

liquid assets: first of four parts

Turning water into gold

By David Olinger and Chuck Plunkett
Denver Post Staff Writers FIRST OF FOUR PARTS

Everyone who buys a house in Denver's growing suburbs pays a hidden price for water.

That first twist of the faucet in a new suburban home costs as much as \$24,424 - more than twice the amount charged in any U.S. city outside metro Denver surveyed last year by the American Water Works Association.

In semi-arid Colorado, there are well-known reasons for the high cost of water service. Among them: scant reservoir space and an immense mountain range separating water from people.

A less-discussed reason is that in Colorado, water is property, and in much of the state, somebody already owns a right to use every gallon. Getting that water requires entering a volatile market where prices can double in an instant - as Broomfield and its neighbors have learned.

After the FBI raided Rocky Flats in 1989, Broomfield's city manager set out to replace more than a billion gallons in the city reservoir, which was downstream from the accident-prone nuclear trigger factory.

By the time its six-year buying spree ended, Broomfield's current and future residents had paid millions to a single broker and the city had acquired three times the water it originally asked him to buy.

As the largest purchaser of water rights from Colorado's Big Thompson system, Broomfield guaranteed it would have enough water for economic and population growth. But it also spurred a buying stampede that caused prices to jump more than 600 percent in less than four years - and raised new-home costs north of Denver by as much as \$15,000 for water alone.

In the West, the battle for water has long been depicted as a clash of greedy, growing cities against a dwindling supply of life's fundamental building block.

But the stories of Broomfield and other Denver suburbs illustrate something else: how the competition for water to fuel metro Denver's growth has created an unregulated and often untraceable commodities market in Colorado - one that is making a lot of people wealthy and has encouraged private investors to look for new and profitable ways to deliver water to the Front Range.



The Homeowner: Broomfield resident John Jenson, who bought his house two years ago, says he was stunned to learn that the price of a new home in the city includes more than \$24,000 in tap fees to hook up city water service. (Post / Glenn Asakawa)

And that competition has been felt in nearly every Denver suburb.

In Thornton, the City Council hired a broker in predawn meetings to buy an enormous water supply and paid him \$3.5 million. Today, two decades later, everyone in the city is still paying for that water - but nobody has tasted one drop.

In southeastern Arapahoe County, new-home buyers are paying an extra \$4,500 to finance a deal with a developer who promises to deliver water through an unusual 1-acre government district. He and his partners stand to reap \$21.7 million.

In much of the United States, getting municipal water is easy and relatively inexpensive. Cities pull it from the river running through town, suck it out of an aquifer underground or collect rain in a reservoir nearby. New suburban towns buy excess water from the big city or start their own water department and get permits from the state to pull water out, clean it up and pump it to the residents.

In Colorado, the first person to declare ownership of unclaimed water gets to keep it forever - as long as that person uses it. Those claims are approved by a court system that protects water rights more rigidly than any other state and is mindful of Colorado's obligations and compacts with downstream states. The result: New and growing cities pay dearly to buy those rights.

And the agents and brokers and sellers that many Front Range communities have come to depend on over the past two decades have gotten rich as cities compete for water. They have become experts at profiting from a system that makes water as valuable as land at the base of a ski lift.

That brings rising costs home.

"The cities are fighting for it, and consequently they pay a higher price," said Paul Tauer, who served as Aurora's mayor for 16 years.

Unless something changes, "people are going to be shocked at the price of future (water) projects," he said. "It is going to be a horrendous bill."

When Bill Berens, Broomfield's mayor during its buying spree, looked at a long-term city plan to finance its water projects with hookup fees on new homes, he was stunned by the potential cost of a market his city helped create.

"They're going to be spending more for a tap," he said, "than I paid for my first house."

Rocky Flats sends worries downstream with waste

Broomfield's years of living next to a nuclear trigger

factory set the stage for a panicked hunt for water.

Broomfield's leap into the water market began with Operation Desert Glow. In 1989, about 75 federal agents swarmed onto Rocky Flats, a now-dismantled plant just west of the city that made plutonium triggers for nuclear weapons.

The raid followed allegations that radioactive and hazardous wastes, and possibly medical wastes, were illegally dumped or burned at Rocky Flats.

Suddenly Rocky Flats and Broomfield were on the front pages of the nation's newspapers.

A little stream called Walnut Creek flowed from the Rocky Flats site into Broomfield's primary water supply, the Great Western Reservoir.

