

Public Perceptions, Preferences and Values for Water In the West

Interdisciplinary Water Resources Seminar
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What are Public Perceptions, Preferences and Values for Water?

- Increasing scarcity as population increases ...
- Water development and a reallocation of use will continue ...
- Reallocation includes a legislative agenda and the allocation of public funds.

What are Public Perceptions, Preferences and Values for Water?

Today's Focus:

What are municipal households' perceptions of scarcity and water use in the West?

What strategies do households rank as the "best" when setting priorities for meeting future needs?

What are households willing to pay for?

Eliciting Public Preferences, Values and Perceptions

Survey Methodology

- Two focus groups (non-technical and technical) used to develop a multi-faceted questionnaire.
- Email invitation to an internet survey
 - 6,250 municipal household respondents in 17 Western states.
 - 535 municipal household respondents in Colorado
- Results weighted to reflect US Census demographics on gender, income and population (West).

What are Public Perceptions, Preferences and Values for Water?

PERCEPTIONS OF WATER USE

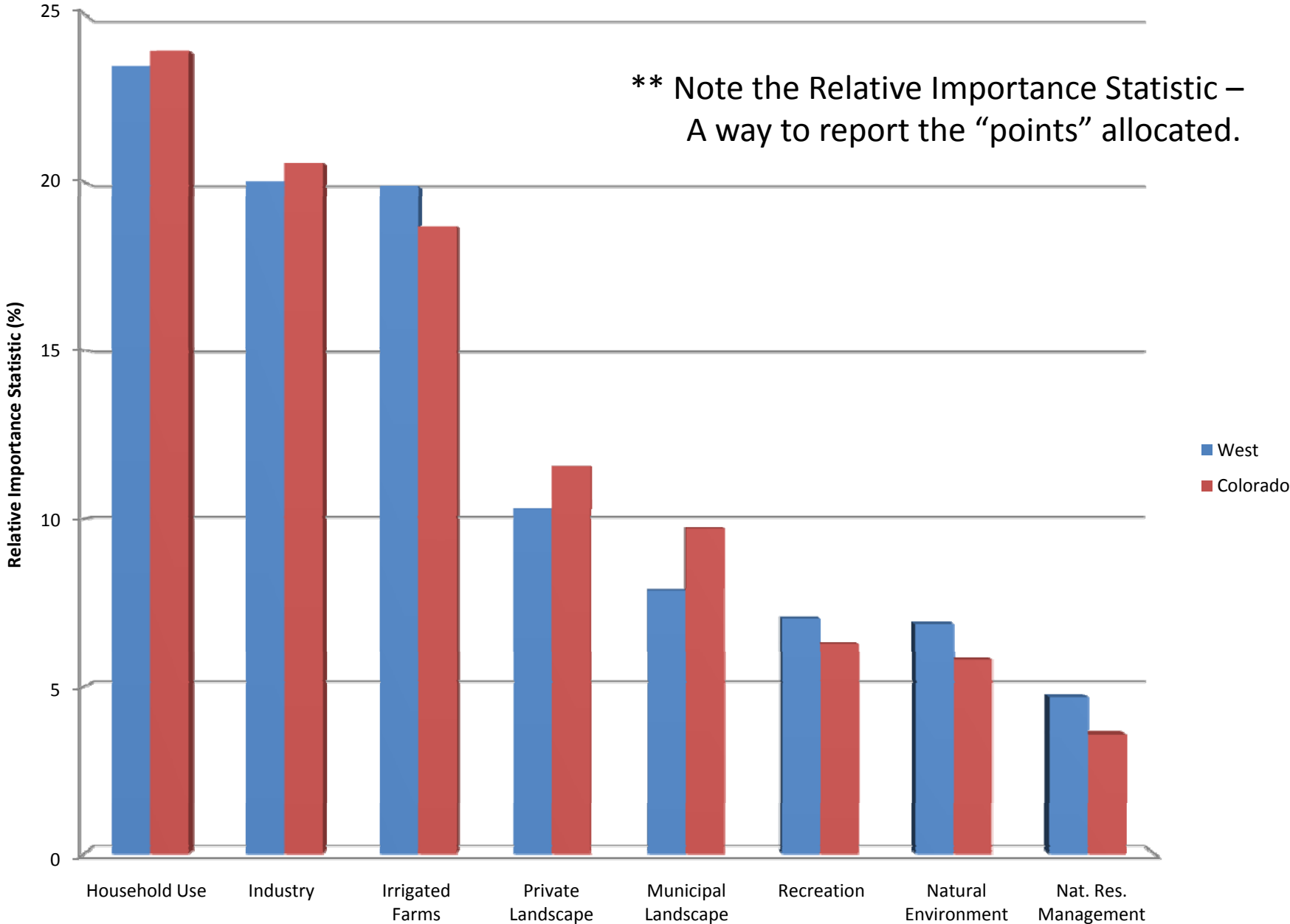
Perceptions of water use ...

