

Irrigation Leader

Special Edition

August 2017

**100 YEARS OF
KENNEWICK
IRRIGATION DISTRICT**





Welcome From President Gene Huffman

LOOKING BACK

Kennewick Irrigation District (KID) has come a long way in the 10 years I have served on the board of directors. And with our 100th anniversary upon us, I have been thinking about where we have been and where we are headed, and I have also been thinking about how I got started with the organization.

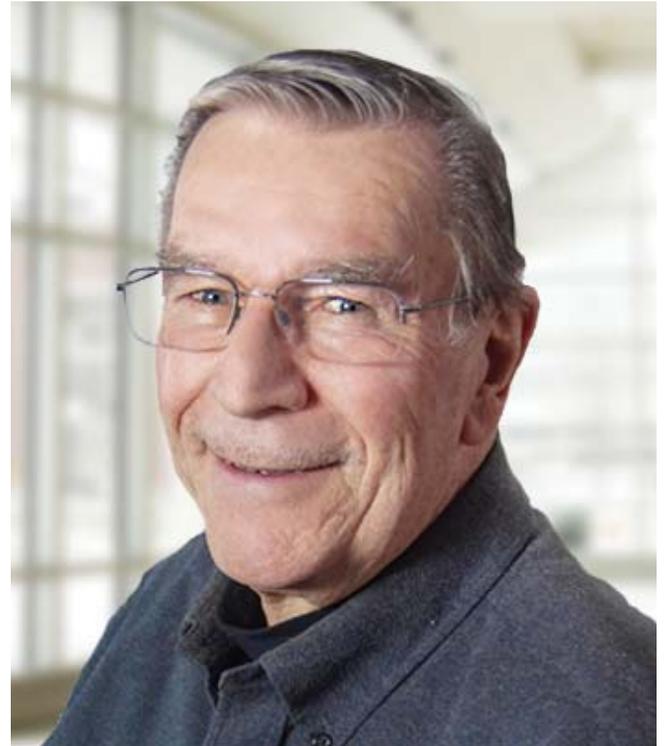
My educational background is in agriculture, and I have owned and operated a farm, raising alfalfa, apples, and onions. I worked as an electrical troubleshooter and service manager, dealing with all phases of irrigation, from design to implementation; as a heavy-duty mechanic; and as a realtor. I also served 20 years on a rural school board.

One day, I approached a ditchrider from KID because I did not have irrigation pressure. When I told him about my issues and asked what was going on, he said I did not have pressure because everyone was irrigating at the same time. I then drove around the neighborhood to see if that was the case, and it was not. The true reason was a bad pump. Speaking with my wife about my frustrations, she told me since I knew so much about irrigation, I should run for the KID board of directors. So I did.

OUR PEOPLE ARE OUR SUCCESS

One thing that has always been instrumental to KID is our people. My favorite part of being on the board of directors is working with the people we have hired, especially when we hire the right people for the right job. For example, since hiring District Manager Chuck Freeman, KID has grown and benefitted.

I feel we have made a lot of progress since I have been on the board. The first step was hiring a good manager and having an involved board of directors. This really changed the atmosphere of the office, because the attitude of the



“Technology is always changing and updating, so I believe that, in the future, we will have more tools and software to successfully deliver water.”

-GENE HUFFMAN

office starts with the manager, and in KID’s case, the board of directors as well. We have also made big progress on our projects, such as canal lining, pump consolidation, and the Red Mountain Project.

A CHANGING CUSTOMER BASE

What has changed the most for KID over the years is the amount of urban growth. There is a lot less farm land. At first, this urban growth created challenges for us, but we have addressed them. The way we were originally set up was not the best for an urbanized community, but we have made the necessary changes to make the systems work efficiently.

LOOKING AHEAD

I feel the biggest challenge we will face is the quantity of water we receive. We need to plan for that now. Other challenges I foresee are getting most of our canals lined and piped and addressing the expense of converting urban customers to meters.

Technology is always changing and updating, so I believe that in the future, we will have more tools and software to successfully deliver water.

My advice to the next generation of board members? Hire the best manager you can find who knows what he or she is doing, because a good manager can make all the difference.

I am proud of KID’s growth and success, and I am proud to be part of this great team. Here’s to the next 100 years!

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STAFF:

Kris Polly, Editor-in-Chief
John Crotty, Senior Writer
Matthew Dermody, Writer
Julia Terbrock, Graphic Designer
Capital Copyediting LLC, Copyeditor

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COVER PHOTO:

Kennewick Irrigation District Main Canal
(Courtesy of Doris Rakowski at KID).

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MAKING THE DESERT BLOOM

The Benefits of Urban Forests in a Shrub-Steppe Ecoregion



Traveling across the shrub-steppe hills and agricultural plains of eastern Washington, one cannot help but notice the vibrant urban forest that appears as one enters the Tri-Cities. A rarity in our arid region, this forest is made possible by irrigation, which in large areas of Kennewick and south Richland is the result of water diverted from the Yakima River and delivered by the Kennewick Irrigation District (KID).

Prior to the arrival of irrigation in the area, the dominant natural vegetation found in the Tri-Cities was shrub-steppe. In fact, the Tri-Cities is located in the heart of an ecoregion known by various names, including Columbia Basin, Intermountain Semi-Desert Province, and Columbia Plateau. Regardless of the name, this ecoregion has an arid climate (7–10 inches of precipitation per year), an ample number of frost-free days (140–200 days per year), cool winters (average January minimum temperature of 30 degrees Fahrenheit), and warm summers (average July high temperature of 89 degrees Fahrenheit). These natural conditions, without supplemental irrigation water, are dominated by dryland vegetation such as Wyoming sagebrush, rabbit brush, Sandberg wheatgrass, needle-and-thread grass, and Indian ricegrass. These species of shrubs and grasses make up the shrub-steppe habitat that dominates the region.

Besides a few scattered remnant groves of western juniper in the uplands and black cottonwood along the rivers, the Tri-Cities area is nearly devoid of native trees. The Lewis and Clark Expedition in the early 19th century took note of this in its exploration of the area. Bateman Island, located at the confluence of the Yakima and Columbia Rivers, was the farthest point upstream on the Columbia River explored by Lewis and Clark. William Clark, writing in his journal on October 17, 1805, noted that at Bateman Island, “There is no timber of any Sort except Small willow bushes in sight in any direction.”

The onset of irrigation was a game changer for the region, as it has been in many areas of the arid intermountain West. The economic and social benefits of the conversion of desert areas into irrigated croplands have been well documented by many over the years. The ecological changes brought by converting the natural landscape into irrigated farmland have also been widely noted. However, it is

less well known that irrigation benefits natural resources in urban areas—the effect is just as dramatic on urban areas as on agricultural areas. One striking example in the Tri-Cities, and within the KID boundary, is the urban forest that is found in our community.

Contrary to the belief that cities and urbanized lands are devoid of nature and wildlife, the truth is that cities do contain habitat for a variety of species that can adapt to the urban environment. The urban forest of trees and shrubs planted along streets, in parks, and in backyards provides habitat for a variety of species, which in the Tri-Cities can range from porcupines and raccoons to Cooper’s hawks and robins.

Besides providing wildlife habitat, the urban forest provides numerous other benefits to the Tri-Cities and other communities across the nation. Urban forests include all publicly and privately owned trees and woody vegetation in urban areas and, nationally, constitute 25 percent of the total forest canopy.

The urban forest is a vital part of a community’s green infrastructure and includes trees, shrubs, grass, and other vegetation, as well as porous elements for natural storm water management, such as lawns and landscaped areas. Trees in urban areas deliver a variety of ecosystem services: supporting soil formation, photosynthesis, and nutrient cycling; improving air quality by storing and sequestering carbon; and removing tons of air pollutants, including greenhouse gases and particulates.

Urban trees also improve water quality by reducing and treating stormwater runoff, including preventing millions of gallons per year of runoff that is intercepted by the foliage or taken up into the plant through the roots. This is especially important in an arid environment such as the Tri-Cities, where much of the

precipitation comes in the form of sudden thunderstorms that drop a lot of rain in a short period of time. This kind of precipitation can overwhelm storm drains and cause local flooding of streets.

Summer shade provided by urban trees reduces building energy use and associated costs and contributes to cooling surface air temperatures and absorbing ultraviolet radiation, which is crucial to making desert areas such as the Tri-Cities livable during the hot summer months.

Trees in urban areas also provide significant economic, social, and cultural benefits to a community, including opportunities for outdoor recreation; gathering of natural products, such as fruit and nuts; and aesthetic, spiritual, psychological, and public health benefits. Trees also block sound, reducing noise pollution from cars and highways and other urban land uses. The urban forest can also improve a community’s economic well being by increasing residential

property values by up to 20 percent and increasing spending by shoppers in central business districts by up to 12 percent, according to recent studies. Additionally, the urban forest can support a strong landscape maintenance economy by providing demand and thus jobs for lawn care specialists, arborists, and allied trades.

Although the benefits of the urban forest are numerous, we must be cognizant of wise water use, especially in arid regions and drought-prone areas. To ensure a thriving urban forest in arid ecoregions, it is important to choose drought-tolerant tree and shrub species to conserve water and to increase plant survival when water shortages do occur. Local nurseries, soil conservation districts, university extension offices, and city park departments are good places to find information about proper plant selection for your local climate.

The onset of irrigation was a game changer for the region.

Dedication to Service on KID's Board: JOHN PRINGLE



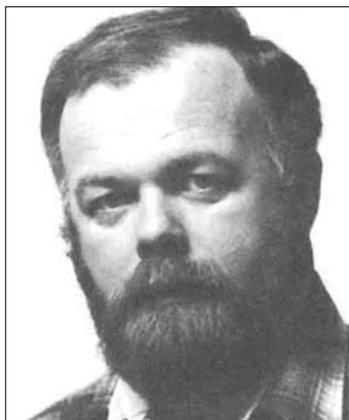
A NEIGHBOR NEEDED HELP. SO JOHN PRINGLE PITCHED IN FOR 27 YEARS.

"I kept running for reelection because being on the board of directors became interesting. Water sounds simple, but it can get complicated," John said.

In the early 1980s, one of John's neighbors searched for someone to replace a retiring member of the Kennewick Irrigation District (KID) board of directors. The neighbor asked John if he would like to fill in. In 1983, the Benton County Commissioners appointed him to fill the vacant position. John retired 27 years later, in 2010.

