DESCRIPTION OF THE COLORADO-BIG THOMPSON PROJECT

The Colorado-Big Thompson Project (C-BT) is one of the largest and most complex natural resource developments undertaken by the Bureau of Reclamation. It consists of over 100 structures integrated into a trans-mountain water diversion system through which multiple benefits are provided.

The C-BT spreads over approximately 250 miles in the state of Colorado. It stores, regulates, and diverts water from the Colorado River west of the Rocky Mountains, providing supplemental water for irrigation of 720,000 acres of land east of the Rocky Mountains. It also provides water for municipal use, industrial use, hydroelectric power, and water-oriented recreation. Additionally, it provides storage of replacement water to the west slope for agricultural, recreation, and environmental uses including supplemental fish flow. This replacement water ensured that senior water rights on the west slope are not impacted by diversions to the east slope.

Major features of the C-BT includes; dams, dikes, reservoirs, powerplants, pumping plants, pipelines, tunnels, transmission lines, substations, and other associated structures (Table 1, Exhibits 1 and 2).

Historically, the C-BT has diverted approximately 230,000 acre-feet of water annually (310,000 acre-feet maximum) from the Colorado River headwaters on the western slope to the South Platte River Basin on the eastern slope, for distribution to project lands and communities. The Northern Colorado Water Conservancy District (NCWCD) apportions the water used for irrigation to more than 120 ditches and 60 reservoirs. Twenty-nine communities receive municipal and industrial water from the C-BT. The Western Area Power Administration markets the electric power produced at the six powerplants.

The western slope collection system captures runoff from the high mountains and stores, regulates, and conveys the water to Adams Tunnel for diversion to the east slope under the Continental Divide.

Pursuant to authorities in Senate Document 80, (which authorized the C-BT), the 1984 Green Mountain Operating Policy and the agreements in the September 1996 Stipulation and Agreement of the Orchard Mesa Check Case settlement (Case No. 91CW247, Colorado Water Div. 5), the content of the Historic Users Pool (HUP) in Green Mountain Reservoir is evaluated during the summer to determine the availability of water surplus to historic beneficiaries needs. If it is determined that surplus water is available, it may be delivered based upon need, first to the federal Grand Valley Powerplant and then to other uses based on a priority system or on specific agreements.

Irrigation systems on the Colorado River, above the Blue River confluence, were improved to enable continued use of existing rights. Releases are made from Lake Granby to maintain the Colorado River as a live fishing stream.

The C-BT's principal storage facilities on the west slope are Lake Granby, Grand Lake, and Shadow Mountain Reservoir located on the Colorado River near Granby, and Willow Creek Reservoir located on Willow Creek, a tributary to the Colorado River below Lake Granby. Willow Creek Pumping Plant lifts the water 175 feet. It then flows by gravity via the Willow Creek Feeder Canal down to Lake Granby.

Completed in 1953, Willow Creek Reservoir has a total storage capacity of 10,600 acre-feet. The uncontrolled spillway, located at the left abutment, has a maximum flow capacity of 3,200 ft^3/s. The Willow Creek Feeder Canal also begins at the left abutment and it has a capacity of 400 ft^3/s. The canal is used to transfer water to Granby Reservoir. Excess inflow into the reservoir is moved by way of the Willow Creek Feeder Canal and pumped to Lake Granby for storage.

Granby Reservoir, completed in 1950, on the upper Colorado River collects and stores most of the water supply for the C-BT. The reservoir stores the flow of the Colorado River as well as water pumped from Willow Creek Reservoir. The reservoir has a total storage capacity of 539,800 acre-feet. The spillway is located on the left abutment. Flows over the spillway are controlled by two radial gates, with a total release capacity of 11,500 ft^3/s.

Granby Pumping Plant lifts the water 99 feet from Lake Granby to Granby Pump Canal. The canal conveys the water 1.8 miles to Shadow Mountain Lake, which also intercepts flows from the North Fork of the Colorado River. Shadow Mountain Lake connects with Grand Lake to make a single body of water from which diversions flow into Adams Tunnel to begin the journey to the eastern slope. The Granby Pumping Plant has three units with a combined installed capacity of 1,200 ft^3/s.

Emerging from Adams Tunnel into the East Portal Reservoir, the water flows across Aspen Creek Valley in a siphon and then under Rams Horn Mountain through a tunnel. At this point, it enters a steel penstock and falls 205 feet to Marys Lake Powerplant. This powerplant is located on the west shore of Marys Lake. It provides afterbay for Marys Powerplant, as well as forebay for Estes Powerplant, and sufficient capacity for re-regulating the flow. The water is conveyed between Marys Lake and Estes Powerplant, on the shore of Lake Estes, through Prospect Mountain Conduit and Prospect Mountain Tunnel.

Lake Estes, which serves as an afterbay for the Estes Powerplant, is formed by Olympus Dam. The storage in Lake Estes and the forebay storage in Marys Lake enable the Estes Powerplant to meet daily variations in energy demand. Completed in 1949, Lake Estes on the Big Thompson River provides regulating capacity for power generation purposes. The reservoir has a total capacity of 3,100 acre-feet. It captures the discharge of Estes Powerplant, and inflow coming from the Big Thompson River. It also regulates river flow below the dam, and releases water to the Foothills Power System via Olympus Tunnel (550 ft^3/s capacity). The Estes Powerplant has three hydroelectric units with a total capacity of 45 megawatts. The combined flow capacity for the three units is 1,300 ft^3/s. The spillway located on the right abutment has five radial gates with a total discharge capacity of 21,200 ft^3/s. The center gate has been automated, and is operated remotely from the Casper Control Center (CCC).

During the winter months, C-BT water is diverted through Adams and Olympus Tunnels and routed through the Foothills Power System on its journey to terminal storage at Carter and Horsetooth Reservoirs. This entire operation is controlled remotely from the CCC.

Water from Lake Estes and the Big Thompson River flows are conveyed by Olympus Siphon and Tunnel, and Pole Hill Tunnel and Canal, to a penstock through which the water drops 815 feet to Pole Hill Powerplant. The flow is then routed through Pole Hill Powerplant Afterbay, Rattlesnake Tunnel, Pinewood Lake, and Bald Mountain Pressure Tunnel, and eventually dropped 1,055 feet through two penstocks to Flatiron Powerplant. This powerplant discharges into Flatiron Reservoir, which regulates the water for release to the foothills storage and distribution system. The afterbay storage in Flatiron Reservoir and the forebay storage in Pinewood Lake enable Flatiron Powerplant to meet daily power loads.

Southward, the Flatiron reversible pump/turbine lifts water from Flatiron Reservoir, as much as 297 feet, and delivers it through Carter Lake Reservoir Pressure Conduit and Tunnel to Carter Lake Reservoir. When the flow is reversed, the unit acts as turbine-generator and produces electricity, discharging back into Flatiron Reservoir.

The Saint Vrain Supply Canal delivers water from Carter Lake Reservoir to the Little Thompson River, St. Vrain Creek, and Boulder Creek Supply Canal. The latter delivers water to Boulder Creek and Boulder Reservoir. The South Platte Supply Canal, diverting from Boulder Creek, delivers water to the South Platte River.