Rocky Flats had never been a good neighbor. Its history was replete with chemical and radioactive spills, fires and other environmental disasters that made it one of the nation's most notorious weapons plants. In 1973, an accidental release of tritium into Broomfield's water supply brought a nightmarish civic headache. Months later, residents learned they had been drinking water tainted with a radioactive element. Council members petitioned the federal government in vain to protect their reservoir with a dam at Rocky Flats.

"I would get to work and wonder what Rocky Flats did today," said City Manager George Di Ciero, who remains at the helm in Broomfield.

For decades, Broomfield tested the creek and reservoir waters, repeatedly assuring



The Broker: Craig Harrison moved from the East Coast 30 years ago and soon focused on the sale of water rights, building this map to scout out business. As Broomfield's exclusive broker, he received \$58 million over six years for water buys. (Post / Glenn Asakawa)

residents that traces of plutonium buried in the reservoir sediments posed no threat to their health.

Still, the perceived health risk hampered city development plans. Corporations eyeing its high-tech office park asked pointed questions about plutonium. Women called city hall and blamed Di Ciero for their inability to bear children.

"Nobody knew who to trust," said Hank Stovall, a former Broomfield council member with a physics degree who insisted that his family drink bottled water. "We'd already been violated with plutonium in the sediment and a tritium spill. When do you say, 'Enough is enough?'"

The FBI raid was the last straw.

Panicked city officials swung into action. Without waiting for an environmental permit, they changed the course of Walnut Creek by digging a trench around their reservoir.

They also began lobbying Congress to pay for a new water supply.

Shortly after the raid, Broomfield got an offer from an up-and-coming water broker named Craig Harrison.

"You need Windy Gap water," he remembers telling Charles Ozaki, then Broomfield's assistant city manager, now deputy city manager.

Colorado's system puts officials such as Ozaki in an unusual situation. Though the water courts treat water rights like real property, they do not require owners to document their holdings in public records such as those required of land transfers.

Counties keep no index of water sales. State officials know where water rights exist but not who actually owns them today. When the legislature instructed the state Division of Water Resources in 2003 to impose a new fee on water rights owners, its efforts to find and bill them proved disastrous. The fee was repealed.

That's where people like Craig Harrison come in.

As one of a handful of Colorado experts who specialize in finding water rights and brokering deals, Harrison was in a position to craft a plan for Broomfield that could bring the city clean mountain water from the other side of the Continental Divide.

The drawback: Windy Gap was not a reliable water supply. In drought years, it could fail to deliver, and in wet years, there was not enough reservoir space to store it.

But a pipeline bringing Windy Gap water would also access a much larger supply delivered through the same tunnel: Colorado-Big Thompson.

In October 1989, Broomfield made its first new water purchase - Windy Gap water that Harrison obtained from the city of Greeley. It paid \$1.8 million in cash to Harrison and assumed debt payments Greeley owed that will total an additional \$7.5 million.

Harrison said he grossed \$250,000 and pocketed \$125,000 on that sale.

Broomfield's next purchase would be made with federal money.

Congress approved a two-part plan to assuage the fears of Rocky Flats' neighbors. The cities of Thornton, Westminster and Northglenn, which drink water downstream from the weapons plant at Standley Lake, got money for a dam and pipeline to keep contaminated runoff out of their water. To this day, they drink from Standley Lake, which is deemed safe despite traces of plutonium in its sediments.

Broomfield got the lion's share of the federal grant to shut down its Great Western Reservoir, which was smaller and closer to the contaminated buildings than Standley Lake and also held sedimentary traces of plutonium.

The money didn't come easily. Broomfield spent \$917,000 to hire a Washington lobbyist and send its own counsel, Matt Glasser, to persuade Congress and the Department of Energy, which oversaw Rocky Flats and was unconvinced that the plant created health risks for downstream water users.

With its \$56 million share, Broomfield built a new treatment plant and helped pay for a new pipeline. It also bought rights from Boulder to about 1 billion more gallons of Windy Gap water.

By then, Broomfield had exhausted all but about \$9 million of its federal money, and it still lacked a reliable new water supply. Delays have stalled the primary reservoir needed to make Windy Gap work effectively. It probably won't be ready until at least 2011.

Windy Gap, a project at the confluence of the Colorado and Fraser rivers west of Granby, provides water when storage space is available in the massive Colorado-Big Thompson system. The Big Thompson system itself stores abundant Colorado River water in Lake Granby and other reservoirs and delivers it through a mountain tunnel to counties north of Denver.

