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POLICY BRIEF

Analysis of Spokane's Water Price Changes

by Chris Cargill
Eastern Washington Office Director

August 2011

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Key Findings

1. The City of Spokane's monopoly water prices punish larger families even though they have reduced their rate of consumption.
2. Spokane residents already decreased their water use by 10 percent before rate changes went into effect.
3. City residents would be better served by a flat and/or a seasonal rate for water.
4. More than 40 percent of the water used for outdoor purposes percolates back into the aquifer.
5. The City of Spokane used more than 139 million gallons of water in 2010 on its four city-owned golf courses.

Introduction

This year, government officials in the City of Spokane imposed new prices for delivery of that precious, life-giving liquid—water. Under the assumption the region's water supply is drastically dwindling, city officials say the new policy is "conservation based." The new rates increase prices for families even if they are not being wasteful. Officials say about half of Spokane residents will pay more under the new prices, and about half will pay less.

Background

Water customers in the City of Spokane once enjoyed a system that provided bulk discounts for water used over a certain amount. In other words, the price-per-unit would decrease as customers used additional water. That approach, government officials now believe, led to an increased use and waste of water. Following the election of a new mayor and city council in 2007, the city expanded its "Water Stewardship Program." The program encourages city users to "slow the flow" of water. To this day, the city has spent thousands of taxpayer dollars sponsoring sporting and community events to promote its water stewardship message.

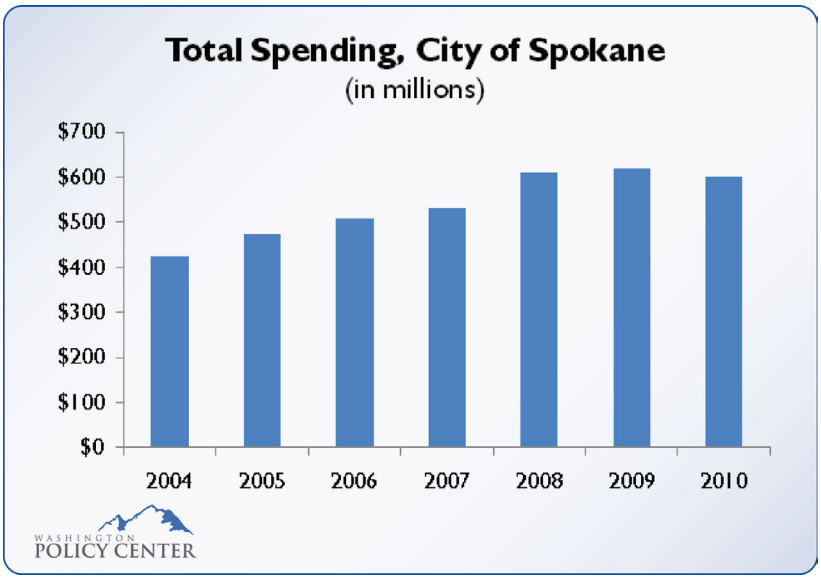
In 2010, city officials adopted a new law changing water rates to a five-tiered structure. Under the new system, citizens are entangled in a web of five different rates for water. Each rate level drastically increases prices as users surpass certain water amounts set by government officials.

The city says any additional money it will receive from the new water prices will be used to repair infrastructure and encourage conservation, and not to balance the city's swelling budget.

City of Spokane Budget Difficulties

The City of Spokane, like other governments across the state and nation, is dealing with a budget shortfall thanks to a dramatic increase in public spending. Since 2004, government spending in Spokane has increased almost 45 percent.[1]

[1] City of Spokane Approved Budgets; 2004, 2005, 2006, 2007, 2008, 2009, 2010; www.spokanecity.org/government/budget/faq/



Taxpayers in the City of Spokane are generous. In 2011, they will pay more than $35 million in local property taxes to city coffers.[2] That represents a 15 percent increase in just the past few years. Total local sales and utility tax revenues to the city have also increased, but have not kept pace with officials' dramatic increases in spending.

