

## **SPDSS Memorandum Final**

**To:** Ray Alvarado and Ray Bennett  
**From:** LRE, Erin Wilson & Kara Sobieski  
**Subject:** Task 3 – Identify Key Diversion Structures  
Notes from Water District 9 Meeting  
**Date:** January 24, 2005

### **Introduction**

This memorandum provides notes from the January 19, 2005 meeting with Water District 9 Water Commissioner. Meetings are being held with Water Commissioners in each Water District in the SPDSS study area. The objectives of these meetings are 1) to develop an initial basin understanding; 2) to determine what irrigation structures should be included as “Key Structures” in future detailed modeling efforts, and 3) to determine which reservoirs and diversions warrant more detailed investigation and technical documentation. These objectives support both Task 3 – Identify Key Diversion Structures and Task 5 – Identify Key Storage Reservoirs and Develop Operating Memorandum. Information in this memorandum is believed to be accurate. However, this information should not be relied upon in any legal proceeding.

### **Approach**

Prior to the meeting, potential Key Structures for Division 9 were identified using the following procedure outlined in the SPDSS Scope of Work:

1. Identify net absolute water rights per structure. Select initial key structure cutoff value based on the 85 percent recommendation (SPDSS Feasibility Study, October 2001) for each water district.
2. Determine average annual diversion data for structures during three average hydrologic years, one year each during the 1950s, the 1970s, and the 1990s. Add additional structures to the key list that diverted an average of 1,000 acre-feet per year on the main stem during any of the representative years. Note that this step will allow the inclusion of larger diversion structures having active water rights during the earlier years of the study that were subsequently transferred to other ditches or other uses.
3. Review readily available straight-line diagrams and include additional structures as appropriate, based on water rights and location.

Table 1, provided in the Results Section of this memorandum, lists the initial list of key diversion structures, the total of their decreed water rights, the period of record of available diversion records, their average annual diversions for the period of record, and the water source. In addition, as noted in the comment line, it includes new structures added during the interviews, or

structures that were removed as key and will be modeled in an aggregated fashion. Table 1 generally lists structures in upstream to downstream order.

The interview with the Water Commissioners and the Division Engineer was intended to determine structures that should be considered key based on seniority, water administration, or basin operations. Because most of the water rights in South Park have been transferred to municipalities, the interview also served to determine structure combinations for modeling purposes. Prior to the meeting, a brief description of the purpose and goals of the interview was provided to the Water Commissioner, Roger Mlodzik. 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 included 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.

LRE developed maps displaying reservoirs, diversion headgate locations, and canal layouts on a quad-sheet background of the Water District to facilitate the discussions.

### **Meeting Attendance**

The meeting was held at the LRE office in Denver. The following people attended the meeting:

Jim Hall, Division 1 Engineer  
Roger Mlodzik, District 9 & 80 Water Commissioner  
Patrick Alexander, Deputy District 9 & 80 Water Commissioner  
Ray Bennett, Division of Water Resources  
Dave Ellington, Division of Water Resources  
Claudia Engelmann, Division of Water Resources  
Erin Wilson, Leonard Rice Engineers  
Kara Sobieski, Leonard Rice Engineers

### **Transbasin Diversions**

No transmountain diversions are delivered to Water District 9.

### **Compacts and Agreements Affecting District 9 Administration**

No compacts or agreements affect the administration of Water District 9.

## **Stream Gages**

There are five active streamflow gages in Water District 9, operated by either USGS or DWR. There is one storage gage used for administration in Water District 9. The gages, station ID, and comments regarding the use or quality of the gage are summarized below.

### **Bear Creek above Evergreen (06710385)**

- Good gage except at low flows (open stream gage)
- USGS maintains and measures flow

### **Bear Creek at Morrison (06710500)**

- Main gage used for administration of the District
- Reconstructed in 2002

### **Bear Creek above Bear Lake near Morrison (06710605)**

- USGS gage located below the Harriman and Ward diversions
- Used to verify water to be stored in Bear Lake
- Denver and Lakewood have paid to maintain the gage since Army Corp lease expired

### **Turkey Creek near Indian Hills (06710992)**

- Gage was moved in April 2001
- Previous gage was Turkey Creek at Mouth of Canyon near Morrison (06711040)
- Independent Highline Ditch (0900767) diversion records must be removed before combining streamflow records from the two gages
- Gage is not used for administration
- Gages constructed due to a ground water study in Turkey Creek basin

