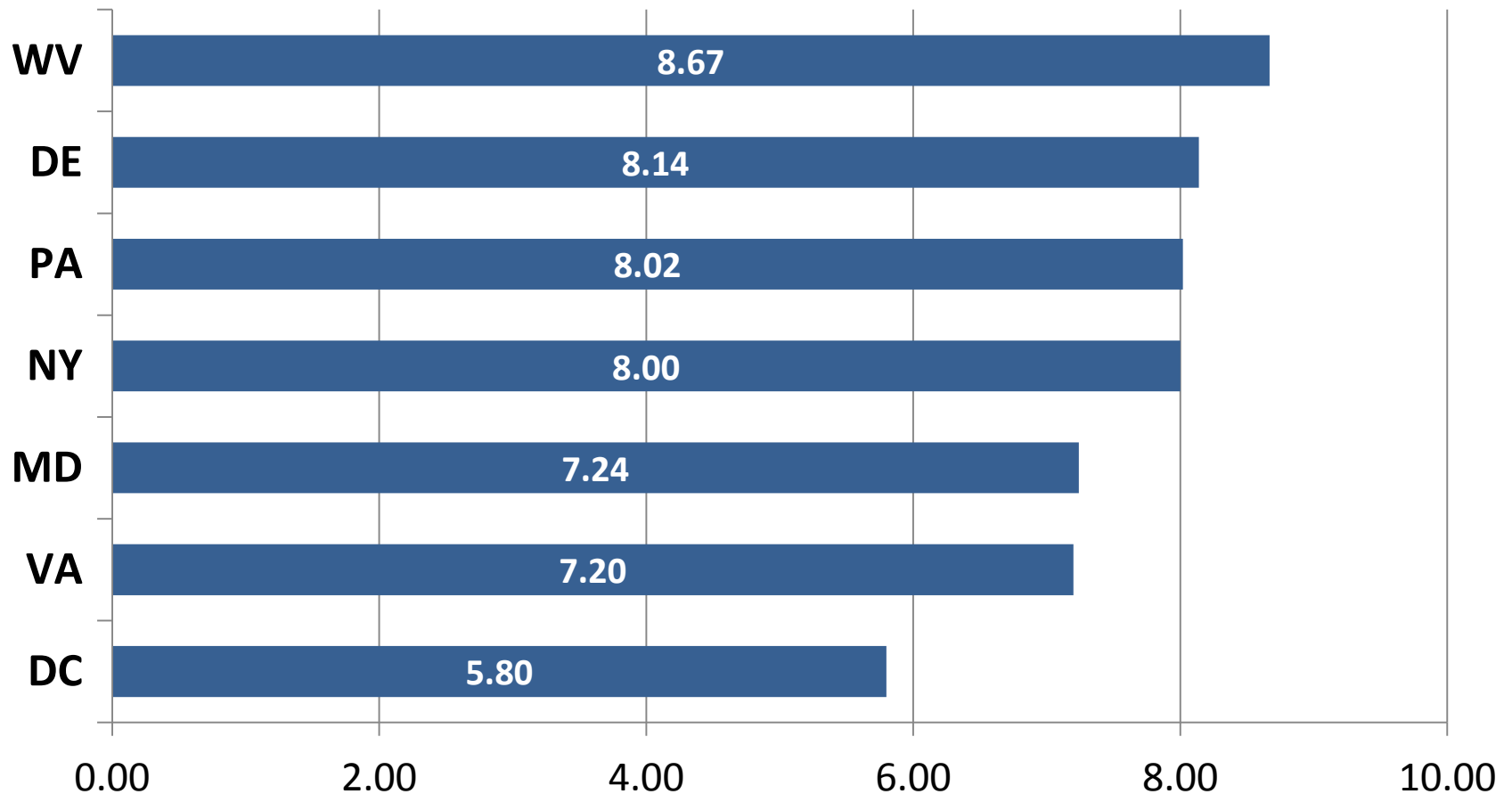


# Pilot Citizen Stewardship Indicator

Weighted Data: (4/12/2016)