Northward, the Charles Hansen Feeder Canal transports water from Flatiron Reservoir to the Big Thompson River and Horsetooth Reservoir. The canal crosses the Big Thompson River in a siphon above the river and canyon highway. Water from the Big Thompson River can be diverted into the canal by Dille Diversion Dam 1 mile up the canyon mouth and utilized for power generation at Big Thompson Powerplant.

C-BT water deliveries, as well as water diverted from the Big Thompson River for power generation purposes, are dropped through a chute from the feeder canal ahead of the siphon crossing, or are passed through the Big Thompson Powerplant to convert the available head to electricity.

Horsetooth Reservoir is located west of Fort Collins between two hogback ridges, where Horsetooth Dam closes the gap at the north end. Soldier, Dixon, and Spring Canyon Dams on the east and Satanka Dike north on Horsetooth Dam close the remaining gaps. An outlet at Soldier Canyon Dam supplies water to the city of Fort Collins, three rural domestic water districts, Colorado State University, and the Dixon Feeder Canal for the irrigated area cut off from its original water supply by the reservoir. The principal outlet from Horsetooth Reservoir is through Horsetooth Dam into the Charles Hansen Supply Canal. This canal delivers water to a chute discharging into the Cache la Poudre River and to a siphon crossing the river to supply the Windsor Reservoir and Canal Company. A turnout from the Supply Canal supplies the city of Greeley municipal water works. Water delivered to the river replaces by exchange, water diverted upstream to the North Poudre Supply Canal, which conveys it to the North Poudre Irrigation Company System.

SUMMARY OF OPERATIONS FOR WATER YEAR 2012

The Northern Colorado Mountains experienced one of the driest winter and spring seasons in recent years, with the WY 2012, being one of the driest periods in Colorado since the C-BT began operations. Many locations across Northern Colorado reported snowpacks that were considerably below average. The runoff season began early, was short, and the peak flows for the season were much lower than previous years. In many cases, the peak flows and the volumetric totals for the year were the lowest since Water Year 2002. Dry weather combining with record high temperatures pushed water demands up, and depleted many water supply reservoirs despite the strong carryover from an exceptionally wet Water Year in 2011 (WY 2011). Recreation at some local reservoirs was negatively impacted, due to low water surface level and high temperatures.

The C-BT operations were driven by the dry conditions and hot weather during WY 2012. The first big snowstorm of WY 2012 arrived along the Front Range in early November 2011. For the Front Range and other areas, that was the only significant precipitation event for the water year. Only a few more storms reached the east slope between November and January, most of them with very limited precipitation. After January, precipitation practically ended for the Front Range, and the hopes of another 2011-record-season rapidly faded. At many of the Natural Resources Conservation Service snow telemetry sites (SNOTEL) east of the continental divide, the snowpack readings remained close to the average for the first 2 months of the water year before they stalled and began to fall below average. The situation was similar over the west slope. SNOTEL site readings on the west slope lingered close to the average longer than those over the east slope, but with very little or no precipitation in March, often the wettest month of the year, their snowpack totals began to fall rapidly. By April, it became clear that the region was facing a potential drought.

Air temperatures began to warm up early in the spring, and soon after the shallow snowpack began to melt. WY 2012 was a year with an early and short runoff season. At many locations, the runoff began as early as late March. The snowpack never recovered after the temperatures began to warm up. For the Front Range, it was a spring of record high temperatures, high winds and many destructive forest fires. Under such conditions, demands for C-BT water began early in the year and continued to be high all throughout the summer months. The Northern Colorado Water Conservancy District (NCWCD), who began the year with a 50 percent quota for the C-BT, declared a 90 percent quota in April and raised it again to 100 percent in May, based on the weather patterns and expected demands.

The early summer weeks brought some relief to the drier situation of hot/dry weather and forest fires; the monsoonal flow got an early start. Higher humidity and afternoon showers alleviated the fire situation early in July. However, the drought situation remained, and the demands for C-BT water continued to increase. Reservoir levels at Green Mountain, Granby, Carter, and Horsetooth Reservoirs continued to fall due to the high demands and lack of runoff. By July, the runoff season was practically over at most locations. The Adams Tunnel diversion remained set at maximum capacity throughout July, August, and into September, but reservoir level at Carter and Horsetooth continued to drop.

Specifically for Green Mountain Reservoir, the WY2012 began with the expectations of another average or above-average snowpack and a full reservoir in the summer. But, by early winter the SNOTEL measurements near the Blue River watershed were indicating an extremely low snowpack. Nothing changed between December and March regarding the accumulated snowpack. Like most watersheds, the Blue River experienced an early runoff season. Because of the dry conditions and low runoff, the start-of fill was declared for April 1, a significantly early start. Reservoir releases were reduced to the minimum of 60 ft^3/sec and power generation temporarily suspended while the reservoir was refilled. Green Mountain reached its maximum elevation for WY2012 by the mid-June, 22 feet below its maximum capacity. The water surface elevation did not reach the crest of the spillway level in WY2012. After June, the reservoir level began a steady decent.

The Willow Creek watershed also experienced an extremely low snowpack and poor runoff during WY 2012. Similar to Green Mountain and other reservoirs in the area, the runoff started early in the spring, and was over by early June. Peak inflow was only a small fraction of the WY 2011 peak.

Granby Reservoir ended practically full in WY 2011. Therefore, in spite of the poor runoff season, the reservoir level remained adequate for recreational activities during the entire spring and summer seasons. Pumping to Shadow Mountain continued during most of the spring and summer, except for a 2-week period in June, when work at the pumping plant prevented the units from running. As natural inflow to Shadow Mountain and Grand Lake subsided, pumping operations moved more water to Shadow Mountain. Granby's pool elevation dropped 16 feet between the middle of June and the end of September.

Horsetooth Reservoir began the water year with a higher water surface level than usual and a higher percentage of its storage full, compared to Carter Lake. Following maintenance on the Pole Hill Canal, in late December water movement resumed through the southern power arm of the C-BT. Flatiron Unit #3 was used to pump to Carter until maintenance on the unit began in January. With the high water surface level at Horsetooth, and Unit #3 under service, the Adams Tunnel ran at less or below half of capacity. In early March, pumping to Carter Reservoir resumed, the Adams Tunnel ran at capacity and the flow to Horsetooth was reduced. The late start of pumping operations to Carter Reservoir and the early demands for C-BT water from project allottees along the Big Thompson River kept the flows to Horsetooth low after early March. However, the reservoir level continued to rise until early April, at which point the demands for project water began to lower the reservoir level.