### **Bear Creek at Sheridan (06711500)**

- Used to calculate amount of water to pass for Denver after the McBroom Ditch diversion (0900816)

### **Bear Creek Reservoir (BCRRESCO)**

- Gage records storage for Bear Creek Reservoir
- Aids in calculating amount of water to pass through the reservoir for Denver after Pioneer Union (0900862) diversions
- Storage records for this gage can be accessed through the Reservoir-Storage Data Type, with an irregular time step, in TSTool

## **General Administration**

- The current Water Commissioner, Roger Mlodzik, has managed Water Districts 9 & 80 since 1989. The Water Commissioner is assisted by the Deputy Water Commissioner, Patrick Alexander.
- A majority of the upper basin is administered by phone, whereby the Water Commissioner will notify ditches when they are in and out of priority to divert.

- Ditches located below Morrison generally have recorders to measure diversions, whereas ditches diverting farther up in the District are generally observed monthly.
- Multiple Colorado Water Conservation Board (CWCB) Instream Flow Program water rights are located on Bear Creek and Turkey Creek. In general, the instream flow rights have a priority in the mid-1990's and therefore only affect the priorities of some recent augmentation plans.
- Mountain Mutual provides augmentation water for approximately three-quarters of the augmentation plans in the District. There are several small augmentation plans to administer, however Mountain Mutual provides the accounting for their augmentation plans to the Water Commissioner. Mountain Mutual provides augmentation water from a 50 acre-foot reservoir located on the North Fork, which is also used to make releases for augmentation plans located in Water Districts 8, 9 and 23.
- There is limited irrigation uses above Evergreen. Many of the historical diversion points upstream of Evergreen were springs, which are no longer used to actively irrigate.
- The wells located upstream of Evergreen are for domestic use only and are exempt. These wells, typical of the Rosedale subdivision, generally serve several one-acre lot subdivisions constructed prior to 1972. There are no major irrigation or mining wells in the District.
- The surface water rights upstream of Morrison generally have adjudication dates junior to 1884, with a few of those water rights having appropriation dates in the 1870's and 1880's. The main call on the South Platte River is the Burlington Ditch 1885 water right, which calls out most of the water rights in the upper sections of the District.
- No recording gages are used on Turkey Creek for administration purposes. Ditch riders inform the Water Commissioner about bypass flows.
- Denver Water employs the ditch riders on Harriman Ditch on Turkey and Bear Creeks.

**Table 1** provides a normal year river call sequence:

**Table 1**  
**Normal Year River Call Sequence**

November – Mid April	Divert storage water through Harriman Ditch to begin filling Soda Lakes and the Bowles Reservoir system (all reservoirs downstream of Harriman Reservoir). Reservoirs will generally fill by mid December. The reservoirs will refill due to winter evaporation in March or mid April. May have an internal Bear Creek call in March for storage at Soda Lakes or Bowles Reservoir that would call out augmentation plans. Bergen Ditch is filling Bergen Reservoir in March.
Runoff May – June	Ward Ditch begins to divert storage water to fill the Smith, Kendrick and Ward Reservoirs on April 1 <sup>st</sup> (400-500 af). These reservoirs will fill by mid May. Irrigation begins on Bear Creek in mid April. Irrigation and diversions for storage begin at Independence Highline on Turkey Creek. By the middle of June Harriman Ditch is typically diverting 20 cfs and Ward Ditch is diverting 10 cfs. There is typically no internal call on the river during this period.

July - November	Bear Creek water rights senior to the South Platte River calls. Internal calls begin on Bear Creek. Typically the first call will be either the 1872 Denver Transfer or 1869 Harriman but will go to 1864 Hindry in dry years. Irrigation will continue through October 1 <sup>st</sup> for Ward Ditch. Harriman will continue to irrigate through November. Turkey Creek is typically dry by July 1 <sup>st</sup> in dry years. Turkey Creek irrigation will stop in November.
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## Municipal Use

**Town of Evergreen** is generally served by transferred water rights at the Evergreen Water System (0900994) diversion point located downstream of Evergreen Lake. Evergreen transferred 6 cfs from the Simonton Ditch (0900896) and 3 cfs from Hodgson Ditch (0900752) to the Evergreen Water System in 1967. Simonton Ditch was eventually buried under Bear Creek Reservoir, with the remaining rights on the ditch being transferred by Denver and various state agencies, or abandoned. The transfer decree allowed for year-round usage of the transferred water rights, and due to the water rights seniority, both rights are always in priority. Conditions of the transfer decree indicate that 2.5% of the diverted water be made available to downstream users in the District. Diversions through the Evergreen Water System are entered as “infrequent” records in HydroBase.