Big T comes with another attractive feature. Unlike many Colorado water sources, this imported Front Range supply can be sold from farmer to city without the risks, costs and delays of going through a water court.

In 1995, Broomfield officials began buying Big T water directly. But while 11 other cities and water districts shared the new pipeline, they struck out independently to find water.

Broomfield and other suburbs had been stung by the failure of a collaborative effort to develop a huge new reservoir called Two Forks. After millions of dollars had been invested, the Denver-led project was halted for environmental reasons. "Denver pulled out," Di Ciero recalled, "and said, 'Suburbs, you're on your own.'"

To shop for Big T, Broomfield officials turned again to the man who first brought them Windy Gap.

Di Ciero, Broomfield's city manager for more than a generation, hired Harrison using a 1981 city ordinance that exempted water purchases from bidding requirements or council approval.

Because of that ordinance, meant to give the city an edge in the competitive water markets of Colorado, the council approved an annual budget for water purchases but left details to the city manager. Di Ciero needed council approval for other purchases that exceeded \$50,000 but could spend tens of millions of dollars on water deals without the same scrutiny.

Baltimore man heads west to seek his fortune

to a life reshaping the water market - and enough money to buy that ranch.

Dreams of ranching gave way

In his Western-themed Loveland office, Harrison displays a brass plaque engraved with the praise of an associate: "It's like mixing Walt Disney and Albert Einstein."

Harrison, 49, left his home in Baltimore at 19 without a college degree and came to Colorado to fulfill his dream of someday owning a ranch.

He began selling houses and then ranches but soon saw an opportunity in water. He decided to study the private world of water rights, and with the lessons that taught him, made his fortune.

"I believe in destiny," he said.

The young man from Baltimore now owns a Colorado ranch, drives a Jaguar and wears cowboy boots.

He calls himself the premier broker in the nation's leading water sales market.

He began his focus on water rights in 1977, he recalled. To help him scout out business, he eventually built an elaborate, three-dimensional water supply map. By now, he has logged nearly half a billion dollars in water and land sales to farmers, businesses and cities in northern Colorado.

"He's sharp," said Alvin Geist, his former real estate boss and mentor. "He gets in touch with the various cities, gets to know the manager at the water department, finds out their needs, and he goes to it."

Certainly Harrison had worked with other powerful buyers before Broomfield officials showed up at his office in the summer of 1995. But no other city had ever come to him with a job as large as Broomfield's.

Broomfield agreed to pay Harrison a set price for water that was above the market value. The initial contract let him buy up to 3,000 units, but city officials kept extending it until he had sold them more than three times that much. One Big T unit supplies more than enough water for a year's use by a typical urban family, averaging 0.7 of an acre-foot of water a year, or 228,000 gallons.

In its first Big T purchase, Broomfield paid Harrison \$1,990 a unit. Harrison had paid only \$1,625 for many of those units - 22 percent less. By the time he was done five years later, his contract would be amended three dozen times. At its peak price in 2000, Broomfield paid him \$14,500 a unit - more than seven times its original offer.

The biggest seller of that first block of water rights - 442 units, for \$880,000 - was listed as Harrison's own Gateway Farms. He said he was leasing that water from a man in Florida, whom he would not identify, and acquired it at a price he would not disclose. In other purchases, Harrison bought water from longtime farmers, ranchers or businesses, then immediately flipped the rights to Broomfield, often at 7 percent to 10 percent more than he paid.

City Council members say they knew the city was buying water and raising hookup fees, but they never saw the details of its purchases from Harrison.

In fact, the man who was Broomfield's mayor during the six years his city bought water from Harrison claimed he never met Harrison and did not even remember his name.

"To be very candid with you, I'm totally surprised. This is the first time I've heard about that," Berens said in an initial interview. "The more I think about it, the more shocked I am."

But after consulting top city officials, the former mayor, now a state representative for the area, called their water purchases a good deal for Broomfield.

"I implicitly trusted my staff," Berens said. "I would go so far as to say I still love them. They've made Broomfield what it is."

Former council member Steve Olstad also said he was unaware of Broomfield's exclusive deal with Harrison.

Had that been explained publicly, "I think several on the city council would have raised a stink," he said. "They would have wanted to know just how much commission somebody was getting."