Question: Water is used in a number of ways in the West. Listed below are common uses of water.

- A. *natural environment,*
- B. *natural resource management,*
- C. *household use,*
- D. *private landscapes,*
- E. *industry,*
- F. *irrigated farms,*
- G. *municipal landscapes,*
- H. *and recreation*

Consider the uses listed above. Which three uses requires the most water available in your state?

Perceptions of water use ...



What are Public Perceptions, Preferences and Values for Water?

WATER SCARCITY PERCEPTIONS

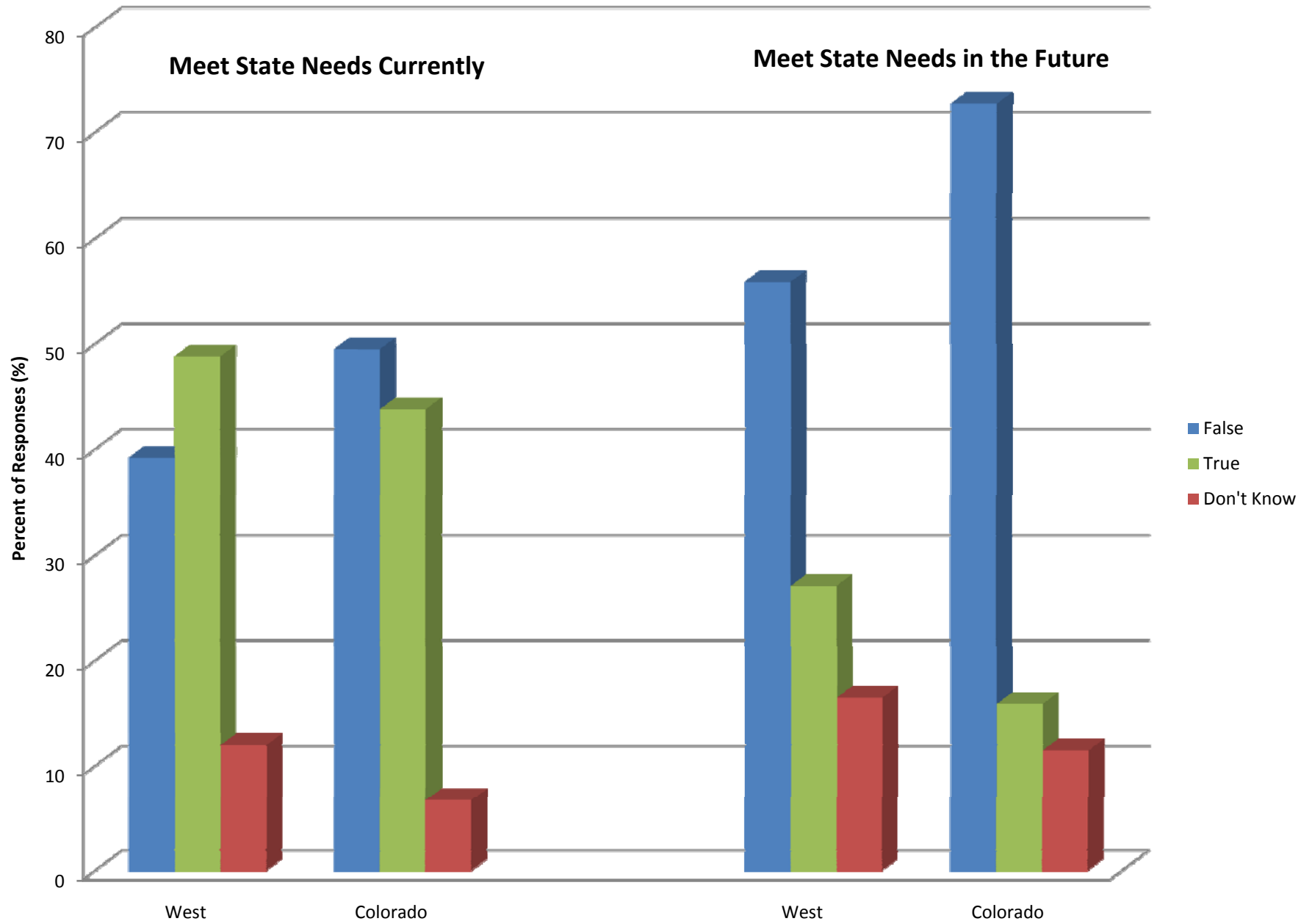
Perceptions of water scarcity ...

