1

This survey is being conducted by the **U.S. Environmental Protection Agency (EPA)** to collect information that will be used to help guide future environmental policy decisions.

The survey will...

1. Describe the impacts of different types of pollution in lakes, rivers, and streams in the U.S.
2. Ask you to vote for or against potential policies that would improve the quality of some rivers, lakes, and streams. If implemented, policies would also increase costs to your household.
3. Ask a few additional questions about water quality and your household.

Your participation in this survey is voluntary. The reports prepared from this study will summarize our findings and will not associate responses with any specific individual. All responses will be kept confidential to the extent permitted by law.

OMB control number: 2090-0028
Expires 9/30/2018

2

 Need help?

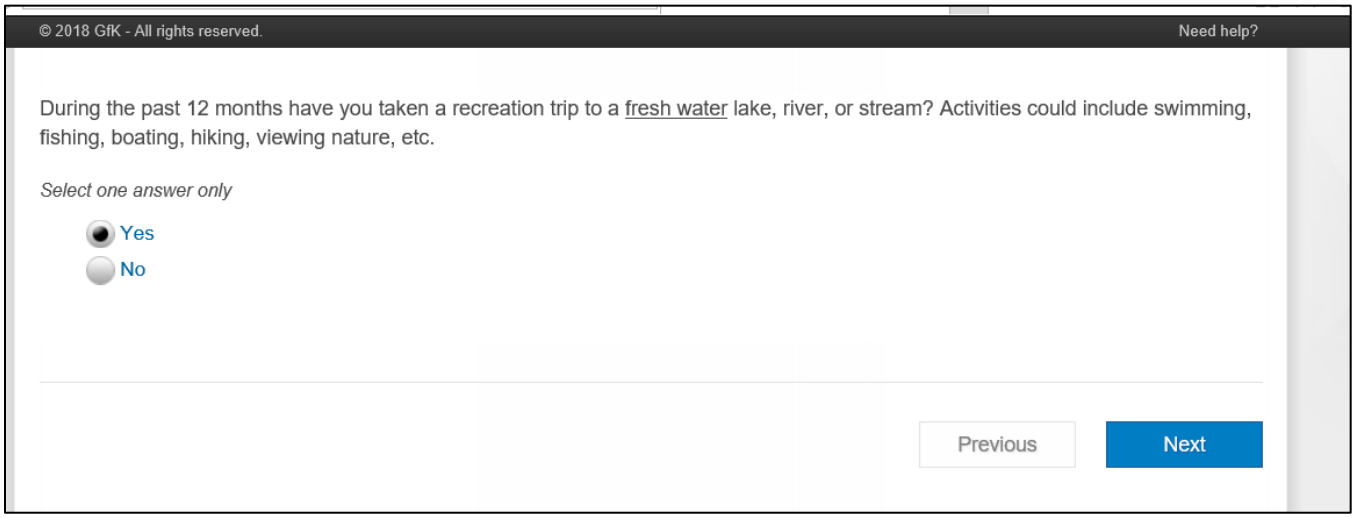
Good water quality in freshwater lakes, rivers, and streams allows for a full range of uses and can support a rich community of plants and animals.

In this survey we will ask about policies that would affect two major categories of water quality in lakes, rivers, and streams:

- **Water Recreation** – The suitability of waterbodies for boating, fishing, and swimming
- **Aquatic Biodiversity** – The ability of waterbodies to support healthy and diverse populations of plants and animals

The policies you will be asked to consider in this survey will not affect public drinking water facilities or groundwater supplies, and so will not affect the quality of drinking water for most households.

3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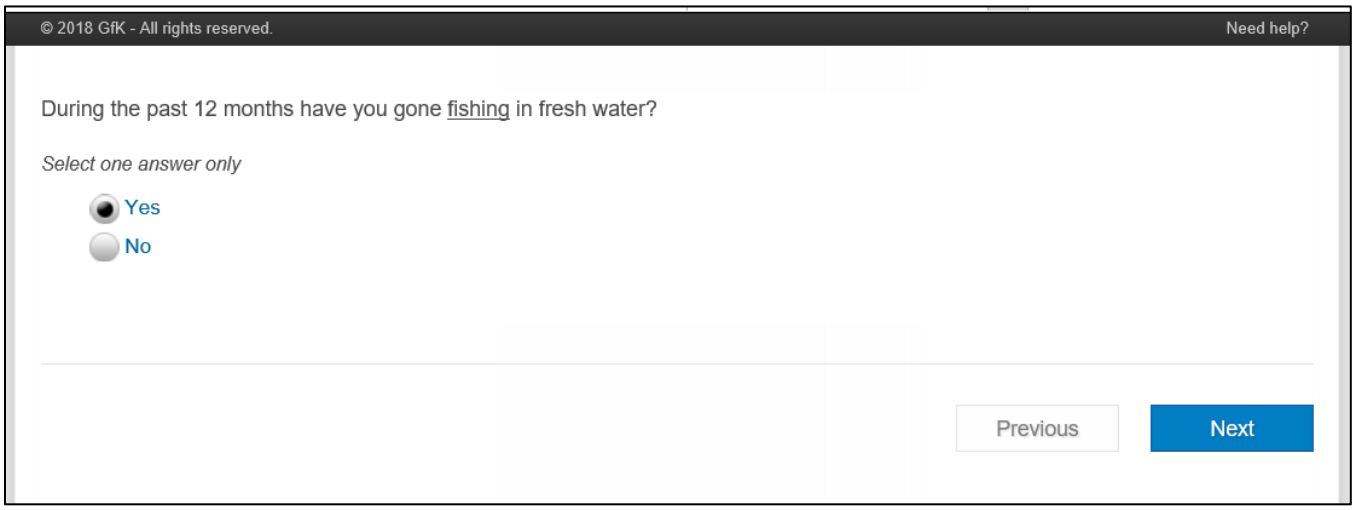
Need help?
During the past 12 months have you taken a recreation trip to a fresh water lake, river, or stream? Activities could include swimming, fishing, boating, hiking, viewing nature, etc.
Select one answer only
Yes
No
Previous
Next

4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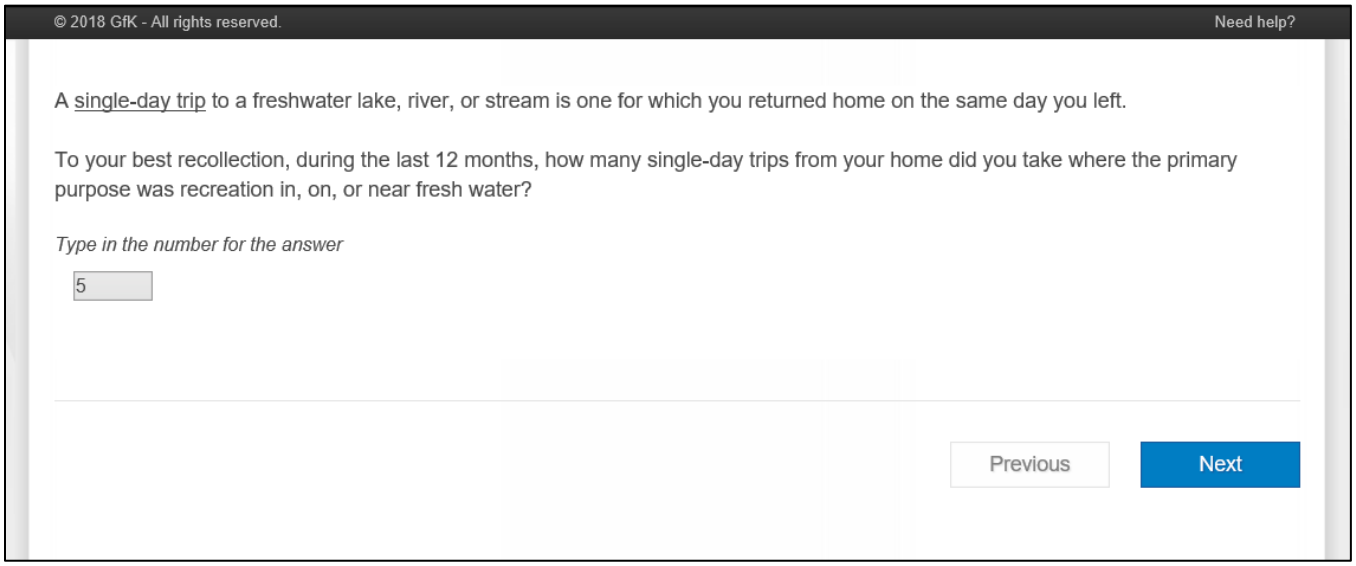
Need help?
During the past 12 months have you gone fishing in fresh water?
Select one answer only
Yes
No
Previous
Next

5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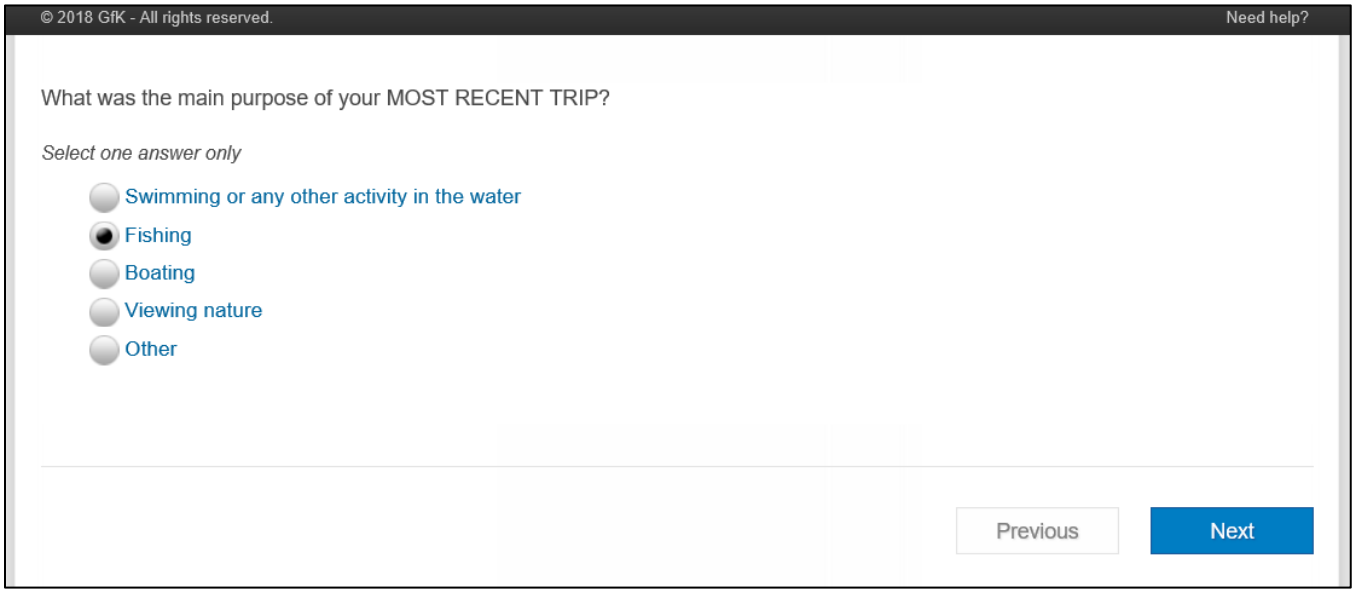
Need help?
A single-day trip to a freshwater lake, river, or stream is one for which you returned home on the same day you left.
To your best recollection, during the last 12 months, how many single-day trips from your home did you take where the primary purpose was recreation in, on, or near fresh water?
Type in the number for the answer
5
Previous
Next