New Water Rate Structure

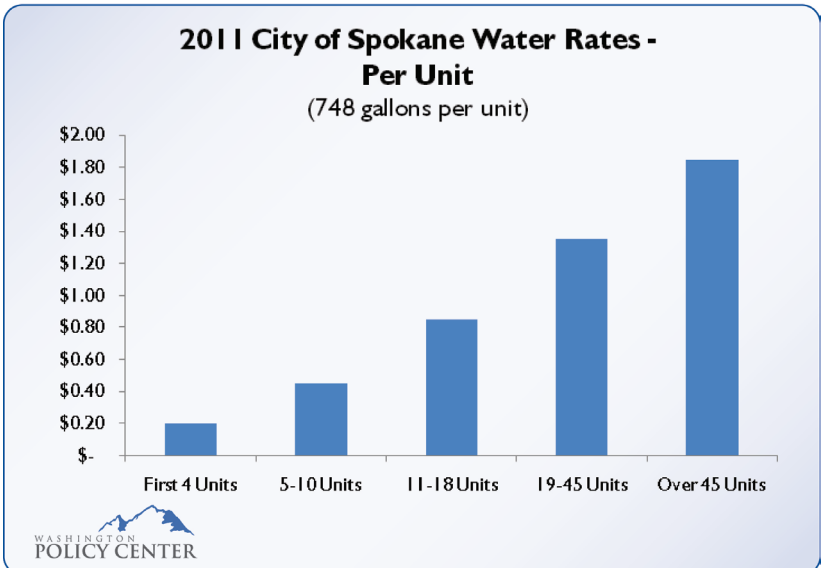
The City of Spokane says the new rate structure is not about "more money."[3] However, Spokane City Councilwoman Amber Waldref admitted in an editorial written in *The Spokesman-Review* that "the graduated pricing structure promises a more sustainable revenue approach, even if use declines due to efficiency, weather or economic conditions."[4] Councilwoman Waldref's statement suggests the real reason for the increase in water prices is simply to provide more money for government budgets.

The city says the new rate structure is simple: "If you use more water, you'll pay more."[5] The new five-tiered structure increases prices[6] even under standard use.[7, 8]

[2] City of Spokane, Mayor's Proposed 2011 Budget, www.spokanecity.org/_documents/mayors-office/budget/2011_Budget_Brochure.pdf
[3] "Spokane changing residential water billing rates," KXLY4 News, Sept. 20, 2010, www.kxly.com/news/25091715/detail.html
[4] "Guest opinion: Being smart with our water," Spokane City Councilwoman Amber Waldref, *The Spokesman-Review,* June 12, 2011, www.spokesman.com/stories/2011/jun/12/guest-opinion-being-smart-with-our-water/?print-friendly
[5] "Like to water your lawn? Big Spokane water users will pay more," May 4, 2011, KREM 2 News, www.krem.com/home/Youll-pay-more-per-gallon-on-your-City-of-Spokane-water-bill-this-summer-121291564.html
[6] City of Spokane 2007 Water Rates: 0–6 units, $.23 each; 6–10 units, $.49 each; over 10 units, $.66 each; www.spokanecity.org/services/articles/?ArticleID=1502
[7] Spokane Water Department, Rate Structure, www.spokanewater.org/?page_id=273
[8] Assuming 7,500 additional gallons over 33,600 gallon initial use, City of Spokane Water Department, Residential Rate Structure

	New Rate Structure	*Old Rate Structure*
First 3,000 gallons (monthly)	*$.80*	*$.92*
Next 4,500 gallons	*+$2.25*	*+$2.42*
Next 6,000 gallons	*+$5.95*	*+$5.29*
Next 20,000 gallons	*+$35.10*	*+$17.64*
Over 33,600 gallons	*+$18.50*	*+$6.61*

The "use more, pay more" argument, however, is not an accurate description of the five-tier system. Under a flat-rate system, a customer who uses more would pay more. Some residents might think the new prices are unfair. At the highest rate, city officials charge 23 times more for the last gallon of water used than the first gallon.