Question: Indicate the extent to which you believe each of the following statements is true or false regarding water supplies in your state and in the West. If you cannot say whether it is true or false, select I don't know.

- (a) There is enough water in my state to meet current needs of all the people and businesses in my state.

- (b) There is enough water in my state to meet future needs of all the people and businesses in my state for the next 25 years.

Perceptions of water scarcity ...



What are Public Perceptions, Preferences and Values for Water?

SHORT TERM DROUGHT PRIORITIES

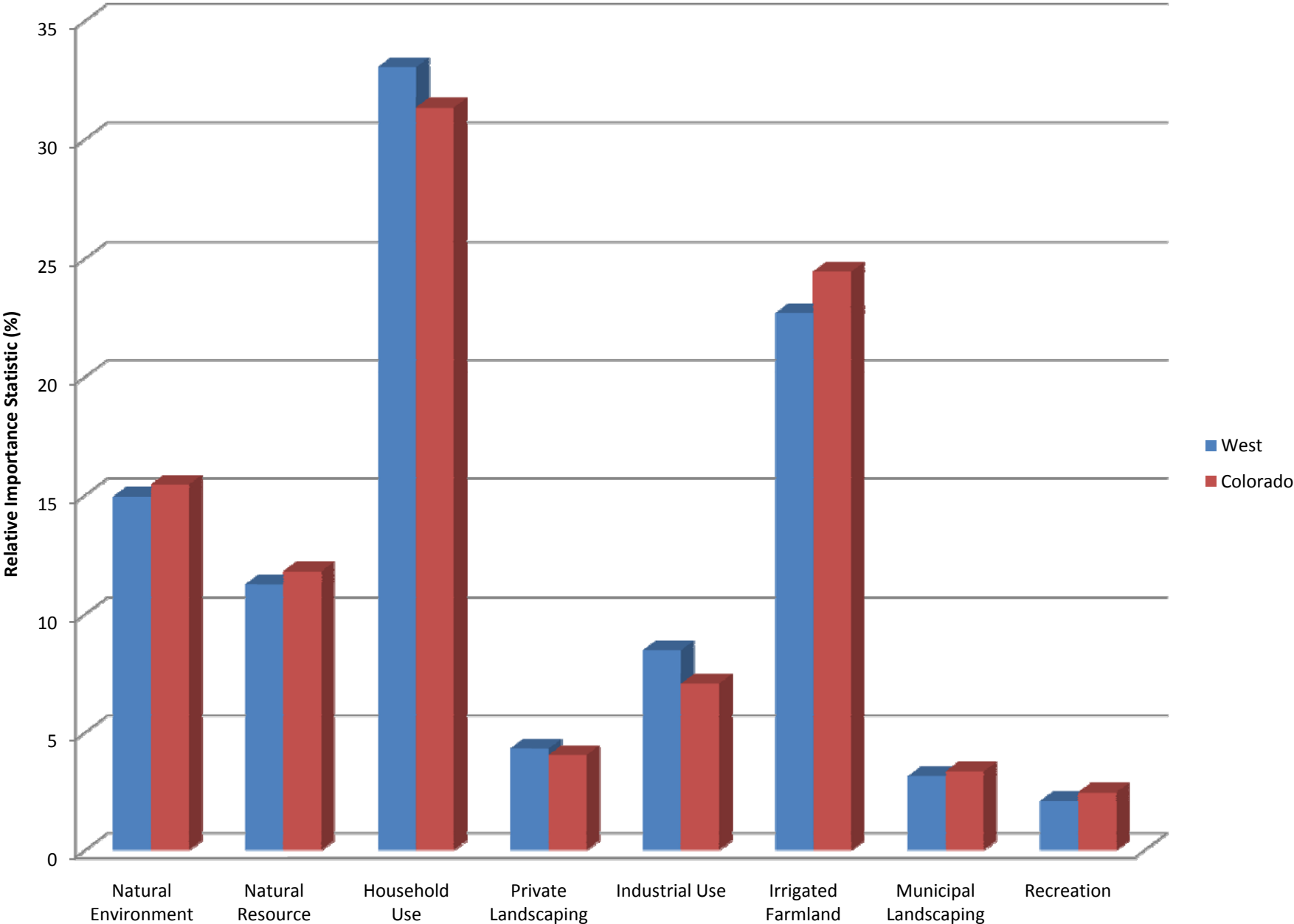
Water use priorities ...

Question: At times, your state has experienced temporary (less than 2 years) water shortages. During these times, there may not be enough water to adequately provide for all water uses. Listed below are 8 uses for which water might be allocated when water is limited.

- A. *natural environment,*
- B. *natural resource management,*
- C. *household use,*
- D. *private landscapes,*
- E. *industry,*
- F. *irrigated farms,*
- G. *municipal landscapes,*
- H. *and recreation*

Consider the 8 water uses. If you had to select 3 of the above uses to allocate water to when water is limited, which 3 uses do you think should receive 1st, 2nd and 3rd priority.

Water use priorities ...



What are Public Perceptions, Preferences and Values for Water?