Di Ciero and his top assistants say they kept the council informed of the status of their water projects in periodic reports and bond requests. In one memo to the council related to a water bond issue, they mentioned a city contract with Harrison Resource Corp. that had already been amended 22 times.

Berens described the updates as summary in nature and said he thought Broomfield was buying directly from the water district that controls Big T.

City administrators praised Harrison's work, saying he saved Broomfield considerable staff and legal expenses and secured a new water supply in an increasingly competitive

market. At their request, Harrison compiled a list of transactions for reporters showing other cities sometimes paid as much or more for Big T water than Broomfield had.

But that comparison consistently excluded those who paid less.

If Broomfield's purchases from 1995 through 2001 are compared with average reported prices paid by others for Big T water during the same months, Broomfield actually paid an extra \$4 million.

Broomfield records also show the prices it paid Harrison did not match the prices he reported for years to Water Strategist, an influential Western industry publication that tracks water sales.

City administrators acknowledge asking Harrison to tell Water Strategist what he paid for the water, not the higher prices Broomfield paid him. They justified the practice by saying Harrison provided services as well as water.

Besides, "we didn't want to drive the price up," said Dorian Brown, city public works director.

Broomfield officials who were involved in the water deals said they regularly reviewed Water Strategist - so at all times had access to the prices Harrison reportedly paid.

The differences between the prices Broomfield paid and the prices reported to Water Strategist show what Harrison's company took in while serving as Broomfield's front for six years. He agreed that, before expenses, he grossed \$4.3 million - the equivalent of about \$100 for every Broomfield resident.

Unquenchable

demand feeds surges in price

In behind-the-scenes deals, Broomfield becomes the "900-pound gorilla" in the metro water-rights market.

Di Ciero started amending Harrison's city contract just two months after Broomfield made its first Big T purchase in 1995 for \$1,990 a unit. The first amendment increased the amount of water Harrison had the exclusive right to buy. Soon, the city was revising the price as well. That December, Harrison offered Broomfield more water, but at \$100 a unit more than the contract allowed. In a letter, his attorney noted that the proposed price exceeded what Broomfield had agreed to pay. Broomfield bought it without bothering to change the contract. Three months later, Harrison asked Broomfield to buy more water at \$700 a unit above his contract price. Di Ciero changed Harrison's contract price the next day - and bought the water. The real sticker shock lay ahead.

In October 1999, Broomfield began offering \$6,000 a unit for Big T, three times its original price. But it managed to buy little water at that price, and other cities paid as much as \$7,700 as the year ended. In March 2000, Broomfield changed Harrison's contract again, more than doubling its offer to \$14,500. In 3 1/2 years, the price Broomfield paid for water had jumped 628 percent.

Water experts say several things contributed to the amazing price surge that occurred while Harrison was buying water for Broomfield. Some towns were requiring developers to supply a unit of Big T for every house they wanted to build. Anti-growth bills were circulating in the legislature, spurring developers to win permits as quickly as possible. Then there was the Broomfield factor. The Little Thompson Water District, which supplies water to an area between Longmont and Loveland, watched the prices it paid for Big T quadruple in one year.

Already, "there was a reasonable amount of growth happening" that inflated water prices, said Erik Anglund, Little Thompson's water resource engineer. But "when Broomfield put such an additional demand for those water rights, I think that's what drove the price up so quickly." "We were the 900-pound gorilla," former Mayor Berens agreed. "We moved the market." By Harrison's analysis, Broomfield bought more than 30 percent of all the Big T units sold for six years - and five times as much as any other city, town or water district bought directly.

That August, after Broomfield had spent \$14 million for water in four months, Harrison sent city officials a letter warning that the Big T supply was running out. If buying trends persist, "we will have roughly a 7.4 year supply left," he wrote, and: "I am standing by to help you."

Broomfield heeded his advice. As Big T prices finally retreated from their peak, the city spent more than \$23 million in the next year for more water rights. In two years, 13 individuals and companies sold Big T rights to Broomfield for more than a million dollars each. The biggest seller: former Colorado Rockies owner Jerry McMorris, a neighbor to Harrison whose Timnath Farms unloaded \$8 million worth of water rights.