Diversions through Evergreen Water Supply are made from directly below Evergreen Lake, which Evergreen also owns. Evergreen will typically only use 2 to 3 cfs of their 9 cfs of changed water rights. There is generally 10 cfs of native inflows in Bear Creek above Evergreen Lake.

Evergreen Lake is located on the mainstem of Bear Creek with a storage capacity of approximately 670 acre-feet. Evergreen does not use water from the lake allowing for the lake to constantly remain full. Evaporation of the lake is covered by a 1994 augmentation plan (94CW150).

Evergreen’s water service area encompasses the town center and extends west to the Town of Troutdale, north to El Rancho and Wah Keeney Park, northeast to about half of the Town of Kittredge, southeast to Independence Mountain, and south to Cub Creek Park. Evergreen’s wastewater service area is similar to the water service area on the north, east and south sides. However, the wastewater service area extends west to a point halfway up Witter Gulch to include several subdivisions. The Evergreen wastewater treatment facilities have three outfalls: lower Evergreen outfall downstream of Evergreen Lake, an outfall on Troublesome Gulch northeast of the town center, and an outfall downstream of the Town of Kittredge but upstream of Sweet Gulch. The Water Commissioner keeps outfall records, but those records are not stored in HydroBase.

There are two golf courses located near Evergreen; Hiwan Golf Course and Evergreen Golf Course. The Hiwan Golf Course is located north of the town center, and is irrigated with approximately 1.5 cfs treated water pumped to reservoirs on the golf course, in exchange for an equal amount of water released from the Evergreen Soda Lakes account to lower Bear Creek.

This exchange, as well as other exchanges involving Evergreen water rights, is described in detail in the 1994 augmentation plan. Evergreen Golf Course is owned by Denver and irrigates approximately 40 acres. Evergreen provides water to the golf course through the Evergreen Golf Link Pipeline (0900658) from Bear Creek with a junior 0.2 cfs water right. No records exist in HydroBase. There is an agreement with Denver where Evergreen will provide water from Evergreen Lake to serve the golf course when the pipeline is out of priority.

**Genesee Village** serves of 400 to 500 single-family homes year round using irrigation rights transferred to the Genesee Mountain Pipeline (0901014), including 3.04 cfs from the Warrior/Harriman Ditch (0900963) and 2.5 cfs from Pioneer Union Ditch (0900862). Diversions for Genesee Village generally range from 0.75 to 1.5 cfs, and flow in the river is usually sufficient to cover their diversions. Records are stored as “infrequent” in HydroBase. Genesee has an augmentation plan, approved in mid-1970s, that covers diversions that exceed water rights, diversions from two non-tributary wells and diversions to a small storage facility. Genesee provides diversion amounts to the Water Commissioner and the Water Commissioner calculates and records the augmentation needs/supplies. Genesee has conditional rights for four additional storage facilities that range from 150 to 400 acre-feet.

The Genesee wastewater treatment facility outfall is to Bear Creek below the Genesee intake. Both the Genesee water and wastewater service areas extend to the north of I-70, but all return flows go to Bear Creek.

**Town of Morrison** is supplied by both local wells and irrigation rights transferred to the Morrison Intake (0901031). Diversions at the intake are recorded as “infrequent” in HydroBase and range between 0.25 and 0.75 cfs. The physical supply is generally sufficient to satisfy demand. The treatment facility is located east of C-470 and north of Morrison Road. Out of priority diversions are covered by 5 different augmentation plans. The augmentation plans allow Morrison to pump reusable effluent up to Harriman Ditch diversion point, but Morrison has not yet exercised that option.

