Utah's Water Future

Local Perspectives on Water Issues in Logan City & Beyond

Summary Report of the 2014 Household Survey Findings

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Overview

In the summer of 2014, researchers from Utah State University, the University of Utah and the iUTAH Project (innovative Urban Transitions and Aridregion Hydro-sustainability) undertook a large survey of households on water issues across 23 neighborhoods in Cache Valley, Salt Lake Valley, and Heber Valley. Our goal was to assess household water use and resident perspectives on water issues within their city, valley, and state.

We used a "Drop-off/Pick-up" method where 16-page surveys were dropped off with willing, eligible participants at randomly selected households in the study neighborhoods and picked up from their front door within a day or two. When we were unable to reach residents, surveys were sent by mail. Participants had the option to request results, and those reports will be sent in early 2015.

The following topics that were included in the survey are presented in this report:

I. Household Water Uses & Perspectives
- A. Familiarity with Water Use
- B. Lawn and Outdoor Watering
- C. Use of Water Conservation Practices
- D. Motivations to Conserve
- E. Secondary Water Systems

II. Water Perspectives & Experiences
- A. Perceptions of Water Supply
- B. Risk Perceptions
- C. Perceptions about Water Use and Water Quality
- D. Experience with Flooding
- E. Climate Change Perspectives

III. Water Policy & Management Perspectives
- A. Support for Local Water Management Strategies and Policies
- B. Support for State Water Strategies

IV. Additional Information
- A. Water Information Sources
- B. Satisfaction with Neighborhood and Community

This report highlights survey data findings for **five neighborhoods in Logan City in Cache Valley, Utah:** Downtown, Bridger, Island, Cliffside and Green Meadows. We include comparisons with results from other Cache Valley neighborhoods and Heber, and Salt Lake Valleys[1]. Additional information can be found at www.iutahepsecor.org/hhsurvey.

[1] More detailed information is available upon request from the project coordinator, Dr. Douglas Jackson-Smith who can be reached at (435) 797-0582 or doug.jackson-smith@usu.edu.

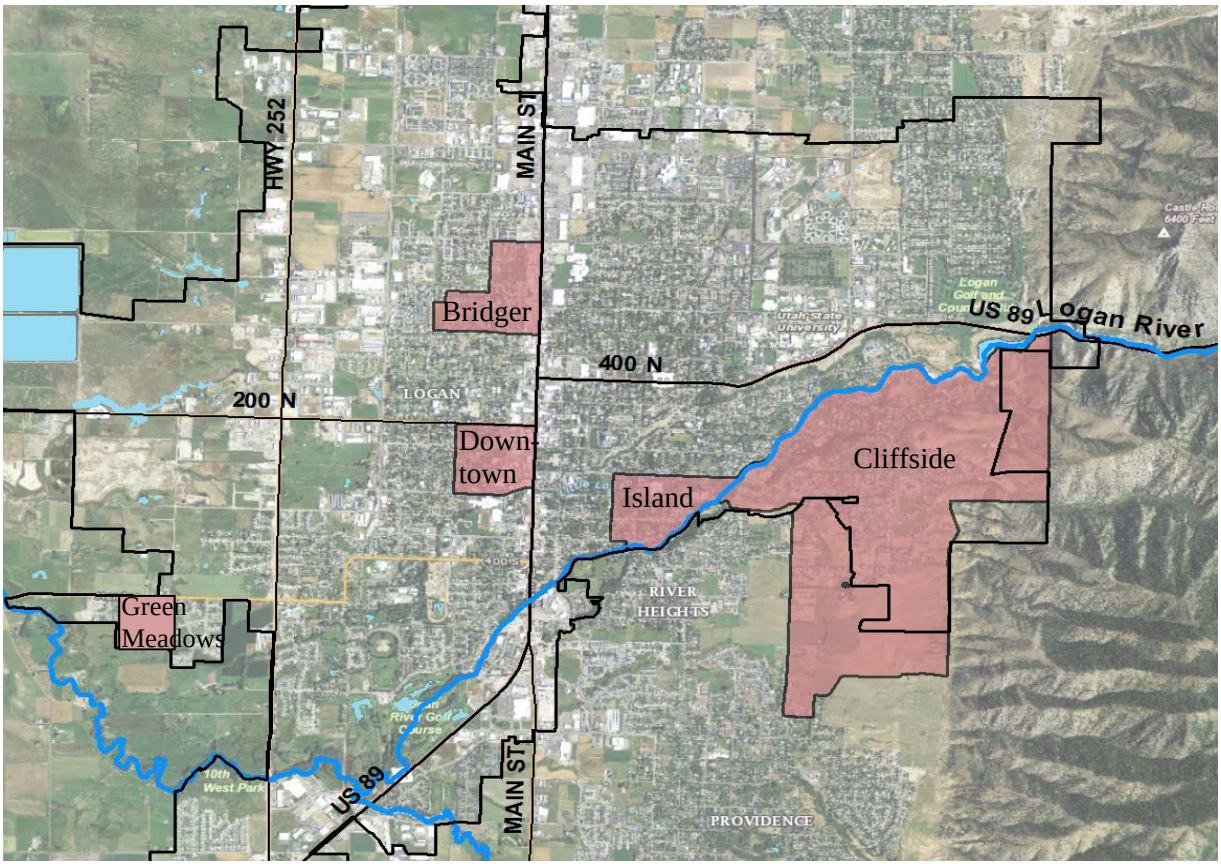
METHODS

In Logan, the survey was conducted in late June and early July 2014. We randomly sampled approximately 180 households in Downtown (out of 307 housing units), 180 households in Bridger (out of 413 housing units), 191 households in Island (out of 343 housing units), 180 households in Cliffside (out of 957 housing units), and 64 households in Green Meadows (out of 143 housing units). Samples of this size can estimate the characteristics of the neighborhood residents with an accuracy of within +/- 7 to 8%.

After accounting for vacant homes, our final response rates[2] were:

- Downtown = 71% (110 respondents)
- Bridger = 74% (128 respondents)
- Island = 74% (124 respondents)
- Cliffside = 71% (122 respondents)
- Green Meadows = 68% (43 respondents)

Map of Study Neighborhoods in Logan City



[2] In comparison, the response rate from Heber Valley and Salt Lake Valley averaged 63% and 56% respectively. Across the entire three-county study area, we received 2,411 useable surveys, with an overall response rate of 62%.

Who Did We Hear From in Logan City?

The characteristics of the 527 respondents from the five Logan neighborhoods that were included in the survey are summarized in Table 1 below.

Respondents from **Downtown** neighborhood were over three-quarters non-Hispanic white, more than half were female, and just over half reported being members of the Church of Jesus Christ and Latter Day Saints (LDS) faith. While just over half reported being originally from Utah, only a third were from Cache Valley. Just under half (46%) reported having a 4-year college degree. Over 40% indicated their household incomes were less than $25,000 while only 13% indicated household incomes over $75,000. Forty-one percent said they had children under age 18 in their household. Two–thirds of the Downtown respondents rent their home and 31% said they were members of a homeowners or condo association.

Respondents from the **Bridger** neighborhood were just under three-quarters non-Hispanic white, more than half were female, and just over half reported being members of the Church of Jesus Christ and Latter Day Saints (LDS) faith. Just under half reported being originally from Utah, while just under a quarter were from Cache Valley. Just under a third reported having a 4-year college degree. Over forty percent indicated household incomes of less than $25,000 and only six percent indicated household incomes over $75,000 (the lowest of any Cache Valley neighborhood in study). Just under half reported having children under age 18 in their home. Three-quarters of the Bridger neighborhood respondents rent their home and over a third said they were members of a homeowners or condo association.

Respondents from the **Island** neighborhood were predominantly non-Hispanic white (88%), more than half were female, and just over half reported being members of the Church of Jesus Christ and Latter Day Saints (LDS) faith. Just over half reported being originally from Utah, while just over a third were from Cache Valley. Just under a third reported having a 4-year college degree. Just over a third indicated household incomes of less than $25,000 and only nine percent indicated household incomes over $75,000. Forty percent reported having children under age 18 in their home. About 40% of the Island neighborhood respondents rent their home and just under a quarter said they were members of a homeowners or condo association.

Respondents from the **Cliffside** neighborhood were very predominantly non-Hispanic white (93%), half were female, and just over half reported being members of the Church of Jesus Christ and Latter Day Saints (LDS) faith. Just under half reported being originally from Utah, while just under a third were from Cache Valley. Nearly three-quarters reported having a 4-year college degree. None of these respondents indicated household incomes of less than $25,000, while over two-thirds indicated household incomes over $75,000. Forty-four percent reported having children under age 18 in their home. Only 5% of the Cliffside neighborhood respondents rent their home and 14% said they were members of a homeowners or condo association.

Respondents from the **Green Meadows** neighborhood (a newer small subdivision on the west side of the city) were very predominantly non-Hispanic white (91%), more than two-thirds were female and reported being members of the Church of Jesus Christ and Latter Day Saints (LDS) faith. Just over half are originally from Utah, while just over a third were from Cache Valley. Just under half reported having a 4-year college degree. Few (12%) indicated household incomes of less than $25,000, while over a quarter indicated household incomes over $75,000. Over two-thirds reported having children under age 18 in their home. Only 5% of Green Meadows neighborhood respondents rent their home and only 2% said they were members of a homeowners or condo association.

Table 1. Characteristics of Cache Valley Survey Respondents Compared with the 2010 Census and the American Community Survey (2008-2012).

