

## **ArkDSS Memorandum Final**

**To:** Bill Tyner and Kelley Thompson, Colorado Division of Water Resources  
**From:** Wilson Water Group  
**Subject:** Task 2.1 – Water Commissioner Interviews  
Notes from Water District 11 Meeting  
**Date:** February 2019

### **Introduction**

This memorandum provides notes from the September 19, 2017 meeting with the Water District 11 Water Commissioner. Water District 11 includes the main stem Arkansas River from the headwaters to Salida and tributaries to the Arkansas within that reach. Meetings were held with Water Commissioners in each Water District in the ArkDSS study area. The objectives of these meetings were to 1) develop an initial basin understanding; 2) determine diversion and reservoir structures that should be included in future detailed modeling efforts, and 3) determine which reservoirs and diversions warrant more detailed investigation and technical documentation. These objectives support Task 3 Consumptive Use Analysis and Task 4 Surface Water Modeling. Information in this memorandum is believed to be accurate for water planning and modeling purposes; however this information should not be relied upon in any legal proceeding.

### **Approach**

In preparation for the meeting, Water District 11 data were compiled and reviewed using the following procedure outlined in the ArkDSS Scope of Work:

1. Review the availability of diversion, reservoir storage, and streamflow data.
2. Review historical call data and identify how it may vary from current call reporting standards.
3. Identify net absolute water rights for structures in each water district. Review the irrigated lands master parcel set to identify ditches with water rights and/or diversions records for which irrigated areas have not been identified.
4. Develop an initial list of key structures and structures with acreage and water rights, but no diversion records to understand areas without records and how to estimate their use.

Maps were also developed displaying reservoirs, diversion headgate locations, and irrigated acreage of the Water District to facilitate the discussions.

The interview with the Water Commissioner was intended to determine structures that should be considered key based on seniority, water administration, or basin operations. Because much of the irrigated acreage in the Water District 11 had inaccurate ditch assignments, the interview also served to correct irrigated parcels and ditch assignments required for modeling purposes. Prior to the meeting, a brief description of the purpose and goals of the interview was provided to the Water Commissioner. The following is a summary of the meeting agenda:

1. Review straight-line diagrams for accuracy
2. Develop a list of major projects, reservoirs, and ditches in the water district, including names of knowledgeable contact people
3. Gather information on dry-up points in the river, calling rights, augmentation plans, and administration specific to the water district
4. Gather general information on the preliminary list of irrigation diversions selected to include in future detailed modeling efforts (key structures), and solicit input on their final inclusion
5. Develop information on reservoirs, such as owner entities, ditches that get reservoir deliveries, assigned delivery losses, etc.
6. Correct irrigated acreage information

### **Meeting Attendance**

The meeting was held at the Division of Water Resources Office in Pueblo. The following people attended the meeting:

John Van Oort, River Operations Coordinator  
Brian Sutton, Western Region Coordinator  
Bruce Smith, Deputy Water District 11 Commissioner  
Gary Hanks, Deputy Water District 11 Commissioner  
Kelley Thompson, DWR, Lead Modeler  
Erin Wilson, Wilson Water Group  
Lisa Wade, Wilson Water Group

### **Transbasin Diversions**

Several transbasin diversions enter the Arkansas River in Water District 11. These imports are gaged and the Division believes the records are accurate. The Division recommends using the “streamflow” gaged information for transbasin diversions, not the diversion information. Significant effort is put into assuring the reported gaged data are accurate, and that might not translate into the diversion information. The following “streamflow” gages record imports to the Arkansas River Basin:

<b>Gage ID</b>	<b>Transbasin Import Description</b>
BUSTUNCO	Busk-Ivanhoe Tunnel
BOUTUNCO	Charles H. Boustead Tunnel
COLDITCO	Columbine Ditchnear Fremont Pass
EWIDITCO	Ewing Ditchat Tennessee Pass
HOMTUNCO	Homestake Tunnel
LARDITCO	Larkspur Ditchat Marshall Pass
TWITUNCO	Twin Lakes Tunnel
WURDITCO	WurtzDitchnear Tennessee Pass
WUREXTCO	Wurtz Extension

Much of the transbasin water imported to Water District 11 is stored in Turquoise and Twin Lakes reservoirs prior to delivery. Reclamation and Division 2 staff track native versus imported water through the Arkansas River.

**Homestake Project** – CS-U and Aurora each own a 50 percent interest in the Homestake Project, which diverts water from the upper Eagle River in the Colorado River Basin. Water is collected in Homestake Reservoir before being carried to the upper Arkansas River Basin via the Homestake Tunnel. The Homestake Tunnel terminates at Turquoise Reservoir. Homestake Project water is then typically conveyed through the Mt. Elbert Conduit to generate hydroelectric power before being stored in Twin Lakes Reservoir. At Twin Lakes Reservoir, Homestake Project Water is diverted into the Otero Pipeline and gravity fed downstream to the Otero Pump Station near Buena Vista Colorado. At the Otero Pump Station, Aurora’s share of Homestake Water is pumped to Spinney Mountain Reservoir for use in the South Platte River basin, and CS-U’s portion is delivered to the Twin Rock Pump Station. From the Twin Rock Pump Station, CS-U’s Homestake Project water can serve either the North Slope Watershed or Northfield Watershed.

**Twin Lakes** – CS-U owns a majority interest in the Colorado Canal and Twin Lakes Company. The Twin Lakes Company is the managing body that operates the Independence Pass Transmountain Diversion System. This project diverts from the headwaters of the Roaring Fork River in the Colorado River Basin and conveys water under the continental divide to Twin Lakes Reservoir. From Twin Lakes Reservoir water can be pumped, along with Homestake Water, through the Otero Pump Station for delivery to CS-U and Aurora. Water can also be released to the Arkansas River via a short reach of Lake Creek.

Twin Lakes yields about 21 percent of CS-U’s annual raw water requirements. This water is 100 percent consumable and is used to extinction by CS-U. Note that east slope storage rights also exist for Twin Lakes Reservoir and the east slope component is not considered to be fully consumable

**Fryingpan-Arkansas Project** – The U.S. Bureau of Reclamation (Reclamation) developed the Fryingpan-Arkansas (Fry-Ark) Project in the late 1970s to provide water from the Fryingpan River in the Colorado River Basin to the Arkansas River for agricultural and municipal use. Fryingpan-Arkansas Project (Project) transmountain water imports are managed by Reclamation in cooperation with the Southeastern Colorado Water Conservancy District (SECWCD) to store initially in Turquoise and Twin Lakes Reservoirs and then primarily deliver downstream to Pueblo Reservoir. SECWCD allocates water from the Project annually according to their allocation policies to agricultural and municipal interests. Colorado Springs, Pueblo, and other municipalities receive allocations from the SECWCD. CS-U and other neighboring cities typically take deliveries via the Fountain Valley Pipeline directly out of Pueblo Reservoir. More recently CS-U, in conjunction with other water providers, completed the Southern Delivery System (SDS) Pipeline, which provides additional capacity and Pueblo Reservoir delivery options for CS-U.

