

## **SPDSS Memorandum Final**

**To:** Ray Alvarado and Ray Bennett  
**From:** LRE, Erin Wilson and Mary Presecan  
**Subject:** Task 3 – Identify Key Diversion Structures  
Notes from Water District 5 Meeting  
**Date:** March 16, 2004

### **Introduction**

This memorandum provides notes from the March 9, 2004 meeting with Water District 5 Water Commissioner, Scott Edgar. 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 which 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 District 5 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. On-going Task 3 efforts include review of irrigated acreage, water rights, and diversion records. It is expected that the key structure list shown in Table 1 will be further refined during these, and model development, efforts.

The interview with the Water Commissioner and the Division Engineer was intended to determine additional structures that should be considered key based on seniority, water administration, or basin operations (including structures with supplemental reservoir water). Prior to the meeting, a brief description of the purpose and goals of the interview was provided to the Water Commissioner, Scott Edgar. 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 be 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 of the water district to facilitate the discussions and provided preliminary straight-line diagrams of Water District 5. Maps displayed reservoirs, diversion headgate locations, and canal layouts on a quad-sheet background. David Ellington, Division 1, plans to digitize the preliminary straight-line diagrams following the standards set for Division 1 straight-line diagrams.

## **Meeting Attendance**

The meeting was held at the Division 1 offices in Greeley. The following people attended part or all of the meeting:

Jim Hall – Division 1 Engineer  
Scott Edgar– District 5 Water Commissioner  
David Ellington – Division 1  
David Nettles – Division 1  
Erin Wilson – Leonard Rice Engineers  
Mary Presecan– Leonard Rice Engineers

## **Meeting Notes**

Jim Hall began the meeting by reiterating the goals of the meeting. Scott Edgar took over explaining the details of Water District 5, starting on the South St. Vrain. Scott started in Water District 5 in 2000 as Assistant Water Commissioner and became Water Commissioner in 2001.

The big players in the St. Vrain River include:

- Left Hand Ditch Company,
- Left Hand Water District (works in coordination with Left Hand Ditch Company),
- City of Longmont, and
- Highland Ditch Company.

## **Transbasin Diversions**

There are no transmountain diversions that come directly into Water District 5. However, C-BT and Windy Gap water is used within Water District 5, as discussed under the heading **C-BT Water and Municipal Use**.

## **Compacts and Agreements Affecting District 5 Administration**

There are no compacts or agreements that specifically impact the administration in Water District 5.

## **Stream Gages and General Administration**

- The DWR South St. Vrain near Ward gage (06722500) is a key stream gage for the administration of water rights within Water District 5.
- On Left Hand Ditch there is a recording device that is reported as stream flow records under the name Left Hand Diversion near Ward (LEFTHDCO) from 1991 to the current year. There are also sporadic diversion records under the name Left Hand Ditch (0500603). Below this measuring device, Left Hand Ditch (0500603) dumps into James Creek, which carries Left Hand Ditch's St. Vrain diversions to Left Hand Creek. There are no active stream gages on Left Hand Creek. The stream gage records for Left Hand Diversion near Ward (LEFTHDCO) are the closest approximation for streamflow in Left Hand Creek.
- The DWR St. Vrain Creek at Lyons gage (06724000) is considered good. This station is used to determine natural flow.
- The DWR St. Vrain Supply Canal near Lyons (SVSLYOCO) is considered good. The Supply Ditch (0500523) has a diversion directly off the St. Vrain Supply Canal just above the SVSLYOCO gage. The DWR Boulder Creek Feeder Canal near Lyons gage (BFCLYOCO) measures C-BT water after water is delivered to users on St.

Vrain Creek. St. Vrain deliveries are calculated as SVSLYOCO measured flow less BFCLYOCO measured flow.