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
Characteristic of Respondent	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
				Percent of Respondents				
Female	**55**	**55**	**55**	**50**	**67**	*55*	*58*	*50*
Non-Hispanic White	**78**	**72**	**88**	**93**	**91**	*92*	*93*	*81*
LDS Religion	**52**	**55**	**57**	**56**	**67**	*79*	*57*	*39*
Has 4-year college degree	**46**	**32**	**39**	**72**	**45**	*54*	*48*	*47*
Has household income >$75,000	**13**	**6**	**9**	**64**	**29**	*36*	*42*	*41*
Has household income <$25,000	**43**	**41**	**35**	**0**	**12**	*8*	*11*	*15*
Rents their home	**64**	**75**	**41**	**5**	**5**	*11*	*21*	*24*
Is a member of HOA or COA	**31**	**36**	**22**	**14**	**2**	*19*	*30*	*14*
Is a seasonal resident	**2**	**7**	**2**	**3**	**0**	*2*	*6*	*2*
Has children under 18 in home	**41**	**49**	**40**	**44**	**67**	*52*	*53*	*44*
Has lived in this home < 5 years	**75**	**78**	**58**	**30**	**56**	*37*	*48*	*42*
Is originally from this valley	**33**	**24**	**36**	**30**	**35**	*34*	*22*	*45*
Is originally from Utah	**51**	**46**	**56**	**47**	**54**	*63*	*55*	*58*
Grew up in rural place or farm	**55**	**61**	**50**	**46**	**54**	*59*	*57*	*34*
				Average Reported Value				
Age of respondent	**41**	**38**	**44**	**56**	**43**	*50*	*51*	*48*
Number of people living in household	**2.8**	**3.2**	**2.8**	**3.1**	**4.1**	*3.4*	*3.4*	*3.1*

Representativeness of Respondents

By comparing the characteristics of survey respondents with information from the US Census, we see how representative our sample is of the actual population (Table 2). The boundaries of four of the five Logan city study neighborhoods were drawn to match census block groups (CBGs) that are used to collect census data. This allows us to compare respondents directly to recent government census counts in that particular CBG. The fifth neighborhood (Green Meadows) is a single subdivision within a much larger CBG. As such, comparison census data for that neighborhood is not available.

In broad terms, the people who responded to the survey in each neighborhood captured the defining characteristics of the adult population from that neighborhood. Areas known to the census as having more racial diversity, higher levels of education or income, and lower rates of homeownership each had respondents that represented those attributes.

There was a general tendency for older adults in sampled households to fill out the survey (leading to under-representation of young adults aged 18-34, and an over-representation of adults over 65). Women were somewhat more likely to respond than the population ratios would expect (except in Cliffside). The percentage of adult respondents who are non-hispanic whites was lower than expected in the Downtown neighborhood, but slightly higher than the background population in the other three neighborhoods (and for the city overall). Mean household sizes were generally slightly larger among respondents than in the population as a whole (except for in Cliffside).

In three neighborhoods (Downtown, Bridger, and Cliffside), adults who responded were more likely to have a college degree than the census would predict. However, in the island neighborhood the reverse pattern was true. Similarly, most neighborhoods saw an over-representation of wealthy households (those with annual incomes over $75,000) in the sample, though the island had notably fewer wealthy households than expected. In three neighborhoods (Downtown, Bridger and the Island), there is also a higher proportion of households who reported incomes below $25,000 than census data would suggest. In Cliffside, no households with that level of income participated in the survey. The proportion of renters was less than expected in the Downtown and Island neighborhoods, but somewhat more than expected in the Bridger neighborhood.

The combined group of respondents from all five Logan City neighborhoods are also compared to census estimates of the full city adult population in Table 2. As a group, respondents from our five study neighborhoods are fairly representative of the overall Logan City total. The biggest two differences are with respect to the presence of young adults and renters. Nearly 65 percent of Logan City adults were under 35 years of age (reflecting the large resident university studentbody), but only 38% of our sample included adults in that age bracket. Similarly, our sample include 43% of households that rented their home, while the census suggests that 58% of Logan households were renters in 2010. It should be noted that we did not sample from all neighborhoods in Logan City (see map above), so some of these differences might reflect characteristics of people living in non-sampled areas.

Table 2. Characteristics of Heber Survey Respondents Compared with the 2010 Decennial Census and the American Community Survey (2008-2012).

	Neighborhoods / Census Block Groups									
	Downtown		**Bridger**		**Island**		**Cliffside**		***Logan City (combined)***	
	Respondents	Census*	**Respondents**	Census*	**Respondents**	Census*	**Respondents**	Census*	**Respondents****	Census***
	percent of adults or households									
Percent under 35	**50**	60	**57**	61	**44**	53	**7**	23	**38**	65
Percent over 65	**10**	6	**8**	7	**17**	13	**29**	18	**15**	8
Female Adults	**55**	48	**55**	49	**55**	49	**50**	50	**55**	51
Non-Hispanic White Adults	**78**	84	**72**	72	**88**	85	**93**	91	**83**	82
Adults w/ College Degree	**46**	20	**32**	27	**39**	45	**72**	57	**47**	40
Households with Income >$75,000	**13**	10	**6**	6	**9**	31	**64**	55	**23**	17
Households with Income < $25,000	**43**	31	**41**	36	**35**	25	**0**	8	**29**	33
Households that Rent their Home	**64**	76	**75**	73	**41**	46	**5**	5	**43**	58
Mean Household Size (#)	**2.8**	2.2	**3.2**	2.9	**2.8**	2.7	**3.1**	3.2	**3.1**	2.8

* Estimate from 2010 Census of Population or 2008-2012 American Community Survey for Census Block Group corresponding to study neighborhood. The Green Meadows neighborhood does not represent a full CBG so comparable statistics about their area are not available.

** Combines respondents from the Downtown, Bridger, Island, Cliffside, and Green Meadows samples.

*** Estimate from 2010 Census of Population or 2008-2012 American Community Survey for Census Block Group corresponding to entire Logan City population.

RESULTS

I. Household Water Uses & Perspectives

The survey included questions about how households currently use water, and their perspectives about a range of water issues.

A. Familiarity with Water Use

The survey asked how 'familiar' residents are with the amount of water they use and the cost of their water bill each month. About half of respondents from these communities (and almost two-thirds from Green Meadows) report a fairly high degree of familiarity with how much they *spend* on water each month, but fewer (about a quarter) are familiar with the volume of water they *use* (Table 3). Compared to other valleys, respondents from Logan City neighborhoods are generally less familiar with their water expenses.

Table 3: Familiarity with Water Use and Cost by Neighborhood.

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
	Downtown	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent of respondents familiar or very familiar							
Respondent familiar with amount of water their household uses	**27**	**27**	**25**	**28**	**26**	*26*	*30*	*33*
Respondent familiar with how much household spends on water each month	**49**	**51**	**55**	**54**	**63**	*66*	*67*	*66*

B. Lawn & Outdoor Watering

Over two-thirds of Downtown and Bridger respondents and nearly all of the Island, Cliffside, and Green Meadows respondents report having a lawn on the property where they live. Those who didn't report a lawn typically lived in apartments or other rental housing without a common lawn. The survey asked people with lawns to indicate who is responsible for watering the lawn on their property. Results are shown in Table 4. For those in Cliffside and Green Meadows all but a handful regularly water their own lawn. For those from the Downtown and Island neighborhoods, about three-quarters water their own lawns. For Bridger respondents, fewer than half water their own lawn, and landlords are noted as doing quite a bit of watering (for 37% of these respondents).

Table 4: Responsibility for Lawn Watering

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
Who is responsible for watering the lawn?	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent of respondents with lawns							
Lawn is not watered	**4**	**10**	***14***	***0***	**0**	*0*	*1*	*4*
Household waters	**73**	**46**	***77***	***93***	**98**	*91*	*84*	*85*
Landlord waters	**20**	**37**	***8***	***0***	**3**	*3*	*2*	*7*
Homeowners or Condo Association or other entity	**3**	**8**	***1***	***7***	**0**	*6*	*13*	*4*

Lawn Watering Practices

To get a sense of the rules of thumb used by residents watering their own lawns, we asked them to think about a typical July week. On average, people report watering their lawns about three days per week. Responses also suggest that over 94% of respondents in all five study neighborhoods usually water their lawns either in the morning, evening, or at night. The proportion of households with underground sprinklers and automatic lawn watering timers differs widely across the Logan City neighborhoods (Table 5). The vast majority of respondents in Cliffside and Green Meadows have underground sprinklers and automatic timers for lawn watering. Underground sprinklers and automatic timers are considerably less common in the other three neighborhoods.

Table 5: Irrigation Systems Used to Water Lawns

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
	Downtown	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent of respondents with lawns							
Uses underground sprinkler system to water lawn	**47**	**54**	**32**	**89**	**87**	*85*	*66*	*75*
Has automatic timer for lawn watering	**37**	**42**	**34**	**85**	**77**	*78*	*67*	*71*

Lawn Watering Considerations

To get a better feel for the factors that influence when and how much residents water their lawns, we asked respondents to indicate how important each of several common reasons are to their lawn watering decisions. The results suggest that most (79-94%) of households in the Logan study neighborhoods try to vary their lawn watering behaviors based on weather (Table 6).

For Downtown and Island respondents 78-82% are trying to conserve the amount of water they use, however this number is considerably lower for Bridger, Cliffside, and Green Meadows respondents (54-66%). Across the Logan City respondents, about two-thirds of households make watering decisions based on a desire to maintain their property value and prevent brown spots on their lawn (the latter is much higher in Green Meadows at 84%). About half want to keep a regular watering schedule (even more in Cliffside at 64%) and about two-thirds seek to minimize the time they spend watering the lawn (though considerably less in Green Meadows at 38%). A smaller proportion of respondents suggest that keeping their neighbors happy is an important goal of their lawn watering decisions., with higher percentages for Bridger Cliffside, and Green Meadows than Downtown and Island.

Table 6: Factors Shaping Lawn Watering Decisions

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
How important is each reason to your decisions about when and how much to water your lawn?	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent Indicating Important (4-5)							
Varying based on weather	**92**	**94**	**84**	**85**	**79**	*86*	*86*	*88*
Prevent brown spots on lawn	**63**	**68**	**69**	**68**	**84**	*77*	*65*	*59*
Conserve amount of water used	**78**	**54**	**82**	**65**	**66**	*65*	*72*	*72*
Maintain property value	**68**	**63**	**68**	**62**	**68**	*76*	*69*	*66*
Minimize time spent watering	**61**	**60**	**64**	**67**	**38**	*54*	*56*	*60*
Keep regular water schedule	**49**	**46**	**55**	**64**	**49**	*66*	*63*	*63*
Keep neighbors happy	**29**	**46**	**28**	**41**	**40**	*28*	*33*	*31*

C. Use of Water Conservation Practices

Indoor Water Use

Several questions in the survey explored the use of practices that are designed to reduce water consumption (Table 7). Respondents were asked how often people in their household do each of five types of conservation behaviors. An 'indoor conservation index' score was computed for each household. Interestingly, the scores on this index do not vary much across neighborhoods or across the three valleys in the study.