**Where to find more information:**

- Additional information on the Homestake Project and Twin Lakes diversions is included in the CDSS Colorado River Basin Information Report and in the ArkDSS Colorado Springs Utilities Operations memorandum and ArkDSS City of Aurora Operations memorandum.
- Additional information on Fry-Ark Project and operations and transmountain deliveries in the upper Arkansas River basin is included in the ArkDSS Fryingpan-Arkansas Facilities and Related Operations memorandum.

## **Compacts and Agreements Affecting District 11 Administration**

Water District 11 is subject to conditions and stipulations set forth in the Arkansas River Compact between Colorado and Kansas; however this does not typically affect administration in the Water District 11 tributaries.

## **Stream Gages**

There are 37 active streamflow gages in Water District 11, operated by USGS, DWR, or Upper Arkansas Water Conservancy District. In addition, there are around 11 historical gages that may be used during model development. The gages, station ID, and comments regarding the use or quality of the gage are summarized below. Brian Sutton indicated that the gages are generally trustworthy.

<b>Gage ID</b>	<b>Gage Name</b>	<b>Period of Record</b>	<b>Comment</b>
07087200	Arkansas River at Buena Vista	1965-1980 1987-1993	
07086000	Arkansas River at Granite	1911-current	
07091500	Arkansas River at Salida	1910-current	
07083710	Arkansas River below Empire Gulch near Malta	1991-1993 2004-current	Missing winter data
07087050	Arkansas River below Granite	1999-current	
07081200	Arkansas River near Leadville	1969-1983 1990-current	
07083700	Arkansas River near Malta	1965-1967 1975-1984	
07091200	Arkansas River near Nathrop	1965-1983 1989-current	
07093700	Arkansas River near Wellsville	1961-current	
07081800	California Gulch at Malta	1991-1992	
07091015	Chalk Creek at Nathrop	1971-current	Used for instream flow
07091000	Chalk Creek near Nathrop	1949-1956	
07086500	Clear Creek above Clear Creek Reservoir	1946-current	
CCBCCRCO	Clear Creek below Clear Creek Reservoir	1954-1958 1970-1990 1994-current	
07089000	Cottonwood Creek below Hot Springs	1912-1923 1950-current	Key gage for administering calls on Cottonwood and used for instream flow
07089250	Cottonwood Creek near Buena Vista	1971-1987 1990-current	Used for instream flow
DINTUNCO	Dinero Mine Drainage Tunnel below Turquoise Reservoir near	2003-2009	
07079300	East Fork Arkansas River at U.S. Highway 24, near Leadville	1990-current	
GYCROHCO	Gray's Creek below O'Haver Reservoir	2012-current	Used for instream flow
07083000	Halfmoon Creek near Malta	1946-current	
07084500	Lake Creek above Twin Lakes Reservoir	1946-current	
LAKBTLCO	Lake Creek below Twin Lakes Reservoir	1953-1956 1970-current	Used for instream flow
07082000	Lake Fork above Sugar Loaf Reservoir	1946-1967	

Gage ID	Gage Name	Period of Record	Comment
LKCTURCO	Lake Fork CreekaboveTurquoise Reservoir	1985-current	Missing winter months
07082500	Lake Fork Creekbelow Sugar Loaf Damnear Leadville.	1970-current	Used for instream flow
MCWCRLCO	Middle Cottonwood Creek below Rainbow Lake	N/A	Operated by UAWCD; Qualitative only, no quantitative flow data
NSARSOCO	North Fork Reservoir Outlet	2008-current	Operated by UAWCD Used for Augmentation accounting
NFSOAKCO	North Fork SouthArkansas River	2012-current	
PINMOUCO	Pine Creekat Mouth	2017-current	Used for instream flow
PNCKPSCO	Poncha CreekatPoncha Springs	2012-current	Used for instream flow
SOAKTECO	SouthArkansas below TennasseDitch	2010-current	Key gage for administering calls on the South Arkansas
SOARGRCO	SouthArkansas River below Garfield	2012-current	
SOCWCRCO	SouthCottonwood CreekbelowCottonwood Reservoir	2012-current	Used to look at trends, but not as accurate as other gages
07093500	South Arkansas River near Salida	1997-2013	
ARKEMPCO	Arkansas River below Empire Gulch near Malta	1990-current	
GYCROHCO	Gray's Creek below O-Haver Reservoir	2010-current	
SOAKNBCO	South Arkansas above Newby Boring Ditch	2016-current	

### Instream Flow Reaches

There are 89 separate decreed instream flow reaches in Water District 11 and 96 minimum lake level decrees. Most of the instream flow reaches are in the headwaters above significant diversions; and many of the instream flow reaches are on the same tributaries; with decreed rates generally increasing from upstream to downstream. The following instream flow reaches are likely depleted by senior water right diversions and storage; however because they arejunior to most other rights, they do not typically affect river administration even though

they have gages and can call out junior rights. They might restrict exchanges in below average years.

- Lake Fork Creek Instream Flows (1103057, 1103058, 1103059, and 1103060) from the headwaters to the confluence with the Arkansas River (above and below Turquoise Reservoir). Maximum decreed rates increase from 4 cfs to 20 cfs.
- Lake Creek Instream Flows (1103055, 1103066) from the confluence with the North and South Fork Lake Creek to the confluence with the Arkansas River (above and below Twin Lakes Reservoir). Maximum decreed rates increase from 15 to 20 cfs.
- Pine Creek Instream Flows (1103051, 1103065) from the headwaters to the confluence with the Arkansas River. Maximum decreed rates increase from 10 to 15 cfs.
- Cottonwood Creek Instream Flow (1103021) from the confluence with Middle and South Forks Cottonwood Creek to the confluence with Arkansas River. Maximum decreed rate is 20 cfs. Exchanges are generally allowed on Cottonwood Creek when 18 cfs can be delivered to the Trout Creek Ditch (1100649), and flows at the Cottonwood near Buena Vista Gage are at least 2 cfs. Because this adds to 20 cfs, it is assumed that the instream flow right is being satisfied.
- Middle Cottonwood Creek Instream Flow (1103044) from North Fork Middle Cottonwood Creek to the headwaters to the confluence with South Cottonwood Creek. Maximum decreed rate is 10 cfs.
- South Cottonwood Creek Instream Flow (1103052) from Mineral Creek to Middle Cottonwood Creek. Maximum decreed rate is 10 cfs.
- Chalk Creek Instream Flow (1103016) from the confluence with North Fork Chalk Creek to the Colorado Highway 162 bridge. Maximum decreed rate is 18 cfs.
- Clear Creek Instream Flows (1103018, 1103095) from confluence with North and South Clear Creek to Clear Creek Reservoir. Maximum rates increase from 15 to 20 cfs.
- Poncha Creek Instream Flows (1103002, 1103042) from headwaters to the confluence with the South Fork Arkansas River. Maximum decreed rates increase from 5 to 8 cfs.
- Gray's Creek Instream Flow (1103046) from the headwaters to the confluence with Poncha Creek. This maximum decreed 4 cfs instream flow is rarely satisfied. The Water Commissioner has an agreement with CWCB to tell them when he is allowing Upper Arkansas Water Conservancy District to exchange water to O'Haver Reservoir.