John said, "I enjoyed learning about our water rights and helping to make sure we had water to irrigate with."

John was born in Ukiah, California, and received his bachelor of science in agriculture from California State Polytechnic University, Pomona. He moved to the Tri-



Cities area in 1967 and operates a 90-acre orchard.

"My favorite part about being a KID board member was learning about our water laws and water supply," he noted.

While John was serving on the board, key accomplishments included expanding water distribution for an increasingly urbanized customer base and improving canal safety. Finding funding to improve safety was one of his top challenges. "We used to have many breaches back when I served, compared to now," he said.

In the future, John expects the district to continue to face challenges keeping a sufficient water supply and protecting the district's water rights, "because so many people are after it."

John explained, "The original purpose of irrigated water was for agriculture. As our population continues to grow and the district's customers become more

urbanized, irrigated land does not continue to grow, which brings up the issue of food production in the future."

These are topics that John began tackling nearly three decades ago when a neighbor needed help.



LIFE

AT THE END OF THE

PROJECT

Water Supply for the
Kennewick Irrigation District

Supplying irrigation water to more than 63,000 urban and agricultural customers at the end of the Yakima Project in a highly regulated and drought-prone river system is the challenge that the Kennewick Irrigation District (KID) faces and embraces year in and year out.

KID PROJECTS

The Kennewick Division was the last of the U.S. Bureau of Reclamation Yakima Project divisions to be completed. Authorized by Congress in 1948, construction of the division was completed in 1958, with the first water deliveries made the prior year. The Yakima River is an overappropriated basin, meaning that in dry years supply is not adequate to meet demand. The Yakima Project's five completed storage reservoirs can only hold just over 1 million acre-feet of water, or 30 percent of the average total natural runoff in the basin. Total irrigation entitlements and instream flow needs in the basin above Parker Dam are approximately 3 million acre-feet. The difference is made up in snowpack, known as the sixth reservoir since it supplies basin water needs into late spring and early summer before demand requires that the reservoirs be tapped. KID took over operation of the irrigation delivery component of the division in 1958.

Water shortages have been a periodic occurrence in the Yakima basin since the creation of the Yakima Project, which was authorized by Congress on December 12, 1905. To make possible the development of the five storage reservoirs that would serve the project, the state of Washington granted the United States the right to use eminent domain to acquire land, water, and property; this action directly led to the withdrawal of the unappropriated waters of the Yakima basin. These withdrawn waters hold a priority date of May 10, 1905, which is significant in that water rights with this priority date are subject to prorationing in water-short years. In such years, those users with senior water rights (prior to May 10, 1905) will receive 100 percent of their entitlement, while those with proratable water rights (May 10, 1905) will receive reduced proportions of their usual entitlement, depending on the amount of water available after senior entitlements are fulfilled. KID holds a small amount of senior water rights; the majority



of KID's entitlement (84 percent) is proratable.

Water shortages have caused the curtailment of prorated water rights to occur on average once every 4 years over the past 20 years. Early disputes over water shortages in the basin led to the District Court of Eastern Washington issuing the 1945 Consent Decree, which determined water delivery entitlements in the Yakima basin above Parker gage and defined the prioritization of water rights during drought years, including prorationing. The decree started what is known in the Yakima basin as total water supply available, or TWSA. TWSA is the total amount of water expected to be available for all uses in the basin above the Parker gage from April 1 to September 30 of any given year. The amount of water that makes up TWSA includes reservoir storage contents,

usable return flows above Parker gage, and runoff forecasts.

Outside TWSA, the water supply for the modern KID is, as was intended at conception, return flows in the lower Yakima River. The 1945 Consent Decree illustrated that the existing system was not adequate to meet all needs in water-short years and that prorationing would occur in those situations. Despite being an irrigation district with mostly proratable water rights, KID has typically fared better overall than other Yakima Project irrigation districts that hold water rights that are entirely proratable. This is why the return flows that supply KID are so important to water supplies in the entire Yakima basin.

KID's location in the lower Yakima River below Parker gage positions it to take advantage of return flows that enter the river above the district's



diversion at Prosser Dam. Three major Yakima Project irrigation entities divert water above Parker gage and provide irrigation return flows to the lower river: Roza Irrigation District, Wapato Irrigation Project, and Sunnyside Valley Irrigation District. Water entering the river below Parker is outside of the TWSA definition but is crucial in providing water supplies for KID and flows for fish. Reclamation manages the Parker gage to pass only flows required to meet federal instream flow targets, as well as identical flow targets located downstream at Prosser Dam. Thus, KID depends on what returns to the river between the two points for the district's supply, especially in water-short years.

KID's water supply contract with Reclamation allows KID to take all waters above flow targets at Prosser

Dam, provided that the district does not call on storage for targeted delivery. This line in the contract has significant ramifications for KID and other water users in the basin. First, by taking return flows as a supply, KID is able to typically take more water than the prorated amount during water-short years, although these increased amounts tend to not be available when needed during the hot days of mid-summer. Second, other proratable districts benefit from KID not taking water out of TWSA during water-short years, since KID calling on storage during a drought would require a recalculation of TWSA and a reduction in the prorated amount of water delivered to such districts.

Although return flow supplies have been a good deal for KID water users and other proratable water users in the Yakima River basin, the amount and timing of the return flows that have sustained KID for nearly 60 years have changed. Concerns about plummeting salmon and steelhead populations and greatly reduced instream flows led to landmark legislation passed by Congress in 1994. This legislation, known in the Yakima basin as title XII, authorizes an aggressive, federally funded water conservation program designed to increase instream flows in the Yakima River and to provide some security to participating irrigation districts during drought conditions. The program has been successful in modernizing irrigation canal infrastructure and providing water for use for biologically beneficial flows, as needed.

While the title XII conservation program has certainly been beneficial

The program has been successful in modernizing irrigation canal infrastructure and providing water for use for biologically beneficial flows, as needed.

to both program participants and instream flows, it has directly reduced the amount of return flows that are available for diversion in the Yakima River by KID. KID and others anticipated this, and as a result, a special section was added

to the title XII legislation: Chandler Electrification. Chandler Electrification authorizes the installation of electric pumps to replace the hydro pumps that supply KID's irrigation water. Such pumps would be used during drought conditions when limited flows are available to drive the hydro pumps, which require 1.25 buckets of water for every bucket pumped into the head of the KID

main canal. KID is actively pursuing the installation of electric pumps at Chandler, as recent modeling done by Reclamation shows that upbasin water conservation projects will continue to reduce the return flows that supply KID, yet a switch to electric pumps in water-short years will provide KID with a full water supply in all but the worst years. Additional modeling is being done to consider varying climate change scenarios and the potential effect on KID's water supply.

Life at the end of the project has not been easy, especially in recent years in which upstream conservation projects have reduced water supplies and droughts have exacerbated swings in river levels that at times made meeting KID irrigation demands an impossible task. Fortunately, the KID board, management, and staff are willing to put in the work needed to bring the district into the 21st century and make the tough decisions that will allow KID to adjust to the times and prosper for the next 100 years and beyond.

BATEMAN ISLAND CAUSEWAY MODIFICATION PROJECT:

Working Together for the Greater Good in the Lower Yakima



These relationship-building and partnership opportunities have been extended to entities that historically found themselves at odds on various resource management issues in the basin.

Initiated in 2009, the Yakima Basin Integrated Plan (YBIP) has served as a platform for relationship building and partnerships among a variety of agencies and entities in the Yakima River basin. In addition to addressing the water supply needs of irrigators, the plan has created momentum to address long-needed habitat issues in the basin, including salmon restoration.

These relationship-building and partnership opportunities have been extended to entities that historically found themselves at odds on various resource management issues in the basin. Take the case of the relationship between the Kennewick Irrigation District (KID) and the Washington Department of Fish and Wildlife (WDFW), for example. For many years, KID officials have been at odds with WDFW personnel over issues related to regulatory jurisdiction within KID drains and wasteways. The disagreements over this issue led to many heated arguments and inflammatory letters between the two agencies, which in turn led to a front-page article in the local newspaper that aired the disagreement for all to see. These differences were set aside when the agencies recognized that they needed to work together to accomplish a project that is crucial to the success of the YBIP: the Bateman Island Causeway Modification Project.

The Bateman Island Causeway is a 500-foot-long feature that connects Bateman Island at the confluence of the Yakima and Columbia Rivers with the mainland. Aerial photos show that the causeway was built sometime between June 1939 and September 1940 to provide access to agricultural lands on the island. The causeway was constructed without any openings, such as culverts, and acts as a complete barrier to fish passage and river flow. The lack of flow behind the causeway has caused a myriad of problems for salmon migration, including elevated temperatures that cause a thermal block to late-migrating salmon, and a backwater area that is ideal habitat for nonnative predatory fish, such as smallmouth bass and channel catfish, which feed on salmon smolts that out-migrate

through the area in spring.

Prior to the establishment of dams and reservoirs in the Yakima River, salmon runs were strong: Some 800,000 salmon and steelhead would return upriver to spawn, which made the Yakima River second only to the Snake River in salmon production in the entire Columbia River basin. A host of issues, including degraded habitat and overfishing, have led to an average run size of 15,000 to 20,000 fish in the Yakima River over the past 10–15 years. Native coho,

sockeye, and summer Chinook salmon have been extirpated; populations of spring and fall Chinook have been seriously reduced; and steelhead and bull trout are listed as threatened under the Endangered Species Act. Currently, efforts led by the Yakama Nation have reestablished coho salmon and are working toward reestablishing sockeye salmon.

Addressing the issues at Bateman Island is widely believed to be crucial to rebuilding salmon and steelhead runs in the Yakima River, as the location of the island at the mouth of the river means that every fish that leaves or enters the Yakima River in spring or summer must pass the gauntlet of high temperatures and predators that await in the altered habitat created by the causeway. This status as a bottleneck feature led to the Bateman Island Causeway Modification Project being identified as an initial development project under the YBIP, one of only two in the plan located in the lower Yakima River. A conceptual design study released in early 2016 revealed that a partial breach of the causeway of 260 feet or greater would be the most beneficial in terms of decreasing water temperatures and smolt predation in the areas west and south of the island by increasing flow velocities through the breach. The project would involve breaching the causeway to allow this restoration of flow in the river.