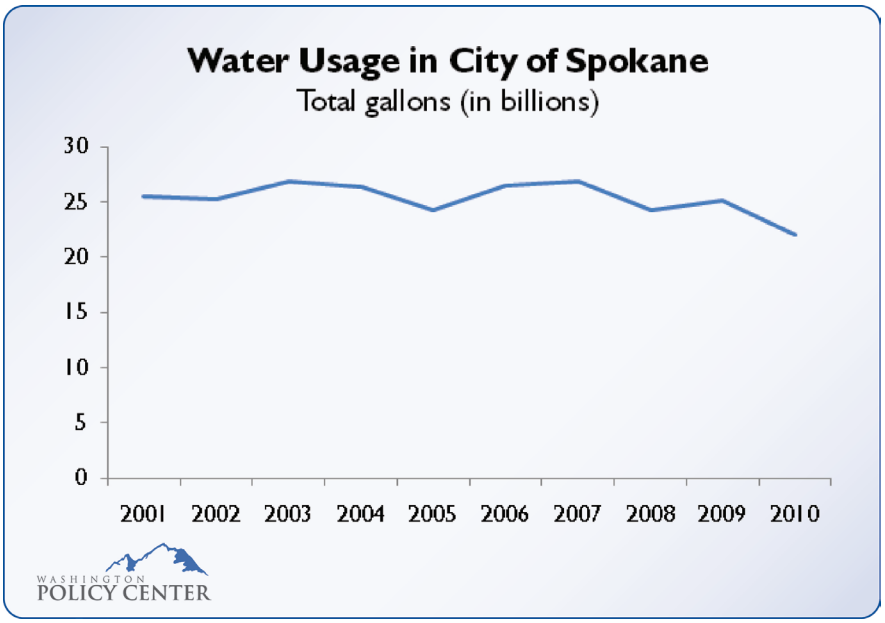
While Councilmember Waldref calls it a "market-based" approach,[9] it really is anything but. Water service in the City of Spokane is a monopoly, provided only by the government. In the private sector, a grocery store customer buying two gallons of milk would not be charged more per gallon for the second gallon, or even the tenth. Government officials in Spokane don't have to worry about market competition.

Water Stewardship Program

Even before the new water rates were put into place, government officials in the City of Spokane had implemented a Water Stewardship Program urging citizens to "slow the flow." While offering rebates to people who upgraded their toilets or sprinklers, so far the majority of the taxpayer cash has been spent on marketing. The city has devoted $65,000 to sponsoring sporting events and buying radio and television commercials in the effort. So far, just $60,000—less than half of total spending—has been sent to water-saving citizens in the form of rebates.[10] An additional $140,000 is available.

[9] "Guest opinion: Being smart with our water," Spokane City Councilwoman Amber Waldref, *The Spokesman-Review,* June 12, 2011, www.spokesman.com/stories/2011/jun/12/guest-opinion-being-smart-with-our-water/?print-friendly

[10] City of Spokane Public Information Request, Water Stewardship Program, Provided by the City of Spokane, June 30, 2011, available upon request



City of Spokane Water Usage

Long before the new water prices were imposed, citizens in Spokane were taking steps to reduce their water consumption. In fact, water usage in 2010 was the lowest in a decade, as city users consumed a total of 22 billion gallons. Since 2001, Spokane residents have cut their water use by 3.5 billion gallons per year.[11]

The decline in water use was not due to a decline in population. From 2000 to 2010, Spokane's population rose by seven percent. The 2010 census shows Spokane's population at 209,000.[12]

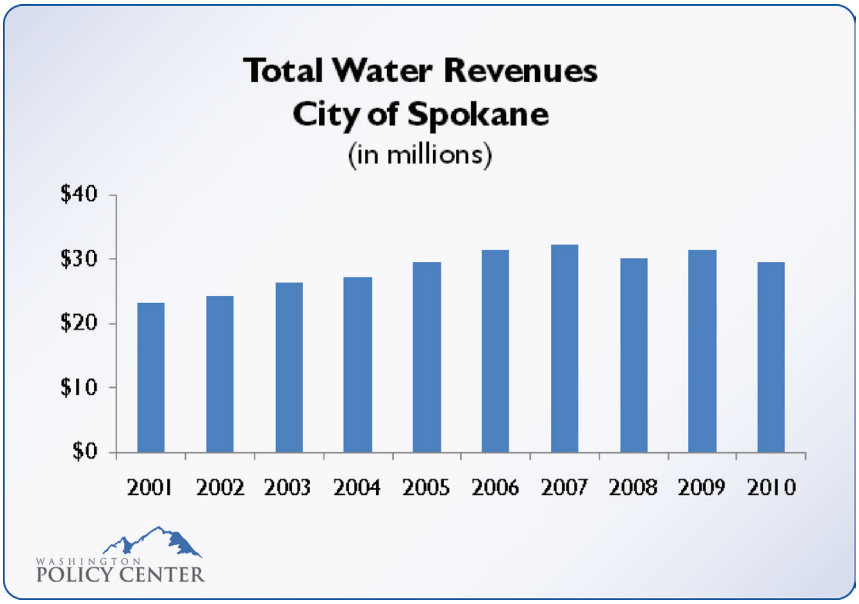
Even while using less water, Spokane citizens were paying more. Water billing records indicate total water revenue to the city increased by more than 27 percent since 2001. In 2010, government officials collected more than $29.4 million from water bills. At one point in 2007, city coffers were filling up with $32.2 million in water bill revenue.[13]

With the new rate structure, Spokane has some of the lowest initial water rates in the Northwest, but also has one of the highest ending rates.