6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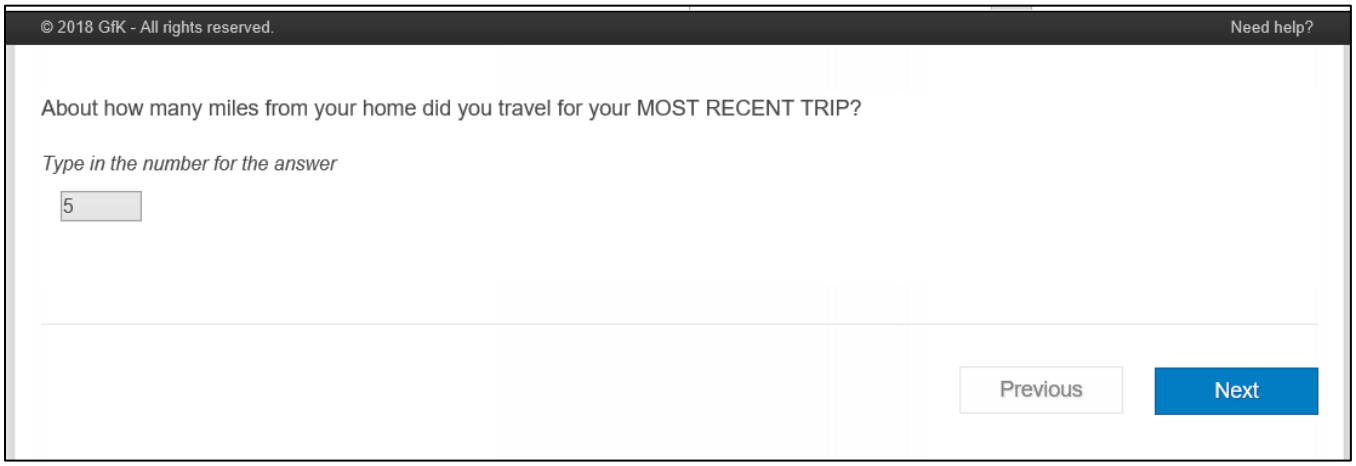
Need help?
What was the main purpose of your MOST RECENT TRIP?
Select one answer only
Swimming or any other activity in the water
Fishing
Boating
Viewing nature
Other
Previous
Next

7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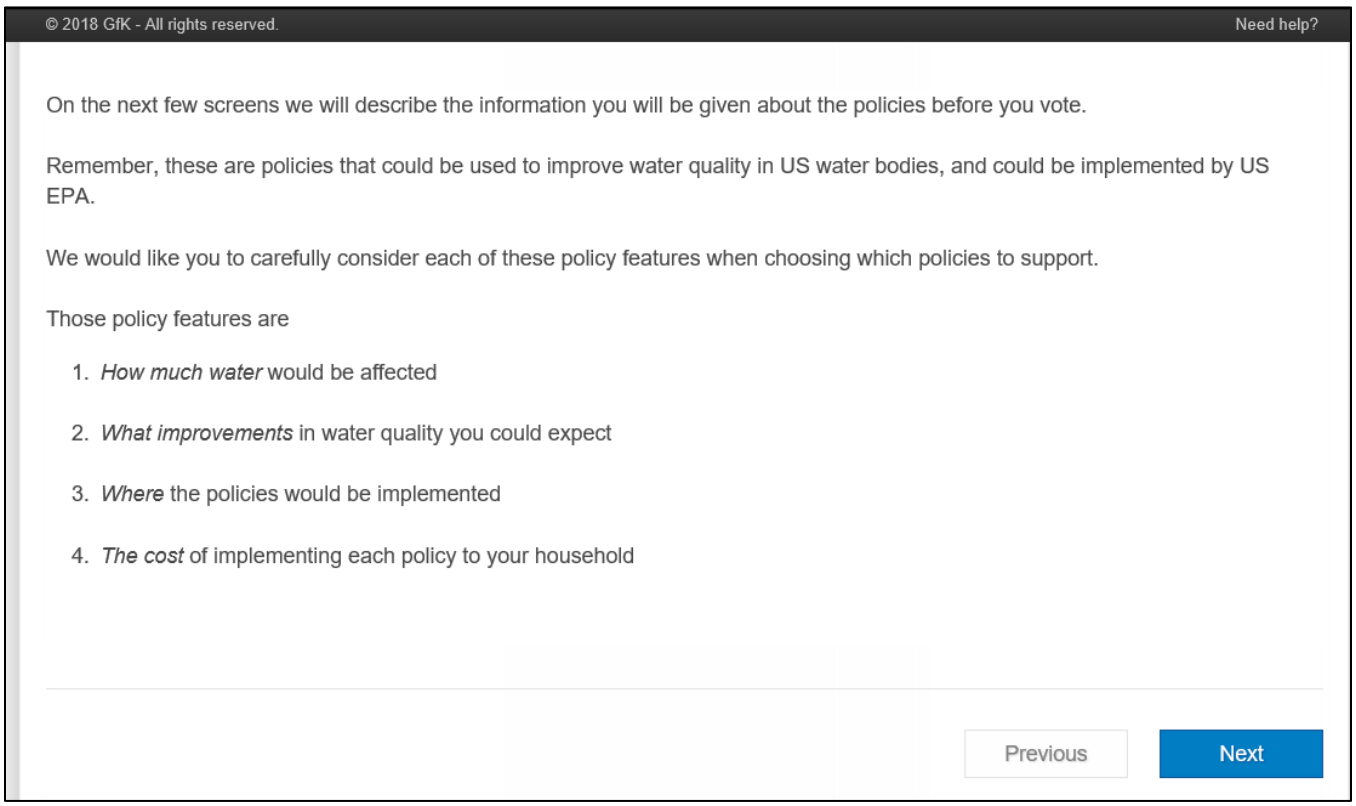
Need help?
About how many miles from your home did you travel for your MOST RECENT TRIP?
Type in the number for the answer
5
Previous
Next

8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Need help?
On the next few screens we will describe the information you will be given about the policies before you vote.
Remember, these are policies that could be used to improve water quality in US water bodies, and could be implemented by US EPA.
We would like you to carefully consider each of these policy features when choosing which policies to support.
Those policy features are
1. How much water would be affected
2. What improvements in water quality you could expect
3. Where the policies would be implemented
4. The cost of implementing each policy to your household
Previous
Next

9

 Need help?

The amount of water improved by a policy is described using **Surface Area**. Surface area is the amount of water that can be seen from above.

When describing the policies you will vote on, we will tell you how many square miles of lakes, rivers, and streams would be improved.

Calculating surface area of rivers and streams

Calculating surface area of lakes

Previous Next

10

 Need help?

The **Water Recreation Score** is a measure of how suitable a lake, river, or stream is for different recreational activities.

As the score increases, water quality improves and waterbodies are suitable for more types of activities. The three activities that are taken into consideration are:

- Boating
- Fishing
- Swimming

Previous Next

11.

 Need help?

Water quality experts use a variety of scientific measurements to determine the Water Recreation Score.

Some of the measurements they use are:

- Fecal coliform - harmful bacteria from sewage
- Dissolved oxygen - the amount of oxygen in the water for aquatic life
- Water clarity - how far below the surface we can see an object
- Nutrient pollution - too much nitrogen and phosphorus from fertilizer and sewage leads to excessive algae growth which can be harmful to wildlife and people

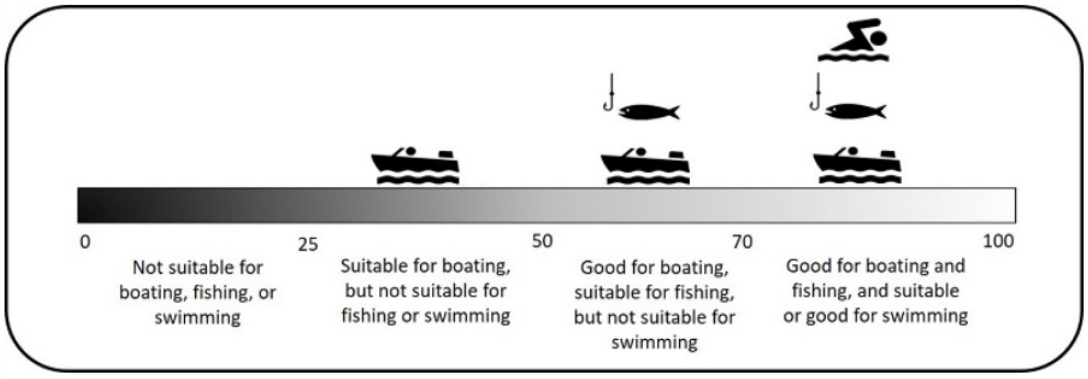
12

 Need help?

The Water Recreation Score ranges from 0 to 100.

Based on this score, a waterbody can be either *not suitable*, *suitable*, or *good* for a recreational activity.

- **Not Suitable** means that the minimum criteria for that activity are not met
- **Suitable** means that the waterbody meets the minimum criteria for that activity
- **Good** means that the waterbody exceeds the criteria for that activity and the experience is enhanced by good water quality



Example: A Water Recreation Score of **55** means that, on average, water quality in the region is good for boating and suitable for fishing, but not suitable for swimming. If the Water Recreation Score increased from **55 to 62** it would mean that, on average, conditions would improve for boating and fishing but are still not suitable for swimming.

13

 Need help?

Scientists use an **Aquatic Biodiversity Score** to measure the overall ecological health of a lake, river, or stream.

This score compares the number of different species that live in a water body to the number that would be expected to live in the same type of water body in the same region under the best possible conditions.

In practice, scientists often estimate the aquatic biodiversity score by counting the types of small aquatic organisms that live in the water—such as insects, worms, snails, and plankton.

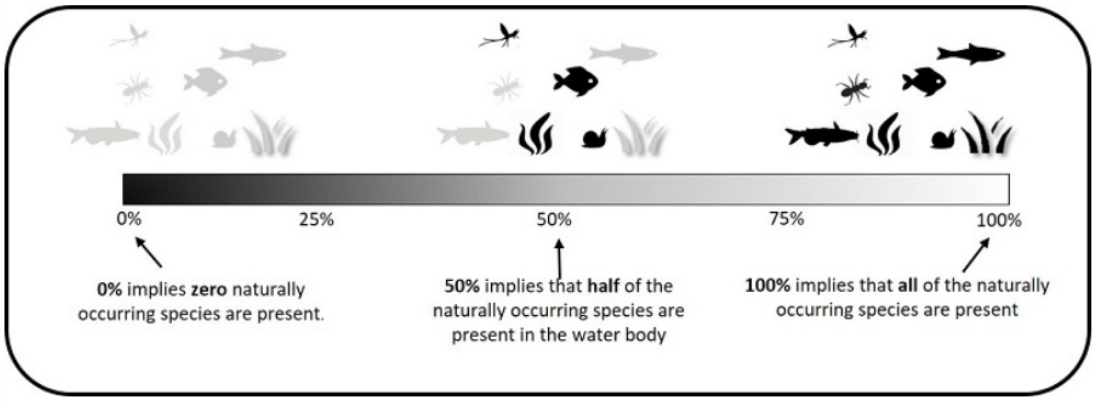
This measure has been found to be closely related to the biodiversity scores of a broad range of species groups, including plants, amphibians, fish, and shellfish.

Previous Next

14

 Need help?

The ***Aquatic Biodiversity Score*** ranges from 0% to 100%, as shown below.