- The DWR Dry Creek Turnout near Niwot gage (DRYCRKCO) is key for tracking releases from Boulder Reservoir into Dry Creek. Typical flow through this gage is approximately 1 to 2.5 cfs. Release of Boulder Reservoir water into Dry Creek is considered replacement water for those ditches below Boulder Reservoir claiming injury due to the storage of water in the Reservoir. Northern Colorado Water Conservancy District directs the Water Commissioner how much water should be released for replacement purposes.
- St. Vrain Creek below Longmont gage (06725450) is not used for administration.
- St. Vrain Creek at Mouth near Platteville (06731000) is not used for administration in District 5, but may be important for administration in Districts 1 and 2. It is not considered to be very accurate, especially during periods of low flows.
- Beaver Creek above Beaver Creek Reservoir (BEAVERCO) is used to help estimate flows at Lyons and to determine “spills” from Beaver Creek Reservoir.
- Boulder Feeder Canal to Left Hand Creek (BFCLYOCO) is not used for administration.
- Town of Lyon’s Diversion (LYODIVCO) is used to estimate the timing of Button Rock releases.
- Middle St. Vrain at Peaceful Valley (MIDSTECO) is used to anticipate flows for the next day.
- There is very little administration of Left Hand Creek by the Water Commissioner. The Left Hand Ditch Company owns a majority of the water rights on Left Hand Creek and administration is generally to assure that the company is not storing out of priority.
- Evaporation is only charged on Button Rock Reservoir. The City accounts for evaporation and replacement.
- About 2/3 of the headgates downstream of the foothills have continuous diversion recorders. For the most part, all larger diversions have continuous records, however, many of them are old and still require observation. Smaller diversions upstream from the foothills are observed and recorded by the water commissioner at least monthly.
- Ground water is used infrequently within Water District 5. Most supplemental water comes from C-BT deliveries. Supplemental ground water use generally occurs east of Hover Road. Some well users in the District were previously covered under GASP. Those well users are currently in the process of trying to put together a new augmentation plan.
- In the western part of Water District 5 small diversions from the creeks or via wells are made by independent parties. Out-of-priority diversions by these independent parties are generally “more than” covered under the St. Vrain Left Hand Water Conservancy District SWSP.
- In the eastern part of Water District 5 there are a limited number of sprinkler wells used to supplement surface water supplies. One well is located under the Swede Ditch, one off the Highland Ditch, and one at the far end of the Highland Ditch on Kitley Gulch.
- Crops grown within Water District 5 are generally as follows:
  - West of I-25 – Grass hay and pasture grass

- ½ Mile West of I-25 to the Eastern boundary of the district – 90% grass hay and 10% row crops
- Since approximately 1900, St. Vrain Creek has been administered by skimming the river at the Highland Ditch. This operation maintains a constant flow in the river (removes diurnal variation). Scott generally “sets” the river by 10:00 am during the irrigation season.
- There is about a 12-hour lag between the upstream gages in District 5 and the Highland Ditch headgate.
- Left Hand Water District recently changed some of their Left Hand Ditch Company shares to take water out of the South St. Vrain Creek during the winter. There is currently a conflict with regard to if this applies to all Left Hand Ditch Company shares or only that portion of the shares changed in water court.
- The following table provides a normal year river call sequence:

#### **Normal Year River Call Sequence**

<p>Winter November 1 – March 31</p>	<p>Typical storage season</p> <p>Left Hand Water District recently changed some of their shares to take water out of the South St. Vrain Creek during the winter. Reservoirs owned by LHDC that store during the winter include:</p> <ul style="list-style-type: none"> <li>▪ Left Hand Park Reservoir</li> <li>▪ Lake Isabelle</li> <li>▪ Left Hand Reservoir</li> <li>▪ Left Hand Valley Reservoir</li> <li>▪ Gold Lake</li> </ul> <p>Left Hand Park Reservoir, Lake Isabelle, and Gold Lake fill via snow melt from the immediate watershed. If water rights can not be met as a result of this storage, releases to the South St. Vrain are required.</p> <p>Most off-channel reservoirs do not store in the winter. Other reservoirs storing in the winter include:</p> <ul style="list-style-type: none"> <li>▪ Pleasant Valley Reservoir has the most senior storage rights and generally fills during the winter.</li> <li>▪ Highland Ditch carries water all winter to Highland Reservoirs 1, 2 and 3, then generally tops them off during the runoff.</li> <li>▪ Oligarchy Ditch runs 3 to 5 cfs to Union Reservoir, leaving 1 to 2 cfs in</li> </ul>
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	<p>the river. Union Reservoir may get topped of in the spring.</p> <ul style="list-style-type: none"> <li>▪ Button Rock generally cannot store in the winter because it is junior. It generally fills in the spring with exchanged water and C-BT water.</li> </ul>
Begin Irrigation Season – April 1	Direct Right Diversions. Early irrigators include Chapman McCaslin Ditch, Rough and Ready Ditch, Pella Ditch, South Flat Ditch
May to mid Irrigation Season	Direct Right Diversions and Diversions for Storage during runoff (Peak Runoff ~ June 10 <sup>th</sup> ). Try to allow storage as long and possible, by satisfying water rights below Highland Ditch with control of the Highland Ditch headgate. There is a small amount of storage under the Highland Ditch
July to End of Irrigation Season	<p>Calls generally shut down the following ditches on the South Branch:</p> <ul style="list-style-type: none"> <li>▪ James Ditch (go to C-BT)</li> <li>▪ Davis and Downing (go to C-BT)</li> <li>▪ Webster &amp; McCaslin</li> <li>▪ Goss</li> <li>▪ Peck</li> </ul> <p>C-BT use begins.</p>