In August 2011, the Spokane City Council was reviewing another increase in the cost of water. Under a new proposal, rates in each tier would increase by 6–10 percent, and base rates would jump nearly 20 percent.[14]

The City of Spokane's water department budget may shed light on one of the reasons policymakers feel they need extra revenue from citizens. In 2005, the

[11] City of Spokane Water Usage Report, Provided by the City of Spokane, June 30, 2011, available upon request
[12] 2000 and 2010 U.S. Census Bureau Statistics, City of Spokane
[13] City of Spokane Total Water Revenue, from the City of Spokane Water Department, available upon request
[14] "City officials want to raise water rates," *The Spokesman-Review*, August 7, 2011, www.spokesman.com/stories/2011/aug/07/city-officials-want-to-raise-water-rates/



City of Spokane had 166 positions in the water division.[15] That budget allocated $10.1 million dollars for salary and benefits, for an average compensation package of $60,868. Only four positions were added between 2005 and 2010, but the amount of money allocated for employee compensation increased 34 percent to $13.7 million, a yearly total compensation average of $81,112 per employee.[16] Since 2005, much of the increase in water rate revenue has been devoted to paying out higher city employee salaries and benefits, not to water conservation programs.

City-owned Golf Courses

The City of Spokane itself is one of the largest users of water in the region. The city owns four golf courses: Indian Canyon, the Creek at Qualchan, Esmerelda and Upriver Drive. When water usage for those courses was requested for this study, the city parks department said it did not keep track of how much each course uses. It took more than a month for the city to tabulate and release the records.

Those water billing records show that in 2010, Spokane's four city-owned golf courses together consumed more than 139 million gallons of water.[17] Most of that water is used in May, June, July, August and September. Audubon International estimates the average American golf course uses 312,000 gallons of water each day—the equivalent of 1,668 homes.[18] The Alliance for Water Efficiency says golf courses, on average, use 20 to 50 percent more water than necessary.[19]

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[15] City of Spokane 2005 & 2010 Approved Budgets, Water Division Allocation, www.spokanecity.org/government/budget/faq/

[16] Ibid.

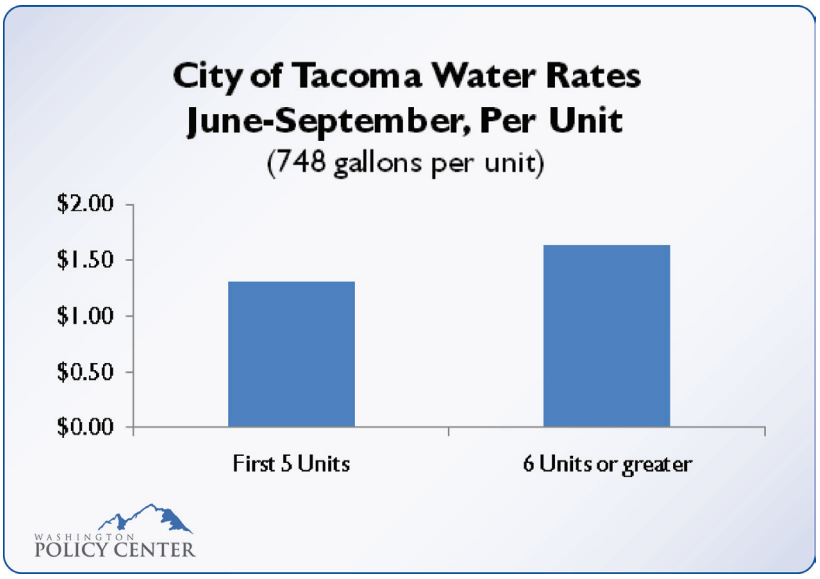
[17] City of Spokane, Public records request, Total Water Usage for Indian Canyon, Creek at Qualchan, Esmerelda and Downriver golf courses years 1996, 2000, 2005, 2010

[18] "Water thirsty golf courses need to go green," June 2008, www.npr.org/templates/story/story.php?storyId=91363837

[19] Alliance for Water Efficiency, Golf Course Efficiency introduction, www.allianceforwaterefficiency.org/golf_course.aspx

When it comes to billing, though, city officials charge their citizens more than their golf courses. While citizens have to pay up to $1.85 per unit for water, the city labeled its courses commercial and gave them a 60 percent discount on the highest rate. Golf courses in Spokane pay a flat rate of just $.76 per unit for water.[20] That means they pay roughly $1,017 per one million gallons of water used.[21] If a homeowner in Spokane used one million gallons of water, their bill would top $2,399.