For example: If 120 different plant and animal species live in a lake, and if under the best possible conditions 200 species would be expected to live in the same type of lake in the same region, then the biodiversity score of the lake would be 120 / 200 = 0.6, or 60%.

Previous Next

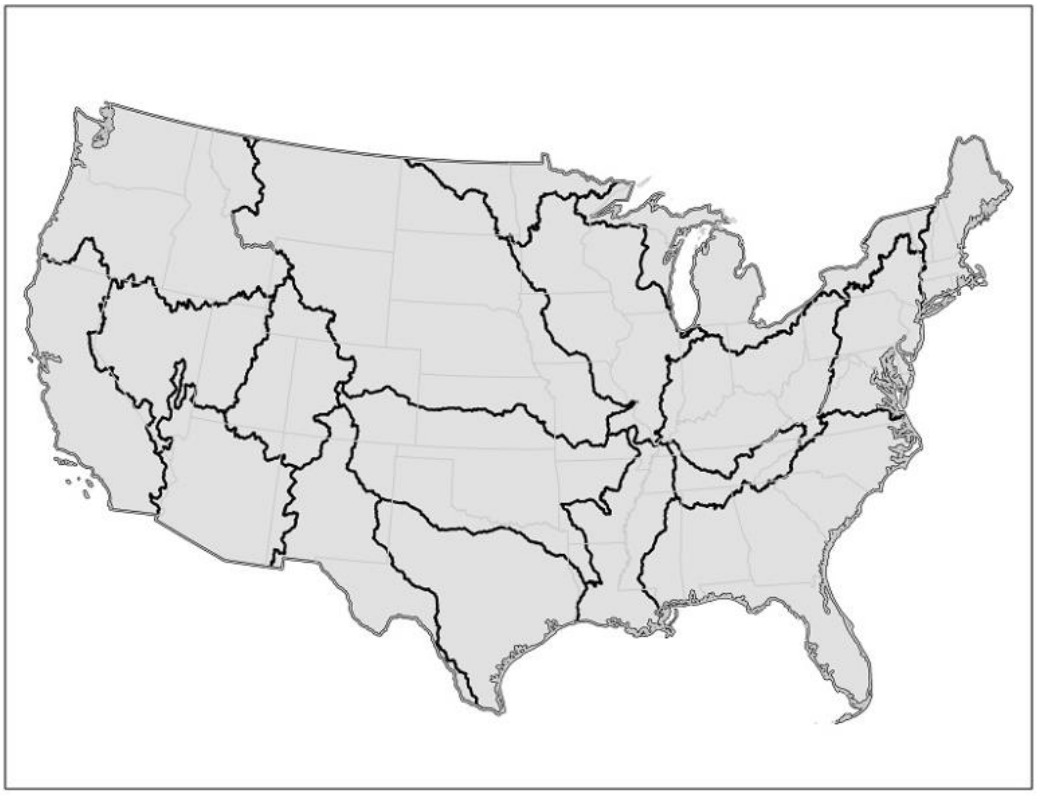
15

 Need help?

A watershed is an area of land where all water flows to one major waterbody. This map shows the major watersheds of the U.S. Policies will only have a noticeable effect on lakes, rivers, and streams in the watersheds where they are implemented. We will use maps like this one to show the **Policy Regions** where the changes in water quality would occur.

The Policy Regions could include one or more of the watersheds shown on the map.

The policies would not affect any coastal waters next to the Policy Region or any lakes, rivers, and streams outside of the Policy Region.

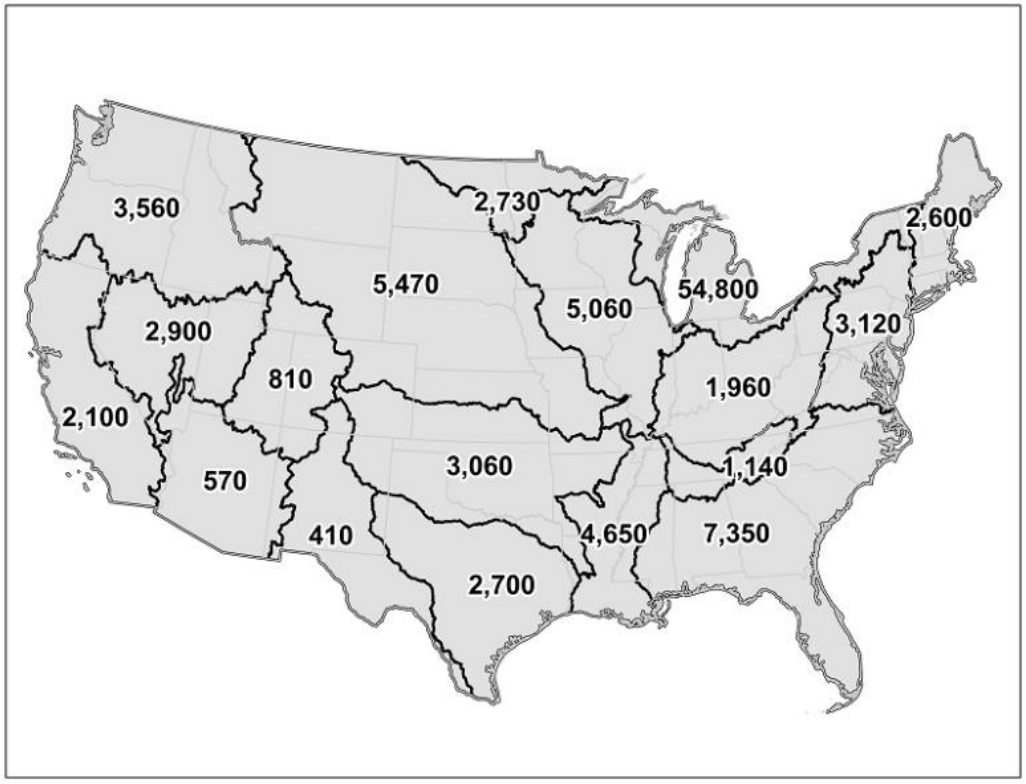


16

Need help?

This map shows the **Surface Area** of lakes, rivers, and streams, in each watershed. The numbers on the map show the combined square miles of all lakes, rivers and streams in the watershed.

When describing the policies, we will tell you the total square miles of rivers, lakes, and streams in the Policy Region.



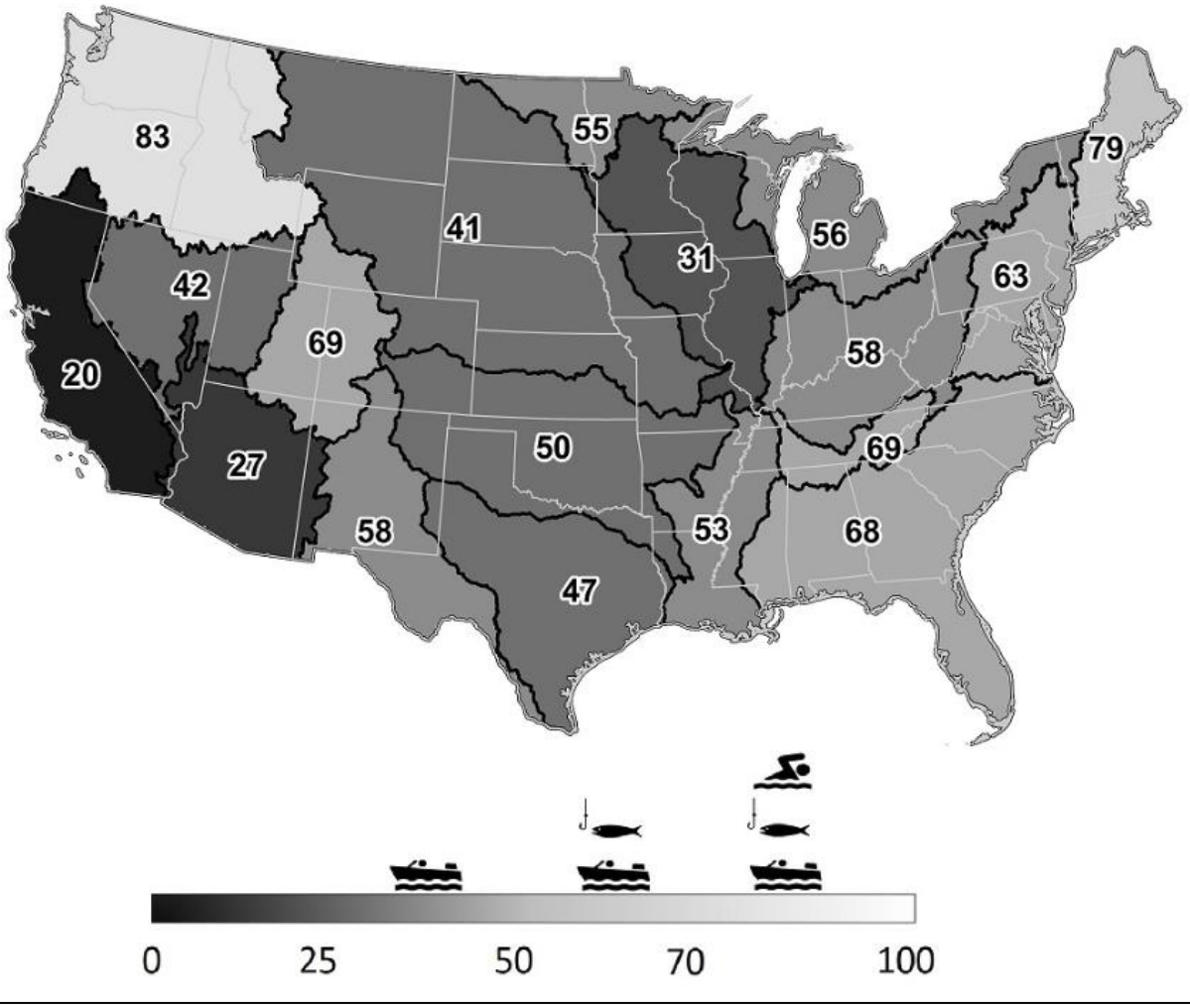
Previous Next

17

 Need help?

This map shows the current average **Water Recreation Score** for each watershed.

When describing the policies, we will tell you the current average score in the Policy Region and how it would change under the new policy. Individual lakes, rivers and streams may have Water Recreation Scores that are higher or lower than the average across the whole Policy Region.