Despite all that buying, Broomfield officials still feared that the city's population - which had shot from 24,638 to 38,272 in a decade - would outpace their supply. In late 2000, they decided they needed immediate access to water that they had already bought and leased back to Harrison or the original seller. They said those long-term leases gave Harrison flexibility to close deals with farmers. The sellers could profit immediately and keep using the water until Broomfield needed it. But when Broomfield decided to cancel those leases, its records show, more than half the water was controlled by Harrison himself. In early 2001, Broomfield spent \$1.1 million to terminate leases of Big T water held by Harrison and others. That included 200 units Broomfield leased just months earlier - and paid \$158,000 to cancel.

Harrison said he used some of that water on his own land and subleased the rest to others. He also said it cost him money to cancel those subleases, but he declined to provide figures. "I'm telling you - I didn't get it all," he said.

Di Ciero said Broomfield saved a great deal of money by buying out leases for \$790 a unit instead of purchasing even more new water in a volatile market. Over six years, Broomfield paid Harrison a total of \$58 million for water purchases. Di Ciero calculates that if Broomfield had to buy the same amount of water at today's prices, it would cost \$110 million. "I wish most of my investments performed like that," he said.

Today, cities continue to amass a growing share of the once-agricultural Big T water supply. But as of 2004, four years after Harrison warned that the window was closing, farmers still owned 38 percent. Harrison, a one-man brokerage with two assistants,

estimates he incurred more than \$2.3 million in legal, title, office and other expenses to bring Big T to Broomfield - and that when those are deducted from his gross revenues, his profit averaged 3 percent. He said he spent two-thirds of his time acquiring water for Broomfield and sold Big T water to nobody else during those six years. During that time, Broomfield never asked Harrison for accounts of his expenses. Harrison said he gave Broomfield one-stop shopping, took care of all the details and succeeded in buying more water than anyone else in competition with dozens of water districts, cities, towns and developers.

"Broomfield said, 'We don't need to look under the hood,'" he recalled, and was mainly concerned about getting enough water.

"It was incredibly complicated. I should have charged more," he said. "No municipality can do this. They can't move fast enough."

Other cities omit broker and buy water directly

Broomfield officials paid about \$4 million more by using a broker, shifting the costs to homebuyers.

Pete Maysmith, head of Colorado Common Cause, questioned why any city would spend so much money without public hearings and council approval of the contract and its numerous amendments.

Had there been hearings, "someone in Broomfield would have stood up and said, 'What are we getting for \$60 million?'" he said. "That's a question that should have been asked."

Other cities have worked with brokers like Harrison. But the Broomfield contract was unusual. Its City Council had no vote on the original contract or on the long series of amendments that allowed Harrison to sell Broomfield more and more water at higher and higher prices.

In other cities, utility officials say they typically purchase water rights with their own staffs or require developers to supply them, submit purchases for council approval and expect the seller to pay any broker's commission.

When Boulder buys water, "I take the lead, and I'm salaried," said Carol Ellinghouse, its water resources coordinator. "I don't get any commission."

Utility officials in Louisville, which also bought water in the Big T market in the 1990s, discussed hiring a broker with that town's City Council.

"We decided we could do just as good without writing checks to brokers," said Thomas Phare, its public works director.

Louisville officials are required to submit water purchases for council approval. If they didn't, "I guess there is some concern on how that would look from the outside," Phare said.

Some brokers in the Big T marketplace also question Broomfield's contract with Harrison.

"I think several people thought (Harrison) had a very sweet deal," said Don Mackey, a

longtime broker for Prudential-Warnock Realty in Loveland.

Mackey saw the workings of the Harrison contract firsthand in the spring of 2001, when he had a pair of clients looking to sell 159 units of Big T. Broomfield was among the cities he called.

Mackey said Mike Bartleson, Broomfield's deputy director of water resources, told him the city was paying \$11,250 for water, but he had to go through Harrison.

Harrison told Mackey he would buy the units for \$10,500.

Mackey called Bartleson back and told him he could save Broomfield some money.

"I think they were surprised when I told them what Harrison was paying for it," Mackey said.

But he said Bartleson told him fees paid by buyers of new homes in Broomfield more than covered the cost.

Indeed, the fee for a new connection to Broomfield's municipal water supply, the "tap fee," in Broomfield in 2000 was \$15,500 and rising.

Harrison bought the units for \$10,500 and sold them to Broomfield for \$11,250 each.

Mackey says he made a commission of about 5.25 percent. Harrison gained an extra 7 percent by reselling the water immediately.

House prices increase as a direct consequence of these transactions.