## General Administration

Brian Sutton has been the Water Commissioner for Water District 11 since 2013. Bruce Smith was the Water Commissioner for Water District 11 starting in 1979. He retired, but then was re-hired as the assistant Water Commissioner after Dave Kelley retired.

Water District 11 can generally be divided into the South Arkansas tributary, the mainstem with its tributaries up to Clear Creek, and the area upstream of Clear Creek confluence.

The Water Commissioner uses the South Arkansas below Tennesse Ditch gage when administering calls, or to determine a call is necessary. When there is a call on South Arkansas River, the Water Commissioner is in regular communication with the Missouri Park Ditch. This ditch is located near the top of the system. They have a large senior water right for 10 cfs and then a junior water right for 30 cfs. In order to administer the call, Brian is generally curtailing a portion or all of the 30 cfs junior right. The Tennesse Ditch is senior and a large portion was purchased and changed by the town of Salida. There is a 2 to 3 cfs return flow obligation. The Upper Arkansas Water Conservancy District will exchange against the return flow obligations, generally to their reservoirs to cover evaporation. The exchanged water is subtracted from the Tennesse return flow obligation. Brian is frequently administering to assure the correct amount of water is flowing past the headgate. Brian has just created a spreadsheet to help him track how much water needs to be flowing past the South Arkansas below Tennesse Ditch gage. Some of the change cases that the Water Commissioner considers in administration include:

- Noland Ditch (1100555)
- Poncha Springs Augmentation Plan (07CW0111) that includes Mundlein Ditch No 2, Huntzicker Ditch, Hensie No 1, Hensie No 2, Henry Ditch, Boon Ditch, Velotta No 1, and Friend Ranch Reservoir No. 1
- Salida return flow credits and deliveries of CU water changed in Salida's change case 04CW0125
- Salida excess supply of changed Tennesse water they are sending to Pueblo Reservoir
- Transmountain water imported via Larkspur Ditch

The Water Commissioner uses the Cottonwood Creek below the Hot Springs gage when administering calls or determining if a call is necessary. When there is a call on Cottonwood Creek, the Water Commissioner is in communication with the Arkansas Valley Ditch and curtailing their junior rights – which are the most junior rights and generally called out first.

During wet years, there may not be any tributary calls and the water district is controlled by the mainstem Arkansas River call. The call is generally for one of the senior ditches downstream of Pueblo Reservoir.

There are multiple entities that are trying to exchange water upto Water District 11. The Division has a webpage where users can put their exchange requests. John Van Oort and Brian work together to determine if there is enough water to allow the exchanges. There are exchange “pinch points” throughout the basin. On the South Arkansas River, the Hill & Sprauge Ditch (1100562) can be the pinch point for exchanges up to Boss Lake and the North Fork. On the North Fork, the Cameron Ditch (1100584) can be an additional pinch point for exchanges up



to North Fork Reservoir. On Cottonwood Creek, the Trout Creek Ditch Cottonwood (1100649) is the pinch point for exchanges up to Cottonwood and Rainbow reservoirs, Ice Lake (aka Franklin Reservoir), and a couple of other small ponds. On the mainstem, exchanges have rarely been curtailed. In dry years, the pinch point is the Fremont County Wastewater Treatment Plant. The outfall is just above the Portland gage. In order to meet water quality standards, they need 190 cfs in the river.

The Upper Arkansas Water Conservancy District (UAWCD) has an agreement with Chaffee County to replace water with releases out of Twin Lakes for the Nestle Wells (IDs 1105104 and 1105219). The UAWCD tries to make most of their replacements from Pueblo Reservoir and their changed ditches so they can keep as much water in the upper reservoirs as possible. The District has changed water rights in the Thompson Ditch (1100645) and the White Ditch No 1 (1100560) as part of their plan for augmentation.

Users are generally responsible for the accounting for their reservoirs. The Division does the accounting for transactions in Pueblo Reservoir (releases, inflows to storage, exchanges, etc.). Generally, the Water Commissioner does not interact with Reclamation on the Fryingpan-Arkansas reservoirs. John Van Oort is more involved. He receives notifications from Reclamation about their operations. Terry Dawson is the point of contact at Reclamation. She provides accounting to the Division about two to three times per week. Reclamation is tracking all of the water in Turquoise, Twin Lakes, and Pueblo reservoirs, down to the details of how much water each entity has in the reservoir and in which type of account. Terry also tracks all of the inflow and releases from the reservoirs. The exception to this is the Colorado Canal Company/Twin Lakes Reservoir Company. They perform the accounting for their portion of Twin Lakes storage.

John Van Oort does the accounting for exchanges between the reservoirs and augmentation releases. He also tracks how reservoir storage is being diverted at the headgates of the intended recipients, and is responsible for tracking the transit losses. (On Fountain Creek, Gerhard Kuhn (USGS) did a large transit loss study. For the Arkansas River, the Division uses 0.07 percent per mile above Pueblo Reservoir. This transit loss was developed in the Sunnyside case. Additionally, the Division holds an account in Twin Lakes that they use to administer augmentation. John places a call with Terry for either the actual amount of depletions or for the maximum amount that the decree called for to be augmented. This is not a large account. Generally, there is enough water in the mainstem that the Water Commissioner does not need to shepherd reservoir releases through other diverting headgates.

The Voluntary Flow Management Program has changed the flow regime in the upper portion of the river, especially compared to historical streamflow. Releases from the upper reservoirs can significantly increase flow in the river from historical rates. The Division continues to explain the program to senior ditch users downstream of Pueblo, who are often not aware that much of

the water is from storage and, as only the native water would be available to them, not available for them to call down. To help with this issue, the Division has been developing a “Reservoir and Exchange Operations Tool” as part of a separate ArkDSS contract. This tool color-codes the water at each gage as native, transmountain, reservoir storage release, etc. to help make reservoir and exchange operations more visible to water users.

The large water users with changed ditch shares, transmountain water, and reservoir water, including Aurora, Colorado Springs, Pueblo Board of Water Works, and Pueblo West, submit detailed accounting forms to the division and there are rarely any issues.

For diversion and reservoir structures tracked under multiple accounts, the accounts are generally used to keep track of water that is used and water being left in the river for downstream obligations or storage. The accounting was updated in 2013 to meet the new DWR diversion coding standards.

The Division cautions that there is a known issue with HydroBase calculating total diversions. There are some cases where it is incorrectly pulling XQO (Total through structure-does not distinguish between types of water) water. This coding should not be included in the total diversion computation. The Division is working with the DWR to get this issue corrected.