### **Reservoir Specific Information**

**Bear Creek Reservoir** was constructed at the confluence of Turkey and Bear Creeks by the Army Corps of Engineers in 1982 for flood mitigation. The flood storage capacity is 78,000 acre-feet with 2,000 acre-feet used as the active storage capacity. A morning glory constructed at the dam, as well as large gates, make releases from the reservoir. Bear Creek Reservoir passes Denver bypass requirements and enough flow to meet McBroom Ditch and Hodgson Ditch diversions. Return flows between the reservoir and the downstream ditches help to provide sufficient flow to meet downstream ditch demands. Pioneer Union Ditch diverts directly from the reservoir’s stilling basin. CWCB owns 1,800 acre-feet of the active storage capacity in Bear Creek Reservoir and the City of Lakewood owns the remaining 200 acre-feet. By agreement with CWCB, Lakewood can use up to 250 acre-feet per year of total water.

**Soda Lakes** is owned by the Soda Lakes Reservoir and Mineral Water Company, however Denver Water operates the inlet and outlet works. The lakes consist of an upper lake, known as Soda Lake No. 1 with an operational capacity of 220 acre-feet, and a lower lake, known as Soda

Lake No. 2 with an operational capacity of 1460 acre-feet. The two lakes were constructed during the mid-1890's with the intention of providing storage to Harriman Ditch stockholders. The two lakes are operated as a single reservoir. Water is delivered to Soda Lakes via Harriman Ditch during the non-irrigation season or during periods of high flows in Bear Creek. Currently there are 16 shareholders that own storage rights in Soda Lakes, with the largest majority owned by Denver (600 af), Lakewood, Fort Logan National Cemetery and Evergreen Metropolitan District. Releases from the lakes are conveyed by Harriman Ditch. Several augmentation plans in the District use storage in Soda Lakes as source of augmentation water.

**Marston Reservoir** is owned and operated by Denver Water for storage of municipal supply. The reservoir has a capacity of 19,800 acre-feet. Marston Reservoir is filled primarily using two different laterals; Conduit 20 diverts from the South Platte River and Conduit 15 (Harriman Ditch) diverts from Bear Creek at the Harriman Ditch headgate. A majority of the water stored in the reservoir comes from the South Platte River, mainly due to Denver Water's concerns of poor water quality in Bear Creek. The Water Commissioner only recalled four years (1989, 1991, 2003 & 2004) where Marston Reservoir stored Bear Creek water. Senior transferred water rights (99CW099-110) from District 9 for a total of 127 cfs are typically left in Bear Creek and Denver diverts the water rights from the South Platte River by exchange for direct use or storage in upstream facilities. Typically Denver will not store or directly use Bear Creek water unless the water is of higher quality due to high flows, no exchange potential exists on the South Platte River, or if Denver is under drought conditions.

**Where to find more information:**

- Additional information on Marston Reservoir is presented in the Notes from Water District 8 Meeting prepared for SPDSS Task 3 – Identify Key Diversion Structures.

**Tributary Specific Information**

The District can generally be divided into four main sections for discussion purposes:

- The Upper Tributaries encompass the area west of Evergreen
- The Upper Mainstem encompasses the area between Evergreen and Morrison
- The Lower Mainstem encompasses the area east of Morrison
- Turkey Creek

**The Upper Tributaries**

Two ranches and some smaller diversions dominate this section of the District. Typically the upper basin receives a large amount of rainfall, therefore irrigation is minimal.

- Mount Evans Ranch
  - Encompasses approximately 2000 acres.
  - Currently 5 headgates still divert from upper Bear Creek and Vance Creek to the ranch, out of 15 headgates that historically served the ranch. These ditches include Hicks No 1, Hicks No 2, Hicks No 4, and Hicks No 5.
  - The Water Commissioner does not keep records, nor or historical records available, but will notify the ranch when it is in or out of priority.
- Lower Ranch (a.k.a. Hayden Ranch)
  - Served by 6 headgates
  - Relatively recent diversion records exist for this ranch, although no diversions have been made in the past two years.

- Both ranches will typically clean out their ditches and divert water to prevent the Water Commissioner from placing their water rights on the abandonment list. The Water Commissioner will not record water diverted for the purpose of preventing abandonment.
- Indian Creek No. 1 Ditch (0900768): Semi-active for recreational uses
- Ludlow Flower Ditch (0900798): Currently inactive, historically served a small ranch.
- Warring Hilltop PL PP (0900960): Currently inactive

### **The Upper Mainstem**

The diversions in this area are currently inactive. The following summarizes any comments regarding the diversions.