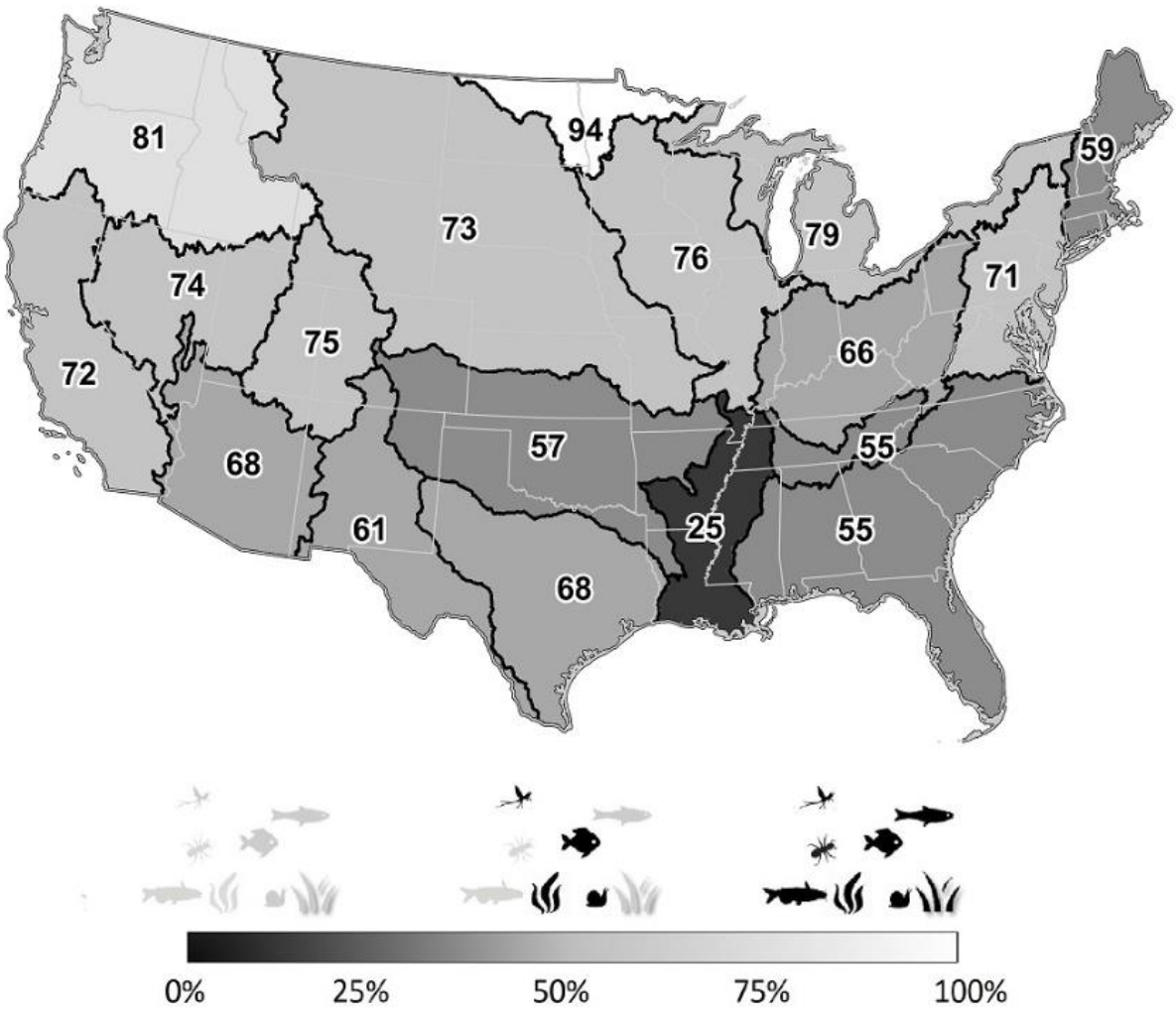


18

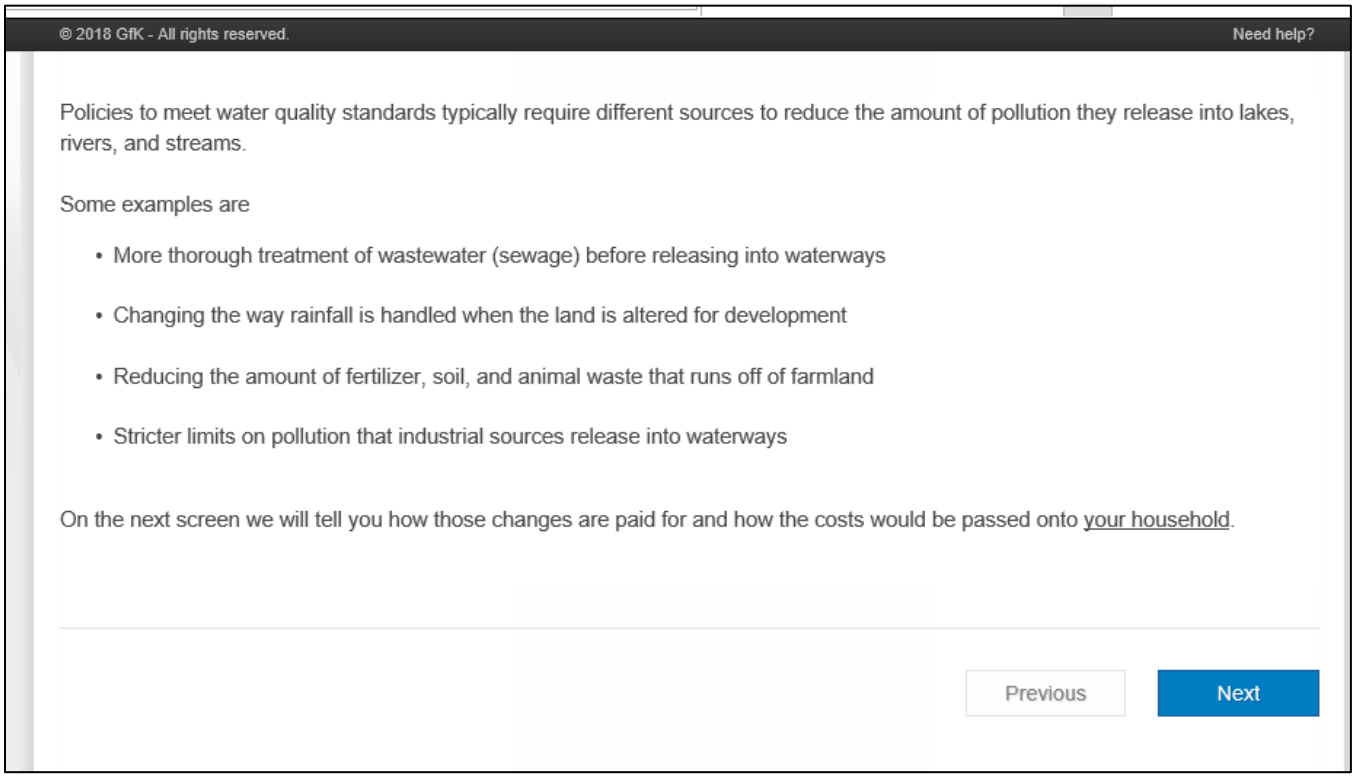
Need help?

This map shows the current average **Aquatic Biodiversity Score** for each watershed.

When describing the policies, we will tell you the current average score in the Policy Region and how it would change under the new policy. Individual lakes, rivers and streams may have Aquatic Biodiversity Scores that are higher or lower than the average across the whole Policy Region.



19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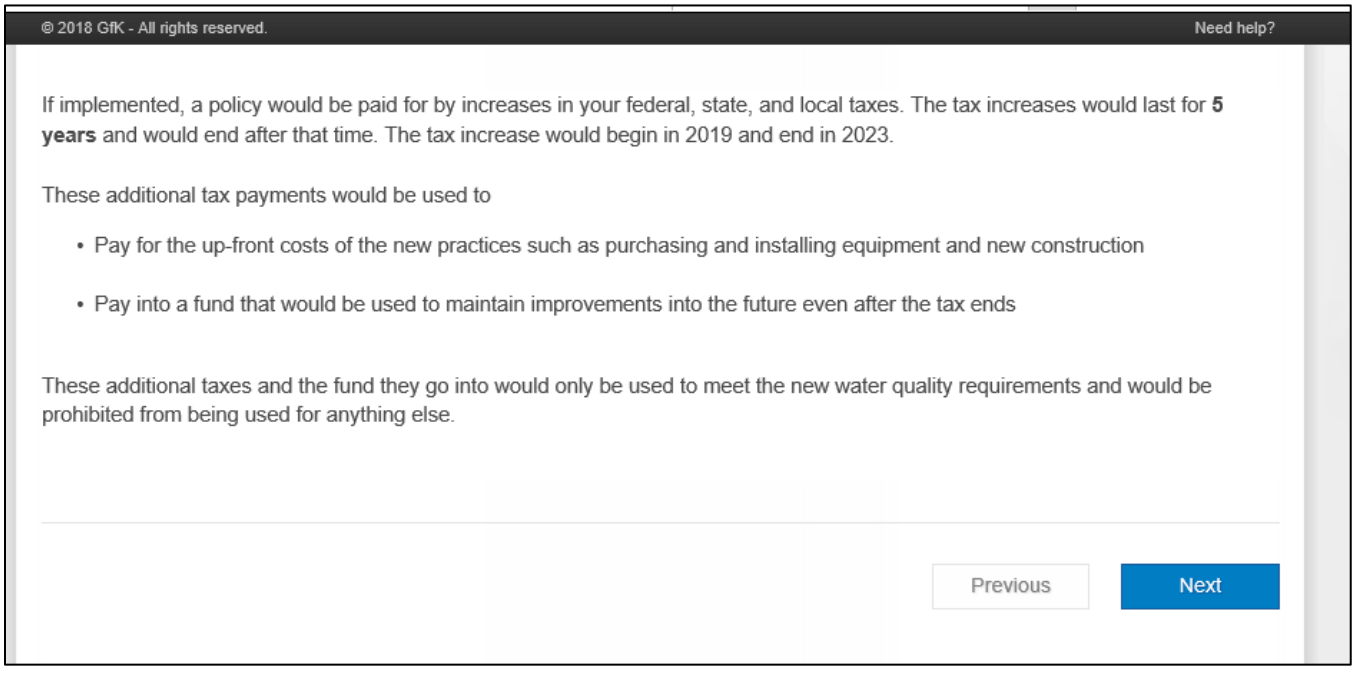
Need help?
Policies to meet water quality standards typically require different sources to reduce the amount of pollution they release into lakes, rivers, and streams.
Some examples are
• More thorough treatment of wastewater (sewage) before releasing into waterways
• Changing the way rainfall is handled when the land is altered for development
• Reducing the amount of fertilizer, soil, and animal waste that runs off of farmland
• Stricter limits on pollution that industrial sources release into waterways
On the next screen we will tell you how those changes are paid for and how the costs would be passed onto your household.
Previous
Next

20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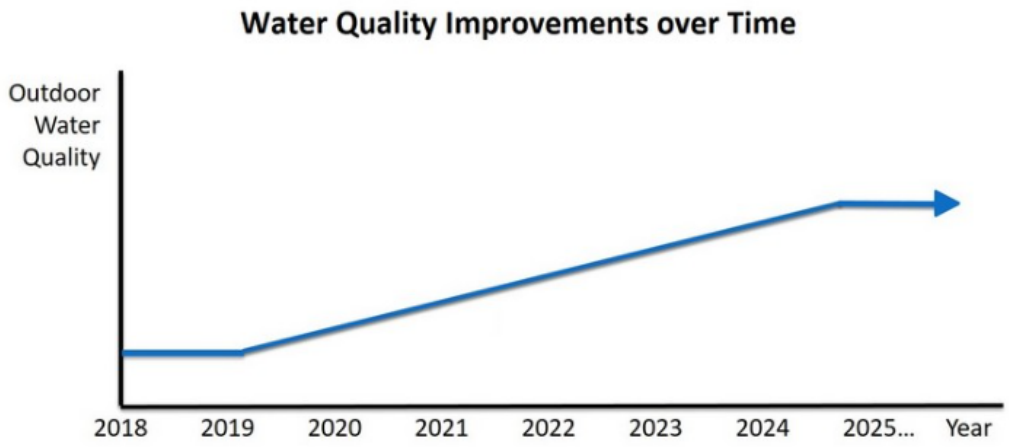
Need help?
If implemented, a policy would be paid for by increases in your federal, state, and local taxes. The tax increases would last for 5 years and would end after that time. The tax increase would begin in 2019 and end in 2023.
These additional tax payments would be used to
• Pay for the up-front costs of the new practices such as purchasing and installing equipment and new construction
• Pay into a fund that would be used to maintain improvements into the future even after the tax ends
These additional taxes and the fund they go into would only be used to meet the new water quality requirements and would be prohibited from being used for anything else.
Previous
Next

21

Need help?