Despite the negative environmental issues caused by the Bateman Island Causeway, the causeway does provide many benefits to the local community. The causeway provides pedestrian access to Bateman Island, a popular hiking and bird-watching area owned by the U.S. Army Corps of Engineers and leased to the city of Richland, which manages the island as an open-space park. The warm slack-water habitat created by the causeway is a popular spot for bass fishing and is also a favorite habitat for various shorebirds. Wakeboarding and kayaking are popular water sports in the area. Also, the causeway acts as a protective breakwater for a marina and boat launch located on the Columbia River, just down river from the causeway. These attributes of the causeway caused much consternation with many in the Richland and greater Tri-Cities community who did not want proposed alterations to the causeway to take away these valued recreational opportunities.

The snowpack drought of 2015 brought with it an increased focus on fish habitat and water supply issues in the lower Yakima River. The lack of snowpack in the mountains that feed cold water to the Yakima River led to an increase in ambient river temperatures and a decrease in flows that had a negative effect on both fish and water supply throughout the basin. It was recognized that much of the progress made to improve fish habitat in the upper Yakima basin would be for naught if poor conditions were allowed to persist in the lower river, where every fish must pass twice as they travel between spawning grounds in

KID PROJECTS



the upper river tributaries and their rearing habitat in the Pacific Ocean. The drought also caused water supplies for KID to be unreliable; return flows that make up KID's supply were reduced to the point that the district was forced to require customers to ration water through mandatory water schedules.

One of the notable attributes of the YBIP is that the participants recognize that the plan needs to be comprehensive to succeed; projects that improve water supplies cannot move forward unless projects aimed at restoring salmon move forward at the same time. This sort of progressive thinking is what led the former adversaries, KID and WDFW, to team up. They are working together to promote the Bateman Island Causeway Modification Project, which they recognize as crucial to restoring fish runs in the Yakima River and improving water supplies for KID and other basin irrigators. In the Yakima basin, fish and irrigation interests are committed to working together to solve tough environmental and water supply issues through the YBIP.

Starting in late summer 2016, officials from KID and WDFW, as well as other YBIP supporters, made the rounds to various government entities, recreational and environmental groups, and other stakeholder groups to promote the YBIP and the Bateman Island Causeway Modification Project. Until that point, the YBIP had mostly focused on water supply and salmon recovery issues in the upper Yakima River basin; the lack of focus

and projects in the lower Yakima River basin posed challenges in engaging the community in a plan that would seem to not deal with local issues. The Bateman Island Causeway Modification Project, as well as the drought of 2015 that caused widespread local water shortages, provided an opportunity to engage the community in solutions to the problems that the YBIP seeks to solve. The same presentation was given to all groups: a two-part pitch that explained the problem (water shortages and reduced fish runs) and the solution (YBIP, and specifically for the lower Yakima River, electrification of the hydro pumps at the Chandler Power Plant, and the Bateman Island Causeway Modification Project).

In all, over a dozen presentations were made to different groups in the community. Although not everyone was happy with the proposals, the overall reception was positive, and there was consensus that reliable water supplies and dwindling salmon runs were local issues that needed solutions. Stakeholders that were formerly quite skeptical of the proposal were informed to the point that many of their concerns were addressed, and at this time, it appears that the causeway modification proposal will move beyond the design phase into the environmental process, where a preferred alternative will be developed. KID and WDFW will continue to partner as project advocates and will use this experience to continue to set aside differences to seek common ground for the benefit of the local community.



THE INTEGRATED PLAN: Yakima River Basin Water Enhancement Program

The Yakima Basin Integrated Water Resource Management Plan is a comprehensive plan to address water supply and fisheries problems in the Yakima River watershed. Participants in the process include federal and state agencies, the Yakama Nation, irrigation districts, cities, counties, and environmental advocacy groups. The Integrated Plan consists of seven elements: fish passage, fish habitat enhancement, existing structures and operations modification, surface storage, market-based reallocation, groundwater storage, and enhanced water conservation. When complete, the multibillion-dollar project will improve stream and habitat conditions for salmon and other fish and wildlife species, as well as provide farmers and communities in the basin with greater water supply reliability. It is expected that it will take 30–50 years to complete the project.

KID continues to work closely with the U.S. Bureau of Reclamation to perform detailed modeling of the lower river, so that the effects of Integrated Plan actions (including water conservation) on KID water supplies can be evaluated. Preliminary modeling results show that KID's water supply will be harmed by upstream water conservation projects, both under the Integrated Plan and under other federal programs, such as the Yakima River Basin Water Enhancement Program (YRBWEP). Results of the modeling will guide decisionmakers in the protection of KID's water supply.

KID also continues to lead a subgroup of regional stakeholders in looking at lower Yakima River issues, including fish habitat conditions, and water supply enhancements, such as the electrification of the Chandler pumps. The group has recently formulated an action plan for

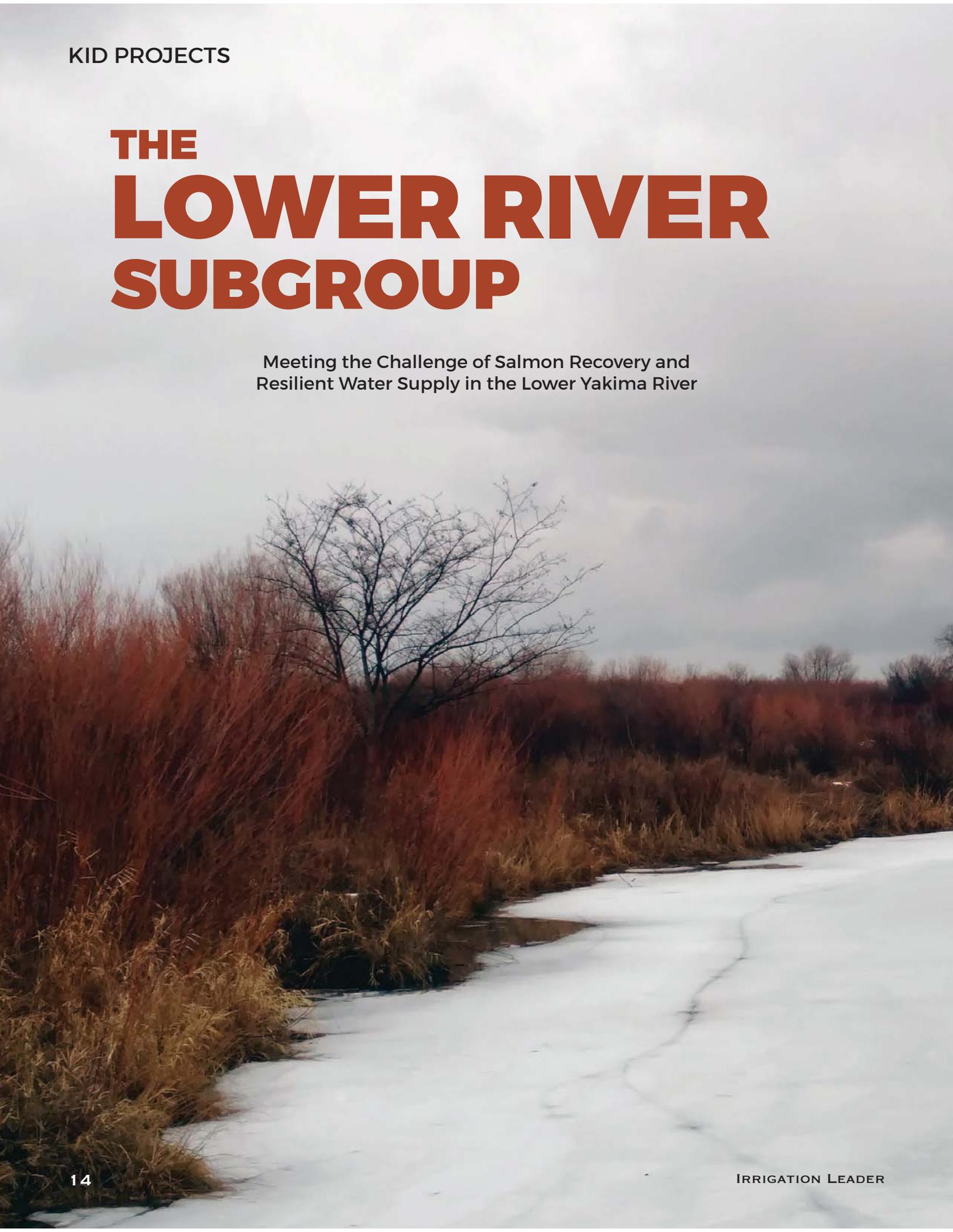
improving habitat conditions in the lower Yakima River, which includes specific projects to be carried out in the coming years:

- identifying potential adult fish passage barriers in the lower river
- assessing opportunities to enhance cold water refugia for fish in the lower river through aquifer recharge
- adding more water quality monitoring stations in the lower river
- supporting the breach of the causeway at Bateman Island to improve flows and temperature conditions for fish in the Yakima River delta

KID strongly supports these projects, and greatly appreciates the relationships it is building with the Yakama Nation, the Washington Department of Fish and Wildlife, the Benton Conservation District, the National Marine Fisheries Service, and other stakeholders.

THE LOWER RIVER SUBGROUP

Meeting the Challenge of Salmon Recovery and
Resilient Water Supply in the Lower Yakima River



THE HISTORIC SNOWPACK DROUGHT OF 2015 UNCOVERED UNPRECEDENTED CHALLENGES

in meeting lower Yakima River water supply demands as well as providing for the safe passage of salmon through the lower river. To draw attention to the challenges faced at the lower end of the Yakima River system because of upbasin conservation efforts and other operations and management decisions, the Kennewick Irrigation District (KID) convinced the U.S. Bureau of Reclamation to create the Lower River Subgroup of the Yakima River Basin Water Enhancement Program (YRBWEP) Workgroup. This stakeholder committee studies the lower river and recommends actions that would benefit water supplies and salmon runs. Subgroup members are from the Yakama Nation, the National Marine Fisheries Service, the Washington Department of Fish and Wildlife, Benton County, the Kennewick and Sunnyside Valley irrigation districts, and the environmental community. Reclamation and the Washington Department of Ecology provide technical information and guidance throughout the process.

The subgroup's mission is twofold: (1) to recommend to the YRBWEP Workgroup actions and priorities consistent with the overall objectives of the Integrated Plan in the lower basin (the Yakima River below the Parker gage and the tributaries and return flows to that reach of the Yakima River) and (2) to act as a liaison between the YRBWEP Workgroup and the entities engaged in actions related to accomplishing the overall Integrated Plan objectives in the lower basin.