- Gates Pipeline (0900663): Historically used for power
- Johnson Ditch (0900773) and Knight Ditch (0900784): Owned by Jefferson County Open Space
- Bear Creek Dev Corp PL (0900528): Decreed for commercial use

### **The Lower Mainstem**

Most of the diversions in this area are active and required the majority of the efforts spent on administration by the Water Commissioner.

- A. Rooney Derby Spg 10 (0900500): Non-tributary spring, actively irrigating 15 acres
- Sanger No. 1 Ditch (0900887): No historical diversions, recently installed a Parshall flume and has begun to irrigate a small area
- Sanger No. 2 Ditch (0900888): Does not exist
- Harriman Ditch (0900731), Arnett Ditch (0900522), Warrior Ditch (0900963):
  - Records from HydroBase for the Harriman Ditch and Arnett Ditch need to be combined to create a complete historical time series. Records were recorded under ID 0900522 until 1991, then under ID 0900731 since 1992.
  - Warrior Ditch's headgate was inundated by the construction of Bear Creek Reservoir and the water rights were transferred to the Harriman Ditch. However, diversions are still recorded under ID 0900963.
  - The Harriman Ditch carries 17 water rights, including Warrior Ditch and Pioneer Union transferred water rights.
  - Water rights are used for irrigation of small plots, parks, golf courses, and storage within the metropolitan limits.
  - Transferred water carried by Harriman Ditch is not coded with "from" codes in HydroBase. Only Warrior Ditch water is remeasured when it is redirected from the Harriman Ditch.
  - Denver Water has two direct flow rights (1889 and 1891) and one storage (1892) right for municipal use that are carried through the Harriman Ditch from Bear and Turkey Creeks. Denver also has irrigation shares in Harriman Ditch.
  - Harriman Ditch is diverted into an open ditch from Bear Creek, measured in a 6' Parshall flume and conveyed via a pipeline known as Conduit 15. Typically only 12 to 25 cfs is diverted, however Harriman Ditch has a capacity of 250 cfs at its diversion point.
  - Harriman Ditch water rights to be stored in upper and lower Soda Lakes are diverted from Conduit 15, measured and conveyed to the lakes for storage.



- Storage water released from Soda Lakes is conveyed through Harriman Ditch before reaching Conduit 15 again.
- Downstream of Soda Lakes, Warrior and Harriman Ditch water rights are diverted from Turkey Creek and conveyed along with Soda Lakes releases in Harriman Ditch. Turkey Creek water and Soda Lakes releases then rejoin Conduit 15. Conduit 15 is siphoned under Turkey Creek.
    - Warrior/Harriman D TK CR (0900903): Turkey Creek diversions are recorded under this structure.
    - Arnett Ditch Turkey CR (0900998): No diversions recorded, included in the Warrior/Harriman D TK CR.
    - Warrior Arnett Lewis BR (0900961) rights were transferred to the Warrior/Harriman D.
  - Conduit 15 (a.k.a. Harriman Ditch at this point) is conveyed under Highway 285 to a point at which Warrior Ditch water rights are rediverted. The rediverted water rights are conveyed through the Warrior Conduit before reaching the original Warrior Ditch.
    - Warrior Ditch provides irrigation water to Homestead Golf Course, Foothills Golf Course, and Raccoon Creek Golf Course before terminating at a pond on Pinehurst Country Club.
    - Foothills Golf Course encompasses 30 acres that were not historically irrigated.
    - Excess water (not measured) from Pinehurst Country Club ponds goes to Ft. Logan National Cemetery.
  - Harriman Ditch can convey storage water to Harriman Lake, Bowles Reservoir No. 1, Upper and Lower Tule Lakes, and Johnson Reservoir.
  - Denver's Harriman Ditch water, 175 cfs maximum, can be piped to Marston Reservoir.
  - Ward Ditch (0900958):
    - Headgate is located 300 yards downstream of the Harriman Ditch headgate
    - Several water rights have been transferred to Ward Ditch, including rights from Warrior Ditch, Pioneer Union Ditch, Hindry Ditch and Lewis and Strousse (2.6 cfs).
    - Transferred water carried by Ward Ditch is not coded with "from" codes in HydroBase.
    - A total of 53 cfs in Ward Ditch water rights was abandoned in 1984.
    - The Water Commissioner tightly administers Ward Ditch to limit wasteful water usage practices.
    - Operational capacity of the ditch is 13 cfs, typically diverts 10 cfs.
    - Ward Ditch provides irrigation water to Bear Creek Golf Course, which is stored on site in Quantas Reservoir.
    - Ward Ditch needs at least 1 cfs to push water to Smith Reservoir, Kendrick Reservoir, Ward Reservoir and Green Gables Golf Course.
    - Smith and Kendrick Reservoirs can only be filled by Ward Ditch.
      - Smith Reservoir water can be released for storage in East Reservoir
  - Robert Lewis Ditch (0900880) and Lewis Strouse Ditch (0900787): Water rights have been transferred to other ditches, they are inactive.