With Horsetooth's storage content higher than Carter's, percentage-wise, the movement of C-BT water was concentrated towards Carter Reservoir, continuing for several months, with only a few interruptions. As water demands increased in May and June, it became imperative to continue pumping to Carter Reservoir. High demands from C-BT allotees along the Big Thompson River resulted in many weeks of low inflows to Horsetooth. As demands for C-BT water intensified by the middle of June, Horsetooth and Carter Reservoir levels continued to drop, despite the pumping operation to Carter. By the middle of September, when the pumping operation to Carter Reservoir ended, its level had dropped 35 feet. Horsetooth, meanwhile, had dropped over 60 feet from its peak level in early April.

From the operational side, one of the most important outages of the fall-maintenance-season during WY 2012 was the installation of the box culverts at the Pole Hill Canal. The installation was completed in late December, a few days later than planned. Meanwhile, Pinewood Reservoir had to be drained to allow for the recalibration of the butterfly valve seals at the Bald Mountain Tunnel. Pinewood Reservoir remained practically empty from late November through late December 2011. These activities required that the Olympus Tunnel be under clearance from late October and until late December.

With parts of the C-BT under clearance, the high level at Granby Reservoir was a concern, as the maintenance season approached. The high water surface level at Granby kept the siphon of the Willow Creek Canal under U.S. Highway 34 submerged throughout the early fall. It became necessary to lower Granby Reservoir's level enough to protect the siphon from freezing during winter. To help facilitate this reduction at Granby, C-BT water continued to flow through the Adams Tunnel the first 2 weeks of November 2011. The reservoir level was lowered sufficiently before winter arrived.

Given the outages described above, and the dry conditions across the state of Colorado, the Adams Tunnel was running at full capacity most of the year, including the summer and early-fall months. The Grand Lake water clarity initiative was not conducted during WY 2012 due to the dry conditions, and the dire need for water along the east slope. Recreation at Horsetooth Reservoir was negatively affected by the low reservoirs level, combined with the dry and hot weather. River flows were low most of the year across the state, also impacting recreation. There was no priority water available from the Big Thompson River for the C-BT in WY 2012. With the Adams Tunnel running full most of the runoff season, the capacity of the system was occupied by C-BT water, limiting capacity for skim operation through the Olympus Tunnel. Most of the C-BT skim operations occurred using diversions through the Dille Tunnel and generation only at the Big Thompson Powerplant. A description of the skim operation is included on page 38. A total of 289,900 acre-feet of water was diverted from the west slope via the Adams Tunnel in WY 2012, 128 percent of the 30-year average.

The Horsetooth Reservoir storage content had dropped from 144,524 acre-feet on March 31, to 48,580 acre-feet on September 16, 2012. This content was the second lowest for Horsetooth since the reservoir was drained between 1999 and 2003. But, its level bounced back reaching 56,638 acre-feet by the end of September. Meanwhile, Carter Reservoir had dropped from a content of 89,709 acre-feet in late April to 54,638 acre-feet by September 30, the lowest since 2008. On the west slope, Granby Reservoir was holding 333,587 acre-feet of water on September 30, 2012.

According to numbers provided by the NCWCD, the C-BT ended the water year delivering a total of 322,749 acre-feet from November 1, 2011 to October 31, 2012. Of this total, 213,197 acre-feet was C-BT project water newly diverted from the west slope, 54,732 acre-feet of C-BT project water accounted as carry-over from the previous water year, 24,979 acre-feet of C-BT project water from the regional pool, 7,235 acre-feet for replacements. The remaining volume delivered (of the 322,749 acre-feet) was Windy Gap Project water. Windy Gap Project water is accounted for on a different water year, October 1, 2011, and September 30, 2012. During this period, 16,763 acre-feet of Windy Gap Project water was delivered. Potential carryover water for WY 2013 is estimated at 58,187 acre-feet.

The total WY 2012 C-BT power generation was 641.2 gigawatt hours (GWh), representing 107 percent of the 30-year average (599.4 GWh). This total includes power generated at Green Mountain, Marys, Estes, Pole Hill, Flatiron, and the Big Thompson Powerplants. The Big Thompson Powerplant produced 49 percent of the 30-year average while Green Mountain produced 64 percent. Each of the remaining system powerplants produced over 100 percent of their 30-year average. A total of 6,053 acre-feet were skimmed via the Olympus Tunnel for power generation purposes while 12,155 acre-feet were skimmed via the Dille Tunnel. Water skimmed via the Olympus Tunnel allows power generation at Pole Hill, Flatiron, and the Big Thompson Powerplant. Water skimmed via the Dille Tunnel is used to generate power at the Big Thompson Powerplant. All the water diverted for skim purposes is returned to the Big Thompson River at the Charles Hansen Feeder Canal Trifurcation via the Big Thompson Powerplant or the wasteway.

The C-BT met all the targets set for WY 2012. It also delivered more water than any time in recent years, and produced above-average hydro-power with its six powerplants. The water season ended without any significant incidents; there were no flood or emergency operations.

WATER YEAR 2012 OPERATIONS

Green Mountain Reservoir

The Green Mountain Reservoir contributing watershed experienced the lowest snowpack during WY 2012 since 2002. Similar to other sections of the C-BT, the Blue River watershed suffered severely dry winter and spring seasons, and the lowest runoff season in 10 years. Figure #1 shows the storage content for the reservoir during WY 2012 compared to the 30-year average, while Figure #2 shows the snow-water equivalent for WY 2012 versus the 30-year average. The most probable forecast for Green Mountain Reservoir in April expected 166,000 acre-feet of inflow for the period April through July. Despite the healthy volume, the forecast was short of physically filling the reservoir due to the depletions upstream which could total 96,100 acre-feet. By the end of July 2012, the undepleted inflow was only 118,900 acre-feet, while the depleted inflow was 67,400 acre-feet, well short of the most-probable forecast. The reservoir elevation fell short by almost 10 feet from the forecaster water surface level.