MUNICIPAL RESPONSE TO DROUGHT

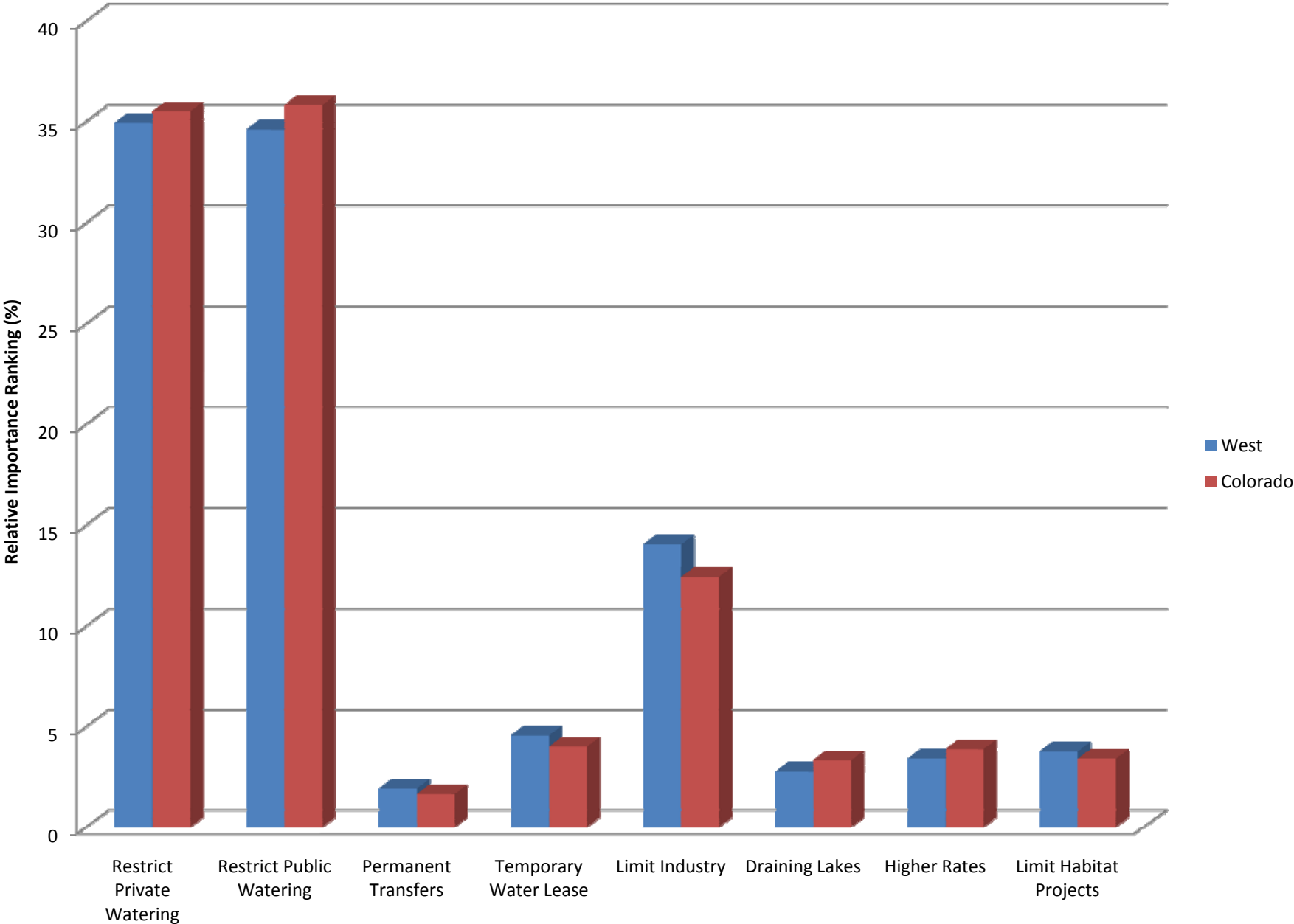
Water strategies in short-term scarcity...

Question: During times when water availability is limited (such as during a short-term drought lasting less than two years), a city may adopt several strategies to ensure it has enough water. Listed below are eight strategies a city might consider.

- A. Restricting the amount of water that can be used on private lawns and landscapes.
- B. Restricting the amount of water that can be used on public landscapes (e.g., parks and golf courses).
- C. Permanently transferring water from farms to the city.
- D. Temporarily renting water from farms to the city.
- E. Restricting the amount of water that can be used by industry (e.g., commercial manufacturing, mining, or power plants).
- F. Draining reservoirs and lakes.
- G. Increasing water rates (bills) paid by private households.
- H. Putting a limit on water projects that help protect wildlife and fish habitat.

Consider the 8 water strategies. If you had to adopt 3 of the above strategies, which do you think would be best?

Water strategies in short-term scarcity...



What are Public Perceptions, Preferences and Values for Water?