- Senior storage in the St. Vrain Basin is senior to the South Platte. Reservoirs are administered and storage records are provided by owners except that Scott does the accounting for the following reservoirs:
  - **Divide Reservoir** (0504027),
  - **Ide and Starbird No. 1 Reservoir** (0504029),
  - **Left Hand Valley Reservoir** (0504488),
  - **Oligarchy #1 Reservoir** (0504067),
  - **Pleasant Valley Reservoir** (0504063), and
  - **Left Hand Park Reservoir** (0504076).
- In good snow pack years, during the heart of the run-off season (May – June) calls on the South Platte may affect junior storage on the St. Vrain. The more run-off, the more likely that calls on the South Platte will affect calls on the St. Vrain.
- In normal years, calls from the South Platte do not affect administration in Water District 5; therefore, there is typically no release to the South Platte during the irrigation season.
- There are 44 water rights administered within Water District 5. Senior rights in the District are considered to junior to water district priority 15 (administration number 5600.00000). In the drought year 2002, water rights senior to priority 14

(administration number 5295.00000) were not called out. In August 2003, priority 28 was the most junior right to be called out.

- Dry up points in the river, downstream to upstream, are as follows:
  - General administration goal is to deliver no water to the South Platte unless there is a call.
  - Below Beckwith Ditch (0500560)
  - North Branch at North Branch Diversion
  - Below Longmont Supply Ditch (0500545) and Chapman McCaslin Ditch (0500546)
  - Below Left Hand Ditch (0500603) on the South St. Vrain
- Ditch irrigation service areas overlap a limited amount in District 5. The following service areas overlap:
  - Highland Ditch and Supply Ditch – Typically, the water from the two systems is used on separate land (½ land irrigated with one type of water, other ½ irrigated with the other water), however commingling of these waters is likely.
  - Palmerton Ditch, Longmont Supply Ditch, and Chapman McCaslin Ditch – A small amount of commingling under these three ditches. One man owns approximately 1,200 acres of land which is irrigated with the three sources of water.
  - McCall Lake can release to Longmont Supply Ditch.
  - James Ditch and Davis and Downing Ditch - Typically, the water from the two systems is used on separate land (½ land irrigated with one type of water, other ½ irrigated with the other water), however commingling of these waters is likely.
- The Colorado Division of Water Resources (DWR) established a series of coding principles to be used by the Water Commissioners to accurately describe diversions and uses within the Water Districts. Diversion coding for Water District 5 generally follows these basic coding conventions since about 1988. Simple diversions with direct uses are typically correct from 1950 on. Prior to 1988, however, the coding for more complex diversions, including carrier ditches and exchanges, does not appear to follow the coding conventions set forth by the DWR.

## **C-BT Water and Municipal Use**

In addition to the larger cities of Longmont and Lyons, there are three rural domestic water suppliers.

- Left Hand Water District serves the rural lands on the south side of the City of Longmont and Niwot. They own shares in the Left Hand Ditch Company, including C-BT shares.
- Longs Peak Water District serves rural water users north of the City of Longmont. 100 percent of their water is C-BT. They also own shares in the Rough and Ready Ditch and Pleasant Valley Reservoir, which are used for raw water irrigation.
- St. Vrain Left Hand Water Conservancy District serves small diverters located along St. Vrain tributaries in the mountains, generally by augmenting out-of-priority diversions.

C-BT water use within District 5 was historically for irrigation, but has increasingly been moving towards municipal. C-BT water is transported into Water District 5 in three different ways.

- 1) C-BT water released from Carter Lake water can be delivered directly into St. Vrain Creek through the St. Vrain Supply Canal (0200692 or 0400692),
- 2) C-BT water in the St. Vrain Supply Canal can be diverted into Supply Ditch (0500523), and
- 3) C-BT water can be delivered from the St. Vrain Supply Canal to the Boulder Feeder Canal (0500525), and then into Boulder Reservoir (0504515 or 0604515).

C-BT water delivered to Supply Ditch and the Boulder Feeder Canal is measured. The amount of remaining water delivered to St. Vrain Creek is calculated.