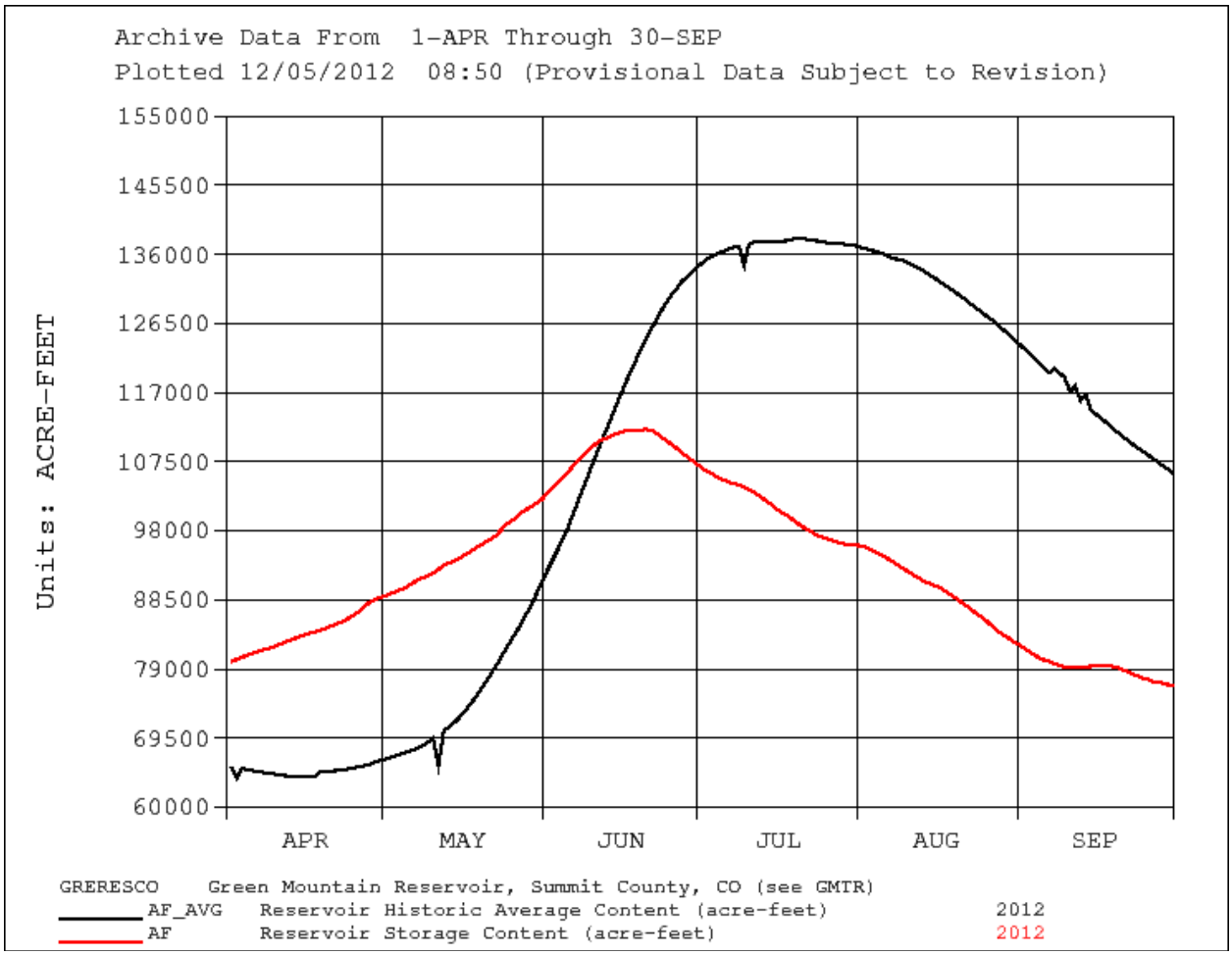

Figure #1: **Comparison between Green Mountain Reservoir content in 2012 and the average content.**

Due to the very low snowpack and resultant low runoff projections, start of fill for 2012 was declared as April 1, with the reservoir holding 79,733 acre-feet in storage, well above its historic 65,000 acre-feet start of fill target.

Pursuant to the State Engineers Office's Interim Policy, "Administration of Green Mountain Reservoir for 2012" dated April 12, 2012. Green Mountain Reservoir achieved a "paper fill" on June 20, 2012. By that date, out-of-priority depletions by Denver Water and Colorado Springs Utilities (Cities) totaled 39,777 acre-feet. With the Cameo water right call being placed on June 21, Green Mountain Reservoir was unable to take advantage of the Interim Policy's provision of storing its inflow under a 1955 priority date after "paper filling" to reduce the amount of water owed by the Cities. As a result, the entire 39,777 acre-feet of depletions by the Cities was owed to Green Mountain Reservoir.

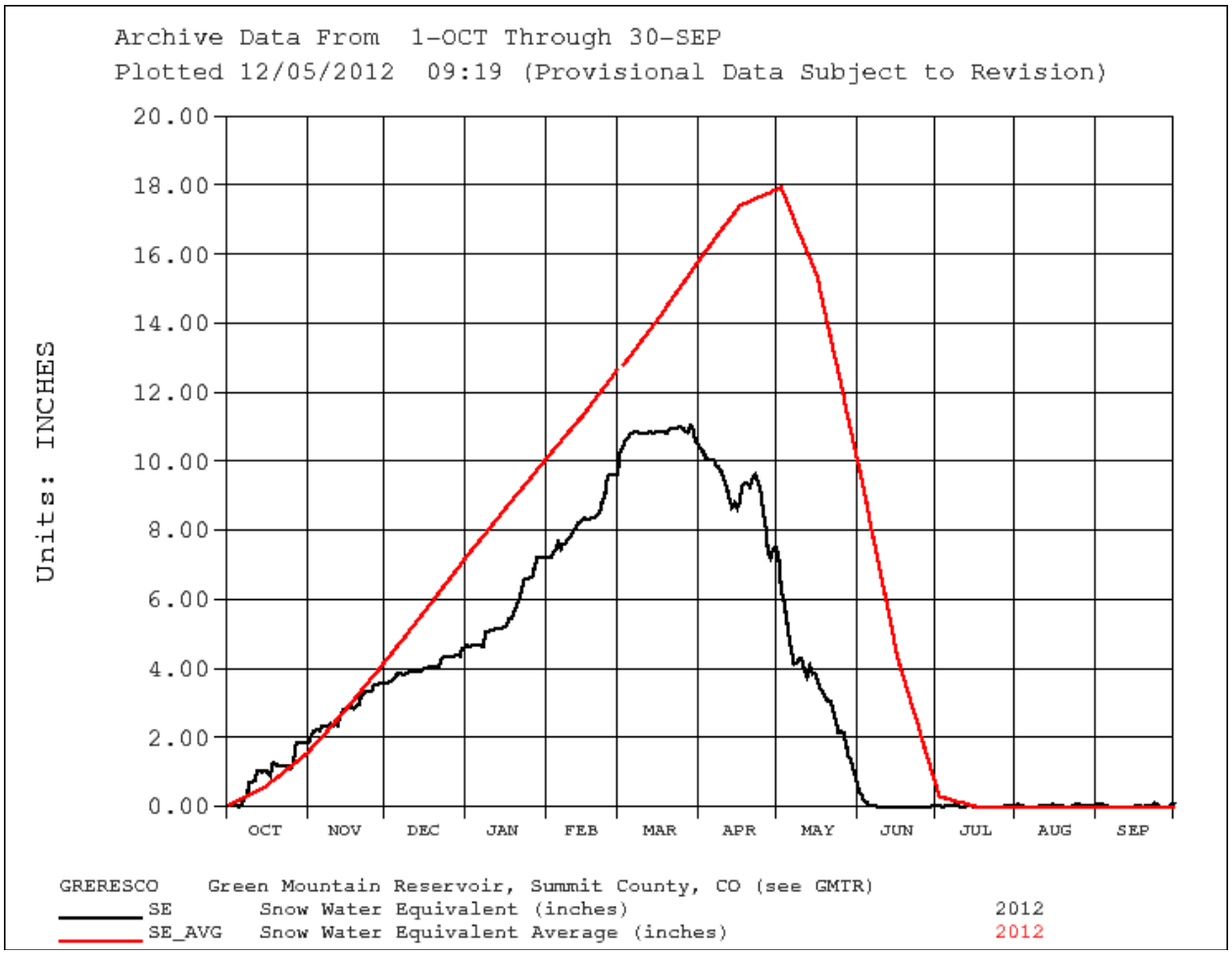

Figure #2: **WY 2012 Snow-water equivalent versus snow-water equivalent 30-year average for the Green Mountain Reservoir drainage area.**

Due to the early onset of the Cameo water right call, Green Mountain Reservoir was unable to continue storing after June 20. Therefore, the maximum physical content for the year was reached on June 20, with a total of 111,944 acre-feet in storage. With the reservoir achieving a "paper fill", the 52,000 acre-feet Colorado-Big Thompson Project replacement pool, the 5,000 acre-feet Silt Project Reservation, the 66,000 acre-feet HUP allocation, and the 20,000 acre-feet set aside for contracts were all fully available this year.