The normal year call sequence is specific to each tributary and is documented in the “Tributary Specific” information below.

**Where to find more information:**

- Additional information on augmentation in Water District 11 is presented in the ArkDSS Upper Arkansas Water Conservancy District Operations memorandum.
- Additional information on historical calls is presented in the ArkDSS Task 2.9 Historical Calls memorandum.

## **Municipal Use**

- Parkville Water District provides water to Leadville. Their system uses the Stevens & Leiter Ditch (1100751) 1873 industrial and mining right. They transferred the Parkville Canterbury Ditch water right to the Canterbury Ditch mine shaft tunnel (1100813) which provides warmer temperature water. Following collapse of the shaft tunnel, in 2020, they drilled a well down to the tunnel and pump water out for delivery. They also have a couple of small reservoirs on Iowa Gulch.
- Granite is supplied by exempt domestic wells.
- Salida uses changed water from the Harrington Ditch (1100550) and Tenassee Ditch (1100551). During the summer, they meet peaking demand with these changed rights and the Pasquale Springs (1105599). During the winter, they use the Harrington Ditch Seepage (1100505) that is augmented.

- Buena Vista has changed water rights on Cottonwood Creek from the Thompson Ditch (1100645) and Gorrel Ditch (1100836) water rights. They irrigate land within the city with the Gorrel credits. They also have an infiltration gallery (1100935), which is their preferred operation due to the higher quality water. The infiltration gallery collects percolated water from the Gorrel irrigated fields. They also have 2 wells (1105794 and 1105793).
- The correction facility south of Buena Vista has water rights for irrigation and wells that are under a replacement plan.
- Poncha Springs is supplied by a series of wells. They purchased the Friend Ranch and changed those water rights (07CW0111) to augment their well pumping. They also operate an irrigation right; the Poncha Springs Acequia (1100572). They are currently working to drill a well in the Arkansas drainage and purchase augmentation water from the UAWCD. They have a contract for storage in Pueblo Reservoir and O’Haver Reservoir (through UAWCD).

## Reservoir Specific Information

### **Turquoise Reservoir**

Turquoise Reservoir is part of the Fryingpan-Arkansas Project. The reservoir is operated to manage transmountain imports and for flood control. Diversions from the reservoir can be taken through the Mt. Elbert Pipeline. The DWR Division 2 Office archives the accounting forms submitted to them. They do not monitor the reservoir levels separately.

### **Twin Lakes Reservoir**

Twin Lakes Reservoir is part of the Fryingpan-Arkansas Project and also has private owners under the Colorado Canal/Twin Lakes Reservoir Company. The reservoir is operated to manage transmountain imports and to the benefit of the Colorado Canal Company. Native and transmountain water is stored in the reservoir, frequently by exchange. Diversions from the reservoir can be taken through the Otero Pipeline for Colorado Springs and Aurora use. The Division Office receives accounting on the Otero Pipeline. The Division Office manages the releases for augmentation from the State Engineers Office account. There are streamgages located both upstream and downstream of the reservoir. The Division Office archives the accounting forms submitted to them. They do not monitor the reservoir levels separately.

### **Clear Creek Reservoir**

The Division Office archives the accounting forms that are submitted by Pueblo Board of Water Works. The Division is not monitoring the reservoir levels independent of the accounting forms.

## Tributary Specific Information

The basin has several significant tributaries that experience local administration.

### **Mainstem Arkansas River**

- Cogan and Day Ditch (1100547) is active and has irrigated acreage.

- Helena Ditch (1100535) is active and has irrigated acreage.
- Bray-Allen Ditch (1100537) is active and has irrigated acreage.
- Reformatory Ditch (1100801) has been transferred to Helena Ditch(1100535).
- Riverside Allen Ditch (1100534) is divided into “A” water and “B” water. The “A” water was originally flumed across the river to deliver to the parcels at the bottom of the service area. Over time, they decided to put the water all through the ditch. The “A” water and the “B” water users have been fighting each other because the “B” lands are at the top of the ditch and the “A” water users are upset when the water doesn’t make it to the bottom. This past year, the “A” water users “cleaned” the ditch and dropped the level below the laterals. The ditch has a large service area, and if we see lands in this corridor that were historically irrigated, they should be assigned to this ditch.
- Dryfield Ditch (1100538) is active and irrigated acres were located in the interview.
- Langhoff Ditch (1100532) is active. Headgates 2 (1101117), 3 (1101118), and 4 (1101119) are rarely used and don’t have measurement devices. They are used to pick up supplemental water and work together with Langhoff Ditch to supply the same acreage.
- Wheel Ditch (1100524) has been purchased by Aurora and changed to augmentation water. The ditch is no longer irrigating.
- Champ Ditch (ARK) (1100517)has been purchased by Aurora and changed to multiple beneficial uses including for augmentation. The ditch is no longer irrigating.
- Pioneer Ditch (ARKANSAS) (1100518) has been purchased by Aurora and changed to multiple beneficial uses including for augmentation. The ditch is no longer irrigating.
- Young & Smith Ditch (1100516) is used to fill the Crystal Lakes. Water from Crystal Lakes is diverted into Crystal Lake Ditch (1100770) irrigates the lower parcel. It also comesingles with the Empire Creek Ditch (1100730) to irrigate the upper parcels.
- Derry Ditch Headgate No 1 (1100523)is owned by Aurora and Lake County. Currently, it is not irrigating.
- Upper River Ditch (1100519) is active, but the ditch does not irrigate. It fills up Hayden Meadow ponds. The ponds are used for recreation and fishing. It is owned and augmented by Aurora.
- Younger Ditch No 3 (1100522) is taken through Younger Ditch No 1 (1100520) headgate.
- Younger Ditch No 2 (1100521) is active and irrigated acres were located in the interview.
- Martin Ditch (1100515) is active and has irrigated acreage.
- Bob Berry Ditch (1100525) is active and has irrigated acreage.
- Wells & Starr Ditch (1100526) is active and has irrigated acreage.
- Delappe Ditch (1100527) can be used to irrigate the Mt. Massive golf course, but it has a lot of maintenance issues. Generally, the golf course prefers to use wells only. Recently, they obtained an alternate point of diversion for the Derry Ditch No 3 (1100734) to the Delappe for the golf course well (98CW0173).

## **Tributaries to the Arkansas River**

### ***Tennessee Creek, East Tennessee Creek, and West Tennessee Creek***

- Tennessee Park Ditch (1100848) and Tennessee Park Ditch Alt Point (1101156) share a diversion point and work together to irrigate some of the same fields, but Tennessee Park Ditch is the primary diversion and irrigates several fields independently.
- Lucas Ditch (1100502) is a large ditch that can divert 15 cfs. It serves a very similar area as the Tennessee Park Ditch (1100878) and Tennessee Park Ditch Alt Point (11001156). Some of the fields are comingled with all three diversion ditches.
- Martin Holm (1100504) point of diversion may be located upstream of the DWR mapped location. The ditch is active. The coordinate Hartner Ditch No 1 (1100817) and Hartner Ditch No 2 (1100817) are used to feed the Sylvan Lakes. The ditches are junior and they are used for augmentation and decreed for fishery.