C-BT users order water directly from NCWCD, then NCWCD contacts Scott. C-BT water users within Water District 5 include the following ditches. Note that although most of the deliveries are made from the St. Vrain Feeder Canal to St. Vrain Creek, these ditches are coded in HydroBase with a source of transbasin water from Boulder Feeder Canal (525).

- Supply Ditch (0500523),
- Highland Ditch (0500526),
- Rough and Ready Ditch (0500527),
- St. Vrain Palmerton (0500528),
- Swede Ditch (0500529),
- Longmont Supply Ditch (0500545) (Do not run their C-BT water),
- Davis and Downing Ditch (0500542),
- James Ditch (0500539),
- Peck Ditch (0500550),
- Denio and Taylor Ditch (0500548),
- Niwot Ditch (0500554) (Only sometimes), and
- Lyons Pipeline (0500512).

Below Niwot Ditch the water rights are relatively senior. There are also ample return flows, and the direct use of C-BT water is generally not necessary below the Niwot Ditch.

Windy Gap water is used within Water District 5 by the following entities:

- City of Longmont by exchange to Button Rock Reservoir (0504010) and Longmont North Pipeline (0500511), and
- Left Hand Water District - via Left Hand Domestic Water Supply (0500619).

### **Ditch Specific Information – South St. Vrain Creek**

- **Left Hand Ditch** (0500603) has two water rights from South St. Vrain owned by Left Hand Ditch Company, a senior right for 40.77 cfs (appropriation 6/1/1863) and a junior right for 685.23 cfs (appropriation 6/1/1870). In July or August, the junior water right may be called out. By operation of these water right, Left Hand Ditch Company can effectively dry up the South St. Vrain below the Left Hand Ditch. Left



Hand Ditch is diverted to Left Hand Creek via James Creek. Diversions for Bader Ditch 1 & 2 (0500570) and Star Ditch (0500572) are included under 0500603.

- **Coffintop Reservoir** (0504315) Conditional water right owned by St. Vrain and Left Hand Water Conservancy Districts. Reservoir has limited chance of being built. Land is owned by Boulder Open Space.
- **Carl Holcomb Ditch** (0500938) Last season they received water via free river for about 2 days. All pasture. Get some sub-irrigation.
- **South Ledge Ditch** (0500520) Used for irrigation.
- **Reese Stiles Ditch** (0500519) bifurcates after it pulls out of the South St. Vrain into Reese Stiles Ditch and Meadow Ditch (0500521). Meadow Ditch does not have a headgate on the South St. Vrain. There is a measuring point before the bifurcation and measuring points after the bifurcation on both the Reese Stiles Ditch and Meadow Ditch. Both water rights are relatively junior. The typical season for these ditches is April 1 – July 1. Meadow and pasture are the typical crop type for both ditch systems.
- **South Pipeline** (0500522) delivers water to City of Longmont's South Treatment Plant.

### **Ditch Specific Information – North St. Vrain Creek**

- There is an in-stream minimum flow right on the North St. Vrain between Copeland Reservoir (0504009) and Button Rock Reservoir (0504010). This minimum flow right is met by water flowing downstream, often through or around Button Rock Reservoir. A second in-stream minimum flow right between Button Rock Reservoir and Lyons is met by releases from Button Rock for other uses.
- **Union Reservoir** (0503905) is about 85 percent owned by Longmont. Water in Union Reservoir has all been changed to municipal and augmentation uses. Decreed uses involving Union Reservoir water include augmentation for downstream gravel pits or wells and exchange for C-BT shares. Exchanges involving C-BT water are conducted on a one-to-one basis. Tetra-Tech RMC is the engineer for the City of Longmont.
- **Button Rock Reservoir** (0504010) (aka Ralph Price Reservoir) is predominately owned by Longmont. Lyons owns the first 300 acre-feet of storage, the Bran family owns the next 500 acre-feet of storage (although they have not used this water since Scott has become water commissioner), and Longmont owns the remainder of the estimated 15,457 acre-feet of storage.
- Approximately 75 percent of the water delivered to Longmont is taken from the North St. Vrain through the Longmont North Pipeline (0500511).
- **Lyons Pipeline** (0500512) is directly downstream of the Longmont North Pipeline diversion. Lyons Pipeline is typically only in priority in the early spring and late Fall. While these rights are decreed for a variety of uses, a portion of these water rights are still used for irrigation. These water rights are supplemented with C-BT water from June through September for municipal water supply in the City of Lyons.