If a policy is adopted...

- Water quality in the policy region would begin to gradually improve in 2019
- Water quality would reach the target level in 2025 and remain at that level for the foreseeable future



Previous

Next

21(a)

The questions on the following pages will ask you to vote for or against a particular policy. Each policy will be described using policy features you have been reading about.

The table below shows how those features might differ from one policy to another.

Policy Feature	Smallest possible policy impacts	Largest possible policy impacts
Square miles of improved waters	3,100 square miles (3% of U.S. lakes, rivers, and streams)	105,000 square miles (100% U.S. lakes, rivers, and streams)
Average Recreation Score (out of 100)	1-point improvement	10-point improvement
Average Biodiversity Score (out of 100%)	1% improvement	10% improvement
Annual cost to your household for 5 years	$20 per year for 5 years	$250 per year for 5 years

Next

22

Need help?

Your responses to this survey will be used to guide future policy decisions that, if implemented, would improve the quality of some rivers, lakes, and streams, and also increase costs to your household.

Remember, voting for a policy is just one of many different ways you can spend your money. Other things you could spend your money on, include:

- Food and clothes
- Vacations
- Education
- Donations to charitable organizations
- Resolving other environmental problems you care about

Please keep these other expenses in mind when voting for or against a policy.

You will now be asked to consider potential water quality policies.

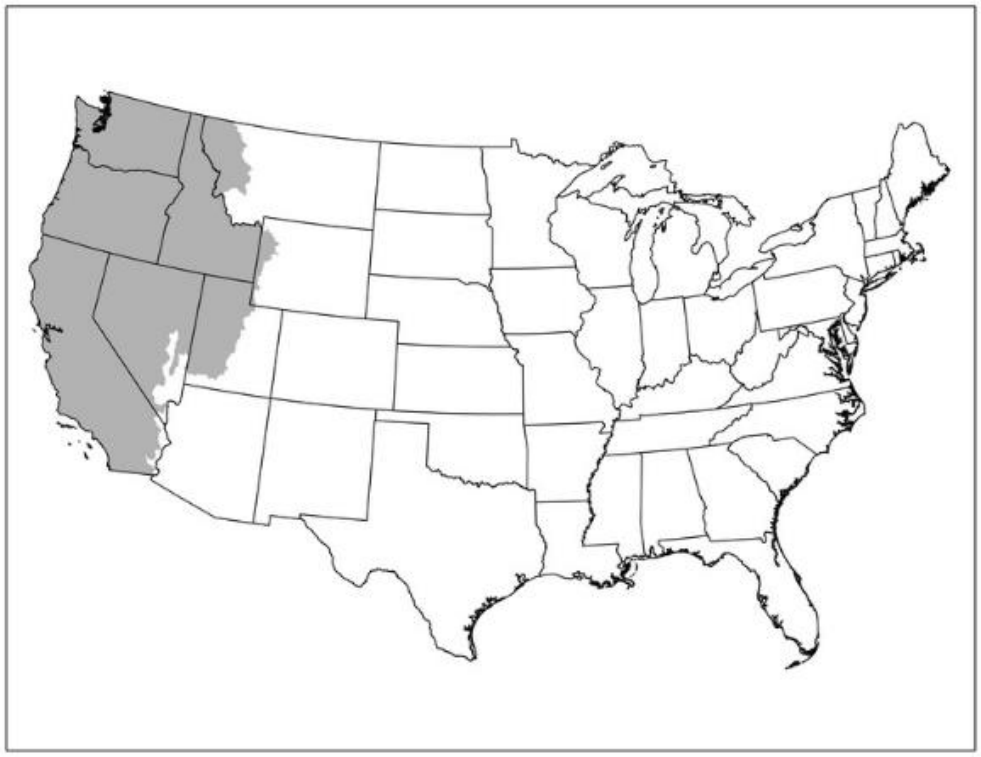
Previous Next

 Need help?

Policy Question #1

Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.



	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**8,570 square miles** (8% of US total)	**8,570 square miles** (8% of US total)
Average Recreation Score	**49** out of 100 (No change)	**57** out of 100 (8-point improvement)
Average Biodiversity Score	**77%** of species found (No change)	**87%** of species found (10% improvement)
Increase in your annual taxes for 5 years	**$0**	**$75 per year for 5 years**
Please select your preferred option:	○ **No Policy**	○ **This Policy**

 Need help?

The next question asks you to vote on a different policy.

Please disregard the previous question, and now imagine that the policy in the next question is the only one available.

Policies in *different* questions should not be compared to each other.

Do not add up water quality improvements or costs across different questions.

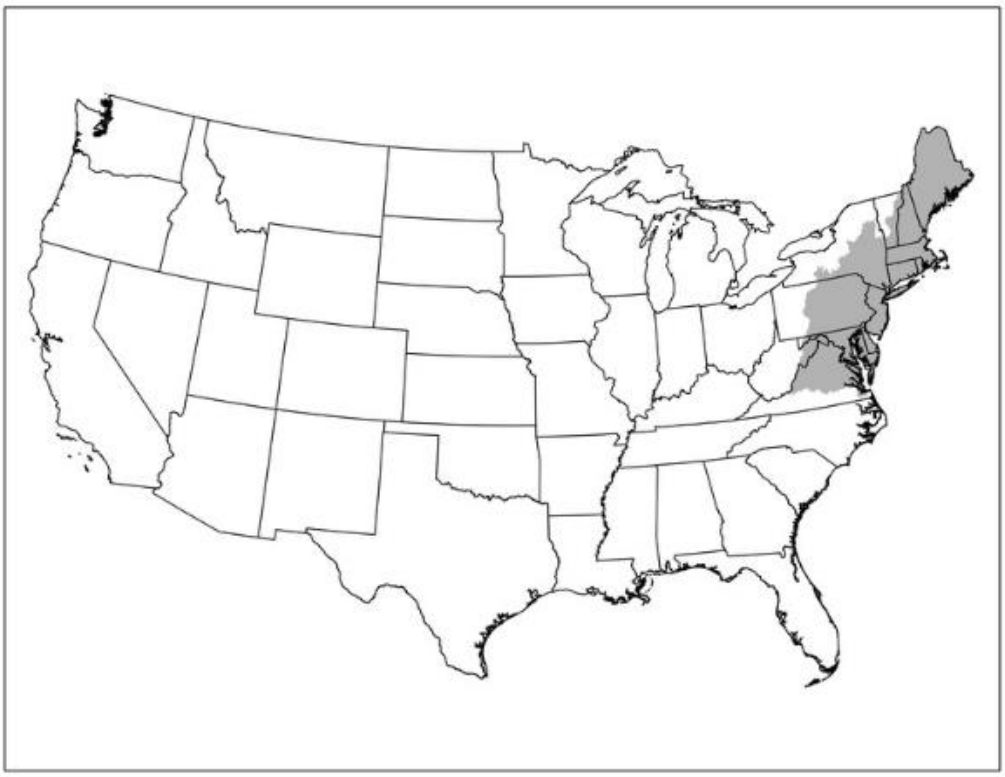
25

 Need help?

Policy Question #2

Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.



	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**5,720 square miles** (5% of US total)	**5,720 square miles** (5% of US total)
Average Recreation Score	**58** out of 100 (No change)	**66** out of 100 (8-point improvement)
Average Biodiversity Score	**79%** of species found (No change)	**81%** of species found (2% more aquatic species)
Increase in your annual taxes for 5 years	**$0**	**$20 per year for 5 years**
Please select your preferred option:	○ **No Policy**	○ **This Policy**

26

Need help?

The next question asks you to vote on a different policy.

Remember:
Please disregard the previous questions, and now imagine that the policy in the next question is the only one available.

Policies in *different* questions should not be compared to each other.

Do not add up water quality improvements or costs across different questions.

27

 Need help?

Policy Question #3

Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.

	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**105,000 square miles** (100% of US total)	**105,000 square miles** (100% of US total)
Average Recreation Score	**50** out of 100 (No change)	**52** out of 100 (2-point improvement)
Average Biodiversity Score	**83%** of species found (No change)	**88%** of species found (5% more aquatic species)
Increase in your annual taxes for 5 years	**$0**	**$150 per year for 5 years**
Please select your preferred option:	○ **No Policy**	○ **This Policy**

28

The next question asks you to vote on a different policy.

Remember:
Please disregard the previous questions, and now imagine that the policy in the next question is the only one available.

Policies in *different* questions should not be compared to each other.

Do not add up water quality improvements or costs across different questions.

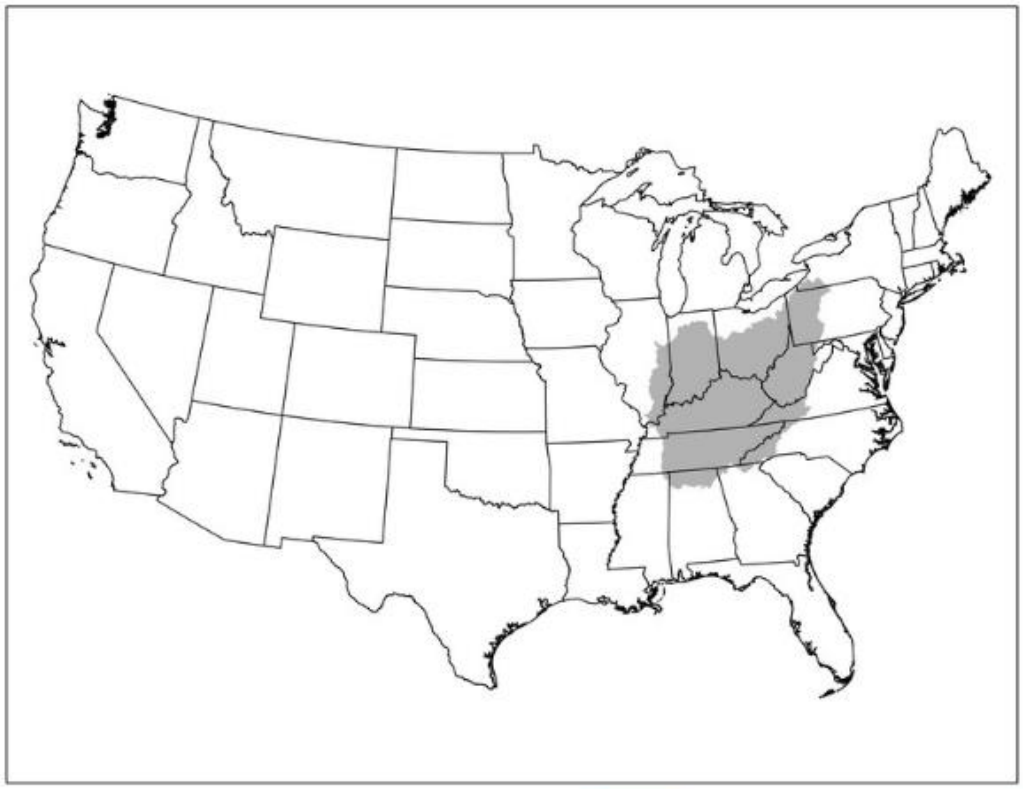
29

 Need help?