Case Study: Tacoma



The City of Tacoma is Washington's third largest municipality. Of similar size to Spokane, Tacoma also uses a "conservation based" approach to water rates. However, instead of a five-tiered scale that seeks to limit users year round, Tacoma's water rates vary based on the time of year.[22] From October through May, the city uses a flat rate of $1.308 per unit. Only during the months of June, July, August and September do Tacoma's water rates change. The first five units of water cost ratepayers $1.308 per unit, six units or more cost $1.635 each. Tacoma's flat-rate approach throughout most of the year does not punish larger families and businesses as they use more water.

Citizens in the City of Tacoma did not need a five-tiered scale to limit their consumption of water. In fact, water use in Tacoma since 1989 has decreased, despite an increase in the number of people using water.[23] And even with a flat rate, water revenues in the City of Tacoma have increased almost 33 percent since 2008.[24]

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[20] City of Spokane, Commercial Water Rates, City Clerk records request e-mail confirmation, August 8, 2010, City Utilities Billing Manager Ron Nicodemus

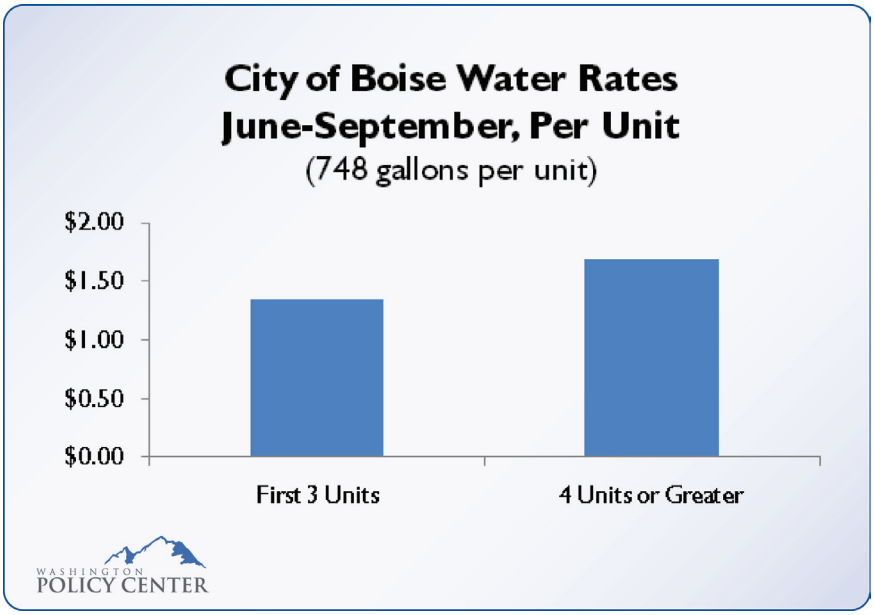
[21] 1,000,000 gallons = 1,336.89 cubic feet x $.76 per ccf

[22] City of Tacoma Public Utilities, Water Rates, www.mytpu.org/customer-service/rates/water-rates/Default.htm

[23] City of Tacoma, Annual History of Water Demands , 1989–2010, provided by the City of Tacoma

[24] City of Tacoma 2011–12 Budget, Water Revenues, 63, cms.cityoftacoma.org/Finance/Budget/11_12_FinalBB.pdf

Case Study: Boise



The City of Boise is the largest municipality in Idaho and the fourth largest in the Pacific Northwest. Of similar size to Spokane and Tacoma, Boise experiences drier, hotter summers. Most of the citizens of Boise get their water through United Water Idaho, Inc.

The utility, like the City of Tacoma, charges a flat rate of $1.352 per unit for the winter months. In the summer months, there are just two rates: $1.352 for the first three units and $1.690 for every unit thereafter.[25]

Even with the flat rates, citizens in Boise have decreased their water consumption by 13 percent since 2000.[26] Water officials say weather patterns, building and plumbing codes and more water-efficient appliances are some of the main reasons. Once again, Boise citizens did not need a five-tiered, punishing water scale to limit their use. In fact, even with hotter temperatures and flat rates, Boise citizens are using less water than Spokane residents.