One of the very first projects initiated was led by David Child, biologist for the Yakima Basin Joint Board, who completed a float down the Yakima River along with Joel Hubble, a fish biologist with Reclamation. The purpose of the float was to identify critical reaches where fish passage might be impeded by low flows and channel conditions and to identify areas that could potentially be improved by flow and structural solutions. They also collected spot location temperature data to identify areas of thermal refugia, where cooler water inputs may provide areas for migrating sockeye and Chinook salmon to take refuge from the hotter river water during their upstream migration in summer. The float took

place on July 28, 2016, with a follow-up survey on September 6, 2016. The float focused on the section of the lower Yakima River known as the Chandler Bypass reach, which is an approximately 12-mile-long stretch of the river from the Prosser Dam to the Chandler Power Station, which can suffer from low flows in the summer months.

The temperature data collected during the float will be used in conjunction with other data previously collected by the Benton Conservation District to aid in the identification of areas where groundwater recharge projects could be initiated to enhance thermal refugia locations. The subgroup is proposing additional study to look at issues such as timing of recharge; it is imperative that recharge water applied in the irrigation offseason not reenter the river until needed in the critical low-flow months of summer when the salmon are migrating up the river to reach spawning grounds in the upper tributaries.

The subgroup is also supporting a lower river smolt survival study. This study will be similar to one recently completed upstream on the Roza reach of the Yakima River. The study will seek to better understand survival rates of out-migrating salmon smolts past the lower river diversion dams, including Wapato, Sunnyside, and Prosser. Predation on smolts by nonnative smallmouth bass in the lower river is believed to be a large contributor to smolt mortality, and the data collected during this study may shed light on possible solutions for predator control. The electrification of the hydraulic pumps that provide water to KID is the major water supply project under consideration by the subgroup; other issues include improving water quality, performing improved hydrologic modeling, and establishing continuous data collection stations along the lower river.

The group has met several times over the past year and a half and will continue to meet as needed for the foreseeable future to improve conditions in the lower river for fish and farms. The great work that the Integrated Plan has accomplished to date in improving the upper Yakima River basin for fish and farms will be for naught if the lower river remains in its current state. The collective efforts of the dedicated membership of the Lower River Subgroup will ensure that this critical part of the Yakima River basin will not be ignored.

KID PROJECTS

AFTER



BEFORE



INVESTING IN KENNEWICK'S FUTURE

The Capital Improvement Program

The Kennewick Irrigation District's (KID) board of directors has been investing in the district's future for decades. During the 1960s and 1970s, the district worked with the U.S. Bureau of Reclamation to rebuild the main canal following a string of canal failures. One such canal failure caused the derailment of an Amtrak passenger train in Badger Canyon. In the 1980s, the district piped some of its smaller lateral ditches for public safety purposes after a child fell into one of those small ditches and died.

Over the last decade, KID's Capital Improvement Program evolved with the establishment of the Capital Improvement Surcharge, in which each irrigation account is charged a flat rate that generates approximately \$1.4 million annually. These dollars are used in part as the local match to leverage funds received from our successful grant applications to Reclamation's WaterSMART program. In 2010, the board of directors set public safety as its number 1 goal. Since that time, KID has been focused on lining its earthen canals for public safety in this densely urbanized district. We received these grant funds for water conservation and savings, but we chose to line canals to save water. In this process, we are also making the canals stronger, safer, and less prone to breaches.

Since 2007, KID has spent approximately \$12 million and has been awarded \$7.5 million in grant funds to line over 20 miles of earthen canals. Over the next 8 years, KID will line the remaining canal sections with high-density polyethylene.

In addition to canal lining, the board of directors challenged KID employees to develop and execute a plan that addresses our aging pipeline network. KID

has over 300 miles of buried pipe throughout the cities of Kennewick, South Richland, West Richland, and in unincorporated Benton County, mostly in backyards. KID employees met the challenge, and this summer, crews have begun replacing old pipe with a history of causing serious property damage in a neighborhood. We have funded this program without drawing on the existing capital program funding or raising rates for our customers. With our new funding source, we have been able to hire five more employees to accelerate work on these pipeline projects and have purchased a large excavator and paving machine to enhance our productivity and help us be as efficient as possible in our use of these funds.

When the Red Mountain Project was being developed, KID only received 66 percent of project costs in the form of a grant/loan package from the Washington State Department of Ecology. KID financed the other third. Like other public entities in Washington State, we are limited as to what we can invest in. For example, the approved state investment program provides a low rate of return, currently less than 1 percent annual interest. Working with our financial advisor, KID decided to invest in the Red Mountain Project. We are earning 6.11 percent on our investment. The interest, approximately \$551,000 this year, is funding the pipeline replacement program. Because KID was able to demonstrate the sustainability of this funding stream for more than 10 years, we were able to hire new employees to speed up this program without asking for a rate increase. We hope to be able to replace 3–5 miles per year. It will take 25 years to replace the 100 miles of pipe networks that are most at risk.



THE NEXT 25 YEARS: THE CHANDLER ELECTRIFICATION PROJECT

What is the Chandler Electrification Project?

The Chandler Power and Pumping Plant are located on the lower Yakima River and are part of the Kennewick Division of the U.S. Bureau of Reclamation's Yakima Project. The Kennewick Division is a large irrigation system designed to divert return flows from the Yakima River and deliver that water to the residents, farms, and public entities served by the Kennewick Irrigation District (KID) within parts of the Tri-Cities of Washington State. The Chandler Power and Pumping Plant is located in a critical reach of the Yakima River, which is especially important as habitat during the migration life stage of certain species of anadromous fish.

Currently, the Chandler Power and Pumping Plant lifts water into the KID main canal with hydraulic pumps, which means that water power is used to operate the pumps and deliver water to the KID main canal. This method requires a greater amount of water to be diverted from the river to operate the hydraulic pumps and deliver irrigation water that would need to be diverted for pumps operated by electricity alone. One and a quarter gallons of drive water is used for every gallon of deliverable water to operate the Chandler hydraulic pumps.

Electrification of the Chandler Power and Pumping plant would result in an increase in the volume of water left in the Yakima River in the critical reach area to meet federally mandated targets, which will result in an increase in stream flows. Electrification would allow for less water to be diverted at Prosser Dam, since only the amount required for delivery to the KID main canal would need to be diverted from the river. Under electrification, the drive water would be left in the river to help meet federally mandated target flows, thus increasing flows in the river between Prosser Dam and Chandler Power and Pumping Plant. As much as 431 cubic feet per second of water could be added to the Yakima River between Prosser Dam and Chandler Power and Pumping Plant at KID's peak instantaneous delivery of 345 cubic feet per second if the pumps were electrified ($345 \times 1.25 = 431$).

Why does Chandler need electrification?

Although KID is generally supportive of the Yakima Basin Integrated Plan (YBIP) and the benefits it will bring to the Yakima basin, there are elements of the plan that are concerning to KID. In-depth modeling and analysis were required to properly evaluate the potential effects on KID's water supply.

Water conservation is one of the seven components of the YBIP. Although water conservation projects can be

complex and do not always result in additional water for use as instream flows or additional consumption, the YBIP targets up to 170,000 acre-feet of water for conservation. KID depends on return flows for its water supply, and recent modeling performed by Reclamation has shown that KID water supplies will be reduced up to 32 percent by certain upstream YBIP conservation scenarios.

This situation places KID in the unique and unenviable position of being the only major stakeholder to be negatively affected by the YBIP. Despite this, KID believes the YBIP is necessary for the greater good of the Yakima basin and has great confidence that the reduction in water supply to KID users was a consequence of the YBIP that can easily be remedied through electrification of the hydro pumps at Chandler and proper management of the title XII (of Public Law 103-434) conserved water.

Electrification of the Chandler pumps increases the reliability of flows delivered to the KID main canal in times of drought by eliminating the amount of water diverted at Prosser Dam to operate the hydraulic pumps.

Who will it benefit?

Increased flows in the lower Yakima River may provide benefits to various fish and wildlife species that are significant to the citizens of Washington State, including the Yakama Nation. Specifically, the availability of more water left in the river may benefit fish species during the incubation, rearing, and migration life stages occurring in the reach of the Yakima River between Prosser and Chandler. Wildlife that depends on these fish species may benefit as well. Additionally, farmers and urban customers of portions of the Tri-Cities who receive their water from the Yakima River would benefit from the project. This is because electrification of the Chandler pumps increases the reliability of flows delivered to the KID main canal in times of drought by eliminating the amount of water diverted at Prosser Dam to operate

the hydraulic pumps. The unneeded drive water left in the river can be used to meet federally mandated target flows, allowing for the deliverable portion of the diversion to meet KID demand.

How much will it cost?

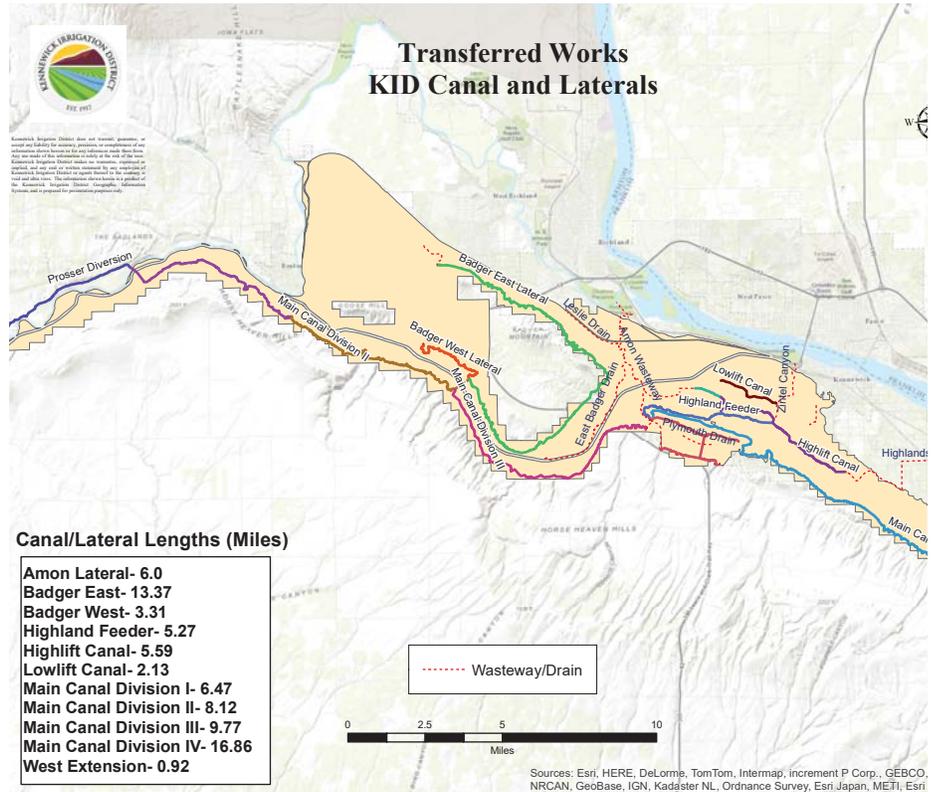
Congress authorized Chandler electrification in 1994, but it was not fully funded. The estimated cost to complete the project based on a new scope of work is \$23.1 million; previously, it ranged from \$30–\$90 million. In 2015, KID hired a local engineering firm that specializes in large production agriculture to evaluate a new concept developed by the KID Engineering Department. As part of the congressional authorization for the project, Reclamation would pay for electricity to operate the pumps as mitigation for effects on the KID water supply caused by upbasin conservation projects.