Policy Question #4

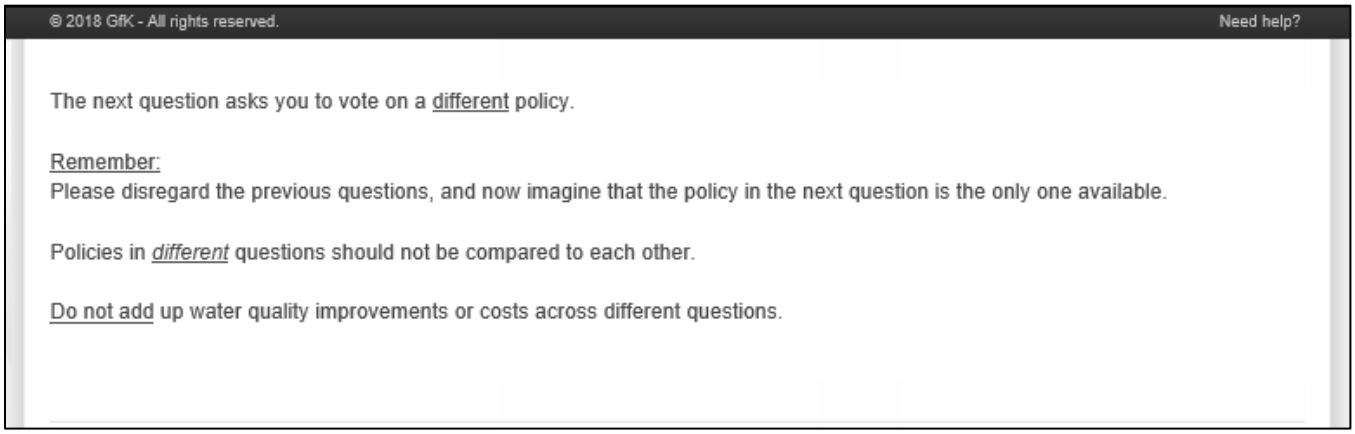
Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.



	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**3,100 square miles** (3% of US total)	**3,100 square miles** (3% of US total)
Average Recreation Score	**54** out of 100 (No change)	**55** out of 100 (1-point improvement)
Average Biodiversity Score	**77%** of species found (No change)	**79%** of species found (2% improvement)
Increase in your annual taxes for 5 years	**$0**	**$75 per year for 5 years**
Please select your preferred option:	○ **No Policy**	○ **This Policy**

30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Need help?
The next question asks you to vote on a different policy.
Remember:
Please disregard the previous questions, and now imagine that the policy in the next question is the only one available.
Policies in different questions should not be compared to each other.
Do not add up water quality improvements or costs across different questions.

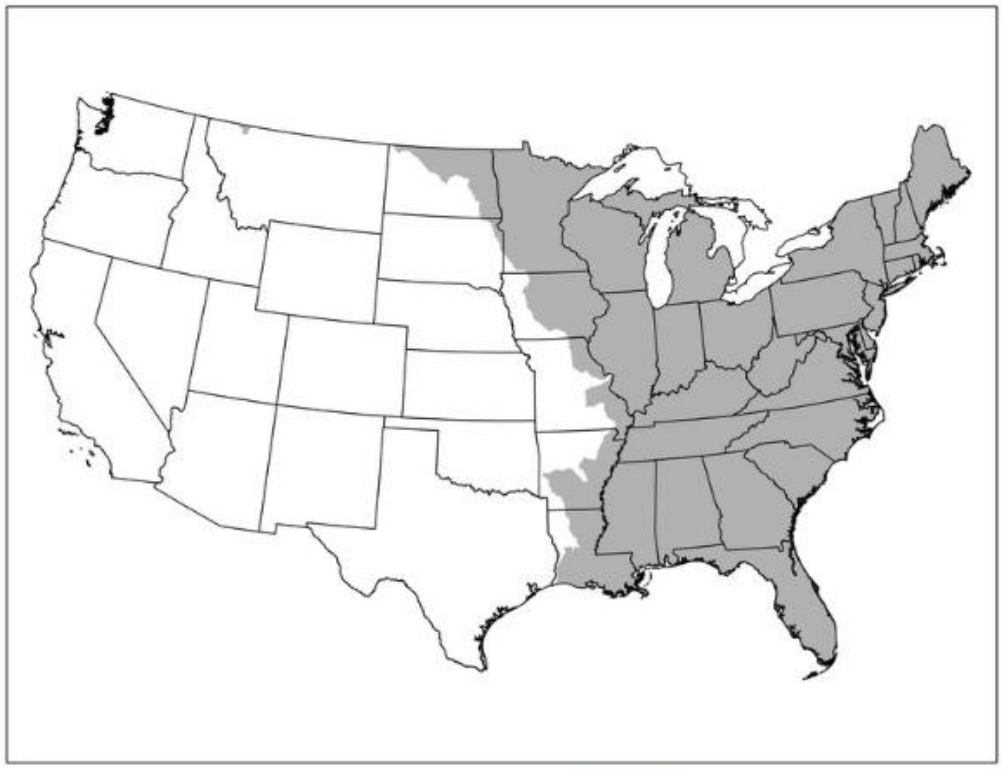
31

Need help?

Policy Question #5

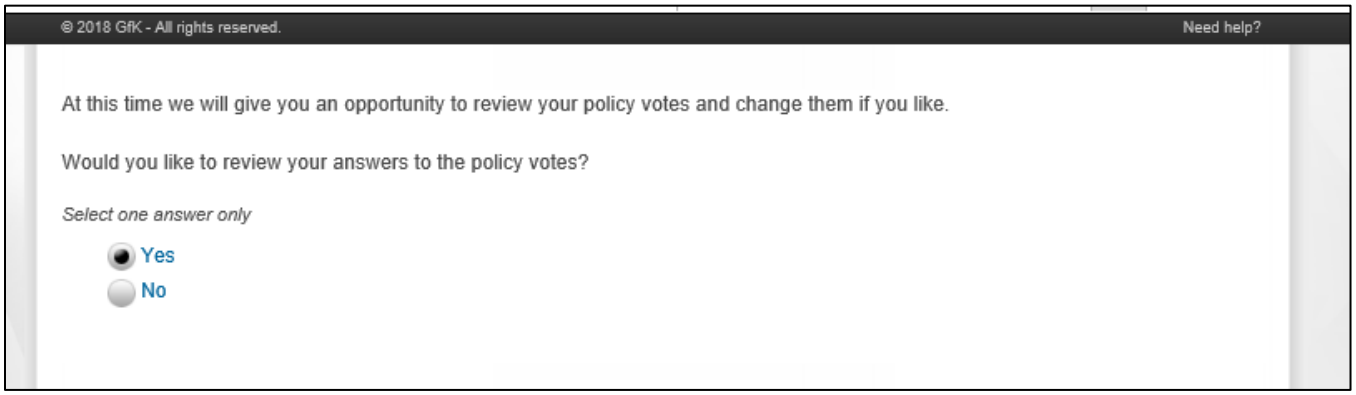
Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.



	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**83,400 square miles** (79% of US total)	**83,400 square miles** (79% of US total)
Average Recreation Score	**51** out of 100 (No change)	**52** out of 100 (1-point improvement)
Average Biodiversity Score	**83%** of species found (No change)	**93%** of species found (10% improvement)
Increase in your annual taxes for 5 years	**$0**	**$50 per year for 5 years**
Please select your preferred option:	○ **No Policy**	○ **This Policy**

32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Need help?
At this time we will give you an opportunity to review your policy votes and change them if you like.
Would you like to review your answers to the policy votes?
Select one answer only
Yes
No

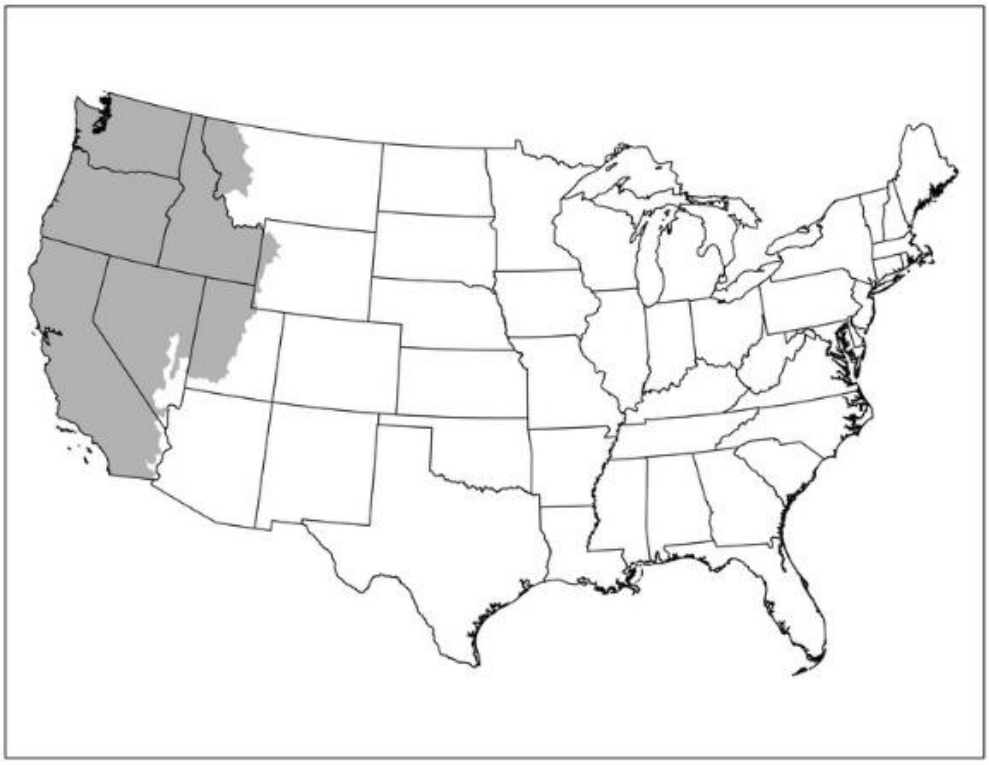
33

Need help?

Below is your response to policy question 1. You can change it or keep it the same.

Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.



	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**8,570 square miles** (8% of US total)	**8,570 square miles** (8% of US total)
Average Recreation Score	**49** out of 100 (No change)	**57** out of 100 (8-point improvement)
Average Biodiversity Score	**77%** of species found (No change)	**87%** of species found (10% improvement)
Increase in your annual taxes for 5 years	**$0**	**$75 per year for 5 years**
Please select your preferred option:	○ No Policy	● This Policy

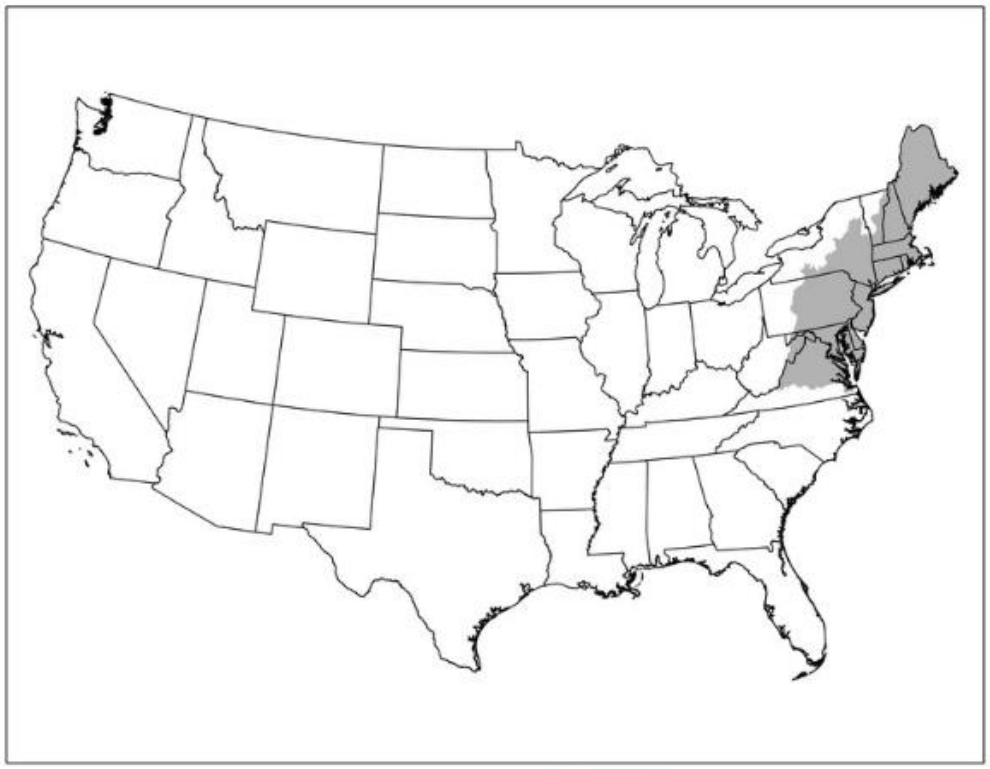
34

 Need help?