Spokane Valley–Rathdrum Prairie Aquifer

The difference between Boise, Tacoma and Spokane is that Spokane sits on top of an abundant, free source of water. Government officials say the new water rates are not "about making money," but rather reminding customers the Spokane Valley–Rathdrum Prairie (SVRP) Aquifer is a resource not to be taken for granted.[27] The aquifer is the sole source of drinking water for the more than 500,000 people who live in the Spokane–Coeur d'Alene region. The Washington State Department of Ecology estimates there are between three and four trillion

[25] United Water Idaho, Inc. General Water Schedule, Effective Feb. 2011, www.unitedwater.com/uploadedFiles/Localized_Content/UW_Idaho/RB/ID_2006_Tariff_Final%20web%20version.pdf
[26] United Water Idaho, Inc. Water Consumption, comparing years 2000, 2005 and 2010, available upon request
[27] "Spokane changing residential water billing rates," September 20, 2010, KXLY4 News, www.kxly.com/news/25091715/detail.html

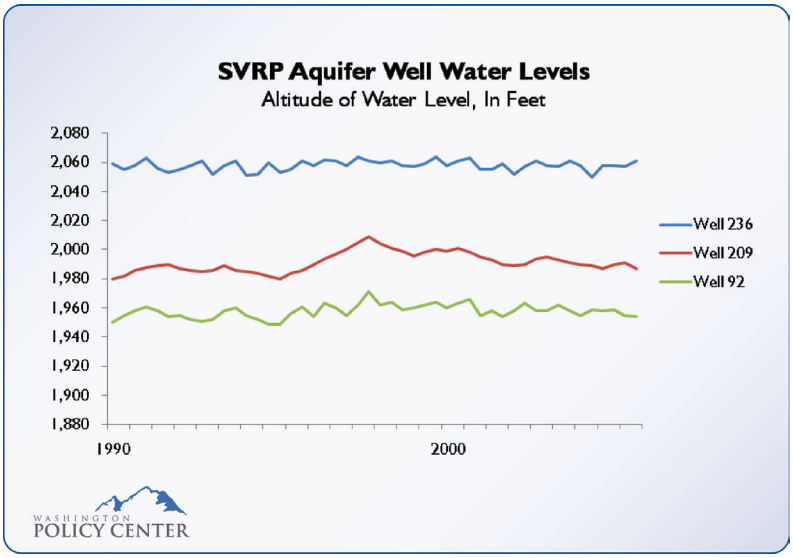
gallons of water in the aquifer.[28] The City of Spokane says the total volume of the Aquifer is 10 trillion gallons.[29]

A recent study completed by the United States Geological Survey (USGS) sought to answer many questions about the health of the aquifer.[30]

Inflow readings show the SVRP Aquifer refilling just as quickly as water is drawn out. The aquifer gets its refill from four primary sources: (1) rain and snow melt, (2) inflows from tributary basins, (3) subsurface seepage and surface overflows from lakes, and (4) return drainage from irrigation.[31] Not surprisingly, the inflow to the aquifer increases most during the late spring.

Still, during the hot summer months, scientists estimate more than 40 percent of the water used for irrigation will drain back into the aquifer.[32] In fact, at peak inflow time, return water from irrigation to the aquifer consistently reaches a volume of 175 to 200 cubic feet per second. One cubic foot is equal to 7.48 gallons[33], meaning at peak flow, approximately 129 million gallons of water re-enter the aquifer each day just from irrigation use.

In terms of outflow, the USGS study measures the amount of water being drawn from the aquifer for indoor and outdoor use. The average home uses 25.4 cubic feet (190 gallons) per day for indoor use.[34] From April through October, outdoor use ranges between 25 to 40 cubic feet per day.[35] During peak times, USGS' 2005 numbers show a total withdrawal of 700 cubic feet per second, or 452 million gallons per day. That is lower than the peak withdrawal years of 1994 and 2003, despite an increase in population.