The maximum drawdown rate limitations initially put in place in 2003 due to landslide concerns were continued in 2012. These drawdown rate limitations were to be initiated when the reservoir's water surface elevation dropped below 7880.0 feet. With the reservoir achieving a "paper fill" in 2012, the water surface elevation remained above 7880.0 feet during the irrigation season, and therefore, the drawdown rate limitations were never triggered.

While the interim policy requires that upstream depletions by Green Mountain beneficiaries junior to Green Mountain Reservoir be charged against the "paper fill" of Green Mountain Reservoir, those depletions were not charged against this year's HUP allocation. Therefore, the entire 66,000 acre-feet HUP allocation remained available when the reservoir achieved its "paper fill" on June 20.

Due to the extremely dry conditions and the needs of the HUP beneficiaries, no HUP surplus was available to benefit the endangered fish in the 15-Mile Reach this year. Releases to augment the water rights of HUP beneficiaries downstream of Green Mountain began on June 21, with a total of 26,378 acre-feet being released for that purpose between June 21 and October 31. Even with the much-below average streamflow conditions throughout the summer, HUP releases to support the Cameo call were limited to 27,767 acre-feet through the conservation efforts of the Grand Valley irrigators. Together, the release for HUP beneficiaries and the direct HUP release to support the Cameo call totaled 54,145 acre-feet in 2012. This resulted in an HUP balance of 11,855 acre-feet on October 31.

Willow Creek Reservoir

Similar to the Blue River, the Willow Creek's contributing drainage area also experienced a low snowpack during the winter and spring months of WY 2012. Initially, the October version of the Annual Operating Plan used a most-probable runoff forecast of 56,000 acre-feet or 117 percent of the 30-year average. But the actual total inflow for the entire water year ended up being only 30,900 acre-feet, or 64 percent of 30-year average.

The runoff season began earlier than normal at Willow Creek. The WY 2012 peak 24-hour inflow for Willow Creek Reservoir was 458 ft^3/sec recorded on April 27. Normally, the peak flow occurs at Willow Creek in the middle of May or after. With unusually low flows, the Willow Creek Canal pumps pushed 400 ft^3/sec for a single day in April. For most of the runoff season, only one pump was used. Figure #3 compares the 30-year average snow-water equivalent for the drainage area around Willow Creek Reservoir and the measured snow-water equivalent during WY 2012. The drop from the peak accumulation was very quick and severe, but failed to produce any significant runoff.

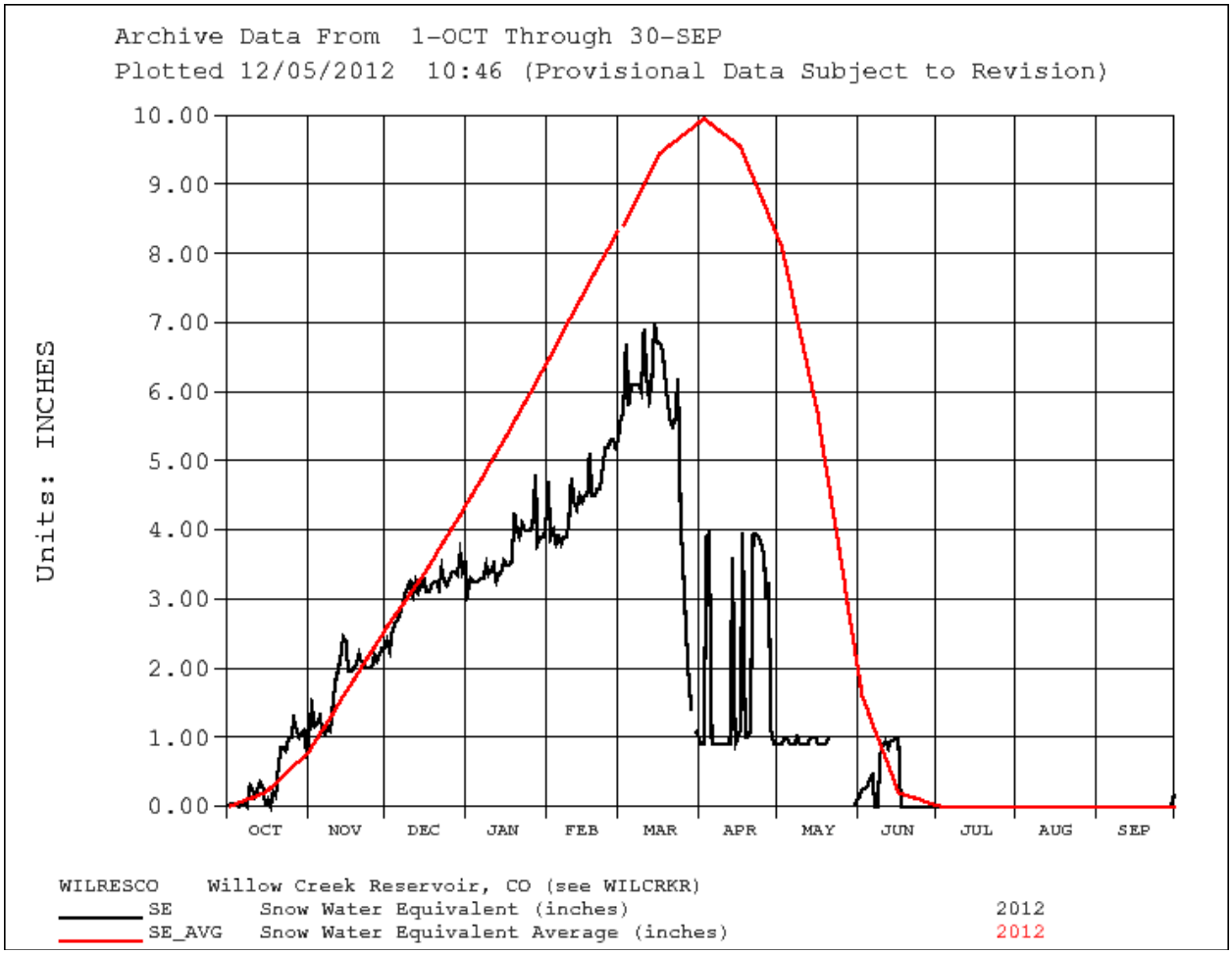

Figure #3: WY 2012 Snow-water equivalent versus snow-water equivalent 30-year average for the Willow Creek Reservoir drainage area.