Below is your response to policy question 2. You can change it or keep it the same.

Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.



	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**5,720 square miles** (5% of US total)	**5,720 square miles** (5% of US total)
Average Recreation Score	**58** out of 100 (No change)	**66** out of 100 (8-point improvement)
Average Biodiversity Score	**79%** of species found (No change)	**81%** of species found (2% more aquatic species)
Increase in your annual taxes for 5 years	**$0**	**$20 per year for 5 years**
Please select your preferred option:	○ No Policy	○ This Policy

35

Need help?

Below is your response to policy question 3. You can change it or keep it the same.

Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.

	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**105,000 square miles** (100% of US total)	**105,000 square miles** (100% of US total)
Average Recreation Score	**50** out of 100 (No change)	**52** out of 100 (2-point improvement)
Average Biodiversity Score	**83%** of species found (No change)	**88%** of species found (5% more aquatic species)
Increase in your annual taxes for 5 years	**$0**	**$150 per year for 5 years**
Please select your preferred option:	○ No Policy	◉ This Policy

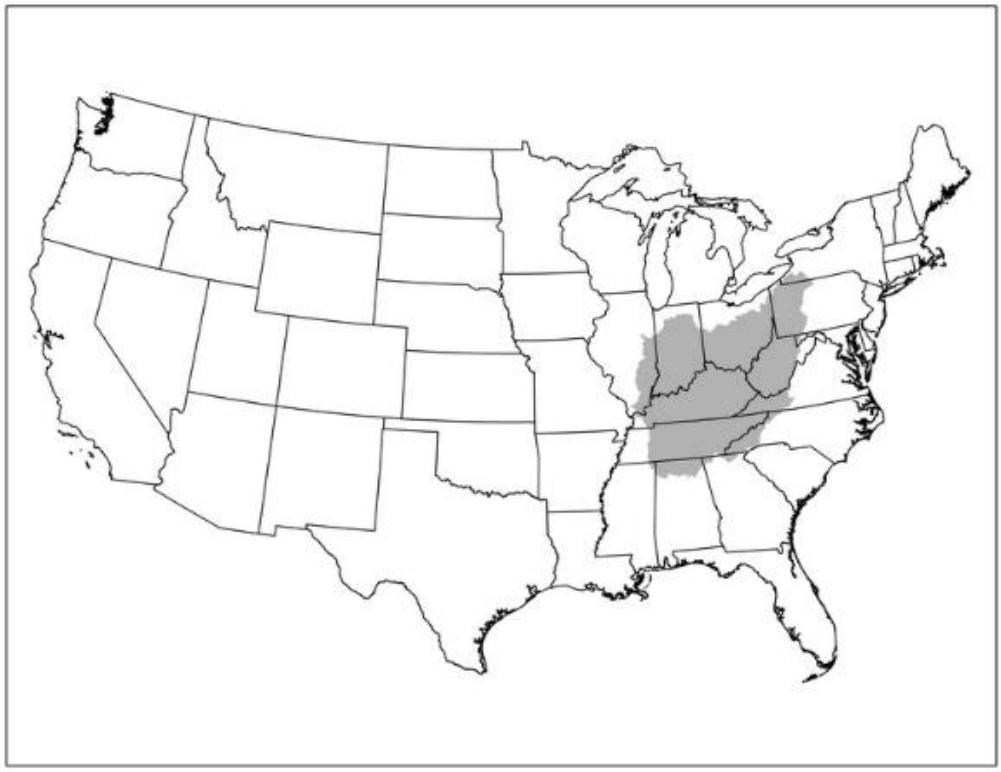
36

 Need help?

Below is your response to policy question 4. You can change it or keep it the same.

Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.



	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**3,100 square miles** (3% of US total)	**3,100 square miles** (3% of US total)
Average Recreation Score	**54** out of 100 (No change)	**55** out of 100 (1-point improvement)
Average Biodiversity Score	**77%** of species found (No change)	**79%** of species found (2% improvement)
Increase in your annual taxes for 5 years	**$0**	**$75 per year for 5 years**
Please select your preferred option:	○ **No Policy**	○ **This Policy**

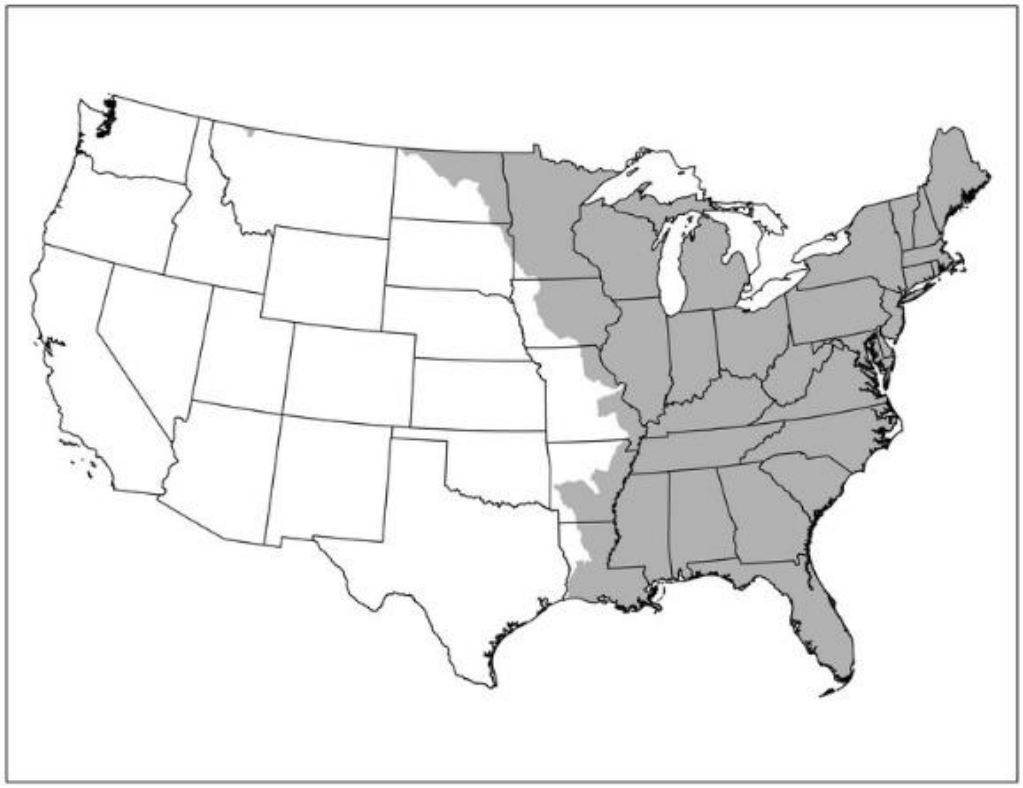
37

 Need help?

Below is your response to policy question 5. You can change it or keep it the same.

Water quality changes described below would only happen in the gray region of the map.

The costs shown would be paid by your household.



	No Policy	With Policy
Square miles of lakes, rivers, and streams in policy region	**83,400 square miles** (79% of US total)	**83,400 square miles** (79% of US total)
Average Recreation Score	**51** out of 100 (No change)	**52** out of 100 (1-point improvement)
Average Biodiversity Score	**83%** of species found (No change)	**93%** of species found (10% improvement)
Increase in your annual taxes for 5 years	**$0**	**$50 per year for 5 years**
Please select your preferred option:	◉ No Policy	○ This Policy

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Thinking about how you answered all the voting questions, please rate how much you agree or disagree with the following statements.

Select one answer from each row in the grid

	Strongly Disagree 1	2	3	4	Strongly Agree 5
I am certain that I voted the same way I would if given the same choice in reality.	○	○	○	○	○
I voted as if my household would actually face the costs shown.	○	○	○	○	○
I voted as if the policies would actually achieve the improvements in water quality shown.	○	○	○	○	○
It is important to improve water quality, no matter how high the costs.	○	○	○	○	○
I am against any more regulations and government spending.	○	○	○	○	○
I want better water quality, but my household should not have to pay additional taxes to get it.	○	○	○	○	○
I don't care much about water recreation or aquatic biodiversity, but I strongly support improving the environment in general.	○	○	○	○	○
The data collected with this survey will be used to inform policy makers.	○	○	○	○	○

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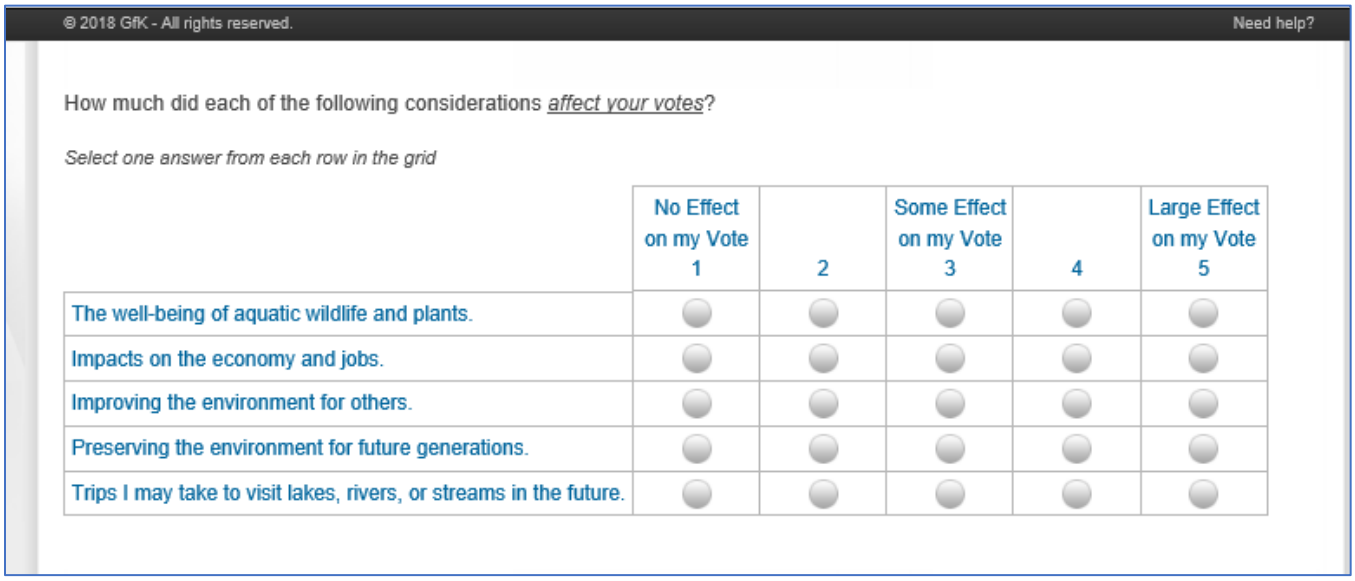
 Need help?