## Number of Behaviors Possible

*By State*



# Segmentation Opportunities

- **Jurisdiction**
- **Age**
- **Educational attainment**
- **Health care professionals**
- **Home ownership**
- **Housing type**
- **Community size**
- **Agriculture**
- **Religious affiliation**
- **Race/ethnicity**
- **Household income**
- **Gender**

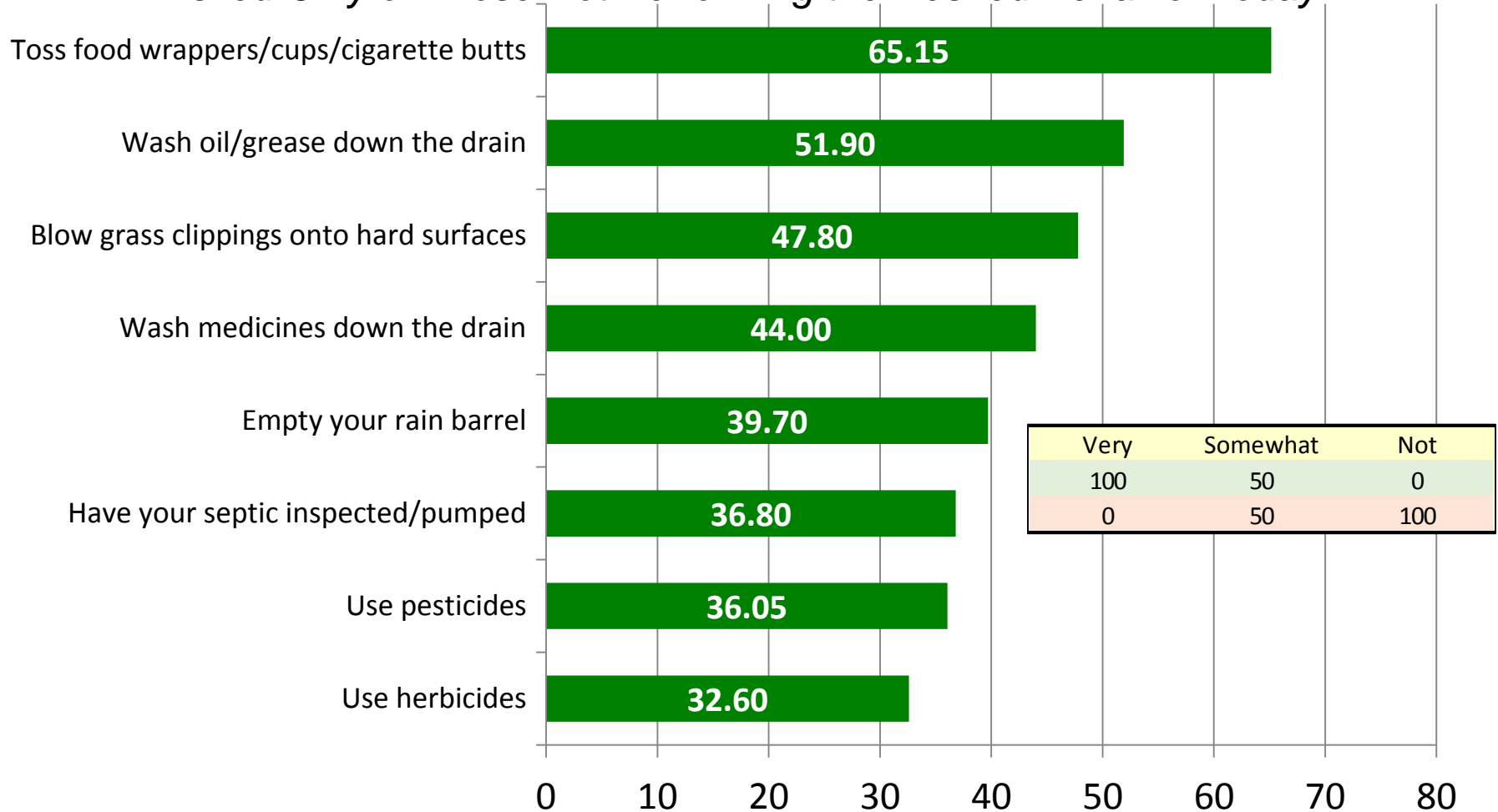
# **Likelihood to Change Behavior**

# Pilot Citizen Stewardship Indicator

Weighted Data: (4/12/2016)

## Behaviors Most Susceptible to Change

*Asked Only of Those Not Performing the Desired Behavior Today*



Now I would like to ask you about a few of those actions again. Looking forward over the next year or so, how likely are you to do each of these things using the scale (rotate high to low/low to high): [very likely, somewhat likely, (or) not likely].