THE CASE FOR TITLE TRANSFER

In 2025, the Kennewick Irrigation District (KID) will pay off its original 1956 loan to the U.S. Bureau of Reclamation for the construction of our project; today, funds are in the bank to pay off the remaining loan obligation. Because this payoff is imminent, the board of directors has inquired as to whether we will own what the district ratepayers paid for. What we learned is that once the loan is repaid, the rate payers do not own the facilities they paid for. Once we wrapped our heads around this fact, we learned that there is a separate process—title transfer—that the district has to go through to gain title to its facilities.

Taking ownership of what the ratepayers paid for is one of the reasons the district should proceed with the title transfer process. Another reason is to enhance operational capabilities. During the 2015 drought, Reclamation struggled to have its operators work the necessary overtime to make the necessary adjustments to divert needed flows into KID’s canal. Reclamation owns and operates the Prosser Diversion Dam; KID diverts off an ever-changing river system, and the natural diurnal curves of the river require more than periodic adjustments to the dam, especially during a drought. During the 2015 drought, Reclamation allowed water to pass by the KID canal; if KID had owned the facilities, that would not have happened. Reclamation allowed this to happen six times during the peak of the summer, when the temperature in KID’s service area tops 100 degrees.

Additionally, Reclamation is not



always timely in meeting the needs of the communities KID serves. Developers in Kennewick have been waiting for years for Reclamation’s approval to move easement lines on properties the developer owns. The wait has affected the private development of those properties.

Further, Reclamation can be a cumbersome partner. Reclamation paid nearly \$4 million to conduct studies on the electrification of the Chandler Power and Pumping plant, and nothing came of those studies. The draft environmental impact statement was put on a shelf and remains there. While the studies estimated that the cost to electrify Chandler was \$30–\$60 million, as recently as 2015, Reclamation’s estimate was \$60–\$90 million.

KID hired a local engineering firm to study a new concept to electrify the Chandler Power and Pumping plant. The revised scope has an estimated cost of \$23.1 million. If KID owned the siphon that only serves KID’s canal system, electrification would have been built years ago. Past focus on electrification has been on its potential benefits as a

fish benefit project. However, the project has water supply benefits as well. According to section 1205 of the Yakima Basin Integrated Water Resource Management Plan II legislation, electrification is mitigation to KID for upbasin conservation, which has reduced the return flows that KID was built on. Without return flows, KID ceases to exist.

KID has the financial wherewithal to build Chandler on its own. In exchange for paying for the electrification, KID seeks ownership of all the federal assets to supply KID its project water: the dam, the power canal, the hydro pumps, both electrical generation units, and the siphon. It is KID’s position that Reclamation owes KID ratepayers the cost of electrifying Chandler’s hydraulic pumps. KID understands Reclamation’s budgetary constraints; therefore, in lieu of payment, KID will take the assets. KID is currently following a two-phase approach to transferring title, with the first phase focusing on the transferred works, which are simpler, and the second phase focusing on the reserved works, which are more complicated.

Helping Hands Takes the Burden Off Their Shoulders



Sooner or later, we all need a helping hand. That is why the Kennewick Irrigation District (KID) is participating in a program that makes it easy to help others who may be in danger of losing their property because they cannot pay the assessments. There are many reasons people might find themselves in need of help: medical emergency, family problems, or unemployment. No one expects those kinds of problems, and few can handle them alone.

The Helping Hands program is funded by a portion of the revenues we collect from delinquency fee assessments and donations from customers and concerned neighbors. In 2011, we started charging a delinquency fee, and 30 percent of that delinquency fee goes toward funding Helping Hands. We fund this program with donations and our own money.

“Everything gets stretched real thin. That’s why they help me. They’ve been helping me get that burden off my shoulders.”

—BARBARA, KENNEWICK, WASHINGTON

We spoke to one of our customers, Barbara in Kennewick, who shared how KID’s Helping Hands program has helped her over the past 4–5 years. “I’m still supporting my 20-year-old daughter and my grandbaby,” she said. “Everything gets stretched real thin. That’s why they help me. They’ve been helping me get that burden off my shoulders. I’m sure a lot of people don’t realize it.”

Ronald in Finley told us that the program has helped him with utility costs. “As a retiree, it helps me share the expense of what utilities cost.

Things have gotten so bad with health care, and my wife is in dire straits with her health. We have had to rob Peter to pay Paul. I might have had to give up my irrigation entirely, and with this, I’ve been able to maintain it.”

Anyone interested in donating to the Helping Hands program may do so by using the option available on your payment coupon or by visiting the office, located at 2015 South Ely Street.

All donations are tax deductible, and every dollar donated goes to a ratepayer in need.

A topographic map of the Kennewick Irrigation District showing water service areas in blue. Labels on the map include Benton City, Goose Hill, Badger Mountain, and Horse Heaven Hills. The map is overlaid on a semi-transparent dark blue banner containing text.

ALWAYS KNOW IF YOUR WATER WILL FLOW

Easily keep up to date with any water outages or updates within the Kennewick Irrigation District. Click here to see the current water map.

TAKE ME TO THE MAP

The Public Relations Coordinator's Role in the Kennewick Irrigation District

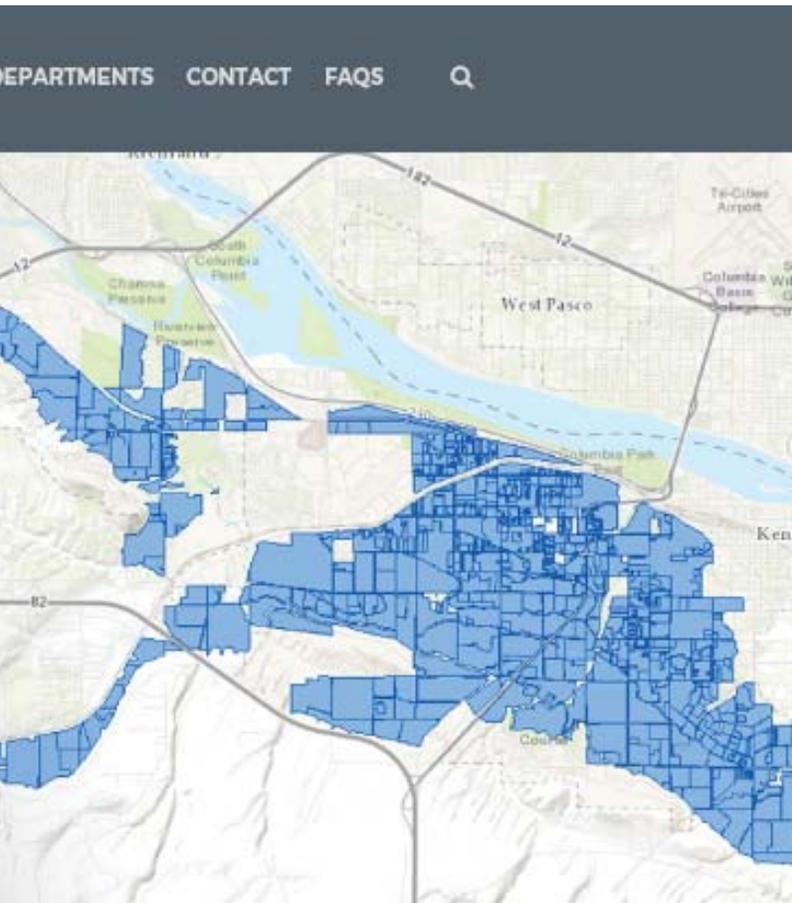
The role of a public relations coordinator has changed drastically over the years. The main role of this position used to focus on sending press releases to the media. However, social media has begun to take over and become a prominent outlet for organizations and businesses to convey their messages to the public. Many people these days get their information from social media, and when people need to say something positive or negative about a company, they go to social media outlets such as Facebook, Twitter, Google Reviews, or Yelp. Thus, employing a public relations coordinator is a necessity for any business.

When Shelbea Voelker assumed the role of public relations coordinator for the Kennewick Irrigation District (KID), she was unaware of the amount of negative feedback irrigation districts like KID receive from the community daily. KID customer service representatives and our employees in the field hear negative remarks, and we see them on social media. In the past, some KID employees made mistakes that have stuck with the organization,

giving it a bad reputation. This leads to a flow of negative comments whenever there is an error on KID's part. As public relations coordinator, Shelbea asked herself, "What can I do to help rebuild KID's brand and reputation?"

She started by analyzing the complaints logged on the KID Facebook page and noticed a pattern of comments from community members needing to know when their water would be on and off. They could not find that information on the KID website. Visiting the website, Shelbea saw they were right and spoke with the KID website designer to make the necessary changes. KID has not heard a complaint about the website since.

One of the most important ways to show our customers that we do care and want to help is to answer their questions and address their concerns. Shelbea does her best daily to answer all questions that are asked on Facebook, which sometimes can turn into an all-day task, depending on the situation at hand. This effort has resulted in positive comments and gratitude for Shelbea's quick replies and



Kennewick Irrigation District's website.

help. In the end, our customers just want reassurance that we will take care of them.

The next step to improving KID's reputation involves speaking to local media representatives to run community educational campaigns relating to retraining lawns in case of a drought. Shelbea will also volunteer as a guest speaker in schools to educate students about canal safety. The commercials and ads will run on television, radio, and online, hitting a variety of demographics within the district. The main goal of these campaigns and volunteer work is to educate the community and show that KID cares and wants to keep everyone safe.