- Hindry Ditch (0900747): Water rights have been transferred to Ward Ditch, ditch is inactive.
- Warrior Barnes Ditch (0900962): Water rights are combined with Warrior Ditch rights, ditch is inactive.
- Pioneer Union Ditch (0900862): Diverts from the stilling basin of Bear Creek Reservoir and typically diverts 2.5 cfs to irrigate Fox Hollow Golf Course.
- Hodgson Ditch (0900752): Irrigates approximately 60 acres of horse pasture, lawn and gardens.
- Simonton Ditch (0900896): Water rights were transferred when Bear Creek Reservoir was constructed and inundated the headgate.
  - Evergreen transferred 6.0 cfs
  - Denver transferred 17.0 cfs
  - State institutions transferred 2.5 cfs
- McBroom Ditch (0900816) and Olson Bell Ditch (0900995):
  - McBroom Ditch diverts one water right for 2 cfs that is used to irrigated 15 to 20 acres.
  - Sixteen other water rights originally on McBroom Ditch have been transferred.
  - Englewood uses water on the Englewood Golf Course for 20 days each year and then exchanges the water to its intake the remaining part of the year.
  - Olson Bell Ditch water rights were transferred to wells as alternate points to irrigate the Englewood Golf Course.

## **Turkey Creek**

There are no active diversions upstream of Conifer on Turkey Creek, however there are some small augmentation plans.

- Berrian Ditch 10 (0900536) and Spruce Park No 1 D (0900909): Both ditches have been dried up for the Evergreen augmentation plan.
- The Town of Conifer's out of priority diversions are covered by wells. There is a small amount of commercial usage in the town.
- Independent Highline D (0900767): Diverts 3.0 cfs (some under senior Spickerman Ditch transferred water) for direct irrigation of Red Rocks Golf Course.
- Bergen Ditch (0900535):
  - There are a number of shareholders in the ditch, however few are active.
  - Ditch diverts water for storage in Bergen Reservoir and Hine Lake (a.k.a. Dean Lake).
  - Irrigates 120 acres at Meadows Golf Course and 40 acres at Foothills soccer fields.