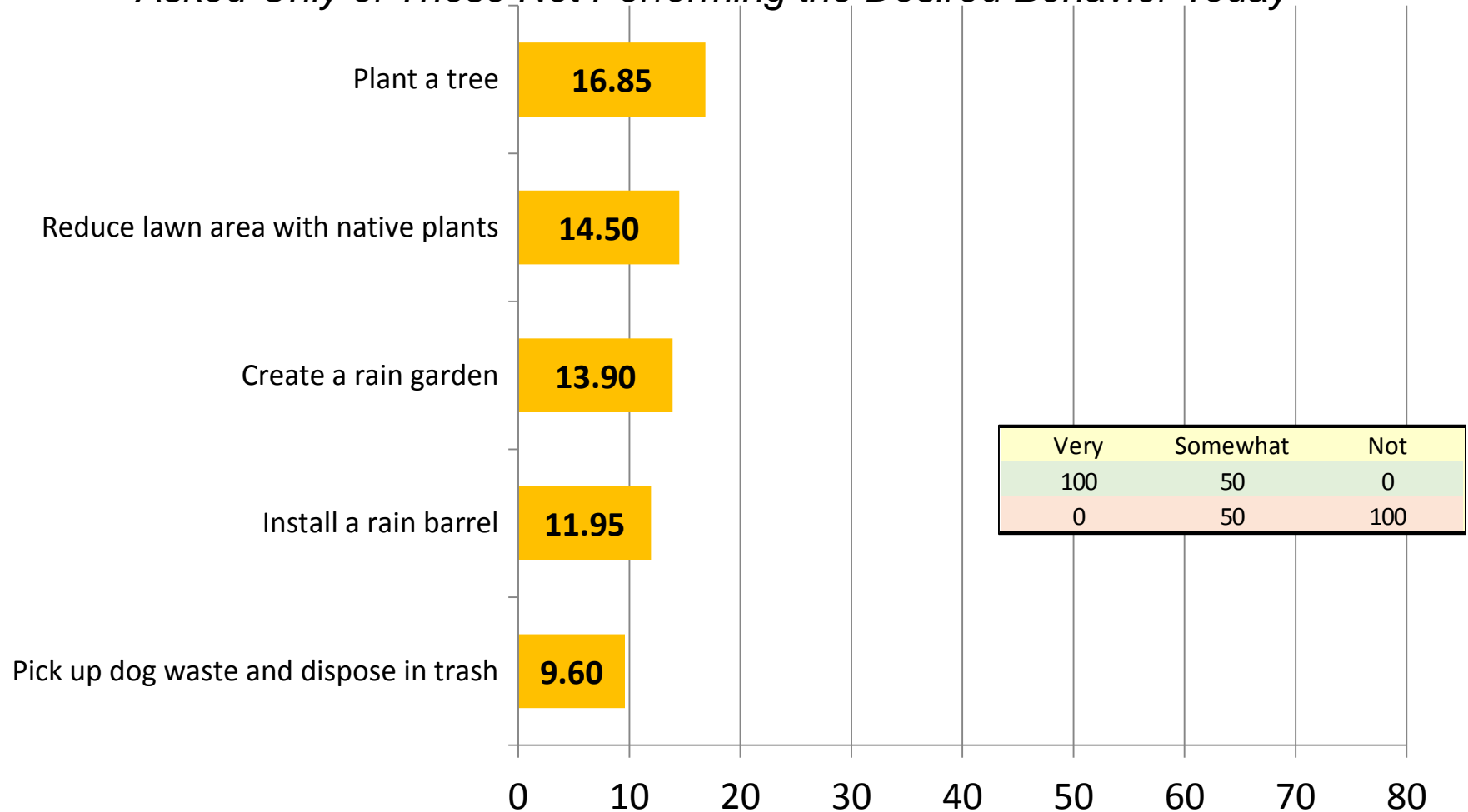


# Pilot Citizen Stewardship Indicator

Weighted Data: (4/12/2016)