The KID public relations coordinator clearly wears many different hats, from managing traditional and social media to updating the website and marketing collateral to running activities designed to educate our community. All these elements must work in tandem to rebuild a brand and also to protect it.

 www.kid.org

 [/KennewickIrrigationDistrict](https://www.facebook.com/KennewickIrrigationDistrict)

 info@kid.org

ON THE FLIP SIDE

The Flip Side Communications is a public relations resource for Shelbea Voelker, the public relations coordinator for the Kennewick Irrigation District (KID). The Flip Side offers support and assistance in rebooting KID's brand awareness among customers and community members. It also helps KID build momentum for its position as a go-to expert for media seeking commentary on irrigation-related topics. The Flip Side provides public relations services such as

- securing coverage in the national, local, community and trade media
- developing social media strategies and content
- helping build an online newsroom that includes content such as news releases, images, video, fact sheets and FAQs
- securing speaking opportunities
- developing marketing materials
- handling crisis communications
- media training once a year

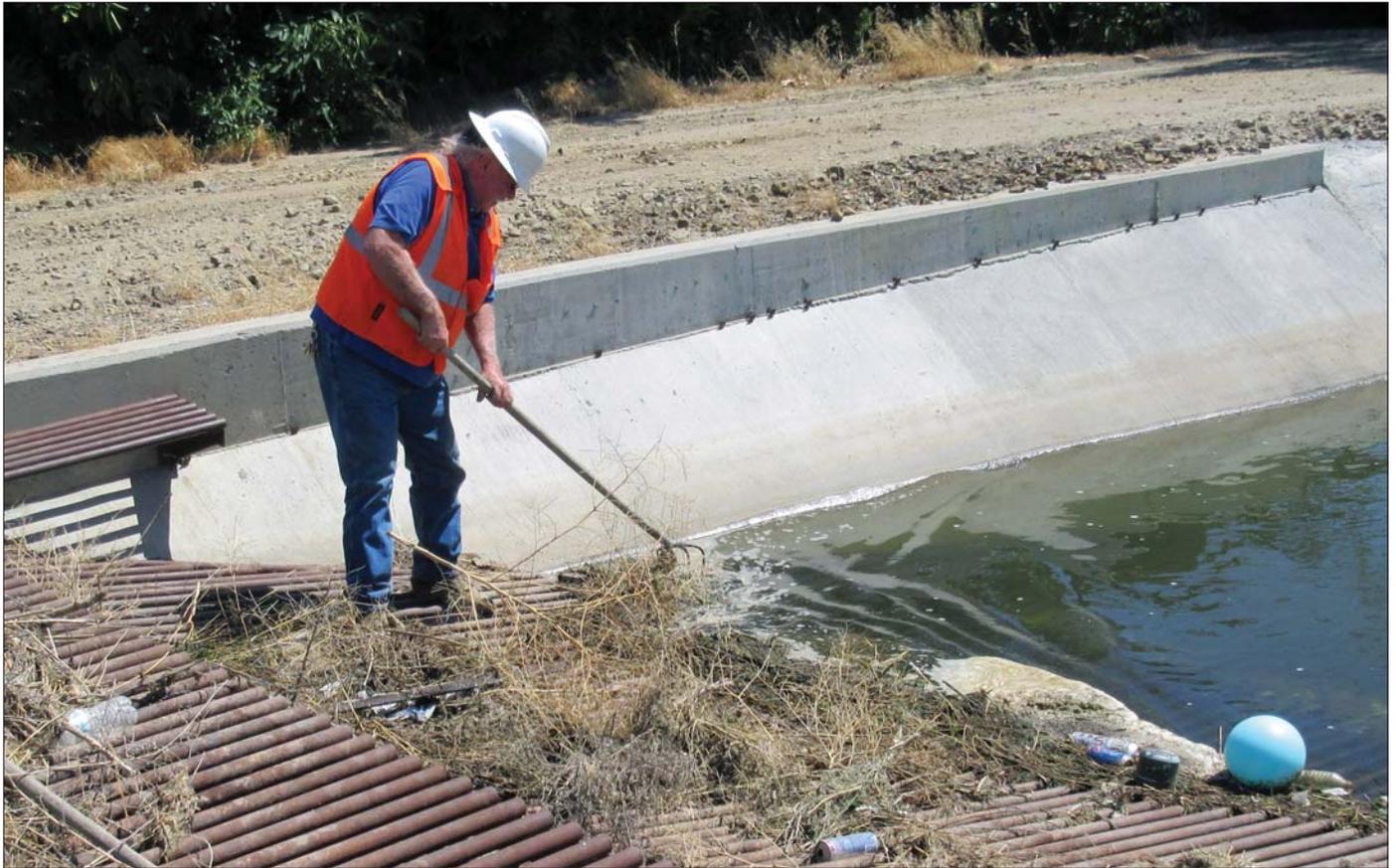
The benefits of public relations for an irrigation district include instant credibility through sharing their expertise with the media and the public in general. Public relations is an easy and effective way to begin helping create that separation between a company and its competitors. It can also help districts grab some of the public attention they feel water issues deserve.

Many water entities do not understand how interesting their story is and how important their role is in educating the public. On a regular basis, however, we see both national and local media discuss the importance of water resources. Unfortunately, a lot of districts and organizations miss opportunities to step forward with an expert opinion that can contribute a fresh angle and help the public better understand the present and future situation of water.



Keith Yaskin is president of The Flip Side Communications LLC, a Scottsdale, Arizona, media company offering video production, public relations, media training and employee communications. The Flip Side provides public relations support for Kennewick Irrigation District.

RETIRING STAFF INTERVIEW: PAT CLARK



Customer service once radioed, explaining that someone saw a moose stuck in a canal. Pat Clark took the call. He was closest to the area. When he arrived at the canal, he found not a moose, but a dead colt that had gotten stuck. It is a moment from his 20 years on the job that Pat will never forget.

“We aren’t joking around when we say how dangerous canals can be,” Pat said.

Pat Clark is retiring this year from his canal patrol position at Kennewick Irrigation District.

“I was just looking for a good job, and I had the experience for the job,” Pat said, looking back on why he originally applied for the position. The positive aspects of his position were never in short supply and include the people he works with everyday. “They like to joke and have fun, as do I, so it makes the days fun,” he explained. “The most rewarding part of my job is delivering water to customers

and making them happy. The fun part of my job is getting to be outside, riding the canal, and enjoying the fresh air and the outdoors.”

“The most rewarding part of my job is delivering water to customers and making them happy.”

-PAT CLARK

decades riding the canal, a life by the water that offered him experiences of both risk and reward.

Over the last two decades, riding the canal has changed. “I think there have been positive improvements all the way around. One of the biggest differences is the amount of urban growth over the years. When I started, we served mostly agricultural [customers], and now we serve mostly urban customers.”

And that has led to an investment in technology. “Learning all the new technology at my age is challenging. We went from tracking the canals and ponds via a long paper trail to all of us having laptops in our trucks. It was hard at first, but I have gotten the hang of things.”

After retiring, Pat plans to relax, take some trips, and enjoy life. He spent two decades riding the canal, a life by the water that offered him experiences of both risk and reward.



KID'S LONGEST-SERVING PUMP TECHNICIAN: DEWAYNE MILLER

DeWayne Miller was once using a backhoe to dig out a canal. A coworker, standing knee-deep in mud in the canal, started sinking and couldn't get out.

"So the operator at the time lowered the bucket on the backhoe to help him out, and instead of flipping the bucket on the machine to go down to help him, he accidentally flipped it up," DeWayne said. "The bucket at the time was filled with black stinky mud that ended up covering the employee. It was bad for the guy, but pretty funny to the rest of us."

DeWayne, a pump technician, likely can look back on many memorable moments. He is Kennewick Irrigation District's (KID) longest-serving employee. He has been with the district for more than 38 years and can thank his mom and dad for getting him into water for work.

"I moved here from North Carolina, and my parents were friends with the district manager at the time. So he asked if I was interested in a job with KID, and I took the offer and have been here ever since."

DeWayne's favorite part of his job is the crew he works with and the customers he helps. "They keep the workplace

fun," he said. "The most rewarding part of my job is that I usually leave feeling good at the end of the day because I am a problem solver. I enjoy working with upset customers and solving their problems to such a degree that I leave as a friend rather than an enemy."

In DeWayne's 38 years, KID also has solved problems by tapping into technology.

"There are many things that have changed over the years: the tools, equipment we use, and the technology especially. It was almost like we were cavemen sharing a bucket of tools, and now each have our own trucks and equipment, which makes my job much easier."

And his job is much more fun when a coworker accidentally gets covered in mud.

"I enjoy working with upset customers and solving their problems to such a degree that I leave as a friend rather than an enemy."

-DEWAYNE MILLER

Customer Service at KID

Our Customer Service Department is a vital part of Kennewick Irrigation District (KID). The customer service team, consisting of four customer service representatives and one supervisor, handles a variety of tasks, including working daily with more than 140 watermasters to place water orders for their property and answering calls and emails from customers with questions, complaints, and suggestions. Our customer account supervisor manages our Helping Hands program, which helps nearly 100 customers pay a portion of their bill each year. In addition, we partnered with Benton County to ensure that we have the correct ownership information for the more than 23,000 parcels located in the district. There are 250 to 500 changes in property ownership each month. KID continues to build relationships with title and mortgage companies regarding customer accounts, properties, and billing information.

The Customer Service Department is the communication link between customers and the operations team. Operations and Customer Service work together to update the water status map of current outages so customers are kept up to date. This map is updated based on repairs that are reported from the field crew and calls from customers. This map enables KID customers to type in their address and get information on the status of water as well as information about outages that may be affecting their water delivery.

The most important customer service job is answering each call that comes in to the office. Customers call us with repair requests, delivery system change requests, billing questions, and outage and water damage reports, among other things. In April 2017, the Customer Service



Live update status map of outages within the district.

The Customer Service Department is the communication link between customers and the operations team.

Department answered more than 22,000 calls in 24 working days, including Saturdays. April is the busiest month, not only because thousands of payments are being made, but also because water is just coming on, which triggers a large number of calls about breaks, leaks, and floods. The difficulty of water start-up varies based on the type of winter we have had as well as the way our customers maintain their personal irrigation filters and pipes. Many customers calling in during this time want to know why we did not fix these issues while water was off in the winter months. We use this as an opportunity to educate customers about our water rights and how issues occur once water is on.