- Lyons and Longmont are in the process of working out an agreement wherein Lyons water rights will be conveyed to Longmont and Longmont will supply water to Lyons through one of their 3 existing and 1 future water treatment plants.
- **Dave Miller Ditch** (0500513), downstream of Lyons Pipeline, runs for approximately 60 days throughout the irrigation season.
- **Lyons Ditch No. 1** (0500516) diversions are reported to the Water Commissioner by the City of Lyons. Lyons Ditch No. 1 receives about 8 to 10 af/month on average. The ditch irrigates Meadow Park.

### **Ditch Specific Information – Left Hand Creek**

- Water use on Left Hand Creek is managed by the Left Hand Ditch Company.
- Left Hand Ditch Company operates their water rights as a group, not as individual rights.
- At the time this memo was prepared, Left Hand Ditch Company was not in the practice of reporting any of their diversion records to the State. Starting in 2004, they are required to report all diversions.
- Entities not owned by Left Hand Ditch Company do exist on Left Hand Creek. These parties are so junior to Left Hand Ditch Company water rights that Left Hand Ditch Company would most likely call them out.
- At the bottom of all Left Hand Ditch Company diversions on Left Hand Creek there should be 5 cfs available for the purpose of carrying more senior water rights down St. Vrain Creek.

### **Ditch Specific Information – St. Vrain Creek below Lyons**

- **Supply Ditch** (0500523) is owned by Supply Ditch Company. The Ditch terminates into the Little Thompson Basin; however water is generally not transported into the Little Thompson Basin. Crops irrigated under this ditch include pasture grass and alfalfa. At one point corn was planted, but the ditch went back to pasture and alfalfa. There may be limited ground water use along the far east end of the Supply Ditch.
- **Knouth Reservoir** (0504022) is in the process of being rebuilt. The reservoir has not stored water in approximately 20 years. The reservoir was originally closed for dam safety reasons.
- **Highland Ditch** (0500526) is the largest ditch in District 5. The water rights associated with Highland Ditch are priority 31 (administration number 8004.00000) and priority 39 (administration number 8917.00000) out of the 44 rights administered by the Water Commissioner. Highland Ditch irrigates a significant amount of land spanning east to Platteville and north to the Little Thompson watershed. The operational strategy of Highland Ditch is to pull all the water they legally can from St. Vrain Creek and store that water in **Highland No. 2 Reservoir** (0504032). Highland No. 2 Reservoir is used to regulate the remainder of the Highland system. There are irrigators between the headgate for the Highland Ditch on St. Vrain Creek and Highland No. 2 Reservoir. From Highland No. 2 Reservoir, water can be delivered to the **Ish Ditch** (aka Boulder Larimer Canal 0400588) in the Little Thompson Basin. This water is coded as an export from the St. Vrain Basin. All but 5 percent of the

return flows from the Highland Ditch operation return to the St. Vrain Basin, while the remaining return to the Little Thompson Basin.

- **Highland Ditch** is instrumental in administration of the river. Since approximately 1900, St. Vrain Creek has been administered by skimming the river at the Highland Ditch. This operation keeps flows through the basin constant. The travel time from upstream gages to the Highland Ditch is approximately 12 hours.
- **McIntosh Lake** (aka Dawson Lake) (0504073) is located under the Oligarchy Ditch system and is owned by the Highland Ditch Company. Through the McIntosh Exchange, releases from McIntosh Lake can be exchanged back to the main headgate of the Highland Ditch.
- Storage releases from **McCall Lake** (0504065, filled from St. Vrain Palmerton Ditch) and Independent Reservoir (0504066, filled from the Oligarchy Ditch) go to the **Longmont Supply Ditch** (0500545) for direct use or upstream exchange.
- **Swede Ditch** (0500529) and **Smead Ditch** (0500530) irrigate mainly hay and pasture.
- **Montgomery Private Ditch** (0500531) has been abandoned. The associated water rights have not been abandoned and are currently in court for a change of use from irrigation to municipal and industrial.
- **Foothills Reservoir Feeder Ditch** (0500532) and **Foothills Reservoir** (0504071) are owned by the Highland Ditch Company. Foothills Reservoir stores approximately 4,300 af. Foothills Reservoir is relatively junior with respect to other reservoirs in the District. Foothills Reservoir usually fills during the spring run-off, if it fills at all. Water stored in Foothills Reservoir can be exchanged up to the Highland Ditch. This exchange is usually operated between July and the end of the irrigation season, or until water is unavailable.
- Parties along the South Branch St. Vrain Creek typically called-out between July and August include: **James Ditch** (0500539), **Davis Downing Ditch** (0500542), **Webster McCaslin Ditch** (0500537), **Goss Private Ditch** (0500534), and **Peck Ditch** (0500550).
- **Coffman Ditch** (050941) has been abandoned.
- The following senior diversions in District 5 are usually filled by flows from the South Branch St. Vrain Creek and return flows from associated ditches: **N.W. Mutual Life Ins. Ditch** (0500557), **Niwot Ditch** (0500554), **South Flat Ditch** (0500558), **Hagers Meadow Ditch** (0500553), and **James Mason Ditch** (0500602, aka Mason Meadow Ditch).
- **McCaslin Private Ditch No. 1** (0500540) has been abandoned. The associated water rights may still be active.
- **Dickens Private Ditch** (0500562) has been abandoned.
- **Liberty Pipeline** (0500805) is owned by the City of Longmont. Longmont changed these water rights in water court to include irrigation, municipal, industrial, fire, and other uses.
- **Bonus Ditch** (0500563) diverts water from St. Vrain Creek, dumps the water into Left Hand Creek and diverts downstream off Left Hand Creek. This ditch is recorded as having a source of St. Vrain Creek however, about 20 to 30 percent of the water is from Left Hand Creek.
- **Dixon Mill Ditch** (0500576) has not been used since the early 1980's. This ditch previously fed a sugar beet processing plant.