Granby Reservoir

Granby Reservoir's carryover content going into WY 2012 was 498,974 acre-feet, or 132 percent of the 30-year average for October 1. The reservoir level at Granby was high for October 1, but thanks to the Adams Tunnel diversions, it dropped steadily throughout October and part of November, reaching a safe level for the Highway 34 siphon before freezing began. The reservoir level was stabilized by the middle of November and remained fairly constant until the maintenance season for C-BT facilities ended in late December. By late December, the reservoir level was once again dropping. The water surface elevation continued to fall until late March. The warm up experienced in the early spring of 2012 triggered a premature runoff season. The reservoir level began to climb in April, despite a high diversion through the Adams Tunnel. Between the middle of April and the middle of June, the reservoir elevation climbed up only 3 feet. After the middle of June, Granby's water surface elevation began a steady but rapid descend. Between June and the end of September, Granby Reservoir dropped 16 feet, finishing the year with 333,587 acre-feet in storage.

The watershed above Granby Reservoir began the WY 2012 with an average snowpack. Early December snowpack accumulation stalled and rapidly began to fall below average. Similar to other sections of the C-BT the snowpack for the watershed remained below average for the rest of the water year. The most-probable runoff forecast from October 2011 predicted 213,300 acre-feet of inflow for Granby Reservoir or 109 percent of average. The total inflow for WY 2012 was only 153,800 acre-feet, or 78.6 percent of the 30-year average. Figure #5 compares average and recorded snowpack conditions for the Granby Reservoir drainage area during WY 2012.

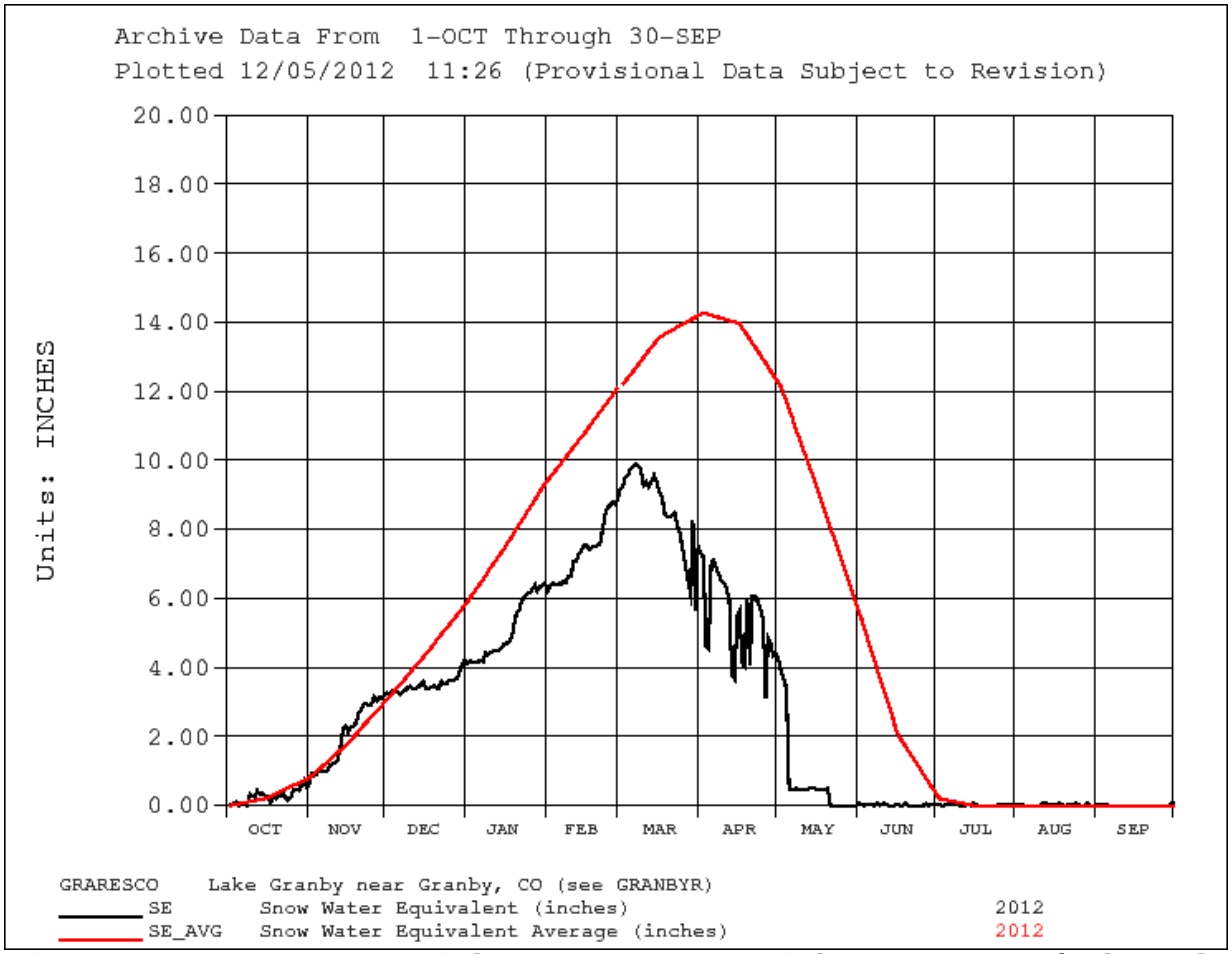

Figure #4: **WY 2012 Snow-water equivalent versus snow-water equivalent 30-year average for the Granby Reservoir drainage area.**

Granby Reservoir finished the WY 2012 with 333,587 acre-feet in storage, 76 percent of the 30-year end-of-water-year average. Total precipitation during WY 2012 for the Granby Reservoir watershed was 13.18 inches or 76 percent of the 30-year average (17.35 inches). The highest daily average natural inflow to Granby Reservoir during WY 2012 was 510 ft^3/s calculated for May 19, about a month earlier than normal. (Note that this quantity does not include the inflow to Grand Lake and Shadow Mountain Reservoir.)

Grand Lake/Shadow Mountain Reservoir

Operations at Grand Lake and Shadow Mountain were relatively normal, although the native inflow was extremely low during WY 2012. The anticipated lack of runoff over the east slope, and high demands for project water resulted in high flows through the Adams Tunnel during most of the spring, summer, and fall months. Bypass of water from Shadow Mountain was kept to a minimum the entire water year.

Flows through the Adams Tunnel were high in October of 2011, reduced in November, and stopped in the middle of November. Once the maintenance season for C-BT facilities ended in late December, diversions through the tunnel resumed, but only at 50 percent of capacity due to limited storage space at Horsetooth Reservoir and the annual maintenance of Flatiron's Unit #3. By early March, once the Flatiron Unit #3 became available again, the diversions were increased to 550 ft^3/sec. In April, the diversions were reduced to save space at Horsetooth Reservoir for potential priority water from the Big Thompson River. At that point, entering priority was still a possibility for the C-BT. The reduction lasted 1 month. By early May, the diversions were back up to 550 ft^3/sec. Diversions through the Adams Tunnel were reduced again in June to accommodate an outage at the Farr Pumping Plant that lasted 2 weeks.