## Behaviors Least Susceptible to Change

*Asked Only of Those Not Performing the Desired Behavior Today*



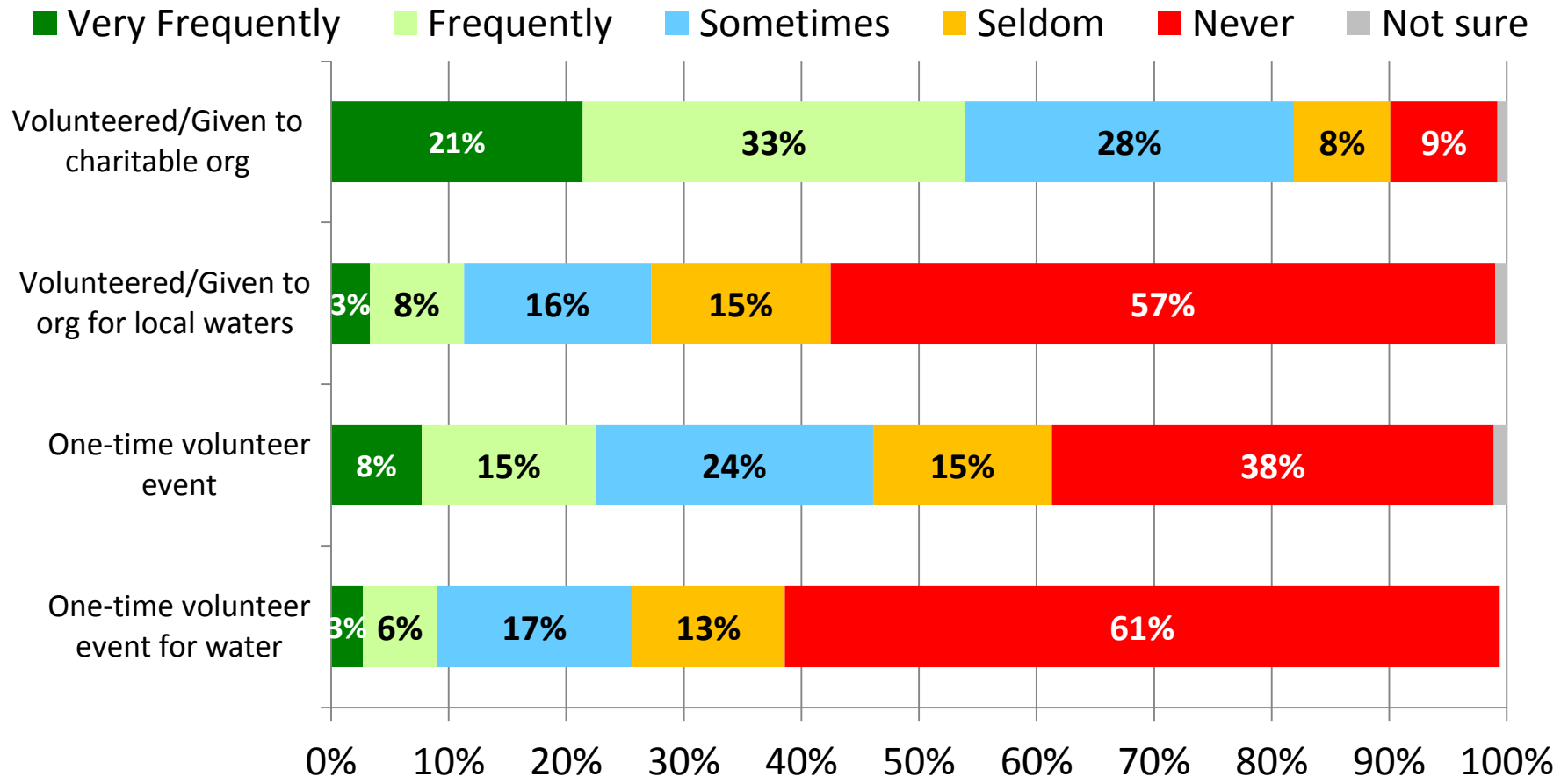
Now I would like to ask you about a few of those actions again. Looking forward over the next year or so, how likely are you to do each of these things using the scale (rotate high to low/low to high): [very likely, somewhat likely, (or) not likely].