### ***East Fork Arkansas River***

- Ossman Ditch (1100812) is not operational and is going to be on the abandonment list.
- Hibschie Ditch (1100811) is not active and is going to be on the abandonment list.
- Parkville Canterbury (1100785) is owned by the Parkville Water and Sanitation District, which serves Leadville. For more details, see the description under “Municipalities”

### ***Lake Fork Creek***

Turquoise Lake is at the headwaters. It is part of the Fryingpan-Arkansas Project. The Busk-Ivanhoe Tunnel delivers imported water to Turquoise Lake. Water is primarily diverted directly from the reservoir to the Mt. Elbert Conduit. The reservoir releases enough water to the river to maintain the instream flow downstream of Sugarloaf Dam. The reservoir is also used to keep the flows in the creek below flood level (400 cfs at the Lake Fork Creek below Sugarloaf Dam near Leadville gage).

- Smith Ditch (1100508) is active.
- Lake Creek Ditch (1100512) is taken out of the Joseph Dunn Ditch (1100510). This has not been officially transferred.
- Strawberry Gulch (1100511) is taken out of the Joseph Dunn (1100510) and has been officially transferred.
- Henderson & Delappe (1100509) has been purchased and dried up by Aurora.

### ***Willow Creek (tributary to Lake Fork Creek)***

- Mitchell Ditch No 1 (1100749), Abbott Placer Ditch (1100745), Sites No 1 (1100747), Sites No 2 (1100809), and Willow Creek (1100746) have been switched to municipal use for the Donala Water and Sanitation District. Water is quantified at the ditches for use by Donala.

### ***Rock Creek (tributary to Willow Creek)***

- Rock Creek Ditch (1100755) serves a ranch with multiple ditches, but the parcel it irrigates cannot be served by other ditches.
- Henderson Rock Creek (1100754) has been purchased and dried up by Aurora.

### ***Colorado Gulch (tributary to Lake Fork Creek)***

- Colorado Gulch (1100766) serves the same ranch as Rock Creek Ditch.
- Colorado Gulch Placer (1100513) has been abandoned and transferred to Turquoise Reservoir.

### ***Halfmoon Creek***

Reclamation picks up water from the creek for power generation in the Mt. Elbert pipeline. The diversion point sits right above the pipeline and has WDID (1102057). It is administered as junior to the Halfmoon Creek instream flow. The water in the pipeline is non-consumptive. It is sent through the hydropower plant, and then returned to the Arkansas River.

- Templeton Ditch (1100974) is currently not being used, but they can take water to asand and gravel pit.
- Upper Ditch (1100736) is currently not irrigating. Last time they irrigated, they had to line the ditch with carpet to get the water to reach the irrigated lands, which historically have been fairly large. The ditch carries water to the north.
- Colahan Ditch No 1 (1100738) is mostly abandoned. The last 0.5 cfs will be abandoned.
- Lord Ditch (1100742) is not active.
- Helus Halfmoon Ditch (1100743) was running water this summer, but was not used for irrigation. Historically, the ditch had been used to irrigate a garden.

### ***Box Creek***

Aurora and Lake County are planning on building a reservoir for augmentation purposes. They are working on the permitting right now.

- Thompson & Derry Ditch (110767) and Thompson Derry Alt Point 1 (1101100) work together to serve the same fields and should be modeled as a diversion system.
- McDonald Ditch (1100768) is active.
- Derry Ditch No 2 (1100769) is pretty junior and currently not irrigating. Previously, Lake County was using the ditch to fill a “wildlife” lake, but the lake is currently empty.

### ***Harrington Creek***

- Harrington Ditch No 1 (1101147) and Harrington Ditch No 2 (11001148) should be modeled as a diversion system; they irrigate the same ranch.

### ***Iowa Gulch***

- Iowa Gulch Ditch (1100772) is active. The ranch owner irrigates about 84 acres. The owner buys water from Aurora and it is exchanged up Iowa Gulch to the headgate. The original water right has been abandoned.

### ***Empire Gulch***

- Nelson Wood's 2 Ditch (1100732) is used to fill several lakes in the Beaver Lake subdivision. The case allowing this use went to the Supreme Court.
- Empire Creek Ditch (1100730) has multiple accounts. Part of the diversion goes into the Parkville Ditch. Diversions are measured at Empire Ditch as a quantification point. They administer to ensure that there is 1 cfs at this point. Part of the diversion goes to irrigation. This should be modeled as a diversion system with the Crystal Lake Ditch (1100770) because they irrigated the same parcels.

### ***Big Union Creek***

- Yannis Ditch has four headgates No 1 (1100779), No 2 (1100780), No 3 (1100781), and No 4 (1100782) and they work together to irrigate the same acreage. This should be modeled as a diversion system.
- Musgrove Ditch (1100783) is used to supply the Mt Massive Lakes. The water is delivered by exchange.

### ***Bartlett Gulch***

Bartlett Gulch flows year-round. There is a considerable amount of water in the drainage.

- Lily Pond Ditch (1100733) has two owners for a total of 6 cfs. The Forest Service owns 2 cfs. They divert the water to the ponds. The remaining 4 cfs is being directed to run down the Gulch and into Twin Lakes.

### ***Lake Creek***

Transmountain diversions are imported to Lake Creek upstream of Twin Lakes Reservoir. Native and transmountain water is stored in the reservoir. Diversions from the reservoir are taken directly through the Otero Pipeline or released to Lake Creek and delivered to the Arkansas River. The Otero Pipeline was constructed in 1986 after the pump station located downstream on the Arkansas River was washed out due to flooding. The pipeline owners (Colorado Springs and Aurora) are discussing the possibility of re-establishing the pump station in order to have redundancy. The Division Office receives accounting on the Otero Pipeline. Releases from the reservoir can be made to the Arkansas River for delivery downstream. This water can also contribute to the Voluntary Flow Management Program. The Division Office manages the releases for augmentation from the SEO account. There are streamgages located both upstream and downstream of the reservoir. The Division Office archives the accounting forms submitted to them. They do not monitor the reservoir

levels separately. Multiple entities exchange water up to Twin Lakes and schedule releases for various deliveries. Generally, there is enough water for the exchanges to operate. The exchanges may have been curtailed due to physical availability in 2002 and in the early spring of 2011, both of which were very dry periods.