The drought of 2012 prevented the C-BT from participating in the water clarity initiative for Grand Lake. Dry and hot conditions, high demands from the eastern plains, and multiple fires in the region were primary motivators for this decision.

Lake Estes

Similar to other parts of the C-BT, the Big Thompson River watershed had a very dry and hot year. The snowpack was low, and the spring was warmer than normal. Summer brought some relief in the form of precipitation, thanks to the monsoonal flow. Total WY 2012 precipitation was about 93 percent of the 30-year average. Figure #5 compares the average snowpack and the measured snowpack for WY 2012 for the Big Thompson River drainage above Lake Estes and Olympus Dam.

There were no significant rainfall events during WY 2012. No flooding operations and no emergency operations around the Marys Lake/Lake Estes area. Runoff was the lowest in 10 years for Lake Estes; only 53,900 acre-feet or 57 percent of the 30-year average. The peak daily-average inflow for the year was only 323 ft^3/sec. The C-BT's junior water right was never a priority to capture Big Thompson River water during 2012. The skim operation through the Olympus Tunnel was also minimal, mainly because the demands for C-BT water kept the Adams Tunnel running nearly full most of the year. There were concerns during the late spring and summer months about the ability of the C-BT system to deliver excess-capacity-contract water for local municipalities. But the system was flexible enough to allow those deliveries in an adequate and timely manner.

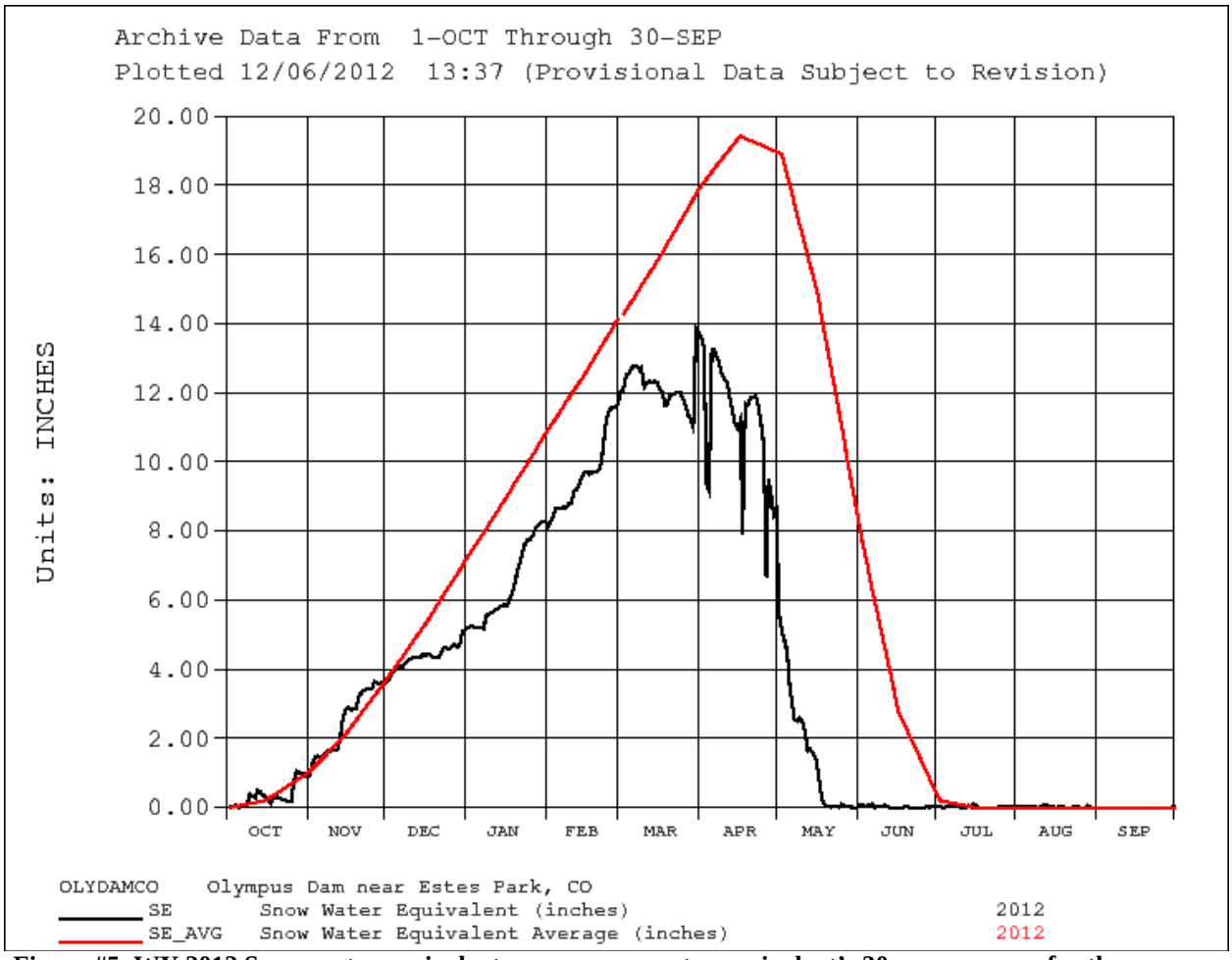

Figure #5: WY 2012 Snow-water equivalent versus snow-water equivalent's 30-year average for the Olympus Dam drainage area.

Foothill's Lower System

The C-BT's southern power arm along the foothills ran at maximum capacity (considering maintenance outage requirements) for the majority of WY 2012. The Pole Hill Powerplant ran baseloaded at maximum capacity most of the water year with only minor interruptions. The Flatiron Powerplant saw short periods of peaking power generation.

New box culverts were installed at the Pole Hill Canal during the fall of 2011 but showed more leaking than anticipated. To temporarily compensate for the extra flow until repairs could be made, the Division of Water Resources, state of Colorado, allowed for the reduction of water from Rattlesnake Dam at Pinewood Reservoir. The leakage will be resolved in the fall of calendar year 2012.

Despite Olympus Tunnel being under clearance during November 2011 movement of C-BT water continued. Certain deliveries of C-BT water were made directly from Olympus Dam for approximately 3 weeks. During this time, the Dille Tunnel diversion structure was used (until November 21) to recapture C-BT water from the Big Thompson River and send it north to Horsetooth. By then, the temperatures had turned colder, and ice formation along the river had become an issue.

From that point on, until termination of the Olympus Tunnel clearance, all the C-BT water requirements were met from Carter Lake via Flatiron's Unit #3.