# **Volunteerism**

# Pilot Citizen Stewardship Indicator

Weighted Data: (4/12/2016)

## Volunteerism



**40% can think of at least one group in their own community that is working to clean up and protect local waters.**

# **Keys to Individual Engagement**

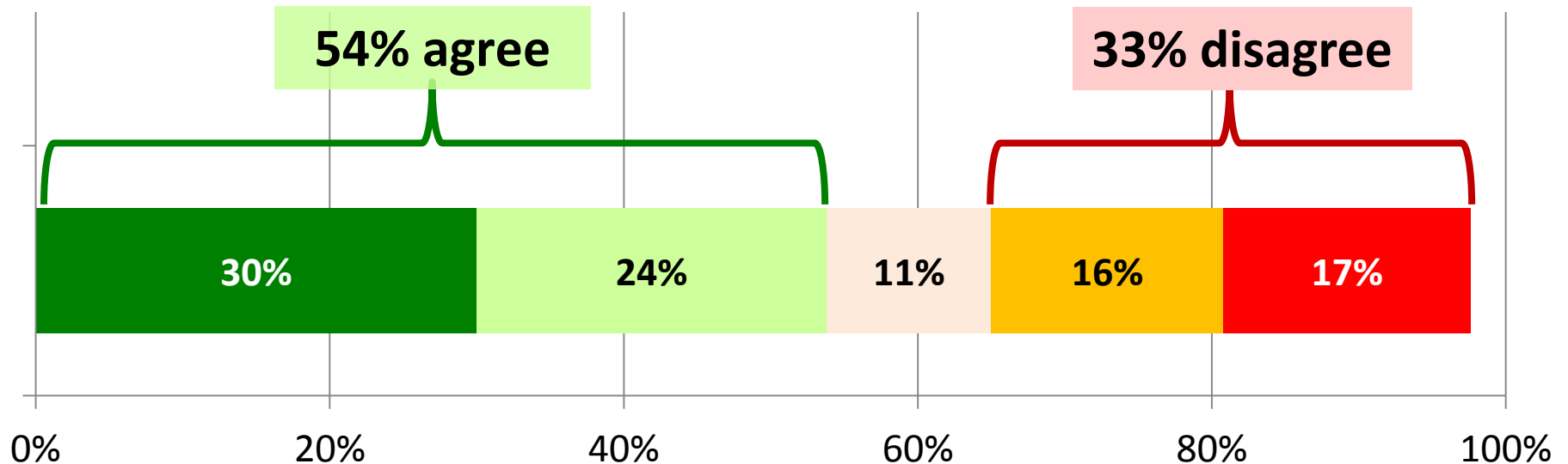
# Pilot Citizen Stewardship Indicator

Weighted Data: (3/1/2016)