- **Coffin Davis Ditch** (0500699) has been abandoned.
- Water rights on **Kitley Gulch** (0500791 and 0500792), **Howlett Gulch** (0500780 and 0500781), and **Spring Gulch** (0500582) are generally not administered unless there is a complaint.
- **Last Chance Ditch** (0500589) diversion records are maintained by Scott Edgar. In the early season the ditch is approximately 90 efficient. Later in the irrigating season, the ditch system is approximately 50 percent efficient.
- **Hayseed Ditch** (0500593) is owned by various parties. A portion of the water diverted through this ditch is used for gravel pit augmentation and well augmentation. It is possible that the remaining portion of this water is in the process of being changed for augmentation in water court.
- **Hardscrabble Ditch** (0500745) and **Goosequill Ditch** (0500594) are owned by Public Service. Monthly diversion reports for these two ditches are supplied to Scott Edgar from Public Service. There is a structure ID for Goosequill Ditch in District 2 (0200594) however there are no time series diversions found under this structure ID in HydroBase.

#### **Left Hand Ditch Company and Left Hand Water District**

- Left Hand Ditch Company and Left Hand Water District, which serve different purposes, are operated together. Left Hand Water District supplies municipal water for rural areas on the south side of Longmont and in Niwot. Left Hand Ditch Company provides irrigation water.
- Left Hand Water District water sources include native water in the St. Vrain Basin and C-BT and Windy Gap water via exchange.
- Left Hand Ditch Company has a good supply of water. This water is supplemented with C-BT water. Scott Edgar was not aware with any ground water use or augmentation by Left Hand Ditch Company water users.
- Land irrigated with Left Hand Ditch Company water is mostly alfalfa. Scott Edgar was not aware of any row crops irrigated with Left Hand Ditch Company water. Left Hand Ditch Company has a good supply of water. This water is supplemented with C-BT water. Scott Edgar was not aware with any ground water use by Left Hand Ditch Company water users.
- Left Hand Ditch Company has an agreement with NCWCD whereby water is diverted under Left Hand Ditch Company diversion rights or via exchange through Carter Lake and stored in Boulder Reservoir. Of the water stored in Boulder Reservoir, 50 percent of the water gets credited to Left Hand Ditch Company and 50 percent gets credited as C-BT water. This agreement was enacted because NCWCD's right on Left Hand Creek is junior to all water rights owned by Left Hand Ditch Company. This transaction is coded under the Boulder Feeder Canal as export out of the St. Vrain Basin.
- C-BT water delivered to Left Hand Ditch Company from NCWCD is tracked by NCWCD.
- The district boundary for Left Hand Ditch Company and Left Hand Water District extends East to about 119<sup>th</sup> Street.
- TetraTech RMC is the engineer for the Ditch Company.