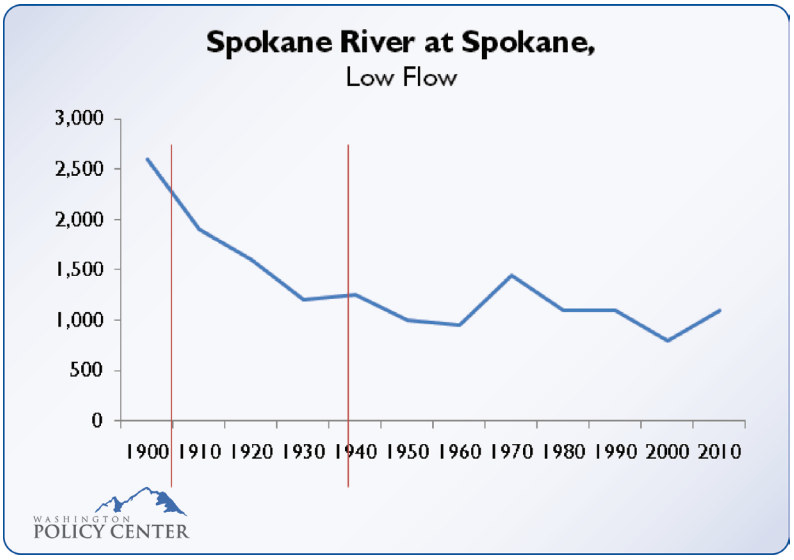
[28] Based on USGS study, e-mail contact Washington State Department of Ecology, available upon request
[29] City of Spokane Water Stewardship Program, www.spokanewater.org/?page_id=25
[30] USGS Ground-Water Flow Model for Spokane Valley–Rathdrum Prairie Aquifer, Spokane County, Washington, Bonner and Kootenai Counties, Idaho, Scientific Investigations Report, 2007–5044; Reston, Virginia, 2007
[31] Ibid.
[32] Ibid.
[33] One cubic foot = 7.48051948 gallons [US, fluid]
[34] USGS Ground-Water Flow Model for Spokane Valley–Rathdrum Prairie Aquifer, Spokane County, Washington, Bonner and Kootenai Counties, Idaho, Scientific Investigations Report, 2007–5044, Reston, Virginia, 2007
[35] Ibid.

There are more than 260 wells that draw water from the SVRP Aquifer.[36] Because the aquifer level varies based on location, the altitude of water is different. In its study, the USGS reviewed levels at 18 of those well sites. The altitude of water at three sites, in geographically different areas, is shown above. The higher altitude indicates an increase in water volume in the aquifer.

The three wells indicated are located in different areas of the aquifer. Well 236, positioned near Lake Pend Oreille, shows water levels steady over the past two decades. Well 209 is located in the transition zone between southern Rathdrum Prairie and Spokane Valley, and also shows little change in water levels. Well 92 can be found in Spokane Valley. It shows water rising each September in response to the opening of the gates at the Post Falls Dam. Still, all three wells have water levels at or above where they were in 1990. The only significant change since 1990 was an *increase* in water levels due to an unusually wet winter and spring in 1996.[37]

Spokane River

The SVRP Aquifer is often described as a bathtub. When that "tub" fills in certain areas, the extra water can be found in the Spokane River. While aquifer levels are quite healthy, the trend does show a drop in discharge in cubic feet per second in the Spokane River. However, two of the biggest drops in the river level are unrelated to municipal groundwater use, as indicated on the chart below.



In 1906, the placement of the Post Falls Dam caused a large drop in summer river water levels from 2,100 to 1,300 cubic feet per second. In 1940, to meet growing demand for timber during World War II, Idaho officials decided to raise the level of Lake Coeur d'Alene by 18 inches. That caused another drop in Spokane River levels.

The Washington State Department of Ecology estimates the Spokane River's lowest flow would actually be 25 percent higher if not for increased groundwater use. Currently, the level of the Spokane River at low flow is actually

[36] Ibid.
[37] Ibid.

slightly higher than it was in 1950, despite an increase in the area population and higher groundwater use.[38] However, since 1970, there has been an increase in the number of low flow readings of less than 600 cubic feet per second.[39] The data suggests that weather and precipitation are more of a factor in the low water levels than groundwater use, although groundwater use certainly contributes to the drop.

In a 2009 report in the *Hydrogeology Journal*, scientists looked at the potential of using artificial recharge to enhance summer river flows. That recharge would take water from Lake Pend Oreille and pump it into the Spokane River. Researchers call such a recharge "scientifically feasible," saying it could increase summer flows by 3.1 to 7.2 cubic feet per second.[40] Doing so, scientists think, would open the possibility of an added benefit in the form of "additional summer hydroelectric power generation."

Water Conservation

Numerous federal and state laws already place restrictions on water use or encourage water conservation. The Environmental Protection Agency runs an expansive program called WaterSense, in which users can calculate water savings, find rebates and learn more about how best to manage their water use.[41]

Federal government requirements put in place in the 1990s require all toilets manufactured and sold in the United States after 1994 use no more than 1.6 gallons per flush.[42] Urinals can use no more than one gallon per flush. Federal requirements also limit the amount of water that can come from a showerhead to no more than 2.5 gallons per minute.[43]

In Washington state, the legislature passed the Municipal Water Supply – Efficiency Requirement Act of 2003.[44] This law, also referred to as the Municipal Water Law, gives water suppliers certain benefits and obligations, such as water conservation. It does not, however, require cities to adopt higher rate structures to limit water use.