#### Ditches Upstream of Twin Lakes Reservoir:

- Inter Laken Ditch (1101086) is a Forest Service ditch and located on such a small tributary - calls are administered as futile. They are not irrigating acreage for crop production.
- Flume Gulch Ditch (1101074) is located on a tributary of Twin Lakes, very close to the Interlaken Ditch headgate. It is a Forest Service ditch and they are not irrigating acreage for crop production.
- Sill Ditch No 1 (1100824), No 2 (1100541), and No 3 (1100547) are Forest Service ditches. No 1 and No 2 had wooden headgates that have fallen into dis-repair, and are no longer operational. No 3 might be diverting to water willow trees and provide wetter lands for wildlife.
- Floris P Willis Ditch 1 (1100805) and Ditch 2 (1100807) are Forest Service ditches. There is a headgate and a flume. The ditches are irrigating aspen trees and divert a sizable amount of water.
- Arlington Ditch (1100582) is abandoned.
- Derry Ditch No 3 (1100734) has just been changed for augmentation use by Lake County and Aurora. Original use was probably for mining.

#### Ditches Downstream of Twin Lakes Reservoir:

- Balltown Ditch (1100542) is active, but is fairly junior with a 1942 priority date. Generally, the ditch is only in priority for a short period of time. In 2017, it was in priority for almost 8 weeks, which is particularly long.
- Ohio-Knox (1100543) is active, but a very junior ditch. The last time it was in priority was in 1999 for six weeks. However, the rights can't be abandoned because it has not been in priority.

#### ***Clear Creek***

- Clear Creek Reservoir is located almost at the confluence of Clear Creek and the Arkansas River. The reservoir is owned and operated by Pueblo Board of Water Works.
- Kirsch Ditch (1100545) was inundated by the reservoir.
- Giebfried Ditch (1100544) is active and has irrigated acreage.
- Fish Ditch (1100546) is active and has irrigated acreage.
- Clear Creek Ditch (1100797) is active and has irrigated acreage.



### ***Unnamed seepage***

- Hayden Meadow Ranch A (1100889) diverts water from seepage below Box Creek. The Ranch keeps oxen through the winter in the pasture and the oxen dig through the snow to get to the grass.

### ***Pine Creek***

Pine Creek does not experience local calls, but it is impacted by the mainstem call. All other upstream tributaries also do not experience local calls and only are impacted by the mainstem call.

- Anderson Pine Creek Ditch (1100701) is active and irrigated acreage was located during the interview.
- Owens Ditch (1100699) is active and has irrigated acreage.

### ***McFadden Creek***

- McFadden Ditch (1100775) – up to 2.15 cfs is comingled with the Morrison Ditch and a small amount of the Anderson Ditch. McFadden generally runs out of water after the spring runoff.

### ***Morrison Creek***

- Morrison Creek Ditch (1100826) is comingled with the Morrison Ditch and a small amount of the Anderson Ditch.

### ***Spring Creek***

- Spring Ditch (1100776) irrigates north of Spring Creek and irrigation has just been re-established in the past 2 years. Records for 2015 and 2016 are correct. Irrigated acres were located in the interview.
- Spring Ditch No. 2 (1100794) has some issues with diversion records. Historically, they recorded Spring Ditch No. 2 under Spring Ditch. Records for 2015 and 2016 are correct. The water user has been sending in diversion records, but they weren't showing up in HydroBase. Irrigated acreage was located in the interview.
- The ponds on Spring Creek are filled with futile call water.

### ***Frenchman Creek***

- Eastman Ditch (1100726) river diversion point is not mapped correctly in the DWR data. It should be further upstream. Historically, the ditch was a big lettuce producer and covered a huge area (located in the cleared area to the south of Frenchman's down to the next drainage). Currently, they are only irrigating a small portion of about 10 acres, but Brian is not exactly sure where the acreage is located. It is owned by Colorado Parks and Wildlife.
- Bartholomew Ditch Alt 1 (1100905) is active.

- Bartholomew Ditch Alt 2 (1100906) is active. They put water in the pond (which is augmented through Upper Arkansas WCD) and they deliver via gated pipe to the field.
- Bartholomew Ditch Alt 3 (1100907) is active. They put water through a pretty long ditch.
- The original Bartholomew Ditch 1100724 no longer exists, only the three alternate point are used. The records in HydroBase are a little messy. Brian just discovered the error this season. The diversions had been coded under 1100724, which is wrong.
- Little Anna (1100725) has a junior and a senior water right and they are always running. Irrigated acres were located in the interview.

### ***Three Elk Creek***

- Mountain Ditch (1100706) is active and irrigated acres were located in the interview.
- Three Mile Ditch (1100705) has been transferred to the Harvard Ditch No 2 (1100796).
- Harvard Ditch No 2 (1100796) irrigated acreage was located in the interview. Historically, it could have irrigated more land.
- Harvard D No 2 APD Larivee (1101150) irrigated acreage was located in the interview.

### ***Powell Creek***

- Niles Brothers (1100709) and Marquard Ditch (1100710) are a diversion system.
- Olson Ditch (1100586) has a conditional water right, but there is not enough physical water for them to divert.

### ***Four Mile (located upstream of Cottonwood)***

There is no active irrigation on this tributary. The remaining water rights will be on the abandoned list.

### ***Cottonwood Creek***

The creek experiences internal calls. Generally, it is water short in dry and average years. The call will go on shortly after run-off is over (July). The calling right is the Trout Creek Cottonwood Ditch (1100649). The most senior ditch to get curtailed is the Cottonwood & Maxwell Ditch (1100650). Cottonwood Lake and Rainbow Lake are exchange points and augmentation points for the UAWCD.

#### ***Cottonwood Creek Upstream of confluence with North Cottonwood Creek***

- Cottonwood & Maxwell Ditch (1100650) is active and has irrigated acreage.
- Harvard Ditch (1100657) is active and irrigated acres were located in the interview.
- Michigan Ditch (1100661) is active and irrigated acres were located in the interview.
- Wolf & Neerland Ditch (1100651) is active and has irrigated acreage.
- Ark Valley Irrigation Co (1100655) is active and has irrigated acreage. Historically, it had the potential to irrigate more land.
- Johnson Ditch (1100665) is not active and will going to be on the abandonment list.

- Gorrel Alternate Ditch (1100670) is active and has irrigated acreage.
- Gorrel Ditch (1100836) is fairly senior. Some of the ditch was transferred to Buena Vista.

***North Cottonwood Creek (upstream of confluence with Cottonwood Creek)***

- Pancost Ditch (1100679) is active and irrigated acres were located in the interview.
- Silver Creek Ditch (1100784) was transferred to Silver Creek-Ronk Ditch (1100672).
- Richard's Ditch (1100680) has not been irrigating recently. It turned off summer 2016 and has not turned back on. The ditch can flood out houses when the ditch maintenance is not kept up on. It is located in very erosive soil. They might be working on rehabilitation.
- McKenna Ditch (1100675) is active and has irrigated acres.
- Marshall Ditch (1100674) headgate is located just upstream of Bray Ditch (1100671).
- Bray Ditch (1100671) is active and has irrigated acres.