LONG TERM WATER NEEDS

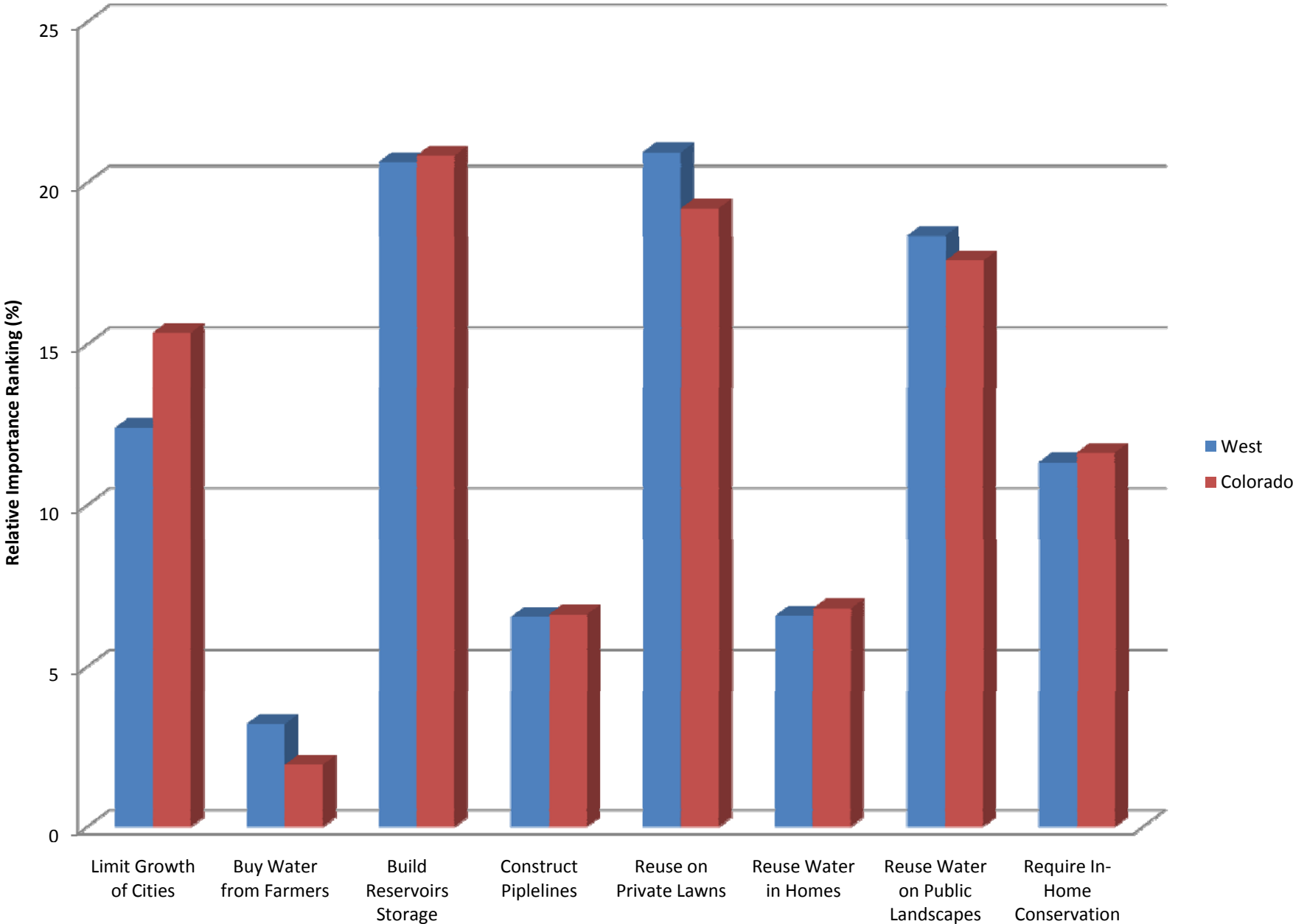
Water development in the long run ...