Recommendation and Conclusion

Government officials in the City of Spokane have made water conservation a top priority, a worthy public goal and something most citizens are already trying to accomplish. Even with the new pricing system, Spokane still

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38 Washington State Department of Ecology, Spokane River at Spokane 7 Day Low Flow, June 1st thru October 31st, provided by the Washington State Department of Ecology, available upon request

39 *Hydrogeology Journal*, Augmentation of seasonal low stream flows by artificial recharge in the Spokane Valley–Rathdrum Prairie aquifer of Idaho and Washington, USA, published April 30, 2008, available upon request

40 Ibid.

41 EPA WaterSense Program, www.epa.gov/watersense/

42 Toilet water use, Federal laws post 1994, www1.eere.energy.gov/femp/program/waterefficiency_bmp6.html

43 "DOE reinvades showerhead use," Heritage Foundation, July 2010, blog.heritage.org/2010/07/12/doe-reinvades-showerhead-use/

44 Municipal Water Law, House Bill 1338, Adopted by the Washington Legislature, Enacted 9/9/03, www.ecy.wa.gov/programs/wr/rights/Images/pdf/2E2SHB_1338.pdf

has some of the lowest initial water rates in the Northwest. Still, providing water to the citizens of Spokane should not be viewed as a way to punish citizens or as a way to keep the city coffers "financially stable."[45] Water service in Spokane is a city monopoly, and humans cannot live without access to water, so once imposed, citizens have no choice but to pay the higher prices.

If the City of Spokane expects citizens to limit their water use, city entities (like golf courses) should do the same thing. Right now, golf courses in Spokane—which used 139 million gallons of water in 2010—get a 60 percent discount for water over the average homeowner. Golf courses are labeled "commercial" by the city, meaning they pay just $.76 per unit for water. If both used a million gallons of water, a golf course in Spokane would pay $1,017, while a homeowner would pay $2,399.

Instead of adopting a tiered water-rate structure, the city would better serve its citizens by adopting a fair, flat rate for water use. If needed, the city could adopt a slightly higher, seasonal flat rate for summer months. The quality of gallon one is no better than the quality of gallon 5,000. The same conservation goal is accomplished by adopting a flat or seasonal rate; the more water you use, the more you pay. Since city officials believe a flat rate is the right policy for their own city-owned enterprises, like golf courses, they should adopt the same policy for city residents.

City property owners already follow strict state and federal laws that limit water use. Low-flow shower heads and toilets are required by law, and innovative ways to save water are readily available in the marketplace. The city government's actions suggest the citizens of Spokane are not interested in or capable of decreasing their water use without government officials using their monopoly control of an essential service to impose behavioral change. History of water use in Spokane, however, shows citizens were far ahead of government officials in limiting their use. Raising water rates is unlikely to significantly decrease water consumption in Spokane, as water consumption was already down 9.2 percent before the rates went into effect. It will, however, bring a windfall to city officials who seek to increase budgets and compensation for city employees, while raising the financial burden they impose on citizens.

45 "Guest opinion: Being smart with our water," Spokane City Councilwoman Amber Waldref, *The Spokesman-Review*, June 12, 2011, www.spokesman.com/stories/2011/jun/12/guest-opinion-being-smart-with-our-water/?print-friendly

About the Authors

Chris Cargill is the Eastern Washington Office Director for Washington Policy Center. A life-long Eastern Washington resident, Chris grew up in Spokane and graduated from Gonzaga University with a bachelor's degree in Broadcast Communication Studies and a minor in Political Science. Chris has authored WPC's Citizens Guide to Spokane's Children's Investment Fund. He is an ex-officio for the Spokane Valley Chamber of Commerce and the Tri-City Regional Chamber of Commerce, and serves on the Spokane Regional Transportation Commission Advisory Committee. He also served on Spokane Transit Authority's Central City Alternatives Analysis Sounding Board, offering ideas and suggestions on mass transit options for downtown Spokane. In 2011, Chris was named by *Inland Business Catalyst* magazine as one of the 20 top professional and civic leaders under the age of 40 in the Inland Northwest.

Laura Fitzgibbon was a Summer 2011 research intern for Washington Policy Center's Eastern Washington office in Spokane and provided valuable research assistance for this study. A Gonzaga University student, Laura is earning a double major in political science and philosophy. She became interested in public policy while interning for former State Representative John Driscoll and U.S. Senator Patty Murray.

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