**Table 1**  
**Key Structure List**

Structure ID	Name	Total Decree (CFS)	Diversion Period of Record		Average Annual Div. (ac-ft)	Source	Comment	Key Structure
0900960	WARRING HILLTOP PL PP	0.07				BEAR CREEK	On Straight Line Diagram	No
0900658	EVERGREEN GOLF LINKS PL	0.20				BEAR CREEK	Municipal Use	No
0900994	EVERGREEN WATER SYS	12.00				BEAR CREEK	Municipal Use	No
0900663	GATES PIPELINE	14.00				BEAR CREEK	No Diversion Records, Pipeline	No
0901014	GENESEE MOUNTAIN PL	10.81				BEAR CREEK	No Diversion Records	No
0900773	JOHNSON DITCH	7.00				BEAR CREEK	No Diversion Records	No
0900784	KNIGHT DITCH	4.00				BEAR CREEK	No Diversion Records	No
0900528	BEAR CK DEV CORP PL	20.00				BEAR CREEK	No Diversion Records	No
0900887	SANGER NO 1 DITCH	10.00				BEAR CREEK	No Diversion Records	No
0900888	SANGER NO 2 DITCH	4.00				BEAR CREEK	No Diversion Records	No
0901031	MORRISON INTAKE	7.31				BEAR CREEK	Municipal Use	No
0900963	WARRIOR/HARRIMAN DITCH	25.40	1949	2002	4163.1	BEAR CREEK	Shared Headgate with Harriman, diversions separate, Primary ID for DivSys	Yes
0900962	WARRIOR BARNES DITCH	0.40				BEAR CREEK	DivSys with Warrior 0900963	DivSys
0900964	WARRIOR F H R DITCHES	0.89				BEAR CREEK	DivSys with Warrior 0900963	DivSys
0900731	HARRIMAN DITCH	1049.43	1991	2003	4833.4	BEAR CREEK	Significant Diversions, Primary ID for DivSys	Yes
0900522	ARNETT DITCH	29.42	1949	1991	4678.8	BEAR CREEK	DivSys with Harriman 0900731 - Diversions combined with Harriman	DivSys
0900553	BOWLES RES INLET D	11.06				BEAR CREEK	Reservoir supply off Harriman Ditch	No
0900958	WARD DITCH	13.90	1950	2003	990.2	BEAR CREEK		Yes
0900959	WARD KENDRICK DITCH	13.52				BEAR CREEK	Reservoir supply off Ward	No
0900576	CHURN DITCH	0.32	1949	1973	43.8	BEAR CREEK	On Straight Line Diagram, Minor Diversions	No
0900880	ROBERT LEWIS DITCH		1949	1978	1166.3	BEAR CREEK	No longer used	No
0900787	LEWIS STROUSE DITCH	15.90	1949	1984	686.5	BEAR CREEK	No longer used	No
0900862	PIONEER UNION DITCH	15.90	1949	2003	1767.4	BEAR CREEK	Significant Diversions	Yes
0900752	HODGSON DITCH	2.30	1949	2003	645.2	BEAR CREEK	Minor Diversions	Yes
0900896	SIMONTON DITCH		1949	1961	2200.6	BEAR CREEK	Rights Transferred	No
0900816	MCBROOM DITCH	3.42	1949	2003	1410.4	BEAR CREEK	Significant Diversions	Yes

0900995	OLSON BELL DITCH	6.30	1949	1956	859.2	BEAR CREEK	Rights Transferred	No
Structure ID	Name	Total Decree (CFS)	Diversion Period of Record		Average Annual Div. (ac-ft)	Source	Comment	Key Structure
0900612	CYKLER DITCH		1949	1974	190.4	BEAR CREEK	Minor Diversions	No
0900747	HINDRY DITCH	3.94	1949	1984	899.1	BEAR CREEK	Rights Transferred to Ward Ditch	No
0901038	RUBY DITCH	4.00				VANCE CREEK	No Diversion Records	No
0900557	BROOKS DITCH	27.00				WEAVER CREEK	No Diversion Records	No
0901003	BERGEN DITCH WEAVER CR	44.10				WEAVER CREEK	No Diversion Records	No
0900798	LUDLOW FLOWER DITCH	11.46				BUFFALO CREEK	No Diversion Records	No
0900536	BERRIAN DITCH 10	5.25				N TURKEY CREEK	No Diversion Records	No
0900909	SPRUCE PARK NO 1 D	11.28	1999	2003	68	N TURKEY CREEK	Minor Diversions	No
0900768	INDIAN CK NO 1 DITCH	5.50	1995	1998	73.4	INDIAN CREEK	Minor Diversions	No
0900500	A ROONEY DERBY SPG 10		1958	2003	33.3	SPRING	Minor Diversions	No
0900767	INDEPENDENT HIGHLINE D	10.00	1949	2003	352.9	TURKEY CREEK	Minor Diversions for golf course	No
0900535	BERGEN DITCH	68.75	1949	2003	773.5	TURKEY CREEK	Few active irrigators, golf course	No
0900902	SPICKERMAN MIDDLE DITCH	11.92	1949	1977	126.2	TURKEY CREEK	Minor Diversions	No
0900998	ARNETT DITCH TURKEY CR	4.85				TURKEY CREEK	On Straight Line Diagram	No
0900961	WARRIOR ARNETT LEWIS BR		1976	1978	134.9	TURKEY CREEK	MS with 0900903 – diversion recorded there	DivSys
0900903	WARRIOR/HARRIMAN D TK CR	1.68	1978	1988	228.6	TURKEY CREEK	Key structure – diverts Turkey Creek rights to Warrior/Harriman Ditch Primary ID for DivSys	Yes
0900901	SPICKERMAN LOWER DITCH	6.13	1950	1975	76.7	TURKEY CREEK	MS with 0900903 – diversion recorded there	DivSys