- Direct flow rights owned by Left Hand Ditch Company and Left Hand Water District include the following:
  - Left Hand Creek
    - **Lake Ditch** (0500564)
    - **Haldi Ditch** (0500565)
    - **Crocker Ditch** (0500568)
    - **Table Mountain Ditch** (0500569) (Left Hand Water District takes deliveries through this ditch.)
    - **Bader Ditch No. 1 and 2** (0500570)
    - **Johnson Ditch** (0500571)
    - **Star Ditch** (0500572)
    - **Hinman Ditch** (0500573)
    - **Holland Ditch** (0500574)
    - **Belcher Ditch No. 1** (0500647)
    - **Toll Gate Ditch** (0500648)
    - **Farmers Ditch** (0500673)
    - **Cochran Ditch** (0500671)
    - **Baum Goyne Ditch** (0500649)
    - **Williamson Cavey Ditch** (0500934)
    - **Hornbaker Ditch** (0500672)
    - **Lagerman Supply Ditch** (No WDID)
  - South St. Vrain Creek
    - **Left Hand Ditch** (0500603) – Diverts from South St. Vrain and is delivered into Left Hand Creek via James Creek.
- Storage facilities owned by Left Hand Ditch Company and Left Hand Water District include the following:
  - **Left Hand Valley Reservoir** (0504488) – Decreed for 10,573 af however there is only approximately 1,600 af of active storage in this reservoir.
  - **Left Hand Park Reservoir** (0504076)
  - **Gold Lake** (0504015)
  - **Isabelle Lake** (0504012)
  - **Left Hand Park Reservoir** (0504076) – Used for Left Hand Water District

These reservoirs are filled from snow melt from within the immediate watershed. Water may be stored out of priority within these reservoirs, however, if downstream water rights are not fulfilled the Water Commissioner will require releases to the South St. Vrain.
- **Allen Lake Reservoir** (0504077) is also owned by Left Hand Ditch Company and Left Hand Water District include:

### **St. Vrain Left Hand Water Conservancy District**

St. Vrain Left Hand Water Conservancy District operates the major Substitute Water Supply Plan (SWSP) in the basin. There is currently an augmentation plan in water court outlining the specifics of the SWSP. The augmentation plan includes augmentation for out-of-priority small diverters of surface water and ground water in the mountains. Most of the diverters being covered under this augmentation plans are individuals or small

groups making diversions for domestic uses. The City of Ward is also included in the augmentation plan.

The structures included in the SWSP are as follows:

- **Rock'n WP Ranch Lake 4** (0503304) –Lined, mined gravel pit, ½ owned by Conservancy District and ½ owned by Boulder Open Space. Storage capacity is approximately 400 acre-feet. Filled by diversions from the South St. Vrain. St. Vrain Left Hand Water Conservancy District has storage in Lake No. 4 for use under their SWSP.
- **Copeland Lake** (0504009) owned by St. Vrain Left Hand Water Conservancy District generally releases after Labor Day.
- **Beaver Park Reservoir** (0504020) is 49 percent owned by the Highland Ditch Company and 51 percent owned by Supply Ditch. St. Vrain Left Hand Water Conservancy District trades C-BT water to the ditches for 125 acre-feet of storage.
- **Green Lake** (aka, Red Deer) (0504011) owned by the Town of Mead. St. Vrain Left Hand Water Conservancy District has an agreement to release this water in August for augmentation.
- **C-BT units.** St. Vrain Left Hand Water Conservancy owns approximately 100 units of C-BT water. These units are not used on a regular basis.
- **Direct flow rights** including the use of the following ditches:
  - Longmont Supply Ditch
  - Chapman McCaslin Ditch
  - Oligarchy Ditch
  - Bonus Ditch
  - 100 shares of Left Hand Ditch Company

## Recommended Detailed Documentation

More detailed information should be developed and included in the Basin Information Report for the following canals, reservoirs, or entities. Note that off-channel reservoirs are generally recommended to be included with the ditch entity operating memoranda, and not as stand-alone memoranda.

- City of Longmont (Union Reservoir, Button Rock Reservoir)
- Highland Ditch
- Supply Ditch
- Left Hand Ditch