***Cottonwood Creek Downstream of confluence with North Cottonwood Creek***

- Mahan Ditch (1100647) and Fehling Ditch (1100660 ) serve the same acreage.
- Bray & Mahon Ditch (1100653) is active and irrigated acres were located in the interview.
- Prior Right Ditch (1100646) irrigates the golf course.
- Supply Ditch (1100795) was originally decreed for a 160 acres ranch and currently is used to irrigate lawns in Buena Vista.
- Leesmeagh Ditch (1100644) is active and has irrigated acres.
- Shamrock Ditch (1100658) is active and irrigated acres were located in the interview. It comeslingles with Richard's Ditch (1100680) and should be modeled as a diversion system.
- Thompson Ditch (1100645) is not active.
- Flinchpaugh Ditch (1100652) has been divided up. The irrigated acreage was split into three parts. The first two parts were sold off for housing and then the last piece was supposed to still be for irrigated acreage, but they are currently not running water to it.
- Maynard Ditch (1100662) was transferred to Cottonwood (1100648).
- Cottonwood Irrigating 1 Ditch (1100648) and Cottonwood Irrigating 2 Ditch (1100936) have had changes in type/location of use for the St. Charles Mesa Water District in Water District 14. Diversions are taken at the Bessemer Ditch headgate and delivered to the SCMWD treatment plant and, to a smaller extent, for diversion at the Town of Buena Vista intake.
- Trout Creek Ditch (1100649) diverts water (19.98 cfs) which is delivered by pipeline across the Arkansas River to the east side where the majority of the irrigated lands for the water right exist. In recent history, a portion of this water right has been in

pumped up into Trout Creek Reservoir on Trout Creek for head stabilization and then released back into the sprinkler system pipelines for lands to the west of the reservoir and east of the Arkansas River.

### ***Trout Creek***

Trout Creek does not reach the Arkansas River. Calls are futile.

- Rhoades Ditch (1100721) is active and irrigated acres were located in the interview.
- Northside Rhoades (1100808) is active. It is not very productive. It is mostly used to irrigate willows.
- McGee Ditch (1100720) has a pump in the creek and the user sends in their records. Headgate location should be moved to the pump location.
- Trout Creek Reservoir is located near the mouth of the creek. It was recently built. It is administered by measuring the streamflow that enters the reservoir and via accounting for reservoir content. The Trout Creek Ditch on Trout Creek (1100719) headgate is now located at the bottom of the reservoir. It now uses a pump that pulls water out of the reservoir. The pump is only allowed to take up to half of the streamflow. Cogan Ditch (1102078) operates in a similar fashion.
- Note that there is also a Trout Creek Ditch on Cottonwood Creek (1100649). This ditch brings water over to this area. See notes under the Cottonwood Creek tributary below.

### ***Maxwell Creek***

- Mette Ditch(1100716) is active.
- Criswell Ditch (1100717) is active and has irrigated acres.
- Anderson Ditch (1100714) comingles with Cottonwood Irrigating 1 (1100648).

### ***Dry Creek***

- Huey Ditch No 1 (1100773) is active and has irrigated acres.
- Huey Ditch No 2 (1100787) has been transferred to Huey 1 and no longer exists.

### ***Chalk Creek***

Chalk Creek has a good water supply. It is impacted by calls on the Arkansas. There is an instream flow reach, but it is junior to the diversions. There is a streamgage at the bottom of the instream flow reach.

- Alpine Lake is a natural lake.
- Wilsey Ditch (1100685) is active and irrigated acreage was located in the interview.
- Knox Ditch (1100692) supplies domestic water and is not used for irrigation.
- Bowen Ditch (1100691) is a very long ditch. It gets water every year and can divert up to 40 cfs, generally during the spring runoff. Historically, it serves some acreage independently. Currently, it is supplemental to the following known ditches:
  - McFarland Ditch (1100702)
  - Ehrhart and Bertschey Ditch (1100634)

- Weber Ditch No 1 (1100703)
- Walker Ditch (1100687) is currently inactive. The Mount Princeton Hot Springs construction has disrupted the ditch. They also had a boulder roll into the ditch. They are working on re-establishing the ditch, probably with pipe, and hope to be irrigating soon.
- Hatchery Headgate No 1 (1102071) first runs through the fish hatchery and then goes to irrigation. There is some comingled acreage with Frantz Ditch (1100686).
- Willowdale Ditch (1100684) - Pueblo West has bought the water and they are trying to dry up the fields, but they have to irrigate until they can establish native grass.
- House Ditch (1100713) is actually located on Gas Creek, which is primarily a seepage creek. Brian is trying to keep it off the abandonment list. He has not kept records of their diversions. They are active and the irrigated acreage has been noted.
- Upper Mill (1100695) is active and has irrigated acreage.
- Link & Irving (1100688) is active. It crosses the highway to reach the fields.

#### ***Brown's Creek***

- Cedar Springs Ranch No 2 (1100640) is active and irrigated acreage was located in the interview. It is in a diversion system with Cedar Spgs Ranch Hdgt 1 (110698) and Cedar Spgs Ranch Hdgt 2 (1100642). These ditches are all part of the Cedar Spring Ranch.
- Pioneer Ditch (1100632) is active and the assigned acreage is correct.
- Ehrhart & Bertschey (1100634) is active and has irrigated acres.
- Evans No 2 (1100631) is active and has irrigated acres.
- Smith No 1 (1100629) is active and has irrigated acres.
- Gillian Ditch No 2 (1101138) and Evans Ditch (1100630) share a headgate, but have separate measurements.
- Smith No 2 (1100789) diverts half of the original 4cfs decreed to the Guyer Ditch (1100636). The other portion of Guyer Ditch (remaining 2cfs) is a candidate for abandonment. The Guyer Ditch diversion point is not being used.

#### ***Four Mile Creek***

- Hot Creek Ditch (1100774) headgate location is correct. It is a seepage out of the hillside and the water is actually hot. There are artisan wells in the area. They pump the water to irrigate upstream of the seep.
- McFarland Ditch (1100702) is active and has irrigated acres.
- Weber Ditch (1100637) diverts from Brown's Creek and then the ditch runs over the ridge and drops into Four Mile. It is re-diverted at Weber Ditch No 1 (1100703).

#### ***Squaw Creek***

- Eureka Ditch (1100625) is on a small tributary to Squaw Creek. The ditch cuts across the ridge and picks up more water as it goes along. It then drops into a small draw and then

irrigates the fields assigned to it. If you turn off the diversions at Eureka Ditch, you can get more water at the Spaulding Ditch (1100624).

- Ahern Ditch (1100626) had not been irrigated for a while. They had a washout, and because the ditch was on Forest Service land it took a long time to get repaired. They are now running again.
- Spaulding Ditch (1100624) is active and has irrigated acres.
- Squaw Creek (1100892) should be on the abandonment list.
- Rock Ditch (1100852) is active and the assigned acreage is correct.
- Williams and Hamm (1100531) is active and has irrigated acres. The measurement device is farther down the ditch.
- Sunny Side Park Ditch (1100539) is active and has irrigated acres. The measurement device is farther down the ditch.
- Salida Ditch (1100536) is active and has irrigated acres.
- Kraft Ditch (1100530) is active and has irrigated acres. The measurement device is farther down the ditch.