"Hey, Broomfield can just turn around and charge the builder," said Jon Lee, a prominent local developer, "which in turn charges the homebuyer. They've set it up so it charges the new homeowner."

New-home buyers don't know this. It is not disclosed in closing documents but is instead built into the purchase price.

John Jenson, who bought a new home in Broomfield's Aspen Creek neighborhood two years ago, was surprised to hear his city charges more than \$24,000 for a water pipe to the house.

"I would say that's substantial," he said. "That's exorbitantly high."

"Per house?" asked Brad Helms, Jenson's neighbor. "I never would have guessed."

Economists note that rising prices for new homes also tend to inflate the cost of existing homes.

Di Ciero contends Broomfield benefited from its exclusive contract with Harrison.

"I think in retrospect it was a solid, good, innovative way to do it," he said.

But while the value of those purchases has grown, Broomfield could have spent \$4 million less if it had bought the same amount of water at the average prices others were paying at the time.

In 1995, when Broomfield began paying Harrison \$1,990 a unit, other communities were paying 15 percent to 25 percent less. By 1998 and 1999, others were paying comparable prices, but Broomfield was buying less water. In December 2000 and August 2001, when Broomfield spent \$23 million in two big splurges, others paid an average of 11 percent and 7 percent less.

Di Ciero questioned the fairness of a monthly price comparison, partly because other sales were small when Broomfield made some of its biggest purchases.

But even if the city paid higher prices, he said that cost has been more than offset by the development its new water supply made possible. According to a report he prepared, Broomfield's jobs and assessed property value per person have tripled since 1995, and its retail sales per person now rank first in the Denver area.

"We probably did pay a little more, but what has it done for the community?" he asked. "The value of the community today is excellent."

In the end, city gives thanks for plentiful supply

Hookup fees soar in other suburbs, and growing cities still struggle to make sure they have enough.

Across the United States, many cities charge less than \$1,000 for a new residential water hookup. In Colorado, the fees range much higher.

Denver, which bought its water rights long ago, charges \$4,795 for a home with an average lot. Boulder charges \$7,345 for a typical single-family home with two bathrooms. Some cities charge \$10,000 or more for water service, and tap fees in fast-growing Denver suburbs have rocketed as high as \$20,000.

In Broomfield, the fee has nearly tripled to \$24,424 since it hired Harrison - and is projected to rise to \$36,000 in the next 30 years.

After spreading into four counties,



The City Manager: George Di Ciero turned to broker Craig Harrison to find and buy water for Broomfield under an agreement that escalated sharply in amount of water and price. (Post / Craig F. Walker)

Broomfield has become its own county. Rocky Flats never resumed plutonium production after the FBI raid; a massive cleanup project is turning the site into a wildlife refuge.

Great Western Reservoir water is used for landscaping in Broomfield now but no longer reaches kitchen faucets.

City officials give thanks that they don't need to buy more water in a market where it still costs five times what they initially paid Harrison for it a decade ago.

As for the Windy Gap water that originally led Broomfield to Harrison, in the past seven years, the city has received only about one-third of the water it owns. The city expects to spend \$100 million for reservoirs to improve that yield, the final step in its long-term strategy to secure a new water supply.

Harrison praises Broomfield's leaders for their innovation in what they believed was a crisis.

"I think they are some of the most brilliant city people I have ever worked with," he said. "I really do."

Post researcher Barbara Hudson contributed to this report.

officials paid about \$4 million more by using a broker, shifting the costs to homebuyers.

THE TERMS

Acre-foot

A standard measurement in water transactions, it's the amount required to cover an acre of land in a foot of water. It amounts to a little less than 326,000 gallons of water — enough to supply the indoor and outdoor uses of two average urban households for a year.

Water right

The ownership right to pull a court-authorized amount of water from a river, reservoir or other renewable source of water. Water rights are administered in a seniority system.

- Senior right:

A right gained by the first to claim water from a particular source.

- Junior right:

A right to use water available after senior right-holders take theirs.

Water court

A court devoted to approving water rights and adjudicating disputes relating to water ownership or its use.

Ditch company

A cooperative of water users, it maintains a series of water-filled canals serving farms. Its members may buy and sell shares to one another and sometimes to outsiders.

Groundwater

Water pulled from a well instead of directly from a stream or river. Some wells take water from the underground reaches of a nearby stream.

Tap fee

A charge for a new home to be connected, or tapped, to a municipal water system.

THE SERIES

Today: Competition