**Table 1**

Structure	Structure Name	Total Decree (cfs)	Diversion Record Period	Average Annual Divert (af)	Diversion Source	Key	Comments
0500511	LONGMONT PIPELINE NORTH	28.50	1954-2003	9,208	N F ST VRAIN CREEK	yes	
0500512	LYONS PIPELINE	2.54	1965-2003	1,919	N F ST VRAIN CREEK	yes	
0500513	DAVE MILLER DITCH	1.43	1977-1992	211	N F ST VRAIN CREEK	no	
0500516	LYONS DITCH	4.25	1975-1988	148	N F ST VRAIN CREEK	no	
0500603	LEFT HAND DITCH	~1010	1992-2003	13,000	N F ST VRAIN CREEK	Yes	Primary Structure for Multisystem that includes Left Hand Ditch Company structures
0500938	CARL HOLCOMB DITCH	3.70	n/a	n/a	S F ST VRAIN CREEK	no	
0500520	SOUTH LEDGE DITCH	31.00	1954-2003	673	S F ST VRAIN CREEK	yes	
0500519	REESE STILES DITCH	3.50	1991-2003	287	S F ST VRAIN CREEK	yes	
0500521	MEADOW DITCH	8.00	1991-2003	185	S F ST VRAIN CREEK	no	no acreage
0500522	LONGMONT PIPELINE SOUTH	3.00	1990-2003	688	S F ST VRAIN CREEK	yes	
0500523	SUPPLY DITCH	92.20	1950-2003	9,802	ST VRAIN CREEK	yes	
0500526	HIGHLAND DITCH	347.60	1950-2003	41,728	ST VRAIN CREEK	yes	
0500527	ROUGH READY DITCH	83.34	1950-2003	8,008	ST VRAIN CREEK	yes	
0500528	ST VRAIN PALMERTON DITCH	161.20	1950-2003	4,045	ST VRAIN CREEK	yes	
0500529	SWEDE DITCH	24.22	1950-2003	3,698	ST VRAIN CREEK	yes	
0500530	SMEAD DITCH	16.27	1950-2003	1,440	ST VRAIN CREEK	yes	
0500531	MONTGOMERY PRIVATE DITCH	3.96	1950-2003	318	ST VRAIN CREEK	yes	
0500532	FOOTHILLS INLET	3.00	1998-2003	1,259	ST VRAIN CREEK	yes	
0500534	GOSS PRIVATE DITCH 1	25.11	1952-2003	394	ST VRAIN CREEK	yes	
0500535	CLOUGH/TRUE DITCH	9.11	1950-2003	466	ST VRAIN CREEK	yes	
0500536	CLOUGH PRIVATE DITCH	10.50	1950-2003	499	ST VRAIN CREEK	yes	
0500537	WEBSTER MCCASLIN DITCH	13.23	1950-2003	520	ST VRAIN CREEK	yes	
0500538	TRUE WEBSTER DITCH	10.50	1950-2003	535	ST VRAIN CREEK	yes	
0500539	JAMES DITCH	27.11	1950-2003	1,843	ST VRAIN CREEK	yes	
0500542	DAVIS DOWNING DITCH	17.68	1950-2003	1,900	ST VRAIN CREEK	yes	
0500550	PECK DITCH	17.00	1950-1993	1,187	ST VRAIN CREEK	yes	
0500551	PELLA DITCH	2.02	1950-2003	1,383	ST VRAIN CREEK	yes	
0500545	LONGMONT SUPPLY DITCH	50.51	1950-2003	3,434	ST VRAIN CREEK	yes	
0500546	CHAPMAN MCCASLIN DITCH	98.13	1950-2003	783	ST VRAIN CREEK	yes	
0500547	OLIGARCHY DITCH	237.51	1950-2003	8,337	ST VRAIN CREEK	yes	
0500548	DENIO TAYLOR DITCH	41.18	1950-2003	710	ST VRAIN CREEK	yes	
0500549	RUNYAN DITCH	10.80	1950-2003	501	ST VRAIN CREEK	yes	
0500601	ZWECK TURNER DITCH	70.03	1950-2003	2,133	ST VRAIN CREEK	yes	
0500554	NIWOT DITCH	52.52	1950-2003	1,862	ST VRAIN CREEK	yes	
0500557	NORTHWEST MUT INS CO D	5.72	1970-2003	451	ST VRAIN CREEK	yes	
0500552	CLOVER BASIN DITCH	58.57	1954-1994	470	ST VRAIN CREEK	no	
0500553	HAGERS MEADOW DITCH	2.66	1965-2003	648	ST VRAIN CREEK	yes	
0500558	SOUTH FLAT DITCH	15.75	1950-2003	1,565	ST VRAIN CREEK	yes	
0500559	CUSHMAN DITCH	13.45	1964-2003	416	ST VRAIN CREEK	yes	
0500560	BECKWITH DITCH	14.21	1950-2003	1,198	ST VRAIN CREEK	yes	
0500563	BONUS DITCH	23.23	1950-2003	2,486	ST VRAIN CREEK	yes	
0500589	LAST CHANCE DITCH	106.94	1950-2003	8,950	ST VRAIN CREEK	yes	
0500602	JAMES MASON DITCH	5.45	1965-2003	280	ST VRAIN CREEK	yes	