As July and August hit, warmer temperatures begin to cause algae growth in the canals. The algae begins to cause plugs and blockages that sometimes can affect water deliveries. This delay results in customers calling to find out where the water is. This is another opportunity for us to educate our customers on the need to clean and check their filters often to avoid a delay in water delivery and possible damage to their system.

As temperatures begin to drop in October, less water is ordered, incoming calls start to slow down, sprinkler lines are blown out, and water is turned off. The water season comes to a close, and the Customer Service Department begins to strategize for the following spring.

Superior Software and Services

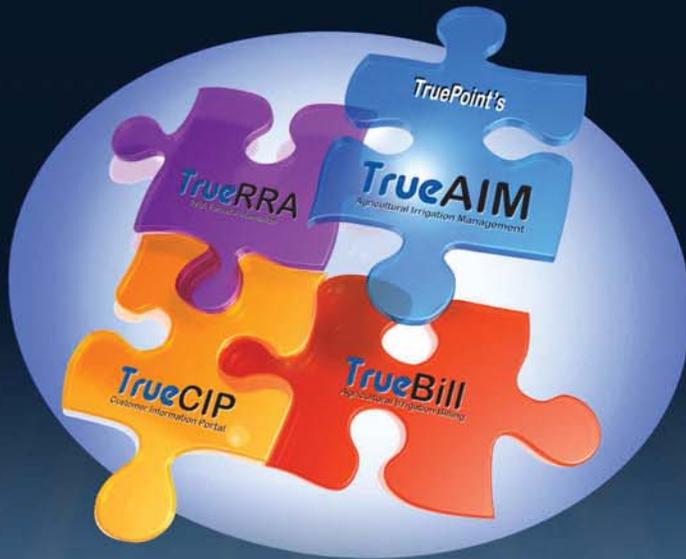


TruePoint at the Kennewick Irrigation District

TruePoint is proud to count the Kennewick Irrigation District among our ever-growing community of satisfied customers. KID uses our TrueBill, TrueAIM and TrueCIP applications to manage their over 22,000 residential and agricultural billing customers. The TruePoint system has allowed the District to streamline operations and increase efficiencies District-wide. TruePoint has also provided integration with the District's Financial & GIS systems.



- The **TrueBill** software handles all aspects of Utility Billing, Customer Account Management, Service Orders, Accounts Receivable, Collections Management, Central Cash Management, and ad-hoc report generation.
- **TrueAIM** has enabled KID field based staff to more effectively take water orders, monitor consumption and effectively exchange data from the field back to the office for timely, more accurate billing of their agricultural irrigation customers.
- **TrueCIP** (Customer Information Portal) is an online application that gives KID's customers immediate access to current account status, to place water orders, service orders, make payments (PCI Compliant) and view billing/payment history.



TRUEPOINT SOLUTIONS provides focused software solutions and services for water agencies, special districts, and local government agencies. At TruePoint, accurately and efficiently **managing limited water supplies** is an integral feature of our products.

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ABOVE: Date unknown. Original caption: Ditch Digger: without this little device, there would have been no Kennewick!

RIGHT: Date unknown. Children swim in the canal in Kennewick Irrigation District.



The History of KENNEWICK IRRIGATION DISTRICT



Irrigation in the Yakima Valley has a long and productive history. In the Tri-Cities area, the feasibility of diverting Yakima River water out of the river to the surrounding farmlands was first studied in 1888 with formation of the Dell Haven Irrigation District.

The first actual water rights for diversion of Yakima River water for the present-day Tri-Cities area came in 1891, when the Yakima Irrigation and Improvement Company obtained a 300-cubic-feet-per-second right on the south bank of the Yakima River, known as Horn Rapids.

Irrigation vital to first settlers

*set 3/14/21
1888*

From the day the first settler located on the vast and semi arid stretches of what are now Franklin and Benton counties, irrigation was recognized as the most urgent and vital need.

It was quickly discovered that on the land and water brought to the rich volcanic soil anything adaptable to local climatic conditions could be grown abundantly.

As far back as 1888 the Dell Haven Irrigation district was formed in the Yakima Valley and within four years work had been started on what eventually was to be-

come the great Kennewick Canal.

By 1906, five irrigation projects were in operation — the Kiona, Kennewick, Richland, Columbia and Two Rivers although the latter was a pumping proposition, power being furnished by the fall of Snake River at Five-Mile rapids. The Two River interlocked with the Columbia canal.

Oldest ditches in the valley were in Kiona, taken out of the Yakima two miles above the village of Kiona, and the sources seven miles below Kiona. Both were started by the same company in 1892.

1893

The Yakima Irrigation and Improvement Company conveyed the Kennewick Canal (now known as the Columbia Irrigation District Canal) system to the Dell Haven Irrigation District, and canal construction was completed. The present-day Canal Drive was named for the Columbia Irrigation District Canal that parallels it.

1901

The Dell Haven Irrigation District was sold by court-ordered auction to the Northwestern Improvement Company.

1904

The deed of transfer from the Northwestern Irrigation Company to the Northern Pacific Irrigation Company was completed.



ABOVE: Building dam at head of Kennewick Canal (Horn Rapids Dam), September 1908.

RIGHT: Raising the trestle at Badger Canyon. June 18, 1909.

1905

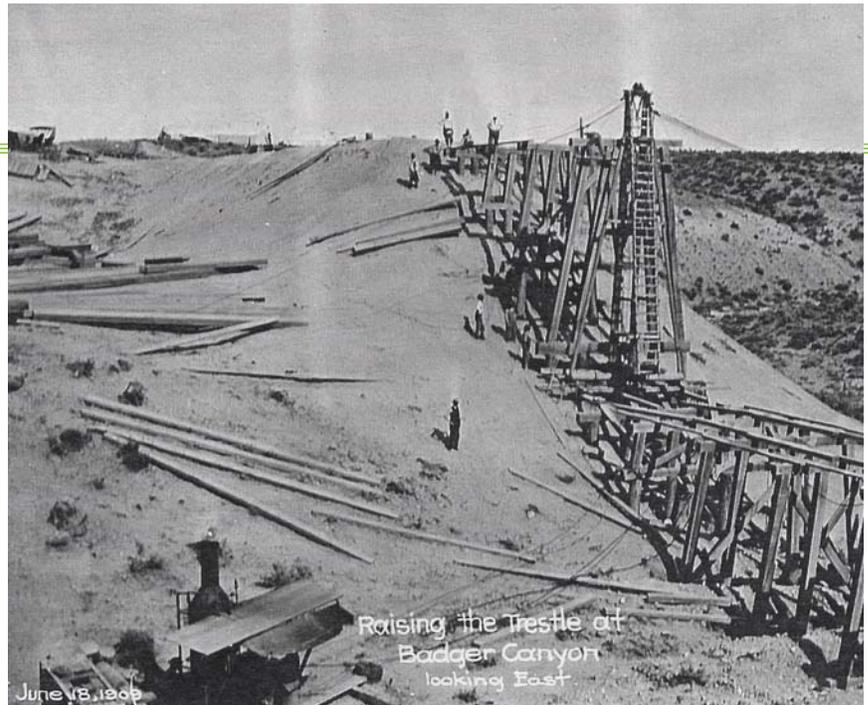
The Northern Pacific Irrigation Company rehabilitated the Kennewick Canal.

1906

The Highland Water Users Association was formed. It constructed a pumping plant at the north end of Edison Street in 1908 and 1909 to serve the Kennewick Highlands. This was the first time Kennewick property received irrigation water.

1909

The Low Lift Canal was completed and placed into service, serving lands north of 4th Street to the Kennewick Canal.



1910

The High Lift Canal was completed, serving land between the Low Lift Canal to the north and 10th and 14th Streets to the south.

1914

The Northern Pacific Irrigation Company deeded over the irrigation system, which included the pumping plant, the pipelines, the canals, and all appurtenances, to the Highland Water Users Association.

1917

The Kennewick Irrigation District was officially organized.



1918

The Columbia Irrigation District was officially organized. The Northern Pacific Irrigation Company deeded Horn Rapids Dam, water rights, canals, and all appurtenances to the Columbia Irrigation District.



1919

The Kennewick Irrigation District attempted for the first time to construct the New Lands Project; however, funding failed to pass in Congress.

1930

The Highland Water Users Association, in financial trouble and unable to continue the irrigation system, dissolved, and the entire system was taken over by the Kennewick Irrigation District. That same year, a contract between the Kennewick Irrigation District and the U.S. Bureau of Reclamation transferred to Reclamation, the Prosser Dam, Kennewick Irrigation District water rights, and Chandler Power Canal right-of-way in return for the rehabilitation of the Kennewick Highlands irrigation system.

1948

A second attempt to appropriate funds to construct the New Lands Project passed Congress, appropriating funds to construct facilities to irrigate an additional 14,534 acres.

1957

The Kennewick New Lands Main Canal and Lateral System first delivers water.

1958

The Kennewick Irrigation District Main Canal and associated laterals was passed to the Kennewick Irrigation District for operation and maintenance. Under the existing contract with the Reclamation, the district will operate and maintain the irrigation system for Reclamation and as a contractual payment obligation for construction of the irrigation system until the year 2025.



ABOVE: First water delivery ceremony in Kennewick, Washington, on April 26, 1957. Pictured: Floyd Dominy (Chief, Irrigation Division, U.S. Bureau of Reclamation), Warren Magnuson (United States Senate), Henry Jackson (United States Senate), Walter Crayne (KID Board), Orvel Terril (KID Board Chairman), W.A. Sloan (KID Board), Van Nutley (KID Manager), K.J. Brand (KID Manager, retired), O.W. Lindgren (Superintendent, Yakima Project), Don Creswell (President, Franklin County Irrigation District), H.T. Nelson (Regional Director, U.S. Bureau of Reclamation, Boise, ID), W.L. Karrer (Construction Engineer, Kennewick Division).

ABOVE: 1950s. The pipe carries water from the main canal across Badger Draw to the Badger east and west laterals. The siphon is 3,100 feet long, 48 inches in diameter, and carries water to serve 2,970 acres.

TODAY



Presently, the Kennewick Irrigation District, both old and new lands, encompasses 20,201 irrigable acres.

The district is composed of more than 70 miles of open canals and laterals along with more than 300 miles of buried pipelines. The district services a host of varied pumps, weed screens, canal crossings, and associated facilities, all designed for the delivery of irrigation water.