Question: Increasing population in the West means that cities will need more water in the long run (more than ten years in the future) Below are 8 strategies that cities might consider to ensure adequate water supplies for the future.

- A. Reusing waste water on private lawns and landscapes (e.g., homes and private businesses).
- B. Reusing waste water on public landscapes (e.g., parks and golf courses).
- C. Building reservoirs and other storage projects.
- D. Limiting the growth of cities to a level that is supported by a sustainable water supply.
- E. Requiring that households take steps to conserve water (e.g., use low flow toilets).
- F. Constructing pipelines.
- G. Reusing waste water, after it is treated, for use within the home.
- H. Buying water from farmers.

Consider the 8 water strategies. If you had to adopt 3 of the above strategies, which do you think would be best?

Water development in the long run ...



What are Public Perceptions, Preferences and Values for Water?

FUNDING LONG TERM NEEDS

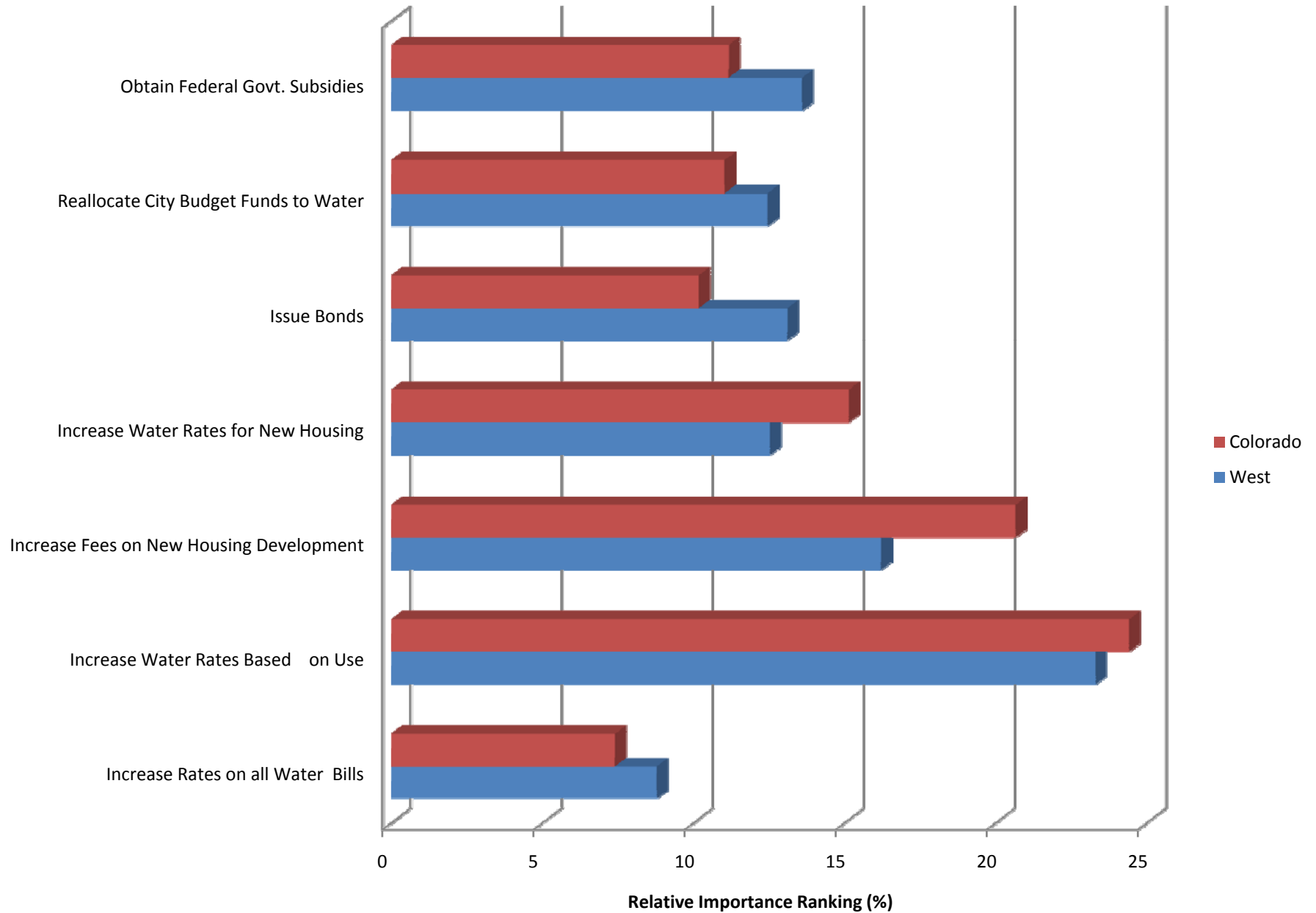
Funding long run water needs ...