When asked how their household indoor water use has changed over the last 5 years, between 14-26 percent of respondents indicate that they had decreased their indoor water consumption. Respondents from Cliffside are the most likely to report decreased indoor water use, while respondents from Green Meadows and Bridger are the least likely. Bridger and Green Meadows respondents are the most likely to indicate that they believe they could do more to reduce indoor water use (63-67%). By contrast, roughly half of respondents from Island, Downtown, and Cliffside (43-57%) indicated they could do more to reduce indoor water use and these numbers were more in line with those from Salt Lake and Heber valleys.

Outdoor water use

A similar set of questions explored the use of conservation practices in outdoor irrigation behaviors (Table 7). We asked if they used any of three recommended strategies to reduce lawn watering: sprinkler testing, irrigation planning, and installation of more efficient irrigation systems. With the exception of those from Cliffside, respondents from the Logan City neighborhoods report fewer outdoor conservation behaviors than respondents from the other valleys. About 59% of respondents from Cliffside and 49% from Downtown report use of at least one of these practices; this drops to 31-38% percent in the other three Logan neighborhoods.

Few households report a decline in their outdoor water use over the last five years (18-28%). At the same time, just over half of Cliffside respondents (51%) feel they could do more to conserve outdoor water. This number is lower for the other four neighborhoods, where between 25-42% of respondents indicate they feel they could do more to conserve outdoor water. Finally, between 33-52 percent of respondents believe they use less water than their neighbors.

Table 7: Water Conservation Behaviors and Perceptions

	LOGAN CITY NEIGHBORHOODS					Comparisons		
	Downtown	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
Use of Conservation Practices								
Mean score on index of use of indoor water conservation practices*	**17**	**17**	**18**	**19**	**18**	*19*	*19*	*19*
Percent using ANY of three outdoor water conservation practices**	**49**	**31**	**38**	**59**	**32**	*62*	*54*	*61*
Changes in Water Use								
Percent who decreased household indoor water use over last 5 years	**22**	**17**	**19**	**26**	**14**	*22*	*22*	*21*
Percent who decreased household outdoor water use over last 5 years	**20**	**28**	**20**	**18**	**18**	*15*	*16*	*20*
Percent who believe they can do more to conserve water INDOORS	**52**	**63**	**43**	**57**	**67**	*54*	*53*	*54*
Percent who believe they can do more to conserve water OUTDOORS	**36**	**25**	**36**	**51**	**42**	*30*	*31*	*43*
Believes they use LESS than average households in neighborhood	**52**	**36**	**49**	**33**	**37**	*30*	*35*	*35*

** = taking fewer or shorter showers, running dishwasher only when full, turning off water when brushing teeth, buying low water use appliances & fixtures, fixing leaky toilets and faucets (all measured on 5 point scale from never to always, minimum score = 5, maximum = 25)*

*** = Testing sprinklers to guage amount of water applied; developing a plan to estimate amount of water needed by lawn, installation of a more efficient law watering system*

An illustration of how these Logan City neighborhood respondents compare to other study communities in Cache Valley and in the Salt Lake Valley on beliefs about their ability to reduce indoor and outdoor water use is shown on Figure 1. In general, the proportion of Logan City residents who believe they can reduce indoor water use is higher than other areas (except in the Island). However, only Cliffside residents have a stronger belief in their ability to reduce outdoor water use than residents of the Salt Lake Valley.

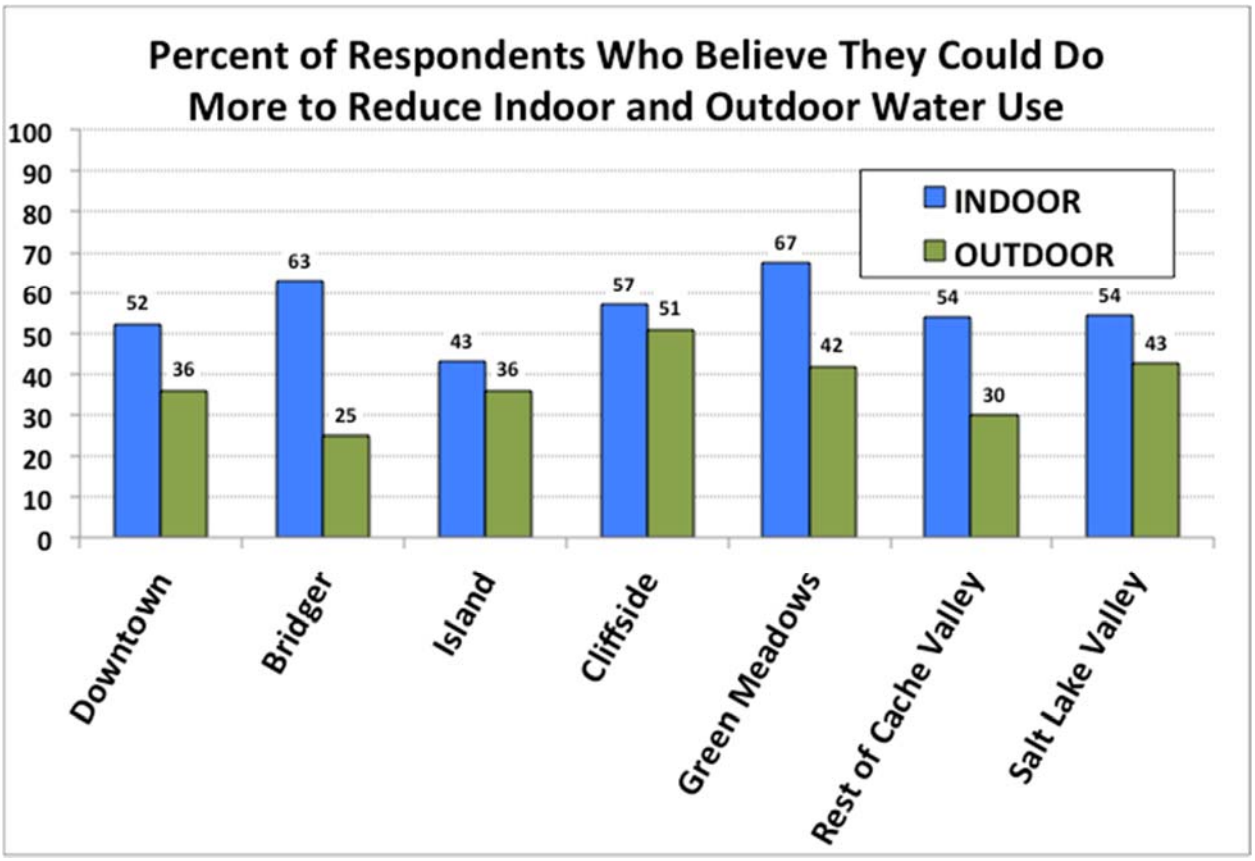


Figure 1: Percent of respondents who believe they can reduce water use.

D. Motivations to Conserve

Households in the study were asked how willing they would be to reduce their water use if they knew the water they conserved would be used for different purposes. The results are shown in Table 8. Overall, people are most willing to reduce water use if the savings were used to secure future local water supplies (76-84%). Conversely, people are least willing to conserve if the water they save is used to encourage new development in the area (18-46%). Willingness to conserve to allow increased development is notably higher for Downtown and Bridger respondents than in the Island, Cliffside and Green Meadows. For many respondents (72-82%), conserving water is attractive if it reduced the water bill.

Except for Cliffside respondents, there is widespread support from the Logan City respondents for using conserved water to improve fish and wildlife habitat, particularly for those living Downtown. The Downtown respondents also indicated greater willingness to conserve water to ensure future supply for agriculture (80%). Conservation to support agriculture was lowest in Cliffside (55%). Bridger and Downtown respondents were generally interested in conserving water to improve outdoor recreation (61%) and to a lesser degree to allow increased development in the area (43-46%). Island, Cliffside and Green Meadows respondents were less supportive of conservation for these two reasons.

Table 8: Willingness to Conserve Water Based on How Water Savings are Used.

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
How willing would you be to reduce your own water use if you knew the water you conserved would…	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent indicating willing or very willing (4-5)							
Ensure future supplies for your home	**84**	**78**	**76**	**81**	**81**	*77*	*81*	*81*
Reduce your water bill	**82**	**82**	**78**	**72**	**81**	*66*	*66*	*75*
Improve fish & wildlife habitat	**82**	**74**	**73**	**57**	**70**	*55*	*68*	*70*
Ensure future supply for agriculture	**80**	**68**	**66**	**55**	**63**	*64*	*62*	*66*
Improve urban parks & open spaces	**69**	**67**	**62**	**59**	**58**	*49*	*55*	*63*
Improve opportunities for outdoor recreation.	**61**	**61**	**43**	**36**	**47**	*39*	*51*	*47*
Allow increased development in this area	**46**	**43**	**21**	**18**	**28**	*21*	*24*	*30*

E. Secondary Water Systems

Access to and Use of Secondary Water

Secondary water is non-drinkable water that is usually provided by an irrigation or canal company and is usually outside of the control of the city public water utility. Access to 'secondary' water is not very common among the Logan City survey respondents (between 5-33% of neighborhood residents have access). Island respondents had the most widespread access to secondary water and 94% of these secondary water users receive their water through an open ditch or canal. Where available, secondary water is predominately used for lawn and yard landscaping or vegetable gardens. Secondary water use is much less common in the other four Logan study neighborhoods.

Satisfaction with Service

Only about a third of the Island neighborhood's secondary water users are satisfied with their system and less than a fifth are confident in future supplies of secondary water. It is notable that the few Bridger respondents with secondary water are split in terms of how they receive their water, though two-thirds are satisfied with their system (we generally find that people with pressurized service are more satisfied). Downtown respondents with secondary water largely receive their water through open ditch or canal (75%). Though only 27% of the Downtown secondary water users are satisfied with their system, over half (58%) are confident in the future supply of their secondary water. In the three neighborhoods with the highest access to secondary water, between 8-26% of users have attended a meeting of their secondary water provider.