Our irrigation season normally runs April 1–October 15, or approximately 198 irrigating days. During the course of the irrigation season, the district will have delivered 85,000–90,000 acre-feet of water to the irrigable lands in the district. This represents almost three times the capacity of Bumping Lake, a popular camping and summer recreation reservoir near

Mt. Rainier. Each piece of property is entitled to a water allocation equivalent to 42 inches of water, which, for context, is the annual rainfall in Seattle.

The Kennewick Irrigation District diverts its water out of the Yakima River at Prosser Dam located at Prosser, Washington. From that point, the canal runs on the north side of the Yakima River to the midway point between Prosser and Benton City, where it crosses underneath the Yakima River in a 99-inch pipe to the south side of the river, where it then flows through Badger Canyon, South Kennewick, and South Finley to a point commonly referred to as Hover. At Hover (directly across the river from the Boise Cascade Plant), the spill from the end canal runs into the Columbia River.

LEFT: First Water Delivery ceremony for the Kennewick Irrigation District, April 26, 1957. *Original caption in Tri-City Herald: Climax of the Kennewick Highlands Project dedication this morning came when Don Cresswell Climbed the delivery box to turn the water onto his farm unit that was first settled over a half century ago, and then given up when no irrigation water arrived.* **BELOW:** Present-day Kennewick Irrigation District.



Budgeting for Kennewick Irrigation District's Future



Kennewick Irrigation District (KID) would not exist today if the organization were not dedicated to both the short- and long-term benefit of our agricultural and residential customers. The forward-thinking individuals of the early 20th century worked for decades to lay the foundation for the formal creation of KID as a special purpose district in 1917. Local farmers and residents continued to pursue that vision for nearly 40 more years, until the authorization and initial funding was secured to build all of KID's core canals in 1954, respectively.

Under the current KID leadership, this forward-looking emphasis has continued, with major efforts to preserve KID's full water rights (especially during drought years), electrify Chandler, and pursue title transfer of KID's facilities from the federal government to the district. Some of these projects have time frames of 5, 25, and 50 years; others require unending diligence.

PLANNING

KID's annual budget process and 6-year capital program focus on applying staff and capital resources in a timely and cost-effective manner. Planning strategies include the following:

- Prioritizing capital projects using a decision model that

considers public safety, customer service improvement, and cost savings.

- Scheduling maintenance work and equipment replacement to get maximum return.
- Cross-training field employees so that they can be deployed across multiple projects as needed.
- Consolidating new development projects with existing infrastructure to build easier-to-manage irrigation systems, allowing for future operational efficiencies and better service delivery.

SAVING

As part of KID's policy for short- and long-term management, the district has created a number of special internal funds focused on fiscal efficiency and long-term planning. All expenditures from these funds require board approval. The funds include the following:

- Risk Management Fund—An emergency fund that builds up over time, “to be used only in the event the District loses control of water in canals, waste ways, and pipes.” This fund exemplifies financial prudence in the case of potential losses related to canal and pipe breaks.
- Drought Mitigation Reserve—Initially front loaded with \$1 million, this reserve is funded annually with \$75,000

from operating funds, up to a designated reserve level targeted to cover the extra expenses the district incurs in drought years. This reserve ensures that funds are available during already-difficult drought years without adverse effects on that year's budget or our customers.

- **Conservation Capital Project Reserve**—Contributions from operating funds are used to create a funding source designated for conservation-related capital improvement projects. For example, these funds can be used for KID's matching share of WaterSMART grants.
- **Capital Upgrade and Improvement Fund**—Funds from capital assessments, capital grants, and interfund transfers are available for improvements and the extension of irrigation delivery infrastructure. Projects are selected from the 6-year capital plan and as opportunities present themselves.
- **Equipment Replacement Fund**—This fund accumulates to replace existing operations equipment, spreading replacement costs over a piece of equipment's life cycle.
- **New Water Infrastructure and Supply Fund**—This fund was developed in response to customer requests, made during meetings and other communications during the 2015 drought, that KID pursue additional sources of water. Funded by a per-acre and per-account charge, this fund accumulates resources to develop new water sources for the district, especially for use in drought years. This will give KID flexibility to develop and respond to potential new water opportunities.
- **Realty Reserves**—Funded by the proceeds and any interest earned from the lease or sale of parcels of real property determined to be surplus and unnecessary to the business of KID by the board of directors, these reserves are used only to enhance the district's ability to achieve long-term strategic planning goals, to provide prudent redundancy of other funding sources, and to provide funds to sustain the benefits of irrigation to the customers in the case of unforeseen changes in the irrigation sector.

Each fund collects for current and possible future activities, so that as the funds are needed, they will not affect current-year budgets. In many cases, the funds are accumulated slowly over time, and costs for one-time events are spread over a span of years, creating a smoother budgeting process.

COMMITMENT TO STEWARDSHIP

The fiscal component of this type of forward thinking and long-term planning is manifested in KID's focus: Being a cautious and thoughtful steward of its current and future fiscal resources. This stewardship includes optimizing the benefits received from the efficient use of fiscal resources intended for operations, capital projects, and development, and applying resources derived from the use, sale, and or lease of properties from KID's extensive land portfolio judiciously and in a measured way.

HELP FROM OUR FRIENDS

As part of its commitment to be a responsible steward of public funds and maximize the utility of its fiscal resources, KID has applied for and received three federal WaterSMART grants. These grants have allowed KID to accelerate its canal lining program, making our canals safer, conserving more water, and saving the district millions of dollars.

BUILDING FOR THE FUTURE

The water delivery infrastructure for development of the Southridge area in Kennewick was one such new development project. Development in this area will take place over the next 10–20 years, but in 2016, in response to an unexpectedly accelerated city of Kennewick development schedule, KID staff installed more than 2 miles of large-diameter ductile iron pipeline. The district elected to self-fund this multimillion-dollar installation, knowing there would be cost savings in excess of 33 percent in the long run. This pipeline is part of KID's \$12 million irrigation infrastructure development plan for the Southridge area, which will ultimately be funded by development fees. This plan was created by KID in anticipation of the overall development of the Southridge area over the next two decades. KID's goal is to create the most cost-effective and efficient way to deliver irrigation water to that area for the next 100 years.

USING A TREASURED RESOURCE

The Realty Reserve is a key strategic resource for KID's future. Any expenditure from this fund must be approved by the board. The KID management team is focused on preserving the capital in this fund. Discussions about using Realty Reserve funds for a special project are accompanied with a discussion about how those funds might be repaid. The Realty Reserve provided critical funding to the Red Mountain Project. This funding was made with the knowledge that the principle and interest will be repaid from a secure and dedicated income stream. The interest rate was established based on commercial market rates (6.1 percent annually) and is far in excess of the interest the funds were earning previously. Proceeds from the Red Mountain Project allowed KID to enhance operational capacity and start replacing aged infrastructure.

THE NEXT 100 YEARS

AT KENNEWICK IRRIGATION DISTRICT



Predecessors of the modern Kennewick Irrigation District (KID) existed under different names dating back to the late 1800s and were major contributors in the creation of the city of Kennewick, writes Dorothy Zeisler-Vralsted in her dissertation, *History of the Kennewick Irrigation District, State of Washington, 1880 to 1987*.

Today, KID is part of the Kennewick Division of the Yakima Project of the U.S. Bureau of Reclamation. The importance of our predecessors' efforts to create the framework for the modern KID cannot be underestimated. Confident promoters of bringing irrigation water to Kennewick organized KID in 1917 but would have to wait until 1948 for congressional authorization of the Kennewick Division, with the irrigation system coming on line 9 years later when the new Chandler Hydraulic Pumps delivered project water into the main canal for the first time in 1957. It will take the same visionary approach today to ensure that KID is still prospering 100 years from now.

The priority for the district over the next 100 years will be, to no one's surprise, water supply. Technology will continue to evolve, and with adverse effects of climate change looming, KID will take advantage of new technologies to help manage our allocation in times of plenty and in times of drought. The biggest challenge will be to secure new water rights to meet new irrigation demands in areas surrounding the district that are prime targets for agricultural expansion.

With its ample, drought-resistant flows, the nearby Columbia River is the obvious water source, but it comes at a high cost, estimated to be over \$100 million today for a new pump station and related infrastructure. And, these costs will keep rising. Unique opportunities exist, however,

within the Tri-Cities region for partnerships that would benefit all local water users. Opportunities for cooperation, coordination, or consolidation with other water users would radically change how water is managed and delivered to customers in the Tri-Cities.

On the south bank of the Columbia River, there are three irrigation districts serving the Tri-Cities area of Benton County: Badger Mountain Irrigation District (BMID), the Columbia Irrigation District (CID), and KID. If these three agencies work together, great things would materialize for our region. BMID has an existing Columbia River water right and pumping facility, and CID has its main canal approximately 75 feet away from the BMID pumping plant. KID receives up to 6 cubic feet per second per day of its water carried by CID under an agreement going back to the early 1920s. CID is the last major Yakima River water user, diverting at the Wanawish Dam located 18 miles upstream from the confluence with the Columbia River.

Pumping costs to lift the water from the Columbia River into the upper elevation areas of KID is a big cost driver; however, if BMID pumps new water for KID and discharges it into CID's main canal, KID would pick it up a few miles down canal to serve lower elevation customers, thus reducing the lift required when compared to a direct pump from the Columbia River. Higher elevations would continue to be served with Yakima River water. The challenge is to bring together these three districts, which have a long history of working together on smaller projects. These districts must focus their efforts on the next big water project that will allow for irrigated agriculture and a vibrant urban landscape far into a new century, while creating drought resiliency that will allow KID to continue to make the desert bloom.



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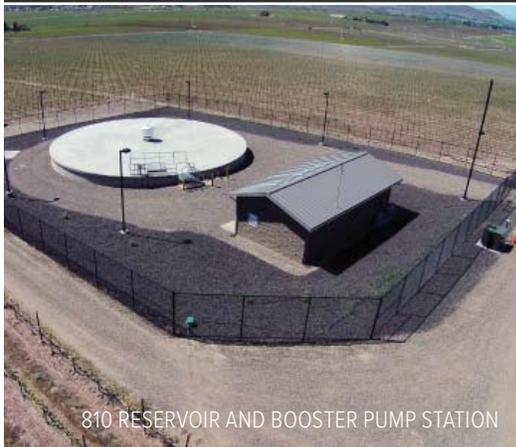
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