### **South Arkansas and its tributaries**

South Arkansas is generally administered based on local calls. There are generally at three locations:

- Tensassee Ditch (1100551) usually initiates the call on the South Arkansas because of both its seniority (second most senior) and its location (near the bottom). This call usually comes on a couple of weeks after run-off (July).
- Hill & Sprague Ditch (1100562) can be a “pinch” point on the creek particularly in the spring before the runoff begins.
- The North Fork of the South Arkansas calling location is routinely the Cameron Ditch (1100584).
- When creek flows drop off after spring runoff, the Water Commissioner is in close communication with Missouri Park Ditch (1100570). The ditch is located near the top of the system and has a large, but relatively junior, water right for 30 cfs that generally has to be cut back. The ditches on the South Arkansas that are collecting seepage are largely not administered.
- History of the Tensassee ditch: The ditch only has about 25 percent of the original irrigation still active. The majority of the ditch has been sold off and acreage dried up. One of the original irrigators had an alternative point of diversion (1101011) decreed because water diverted at the headgate was no longer reaching her lateral. She has a pump in the river and irrigates a small parcel with gated pipe.
- Bale Ditch No 1 (1100563) has sold the water right and has been dried up. Historically, the ditch irrigated to the north of the river. Currently, the headgate is 10 feet above the creek bed and it has not been active since about 2011.

- Boots and Hinton Ditch (1100577) still diverts; but the fields are generally kept green from subirrigation. Only a small garden parcel (1.5 acres) is still irrigated. The rest of the ditch has been sold and dried up. The historical irrigated acreage is north of the river.
- Bale Ditch No 2 (1100564) has uncontrolled seepage that keeps the ground wet.
- Scott-Swallow Ditch (1100579) is currently not being used and is potentially on the abandonment list. The water right has a 1942 administration date (junior) and the ditch historically was used as a supplemental irrigation supply. It served the same area as the White Ditch No. 3 (1100558).
- White Ditch No 2 (1100559) headgate is near the Salida Reservoir Ditch (1100569).
- Denison Ditch No 1 (1102004) is a seepage ditch. It should be in a diversion system with Denison Ditch No 2 (11001096).
- McPherson & Burnett Ditch (1100566) supplements with drainage off Maxwell (1100601) and Scanga (1100856); however the ditches should be modeled separately.
- Scanga Ditch (1100856) is a return flow ditch and very junior. Brian will be adding some records for it this year.
- Maysville Ditch (1101162) has an interesting story. It was part of an early lawsuit and was granted a water right, but not through water court. Currently, they run the ditch to keep their domestic wells from running dry. There is no irrigated acreage. There is a measuring devise. The ditch is just downstream of the North Fork (1100590) at the end of the cul-de-sac (noted on the map).
- Hogue Ditch No 2 (1100575) is a little complicated. The actual river diversion point is at the same river diversion point as the Xcel hydropower plant. The river diversions for the power plant are measured under the Sethman Pipeline (1100804) and taken under that water right. There is a little reservoir at the diversion point. The power plant probably runs Hogue Ditch No 2 water through the turbine as well. The Hogue Ditch No 2 diverts directly from the power plant outfall. The measurement point for the Hogue Ditch is just a little below that diversion point. Hogue Ditch No 2 does not take all of the power plant outfall.
- Boss Lake Reservoir is owed by the UAWCD. They exchange water up to cover evaporation.
- Poncha Springs Acequia Ditch (1100572) irrigates all the lawns in Poncha Springs.

#### ***North Fork of the South Fork Arkansas***

- Edwards Ditch No 2 (1100586) is being used. The owners pump and meter water from the original diversion point of the Edwards 2 to irrigate the lawn and garden (approximately an acre).
- Isaac W Edwards Ditch (1100591) is abandoned.
- Edwards Ditch No 1 (1100585) is currently irrigating the lawn/trees at the top of the historically irrigated acreage. The lower portion has been dried up and converted to a subdivision.

- Chapin Ditch No 1 (1100592) is currently not active.
- Hoosier Ditch (1100842) has a marginal water right and the ditch is long. They generally divert approximately 5.5 cfs. The ditch cuts across Forest Service land, which makes it difficult to repair after a wash-out.
- Cameron Ditch (1100584) is the calling right on the North Fork. It serves a large amount of acreage.
- North Fork Reservoir is owned by the UAWCD. They use a changed point of diversion of the White Ditch No.1 to cover reservoir evaporation. When the White Ditch cannot be used they either drop the reservoir by an amount equivalent to the rate of evaporation or exchange water up, if possible.

### ***Green Creek***

The creek flows year round and is subject to the South Arkansas call.

- The Marfitano Ditch (1100598) is not irrigating currently. The ditch is in really bad shape and may be abandoned.

### ***Little Cochetopa***

The creek flows year round (it does not dry up). It is subject to the South Arkansas and the main Arkansas call. It does not have internal calls. Almost all of the irrigated land has been dried up on this tributary.

- Murphy Ditch (1100606), Matthews Ditch (1100604), Davis Ditch(1100603), and Huntzicker Ditch (1100600) are active ditches.
- Velotta Ditch (1100610), Hensie No 2 Ditch (1100609), and Hensie No 1 Ditch (1100602) have been dried up.

### ***Poncha Creek***

This tributary experiences a local call. Del Monte Irrig Ditch (1100548) is senior and will call out upstream diversions.

- O'Haver Lake is on Gray's Creek, a tributary to Poncha Creek. It has a very junior water right. Currently it is used by the UA WCD for augmentation, but it is very rare that they release from the lake. Usually they are replacing evaporation and using the lake for recreation. There is an instream flow on Gray's Creek (4 cfs right, but there is usually only 1.5 cfs in the river), which is senior to the filling right for O'Haver. The UAWCD wants to re-calibrate the instream flow right. The UAWCD has installed a gaged below O'Haver Lake on Gray's Creek, which they use for O'Haver Lake administration and CWCB now uses to place a call for the Gray's Creek instream flow.
- Larkspur Ditch is a transmountain ditch. It brings water from the Gunnison basin to the headwaters of Poncha Creek. There is a good measurement flume at the point of diversion. Currently, it needs maintenance, but is still operational.



## Groundwater Use

There are only a few areas that use groundwater. They include:

- Grantham changed one share of Missouri Park Ditch to augment two wells.
- Buena Vista has wells
- Salida has wells
- Pinon Hills has wells
- Paul Moltz
- Mt Massive Golf Course prefers to use wells but can also use the DeLappe Ditch.
- Parkville Water District uses wells/mine shafts permitted as wells as described above.
- Note that the UAWCD blanket plan for augmentation includes around 1,400 generally smaller capacity wells (not all of which are in WD 11) and UAWCD runs a Rule 14 replacement plan that includes 18 high capacity wells in WD 11.