Table 9: Use and Perceptions of Secondary Water Systems in the Cache Valley

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
	Downtown	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent of respondents							
Has Access to Secondary water	**12**	**9**	**33**	**6**	**5**	*31*	*53*	*13*
Secondary water use:								
Has but does not use	**42**	**9**	**23**	*na*	*na*	*5*	*5*	*10*
Used for lawn and yard landscaping	**58**	**73**	**71**	*na*	*na*	*88*	*91*	*84*
Used for vegetable garden	**33**	**27**	**54**	*na*	*na*	*59*	*46*	*60*
Used to water pasture/crops	**17**	**9**	**0**	*na*	*na*	*7*	*9*	*10*
Used to water livestock	**8**	**0**	**3**	*na*	*na*	*3*	*5*	*4*
How secondary water received								
Open ditch or canal	**75**	**55**	**94**	*na*	*na*	*28*	*17*	*29*
Pressurized pipe	**17**	**46**	**3**	*na*	*na*	*69*	*81*	*70*
Percent of secondary water households that:								
Are satisfied with secondary water system	**27**	**64**	**34**	*na*	*na*	*61*	*67*	*56*
Have attended meeting with secondary water provider	**18**	**8**	**26**	*na*	*na*	*58*	*20*	*16*
Are confident in future security of secondary water supply	**58**	**15**	**19**	*na*	*na*	*44*	*34*	*30*

n.a. = not enough respondents using secondary water to report.

II. Water Perceptions & Experiences

A. Perceptions of Water Supply

Since planning for future water challenges is a major focus for local and state government officials, the survey included a block of questions that asked whether the respondent agreed with a set of statements that 'there is enough water to meet the needs of all people and businesses' in their city, valley and the state as a whole (Table 10).

Overall, the findings suggest Cliffside respondents are notably more likely (61%) to agree that there is sufficient water for city needs than those in other neighborhoods (40-43%). Regarding sufficiency of water supplies for the Cache Valley and the state as a whole, these neighborhood differences are smaller, though Cliffside and Green Meadows respondents are somewhat more confident than those from the other three neighborhoods about the current sufficiency of water for Cache Valley (43-47% versus 34-38%)

It should be noted that there is substantial ambivalence about the sufficiency of local water supplies. As shown in Figure 2 on the next page, an average of 36-39% of Logan City respondents indicate they neither agree nor disagree with the statements about overall water sufficiency for the city.

Table 10: Percent of Respondents Agreeing that Water Supply is Sufficient

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
There is enough water to meet the needs of all people and businesses in…	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent Indicating AGREEMENT with Statement							
CURRENTLY								
Logan City	**44**	**43**	**40**	**61**	**42**	*46*	*47*	*36*
Cache Valley	**38**	**34**	**34**	**47**	**43**	*40*	*42*	*28*
Utah	**18**	**25**	**16**	**19**	**22**	*19*	*14*	*18*
IN THE FUTURE								
Logan City	**24**	**18**	**19**	**27**	**23**	*23*	*21*	*13*
Cache Valley	**17**	**18**	**15**	**21**	**24**	*17*	*18*	*10*
Utah	**14**	**11**	**12**	**9**	**14**	*10*	*7*	*7*

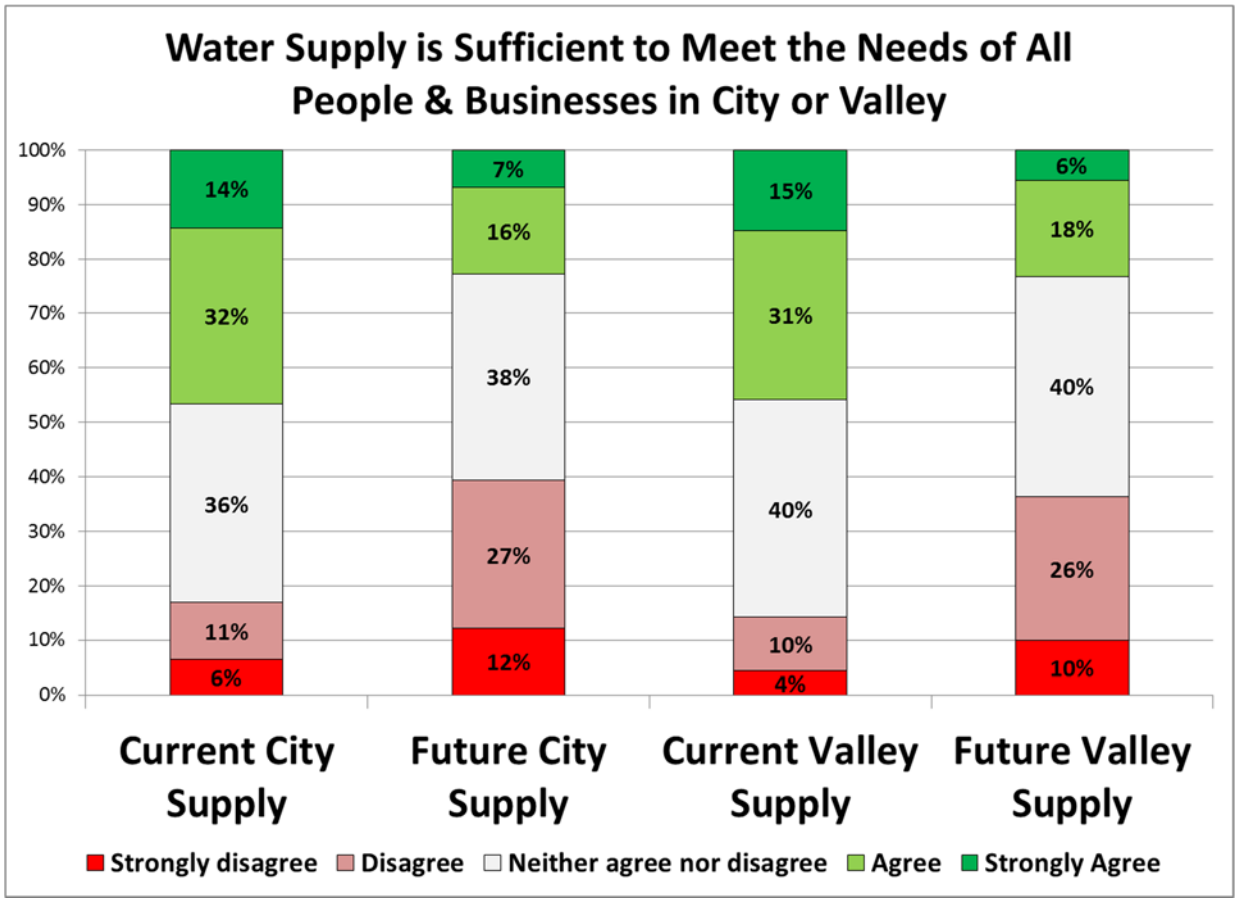


Figure 2: Logan City Respondents' Agreement or Disagreement with Statement that Water Supply is Sufficient to Meet the Needs of All People and Businesses

B. Risk Perceptions

While water issues are likely to be important policy challenges for local and state governments in the coming years, there are a host of other important issues that compete for the attention of the public. To compare water issues to other topics, we asked respondents to indicate 'how concerned' they were about each of ten issues (Table 11).

In general, Logan City respondents report higher levels of concern about issues surrounding growth and development than about any of the five types of water issues or climate change. The exception to this is concern about the high cost of water which is higher than concern for population growth among respondents living in the Downtown, Bridger, and Green Meadows neighborhoods. Deteriorating water infrastructure and climate change are standout concerns for Island respondents, though these issues receive somewhat lower levels of concern for the other four study neighborhood respondents. By far the lowest level of concern in most places is expressed about flooding problems, though this figure is considerably higher for those from Green Meadows (49% versus 22-30%).

Table 11: Percent of Respondents Concerned about Various Issues

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
	Downtown	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent Indicating Concern							
Traffic congestion	**75**	**76**	**81**	**81**	**79**	*81*	*75*	*82*
Air pollution	**78**	**76**	**78**	**82**	**79**	*76*	*69*	*86*
Loss of open space	**67**	**66**	**80**	**73**	**79**	*71*	*78*	*78*
Population growth	**60**	**62**	**69**	**71**	**67**	*62*	*76*	*72*
High cost of water	**67**	**67**	**56**	**68**	**77**	*65*	*69*	*75*
Water Shortages	**55**	**54**	**57**	**49**	**56**	*60*	*60*	*70*
Deteriorating water infrastructure	**46**	**46**	**64**	**56**	**49**	*52*	*58*	*63*
Climate change	**52**	**49**	**61**	**49**	**44**	*42*	*51*	*64*
Poor Water Quality	**45**	**48**	**49**	**41**	**49**	*44*	*52*	*64*
Flooding	**23**	**30**	**28**	**22**	**49**	*29*	*20*	*24*

Water issues listed in bold text.

C. Perceptions about Water Use and Water Quality

Given the concerns about water shortages discussed above, the survey included a block of questions designed to capture public perceptions about which, if any, sectors are responsible for using 'too much' water (Table 12).

The results suggest that more of the 'blame' for overuse of water is attributed to residential lawns, parks, and golf courses. Downtown respondents are most likely to point to overuse of water for lawns, parks and golf courses, while Cliffside respondents are less likely than those from the other four Logan study neighborhoods to indicate they believe too much water is used for parks and golf courses or for industry.

Overall, very few people responding to the survey in any of the five Logan neighborhoods (10-16%) have the impression that agriculture is using too much water.

Table 12: Perceived 'Excessive' Water Use by Sector

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
Too much water is used for…	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent Indicating Agreement (4-5)							
Residential Lawns	**64**	**57**	**52**	**50**	**42**	*45*	*44*	*64*
Parks and golf courses	**61**	**50**	**43**	**33**	**37**	*42*	*43*	*52*
Industry	**31**	**27**	**27**	**16**	**21**	*17*	*19*	*40*
Agriculture	**11**	**10**	**12**	**16**	**12**	*6*	*13*	*10*

Water Quality

We also assessed Logan resident perceptions of the water quality of different types of water (Table 13 and Figure 3). Overall, people are much more likely to rate water in their area as 'good quality' than 'bad quality'. Except for those from Bridger, drinking water is generally rated as highly good or very good (76-89%). Bridger respondents tended to rate drinking water quality lower than those from other neighborhoods (58% good or very good). Ten percent of Bridger respondents rated their drinking water as bad or very bad.

In general, the quality of waters upstream, in or near the respondent neighborhoods tended to be rated more favorably than downstream waters. However, there are imprortant neighborhood differences, with Bridger and Green Meadows respondents consistently rating quality as less 'good' (but not necessarily more 'bad'). Many were uncertain about groundwater quality, with 33-49% indicating they were 'not sure'.