When choosing whether to vote for the policies or not, how much did each of the following *policy features* affect your votes?

Select one answer from each row in the grid

	No Effect on my Vote 1	2	Some Effect on my Vote 3	4	Large Effect on my Vote 5
Distance of the Policy Region from your home	○	○	○	○	○
The square miles of lakes, rivers, and streams (or % of U.S. total) in the policy region	○	○	○	○	○
Improvements in the Recreation Score	○	○	○	○	○
Improvements in the Aquatic Biodiversity Score	○	○	○	○	○
The cost in additional taxes	○	○	○	○	○

40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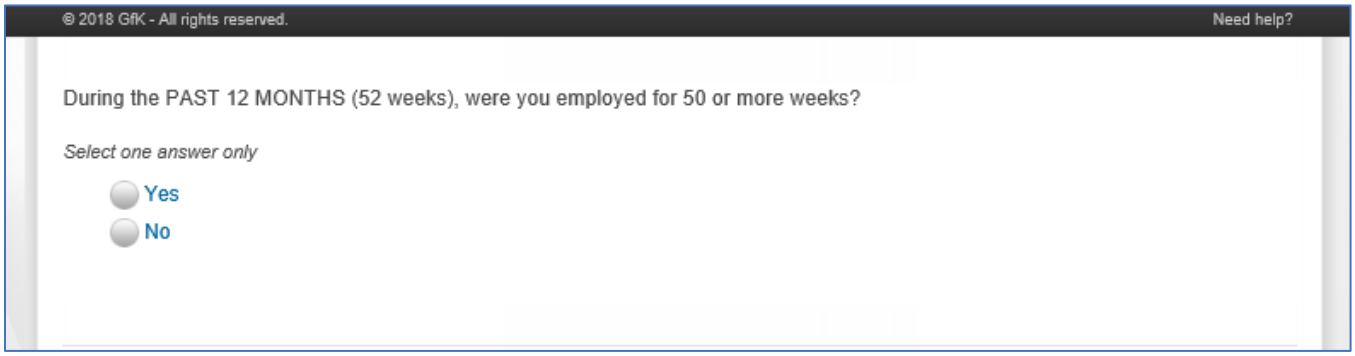
Need help?
How much did each of the following considerations affect your votes?
Select one answer from each row in the grid
No Effect on my Vote 1
2
Some Effect on my Vote 3
4
Large Effect on my Vote 5
The well-being of aquatic wildlife and plants.
Impacts on the economy and jobs.
Improving the environment for others.
Preserving the environment for future generations.
Trips I may take to visit lakes, rivers, or streams in the future.

41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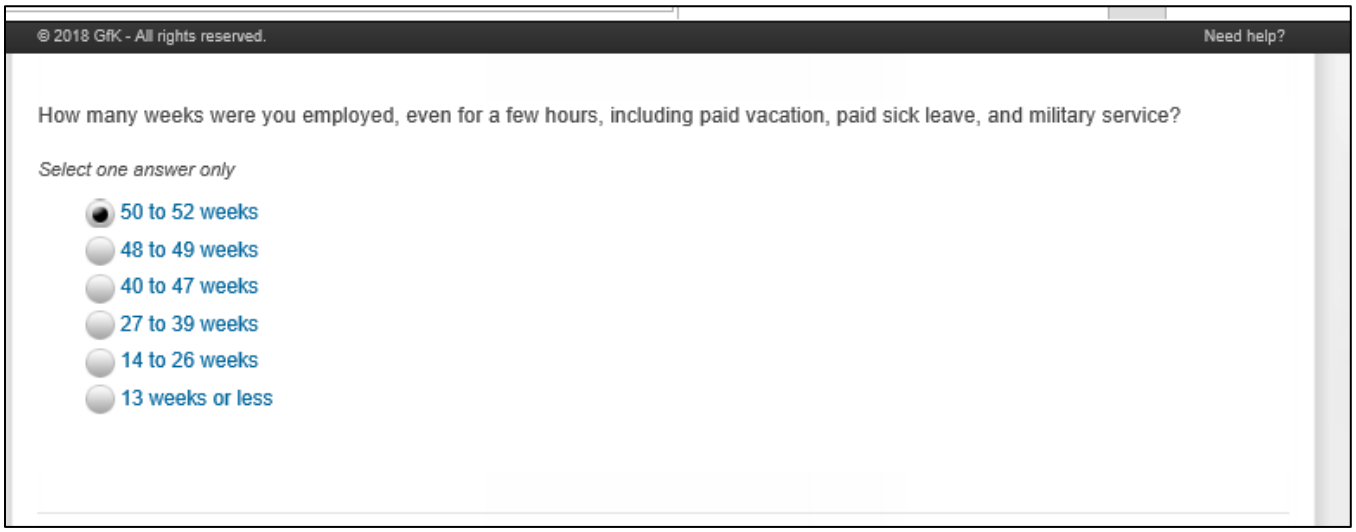
Need help?
During the PAST 12 MONTHS (52 weeks), were you employed for 50 or more weeks?
Select one answer only
Yes
No

42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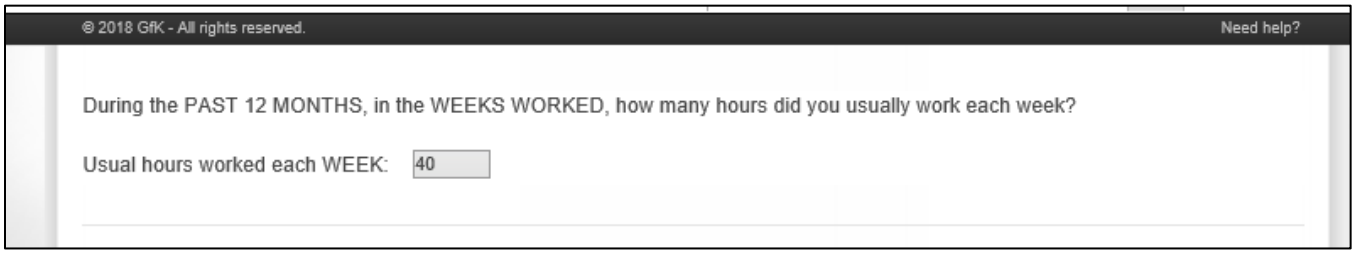
Need help?
How many weeks were you employed, even for a few hours, including paid vacation, paid sick leave, and military service?
Select one answer only
50 to 52 weeks
48 to 49 weeks
40 to 47 weeks
27 to 39 weeks
14 to 26 weeks
13 weeks or less

43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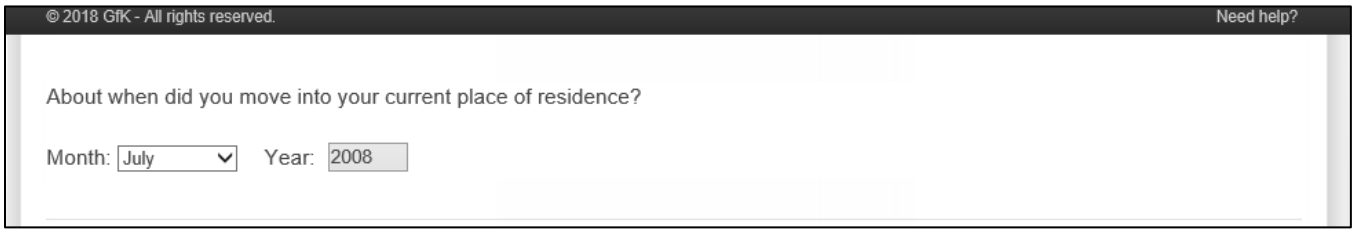
Need help?
During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did you usually work each week?
Usual hours worked each WEEK: 40

44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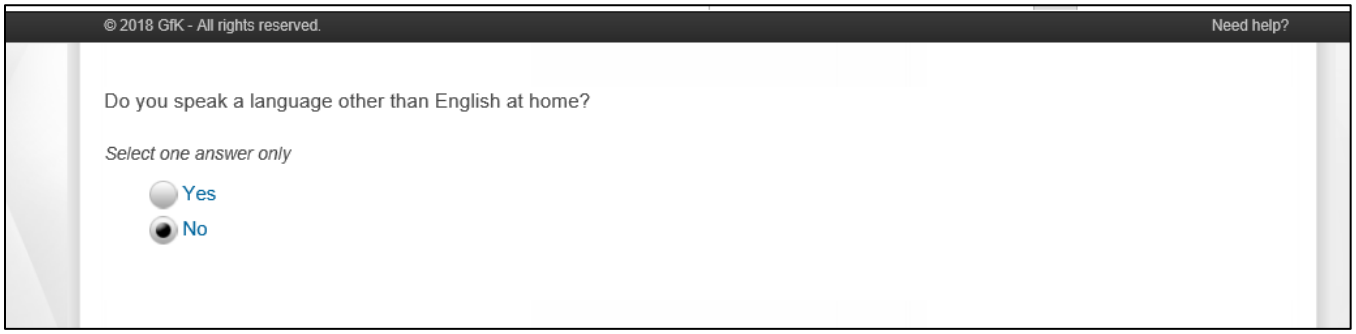
Need help?
About when did you move into your current place of residence?
Month: July
Year: 2008

45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Need help?
Do you speak a language other than English at home?
Select one answer only
Yes
No

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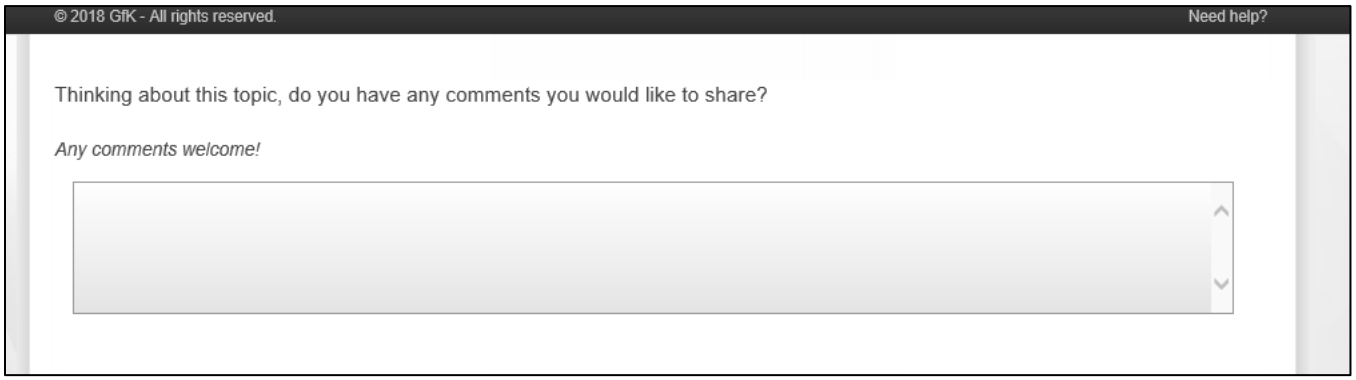
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Need help?
Thinking about this topic, do you have any comments you would like to share?
Any comments welcome!