Question: It costs money to acquire water for long term needs. Below are 7 funding options that cities might adopt in order to acquire long term needs.

- A. Increase rates on all water bills.
- B. Increase water rates for households that use more water.
- C. Increase fees on new homes and new housing developments.
- D. Increase water rates for new housing developments.
- E. Issue city or municipal district bonds.
- F. Re-allocate funds from other parts of the city budget to pay for water.
- G. Obtain subsidies from the federal government.

Consider the 7 funding options for acquiring water for long term needs above. If you had to select 3 which do you think would be the best?

Funding long run water needs ...



What are Public Perceptions, Preferences and Values for Water?

PAYING A FEE AND ITS ALLOCATION

Paying a fee and its allocation ...

Question: Water providers might consider increasing water rates in order to find new sources of water, to pay for water conservation programs, or to help with problems that may arise as water is shifted from cities to other areas. Would you pay an additional **\$5 per month** on your water bill during the summer months if the fee was divided among the following programs:

- A. Implement programs to reduce household water consumption.
- B. Construct a reservoir for storage.
- C. Create a system to reuse water for public landscapes.
- D. Set aside water for wildlife habitat in nearby streams.
- E. To keep irrigated farms in production
- F. Make infrastructure improvements in rural communities to compensate for water being transferred from farms to cities.
- G. Set aside water for public based recreation.
- H. Provide subsidies for water efficient appliances for those that cannot afford them.

Whether you support an additional increase on your water bill or not, and the additional fee was added, where would you want the money to go? Indicate the percentage that each program should receive.

Paying a fee and its allocation ...

	West	Colorado
Willing to pay a fee of ...		
proportion of those asked to pay \$ 5 that checked yes	66.6%	70.2%
proportion of those asked to pay \$10 that checked yes	58.8%	65.5%
proportion of those asked to pay \$15 that checked yes	50.4%	57.9%
proportion of those asked to pay \$20 that checked yes	45.9%	39.6%
proportion of those asked to pay \$25 that checked yes	39.6%	44.8%
Desired Fee Recipient		
Construct a reservoir for storage.	19.8%	20.4%
Keep irrigated farms in production.	19.7%	21.6%
Create a system to reuse water for public landscapes.	19.2%	19.4%
Implement programs to reduce household water consumption.	16.1%	16.3%
Set aside water for wildlife habitat in nearby streams.	13.8%	14.0%
Provide subsidies for water-efficient appliances for those who cannot afford them.	12.3%	12.0%
Make infrastructure improvements in rural communities to compensate for water being transferred from farms to cities.	7.2%	6.8%
Set aside water for public-based recreation.	6.5%	6.6%

Concluding Remarks

- Households perceive scarcity but may not recognize current water allocation.
- Priorities are for household and agricultural use.
- General support for reservoirs (specific?), reuse, and keeping water in agriculture.
- Willing to charge fees for increased use, new residents, as well as manage growth.
- More work to be done.