Table 13: Perceived Water Quality of Different Types of Water Resources

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
How would you rate the water quality of the following types of water in your area?	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent Rating Water Quality Good or Very Good							
Drinking water	**76**	**58**	**78**	**89**	**77**	*84*	*73*	*63*
Water in rivers and lakes upstream	**58**	**44**	**60**	**62**	**40**	*58*	*58*	*42*
Water in streams and creeks in neighborhood	**47**	**41**	**58**	**67**	**35**	*56*	*56*	*29*
Water in streams or rivers downstream	**33**	**32**	**41**	**40**	**30**	*41*	*48*	*22*
Water in reservoirs and lakes downstream	**32**	**22**	**38**	**37**	**28**	*43*	*43*	*23*
Water in nearby irrigation canals or ditches	**37**	**32**	**41**	**44**	**28**	*45*	*41*	*15*
Groundwater in neighborhood	**24**	**17**	**29**	**24**	**23**	*33*	*29*	*14*

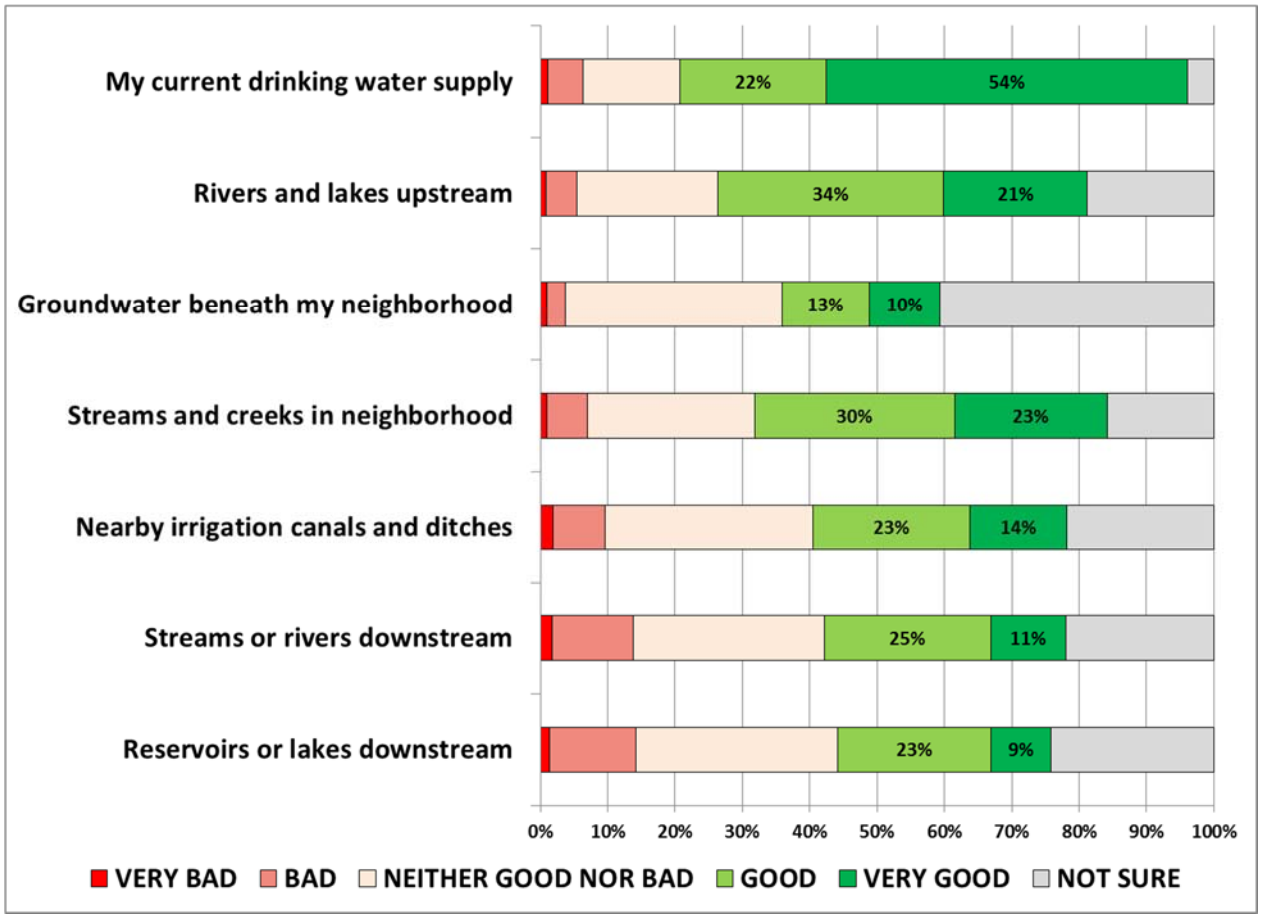


Figure 3: Water quality perceptions among Logan City respondents (all 5 neighborhoods combined)

D. Experience with Flooding

When asked if they or members of their household have experienced property damage over the last 10 years, a third or more of respondents from Logan City report impacts such as flooded basements or other property damage (Table 14). Roughly 40 percent (34-48%) indicate any type of impact to their household. Reported impacts from flooding or stormwater were consistently higher for those in Cliffside and lower among people living in the Island neighborhood. This is surprising since only a small part of the Cliffside neighborhood includes homes in the Logan River floodplain, whereas all of the Island residents live near the river). It should also be noted that the survey only asked about 'impacts from flooding and/or stormwater' and did not differentiate between flooding originating inside the home from external flooding sources.

Most respondents from Logan City indicate that their community has experienced impacts from flooding or stormwater damage (63-88%). This number is considerably lower for those from Bridger and Island than those living in the Downtown, Cliffside and Green Meadows neighborhoods. The reports of experience with flooding appear to be considerably more common in the Cache Valley than in Heber or Salt Lake Valleys.

Table 14: Percent of Respondents indicating Impacts from Flooding on Household or Community.

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
	Downtown	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent of Respondents Listing Impacts							
Household suffered property damage from flooding or stormwater in last 10 years	**33**	**38**	**32**	**39**	**38**	*40*	*31*	*33*
Household impacted in any way by flooding or stormwater damage in last 10 years*	**41**	**40**	**34**	**48**	**41**	*46*	*40*	*46*
Community impacted in any way by flooding or stormwater damage in last 10 years*	**80**	**63**	**74**	**83**	**88**	*86*	*51*	*72*

** = Combines all types of impacts, including flooded basement or other property damage, injury or loss of life, damage to public roads or infrastructure, contamination of drinking water or area streams. Listed if at least one type of impact was reported.*

E. Climate Change Perceptions

Climate change has received significant attention in the media and political debate. Residents in Logan City were asked their views on climate change, and whether they were worried that climate change will significantly impact the water supplies in their valley. Results show a diversity of views on this topic (Table 15). Overall, respondents from the five Logan neighborhoods were most likely to indicate that they believe climate change as happening and is caused mainly by human activities, with respondents from Downtown and Island somewhat higher in agreement with this statement (51-52%) than those from Green Meadows, Cliffside, and Bridger (40-43% respectively). Few indicate they believe climate change is not happening, though between 13 and 27% of respondents across these Logan communities say they don't know enough to say if climate change is happening.

In Green Meadows, 30% of respondents indicated they see climate change as a possible threat to water supplies in the valley. This number increases to just under half (41-49%) for the other four Logan neighborhoods.

Table 15: Respondent Views on Climate Change Issues

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
How would you characterize your views on climate change?	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent of respondents							
Climate change is happening, and is caused mainly by human activities	**51**	**43**	**52**	**41**	**40**	*35*	*40*	*54*
Climate change is happening, and is caused both by human and natural causes	**2**	**2**	**7**	**8**	**9**	*5*	*6*	*4*
Climate change is happening and is caused mainly by natural processes	**24**	**25**	**25**	**33**	**26**	*33*	*32*	*22*
Climate change is not happening	**7**	**3**	**0**	**6**	**0**	*23*	*18*	*16*
I do not know enough to say if climate change is happening	**17**	**27**	**17**	**13**	**26**	*3*	*5*	*4*
Respondent is worried that climate change will significantly impact water supplies in this valley	**49**	**41**	**43**	**43**	**30**	*34*	*39*	*54*

III. Water Policy and Management Perspectives

A. Support for Local Water Management Strategies and Policies

Many survey questions assessed the levels of support or opposition to a wide range of local potential policies and programs that could be adopted by Logan City.

Addressing Short Term Water Shortages

First, respondents were asked, "If Logan City faced a short-term water shortage, how much would you oppose or support each of the following possible local policies or strategies?" (Table 16 and Figure 4). There is very high level of support (71-92%) for educational and voluntary conservation programs across all five Logan neighborhoods, though Green Meadows' residents express less support for voluntary reductions in outdoor water use. Support for restrictions on watering in parks, golf courses, and public properties is lower, but still ranges from 63-76%. Mandatory restrictions on watering to respond to short-term shortages are the least supported option, but still have support from 59-71% of respondents, with far fewer (7-16%) respondents opposed to that approach.