**If I wanted to volunteer to help the natural environment locally, I would know how to do that.**

*Level of Agreement*

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



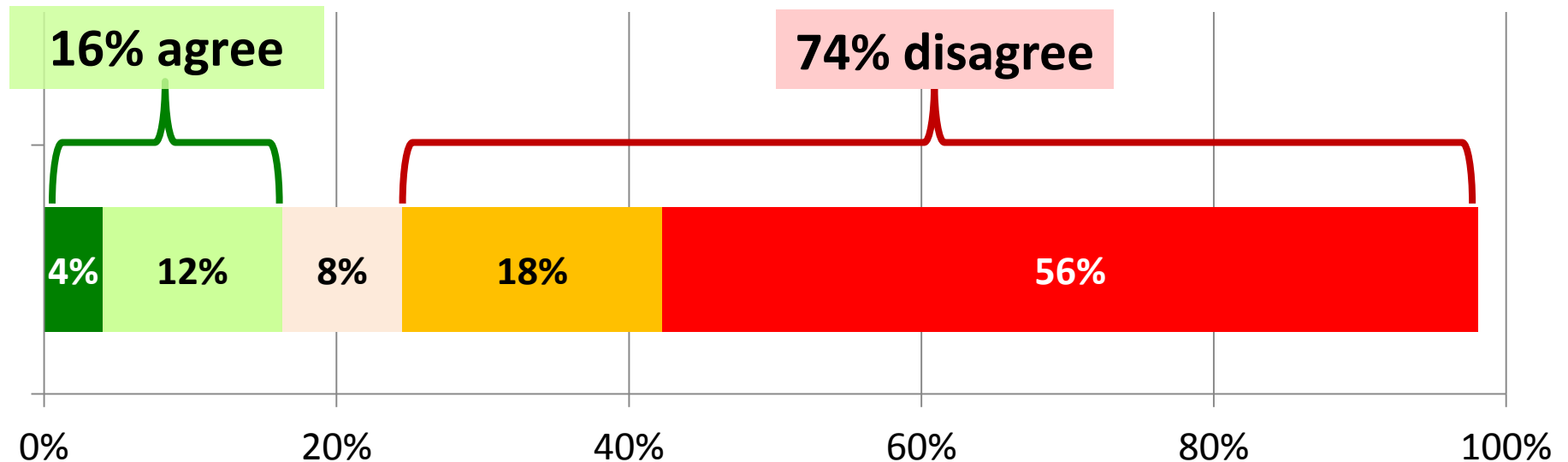
# Pilot Citizen Stewardship Indicator

Weighted Data: (3/1/2016)

**I am causing water pollution  
where I live.**

*Level of Agreement*

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



# **Indicator Scale-up**

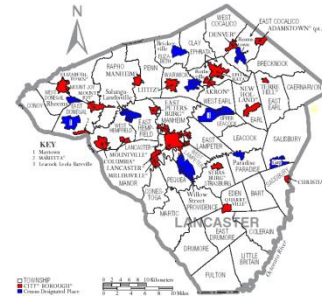
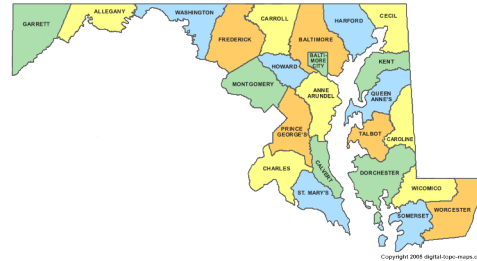
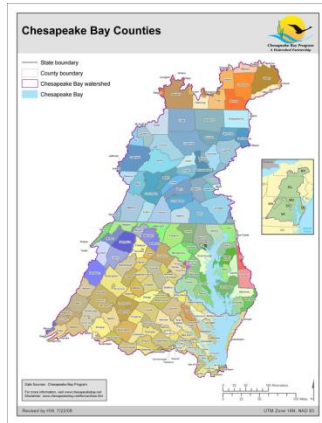
# Uses

- Measuring change over time
- Benchmarking against a Bay-wide norm, other communities
- Maximizing limited resources through smart behavior selection
- Informing outreach to target audiences



# Citizen Stewardship Index

## Measuring Stewardship Progress



	Regional Index	State or Jurisdiction Index	County or Municipality Index	Community Index
Tool	Index Survey	Index Survey	Index Survey	Baysurvey.org
Date	Pilot Winter 2015/2016	Pilot Winter 2015/2016	TBD	Ongoing
Result	Pilot (+/- 2.2%)	Pilot (+/- 4.9% to 9.8%)	2016 TBD	Scalable to most local level

# Citizen Stewardship Index

## Sampling Methodology

	Pilot program (2015)	Rollout Option 1 (2016+)
	N=2,000	All states statistically significant N=5,200
MD	400 ( $\pm 4.9\%$ )	1,000 ( $\pm 3.1\%$ )
VA	400 ( $\pm 4.9\%$ )	1,000 ( $\pm 3.1\%$ )
PA	400 ( $\pm 4.9\%$ )	1,000 ( $\pm 3.1\%$ )
DC	400 ( $\pm 4.9\%$ )	800 ( $\pm 3.5\%$ )
WV	200 ( $\pm 6.9\%$ )	600 ( $\pm 4.0\%$ )
NY	100 ( $\pm 9.8\%$ )	400 ( $\pm 4.9\%$ )
DE	100 ( $\pm 9.8\%$ )	400 ( $\pm 4.9\%$ )