Table 16: Percent of Respondents Supporting Various Local Policy Options

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
	Downtown	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent indicating support or strong support							
Educate public on water conservation	**90**	**85**	**91**	**92**	**81**	*89*	*92*	*90*
Encourage voluntary reductions in outdoor water use	**89**	**80**	**85**	**87**	**71**	*85*	*85*	*86*
Restrict watering in parks, golf courses, and other public properties	**74**	**75**	**69**	**76**	**63**	*79*	*72*	*77*
Mandatory watering restrictions	**71**	**59**	**67**	**70**	**61**	*72*	*64*	*66*

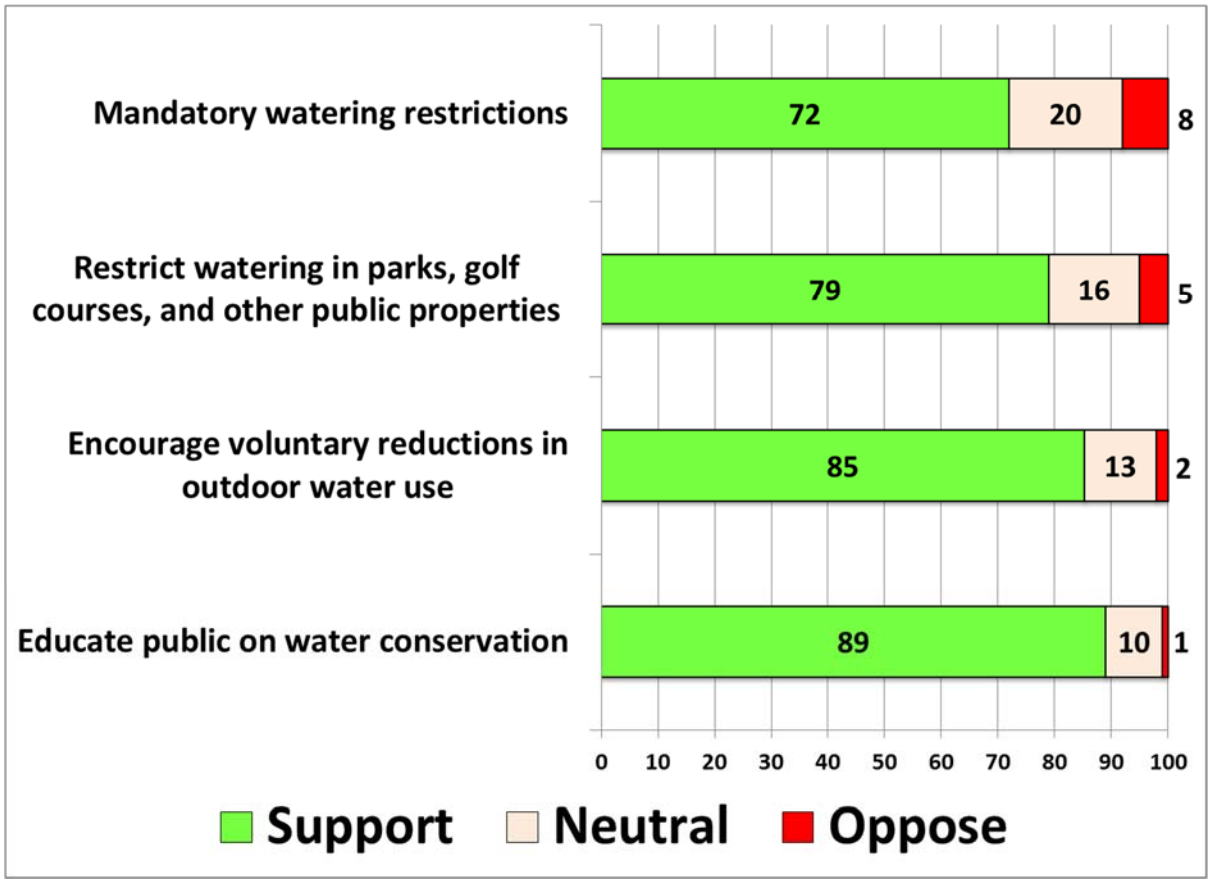


Figure 4: Percent of Logan City Respondents who Support or Oppose Various City Responses to Short Term Water Shortage.

Long Term City Water Management Strategies.

Residents were also asked about the extent to which they supported a range of potential long-term approaches to water policy and management in Logan City (see Table 17 and Figure 5).

The most popular policy across four Logan study neighborhoods is to develop a system to reuse treated wastewater to supply residential irrigation (supported by 71-81%). Green Meadows support for this option is considerably lower than for the other neighborhoods (56%), but it did rank among their top 3 preferred options (and, generally speaking, respondents from Green Meadows supported all of the options at lower levels). Overall, 74% of Logan City respondents support this policy, with just 6% indicating opposition.

A policy to limit future housing development unless water supplies are secured is also well supported by a majority of respondents (52-71%) in all five neighborhoods, with higher levels of support from Downtown and Cliffside residents than those living in the other three neighborhoods. Overall, 63% of the combined Logan City respondents supported this policy, while only 10% opposed it.

Meanwhile, a clear majority of residents in each neighborhood indicated support for city investments in physical infrastructure, including new reservoirs or water storage facilities (56-68% by neighborhood; 62% overall) and structures to reduce stormwater runoff (52-68%; 57% overall). Support for both options was highest in the Downtown neighborhood.

A smaller proportion (49-60% by neighborhood; 55% overall) indicated support for city subsidies to incentivize residents to purchase low water use irrigation systems and appliances, or for ordinances to require low-water landscaping with new developments (34-50% by neighborhood, 46% overall). In both cases, support was strongest in Bridger, Cliffside, and Downtown neighborhoods. Opposition to subsidies or new ordinances ranged from 16-21% of the combined Logan City respondents.

Support for an increase in the budget for stormwater management ranged from 37-54% across the neighborhoods (49% for city respondents overall), with the strongest support coming from Downtown and Island neighborhood respondents.

Overall, 45% of Logan City respondents support charging large water users more per gallon, though 24% opposed this policy. Support was highest in the Downtown and Island neighborhoods. Similarly 42% support policies to encourage forms of housing development that use less water per person, with 27% opposed.

Only 31% supported reducing environmental protections to facilitate water project developments, while 25% opposed this policy.

Opposition exceeded support for only one policy among Logan City respondents: buying water rights from farms to use in the city. This policy received the least support among residents of the Island and Green Meadows neighborhoods.

Table 17: Percent of Respondents Supporting Various Local Policy Options

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
Long Term Local Policy Options	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent indicating support or strong support							
Develop system to reuse treated wastewater for residential irrigation	**81**	**71**	**77**	**76**	**56**	*67*	*69*	*75*
Limit future housing development unless water supplies are secured	**71**	**52**	**62**	**71**	**58**	*71*	*77*	*73*
Build new water storage facilities	**68**	**66**	**58**	**57**	**56**	*60*	*57*	*64*
Build structures to reduce storm water runoff	**68**	**55**	**52**	**54**	**55**	*51*	*45*	*63*
Subsidize purchase of low water use irrigation systems and appliances	**60**	**49**	**55**	**57**	**51**	*44*	*43*	*58*
Increase budgets for storm water management	**54**	**49**	**51**	**46**	**37**	*47*	*35*	*53*
Charge more per gallon for large water users	**48**	**39**	**52**	**46**	**40**	*40*	*45*	*53*
Implement ordinances to require low-water landscaping	**49**	**50**	**44**	**45**	**34**	*33*	*41*	*49*
Encourage housing development that uses less water per person	**45**	**45**	**44**	**42**	**24**	*30*	*38*	*53*
Reduce requirements for environmental protection to facilitate new water projects	**34**	**27**	**35**	**28**	**32**	*31*	*27*	*35*
Buy water rights from farms to use in the city	**29**	**27**	**14**	**24**	**15**	*26*	*27*	*24*

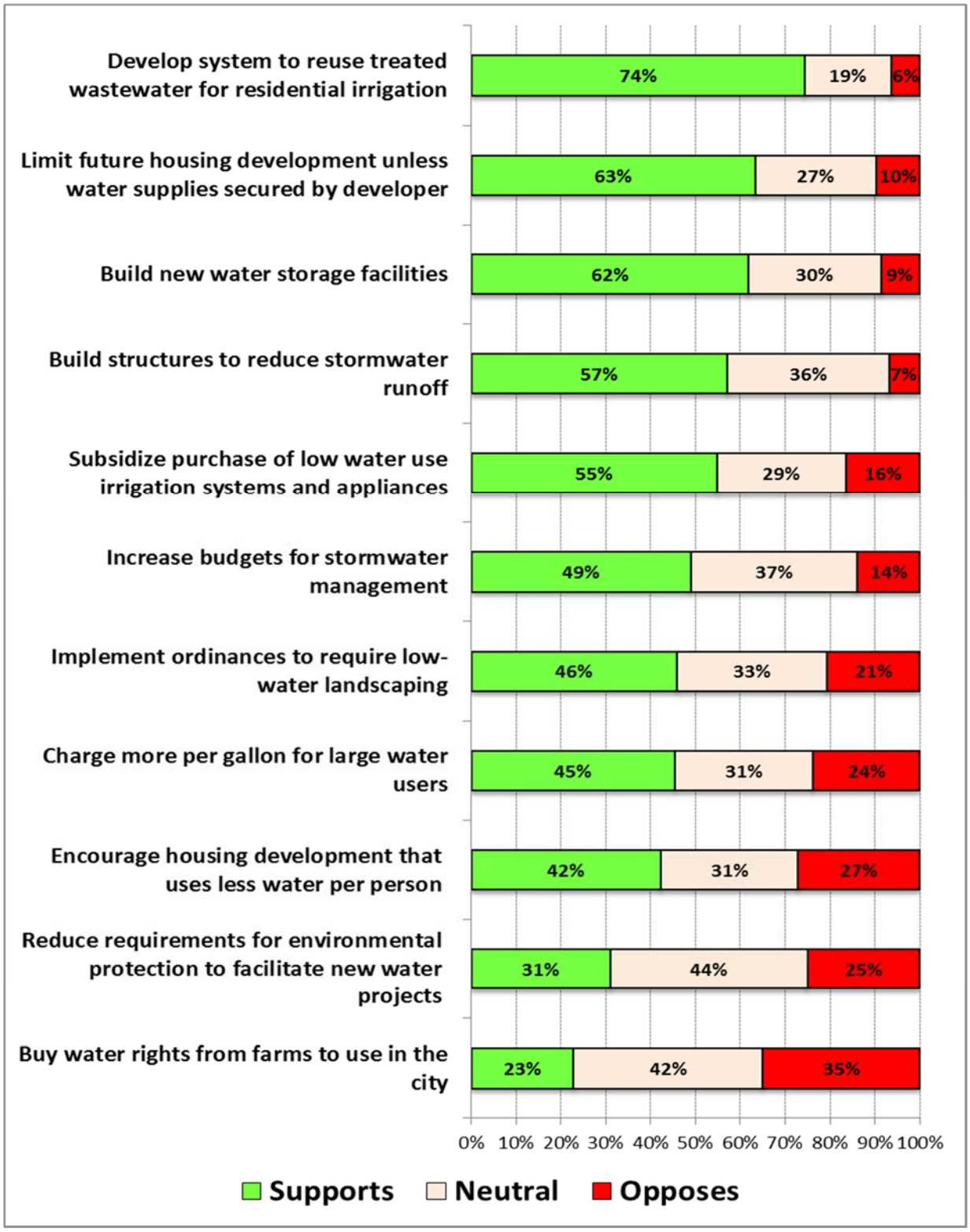
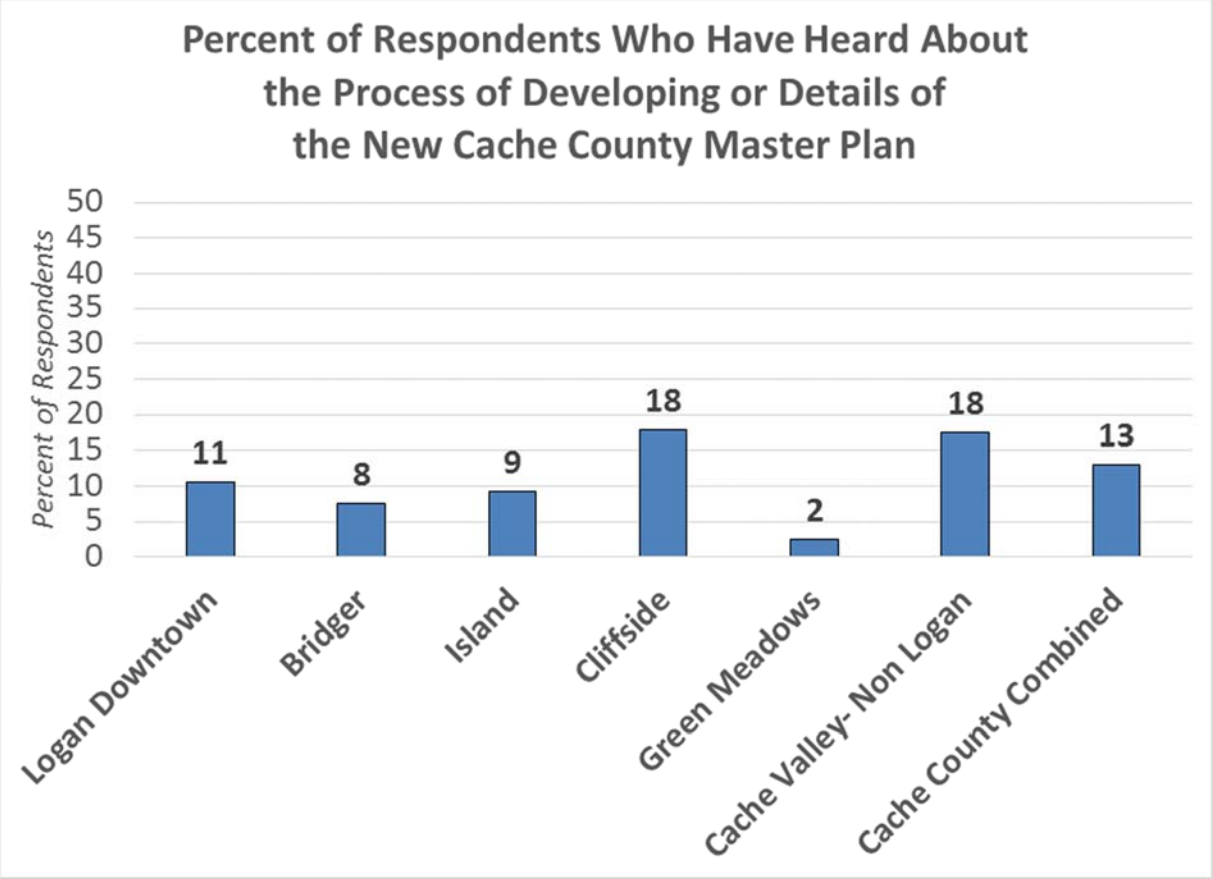


Figure 5: Support for Various Long-Term City Water Management Strategies among Logan City Respondents (combined).

Awareness of Cache County Master Plan

The survey in all five Logan neighborhoods included an item that asked "Over the last year, local and county officials have worked on a Cache County Water Master Plan to guide future policies and programs. Have you heard about this process or the details of the County Water Master Plan?". The proportion of respondents in each neighborhood who have heard about the Master Plan are illustrated in Figure 6 below.

The results suggest that small minorities of residents are familiar with the development or content of the county Water Master Plan, but residents in Cliffside and communities outside of Logan City have higher levels of awareness than those living in Bridger, the Island, or Green Meadows neighborhoods.



B. Support for State Water Policies

State Water Policy Goals

The survey asked residents to indicate their level of support for a variety of state water policy goals (Table 18 and Figure 7). The goals of ensuring a supply of drinking water and protecting water quality are overwhelmingly supported across all five neighborhoods and in all of our other study areas). There is also a very high level of support for ensuring the supply of water for agriculture among respondents from each of our five neighborhoods. In each case, the goal was cited as a high priority by over 80% of respondents.

While considered a high priority by over two-thirds of respondents in all five neighborhoods (and 73% of city respondents overall), there is more variation in support for prioritizing the protection of wetlands and wildlife habitat across neighborhoods, with lower support in Cliffside.

A majority (57%) of Logan City respondents prioritized saving taxpayer money (with higher priority placed on this among residents in Green Meadows). A minority (48%) of Logan City respondents prioritized ensuring a supply of water for economic development, and 33% prioritized the goal of providing recreational opportunities for state residents.

Table 18: Percent of Respondents Supporting Different Goals for State Water Policies

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
	Downtown	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent Indicating Goal is a High Priority							
Ensure supply of drinking water	**97**	**94**	**98**	**99**	**95**	*97*	*96*	*96*
Protecting water quality	**98**	**90**	**92**	**98**	**93**	*95*	*95*	*95*
Ensure the supply of water for agriculture	**83**	**87**	**83**	**85**	**88**	*88*	*86*	*80*
Protecting wetlands and wildlife habitat	**82**	**73**	**74**	**66**	**70**	*61*	*76*	*75*
Saving taxpayer money	**55**	**59**	**56**	**52**	**67**	*54*	*59*	*52*
Ensure the supply of water for economic development	**51**	**50**	**40**	**51**	**44**	*45*	*48*	*41*
Providing recreational opportunities	**38**	**33**	**25**	**38**	**26**	*26*	*41*	*30*

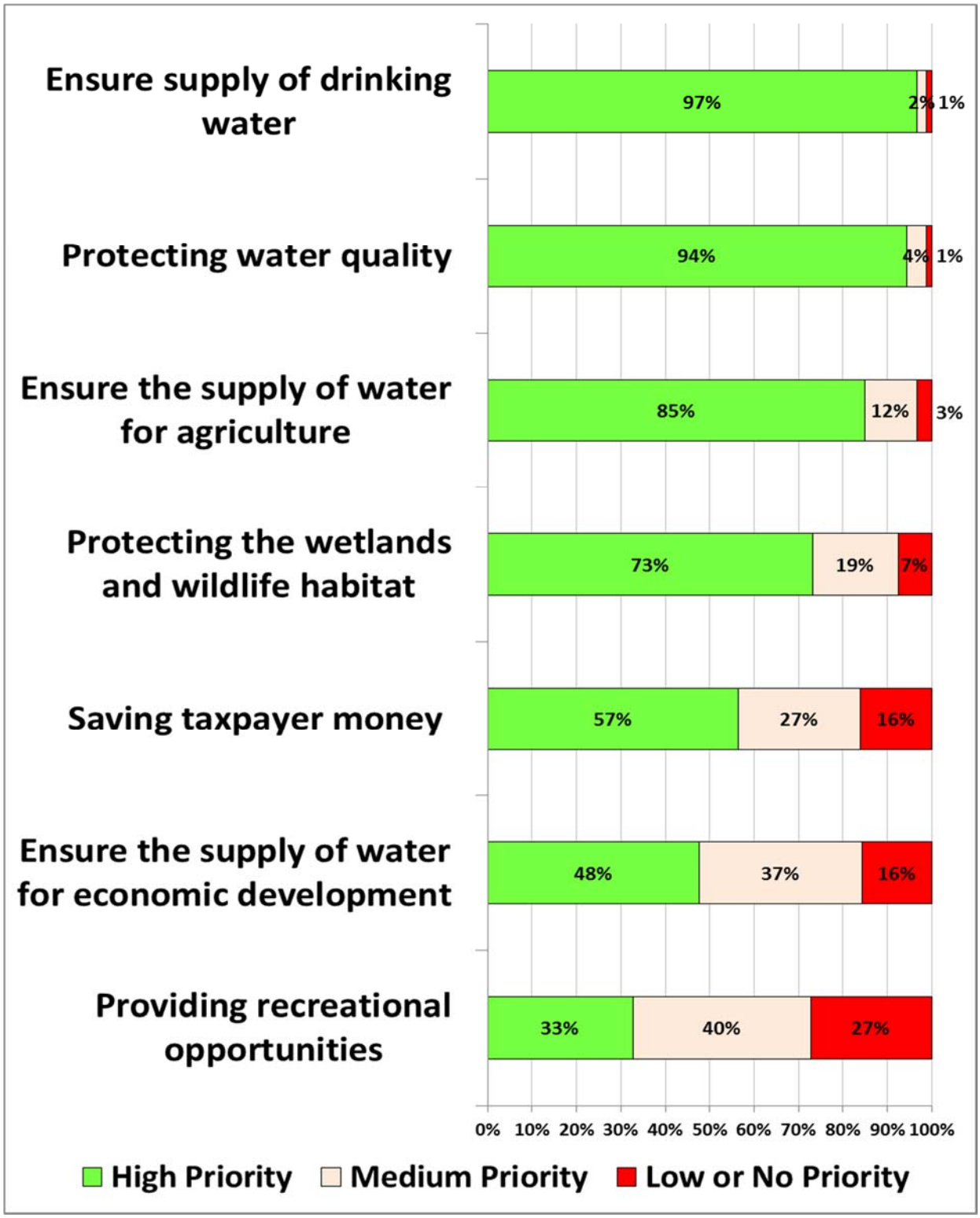


Figure 7: Logan City Respondents' Prioritization of Various Goals to Guide State Water Policy.

State Water Policy Strategies

We also assessed support among residents of Logan City neighborhoods for a variety of statewide policies and programs that are currently being considered by state water planners and policy makers (Table 19 and Figure 8).

Among all five Logan City neighborhoods, there is support from a strong majority of respondents (63-80%) to the use of state funds to help replace aging city water infrastructure. When city respondents are combined, this state policy receives the most support (73%) and least opposition (4%) of any option presented.

Support from a majority of residents in each neighborhood was found for greater state investments in research on water conservation technologies and practices (51-71%, 63% overall) and state assistance to pay for efficiency improvements in agricultural irrigation systems (56-69% by neighborhood; 61% overall). In both cases only 6-7% of Logan respondents opposed these policies.

Three policy options – establishing minimum flow requirements to protect fish habitat, setting minimum state standards for residential construction to reduce water use, and allowing people with water rights to sell water saved from conservation – received support from 56% of Logan City respondents (with opposition from 7-9%). Support was highest among residents of the Downtown and Cliffside neighborhoods. Residents from Green Meadows were less likely to support minimum flow requirements or state construction standards (42 and 44%, respectively), while residents in Bridger were also somewhat less supportive of these three policies compared to the other neighborhoods.

Support for state investments in new reservoirs and water storage projects ranged from 47-60% of respondents by neighborhood (54% of Logan City overall), which is lower than observed in the outlying areas of Cache County or among respondents in Heber and Salt Lake valleys. A notably smaller group supported state funding of pipelines to bring water to urban areas from other regions (23-42% by neighborhood; 36% overall), and this option was opposed by nearly a quarter of Logan City respondents.

Relatively few Logan City respondents would support efforts by the state to facilitate the transfer of water from agriculture to urban users (28%), with another 22% opposed to this policy (and about half saying they neither supported nor opposed such efforts).

Table 19: Percent of Respondents Supporting State Water Policy Strategies

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
	Downtown	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent indicating support or strong support							
Use state funds to help replace aging water system infrastructure in cities	**74**	**66**	**76**	**80**	**63**	*64*	*66*	*77*
Invest in research on new water conservation technologies and practices	**68**	**55**	**61**	**71**	**51**	*55*	*58*	*67*
Use state funds to pay for efficiency improvements in agricultural irrigation systems	**63**	**60**	**69**	**57**	**56**	*51*	*58*	*60*
Allow people with water rights to sell water saved from using conservation practices	**60**	**48**	**55**	**62**	**58**	*54*	*55*	*55*
Establish minimum flow requirements for streams to protect fish habitat	**67**	**50**	**57**	**59**	**42**	*48*	*59*	*64*
Set minimum state standards for new private residential construction to reduce water use	**60**	**49**	**57**	**64**	**44**	*53*	*61*	*67*
Use state funds to build new reservoirs or storage projects	**55**	**54**	**51**	**60**	**47**	*67*	*63*	*62*
Ensure state policy prioritizes the efficient use of water over protecting existing water rights	**53**	**42**	**47**	**44**	**37**	*36*	*39*	*49*
Use state funds to construct pipelines to bring water to urban areas from other regions	**41**	**42**	**30**	**35**	**23**	*31*	*31*	*39*
Facilitate transfers of water from agriculture to urban users	**33**	**29**	**26**	**27**	**17**	*24*	*25*	*29*

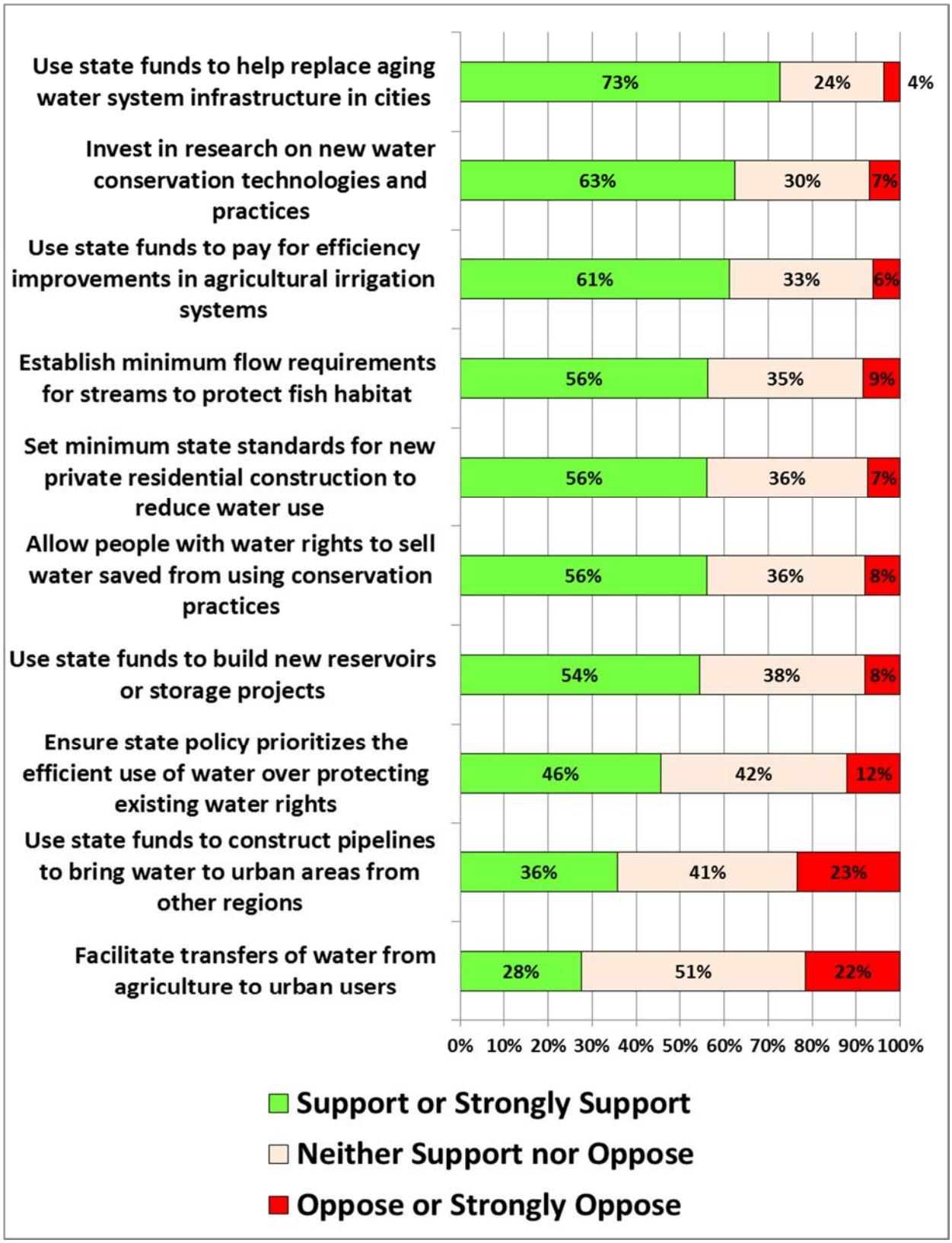


Figure 8: Percent of Logan City Respondents Opposing or Supporting Various State Water Policy Strategies.

IV. Additional Information

A. Water Information Sources

Residents were asked to indicate where they find information about water issues (Table 20). TV and radio are the most common information sources among respondents in all five neighborhoods (used by 63% overall), followed by the internet and social media (54%), and friends and neighbors (54%). Newspapers were used by 49% of all respondents in Logan City, with 43% getting information from the Logan Herald Journal, and 13% from the Salt Lake Tribune. Mailings from water providers were cited as information sources by 40% of respondents, and information from homeowners or neighborhood associations was used by less than 10% of respondent households. Respondents in the Cliffside neighborhood utilize all of the information sources at much higher rates than residents in the other neighborhoods, but were particularly likely to get information from newspapers (mainly the Logan Herald Journal). Those in the Island and Downtown neighborhoods had higher than average use of the internet and social media.

Table 20: Sources of Information about Water Issues

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
Sources of Information about Water Issues	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent indicating use of the source							
TV/Radio	**60**	**57**	**62**	**75**	**60**	*67*	*67*	*73*
Internet/social media	**58**	**44**	**61**	**59**	**46**	*55*	*55*	*60*
Friends and neighbors	**55**	**52**	**60**	**55**	**44**	*62*	*62*	*50*
Any newspaper	**40**	**37**	**51**	**70**	**41**	*52*	*56*	*45*
Mailings from providers	**40**	**31**	**36**	**50**	**52**	*56*	*48*	*52*
Logan Herald Journal *(Cache Valley Only)*	**33**	**33**	**46**	**64**	**37**	*51*	*n/a*	*n/a*
Salt Lake Tribune	**14**	**9**	**13**	**21**	**0**	*13*	*22*	*38*
Deseret News	**9**	**11**	**11**	**11**	**10**	*13*	*18*	*17*
Homeowners or Neighborhood Association	**8**	**6**	**6**	**9**	**2**	*19*	*21*	*9*

B. Satisfaction with Neighborhood and Community

Finally, survey respondents were asked to assess their level of satisfaction with various aspects of their neighborhood and community (Table 21). A high percentage of respondents in each of these five Logan City neighborhoods are satisfied with their overall quality of life (74-93%). In general, Cliffside respondents are more satisfied with all aspects of their community. Those living in the Island were least satisfied with the appearance of homes and yards, while Downtown and Bridger neighborhood respondents were least satisfied with their opportunities to interact with neighbors. Satisfaction with the number of shade trees was also relatively low in Bridger and Green Meadows. Less than half of Green Meadows' respondents expressed satisfaction with the quality of their parks and common spaces.

Table 21: Percent of Respondents Satisfied with Aspects of their Neighborhood

	LOGAN CITY NEIGHBORHOODS					*Comparisons*		
Aspect of neighborhood…	**Downtown**	**Bridger**	**Island**	**Cliffside**	**Green Meadows**	*Rest of Cache Valley*	*Heber Valley*	*Salt Lake Valley*
	Percent Satisfied or Very Satisfied							
Appearance of homes and yards	**53**	**50**	**44**	**83**	**58**	*74*	*68*	*56*
Opportunities to interact with neighbors	**43**	**42**	**55**	**77**	**58**	*79*	*67*	*55*
Number of shade trees	**67**	**50**	**71**	**72**	**54**	*62*	*59*	*57*
Quality of parks and common spaces	**73**	**66**	**67**	**87**	**44**	*77*	*70*	*64*
Overall Quality of life	**77**	**75**	**74**	**93**	**81**	*91*	*88*	*76*

Summary

This concludes our preliminary reporting of findings from the 2014 iUTAH Household Water Survey for the five Logan City study neighborhoods. We anticipate continued analysis of data from the survey and we will post additional findings as they become available at www.iutahepsecor.org/hhsurvey. Please contact us if you have any questions. Dr. Douglas Jackson-Smith can be reached at (435) 797-0582 or doug.jackson-smith@usu.edu.