Flatiron Powerplant continued to operate with only one unit available. The rewind work for Flatiron's Unit #2 was completed in the spring and testing of the unit began in May 2011. Flatiron's Unit #2 was made available for operation on June 4. Shortly thereafter, Unit #1 was put under clearance to finish the interior lining of its penstock. Peaking-power operations at the plant were limited, but the newly rewound units allowed the system to move water at full capacity.

Late in the water year, an unintentional discharge of water at the Charles Hansen Feeder Canal trifurcation occurred, lasting 3 days. Sudden changes in the flow regimes in the canal, along with the flow north gate being operated manually, may have triggered the siphon without any warning and without anyone noticing. The water was captured downstream by irrigators and other water users, before reaching the state line. New measures are being planned and designed to prevent such incidents from happening again.

All the demands for C-BT water were met on time. Power generation operations were very successful. Pole Hill and Flatiron Powerplants produced over 429 GWh of power in WY 2012, or 107.5 percent of the 30-year average, mainly due to the fact that so much C-BT water ran through the Olympus Tunnel. By contrast, the Big Thompson Powerplant produced a total of only 5.3 GWh, or 49 percent of the 30-year average, due in part by the late start of the unit. Skim operation played only a minor role. Skim operations through the Olympus Tunnel were limited to a few weeks. During the spring and later summer months, as the flow of C-BT water through the system was kept at a maximum capacity for most of that time. The Dille Tunnel saw a longer skim operation season, although the flows were low due to the limited runoff.

There was no east slope priority water captured via Olympus Tunnel in WY 2012.

Carter Lake Reservoir

Completed in 1952 with three dams, Carter Reservoir has a total storage capacity of 112,200 acre-feet. Inflow of C-BT water to Carter Reservoir comes from the Flatiron Pumping Plant which has a capacity of up to 480 ft^3/s when Carter is at its lowest level.

Carter Reservoir began WY 2012 with a storage content of just over 72,574 acre-feet. That content continued to drop steadily over the course of the following 3 months. The water surface elevation at Pinewood Reservoir down to the lowest invert level, water from Carter Reservoir was used in late November and through December to continue water deliveries down the Charles Hansen Feeder Canal. By December 29, the reservoir content had dropped to 57,258 acre-feet. Once the maintenance season for the C-BT facilities ended, and the Pole Hill Canal box culverts installation was completed, Flatiron's Unit #3 had a window of a few days to pump to Carter Reservoir. Between December 30 and January 9, Carter Reservoir gained almost 5,000 acre-feet in content. On January 9, the Flatiron pump was turned off and the annual maintenance for Flatiron's Unit #3 began.

Pumping to Carter Lake did not resume until March. Meanwhile, the reservoir content began to fall again, although not as fast as December. By early March, the reservoir content had dropped to 60,100 acre-feet. On March 2, the Flatiron Unit #3 began pumping to Carter Lake. Pumping continued almost uninterrupted until June 4. On June 4 the Farr Pumping Plant was shut down for repairs. With no flow from Granby Lake, and a dismal runoff, there wasn't sufficient water to keep the Flatiron pump running. The pump was kept offline until June 16. By then, demands for C-BT water exceeded the capacity of the Flatiron pump, and the reservoir content continued to fall despite the pumping operation. By the end of June, releases from Carter Lake were exceeding 500 ft^3/sec.

Conditions did not change significantly in July and August. The reservoir level continued to drop despite the pumping operation. Given the expected circumstances for the fall and winter months, it was important to keep the pump running as long as possible. The pumping operation was finally stopped in the middle of September. By then, the water demands had subsided and the reservoir level, although dropping steadily, was doing so at a moderate pace. Carter Reservoir ended the water year with 54,638 acre-feet.

The pumping sessions with Flatiron Unit #3 during the WY 2012 required a total of 44.2 GWh of energy, 165 percent of the 30-year average. That was significantly higher than the previous 3 years. Water deliveries from Carter Reservoir totaled 126,200 acre-feet, or 193 percent of the 30-year average. Annual deliveries average 65,500 acre-feet. The month of August had the highest volume of water deliveries out of Carter Reservoir, with a total of 27,700 acre-feet, 145 percent of the 30-year average for the month, and approximately 7,400 acre-feet more than the previous year for the same month. All the water delivery targets for Carter Reservoir were met during WY 2012, in general, and recreation had a successful year.

Horsetooth Reservoir

Completed in 1949, with four dams, Horsetooth Reservoir has a total constructed capacity of 156,700 acre-feet. Inflow to Horsetooth Reservoir comes mainly from C-BT water delivered via the Charles Hansen Feeder Canal.

Horsetooth Reservoir began WY 2012 with 109,277 acre-feet of water in storage and a water surface elevation of 5404.45 feet. With the irrigation season ending on October 31 the demands for C-BT water continued throughout October 2011. The reservoir continued to drop in elevation, ending the month of October at 5400.16 feet and 102,171 acre-feet in storage. Horsetooth reached its lowest level of the WY 2012 fall/winter season on October 30, 5400.04 feet. By December, its water content had reached 116,761 acre-feet.

With Horsetooth Reservoir at such a high level in late December, deliveries of water to the reservoir were made with caution, in order not to fill the reservoir too early, and to save some space for potential Big Thompson River priority water later in the year. Even as the Flatiron Unit #3 went under maintenance in January, the flow of water to Horsetooth was kept at half of the system's capacity. The reservoir reached its highest content on March 31, a total of 144,524 acre-feet with an elevation of 5423.88 feet, 125 percent of the 30-year average. After March 31, the reservoir level began to drop.

The reservoir's rate of fall continues to slowly increase as the spring advanced and water demands increased. The pumping operation combined with the deliveries of water to the Big Thompson River and the city of Loveland in northern Colorado kept the flow north relatively low most of the spring and summer months. By late June, the reservoir level was dropping a foot every 2 days. By August, that rate had increased to a foot per day. By September 16, the reservoir level had fallen to 5361.53 feet, with 48,582 acre-feet in storage, the lowest since 2003. The reservoir level bounced back once the pumping operation to Carter Reservoir ended and the water demands subsided. Horsetooth ended the water year with 56,639 acre-feet of water in storage.

Horsetooth Reservoir met all its water delivery targets and obligations during WY 2012. Low water levels however, had an impact on recreation around the reservoir. Marina operations began to wrap up in late July, and ended in early August as a consequence of the high demand and low inflows. Normally, the marina operates until late September. Boat ramps closed around the reservoir throughout August and September, until only one ramp remained open for the rest of the fall season.

The imbalance between Carter and Horsetooth's contents in the early spring (77 percent of the 30-year average versus 125 percent, respectively), and potential future conditions, as well as expected C-BT operations, prompted the decision to continue pumping C-BT water to Carter Reservoir, despite the anticipated rapid drop in reservoir level at Horsetooth.

Deliveries from Carter Lake for the WY 2012 were over 200 percent of the 30-year average in WY 2012, while Horsetooth's deliveries were 136 percent. The pumping operation prevented Carter Lake from dropping too much and jeopardizing water supply for the southern part of the system, given the high demands. It also prepared the Carter Reservoir for the upcoming spring. Meanwhile, Horsetooth ended the water year at 68 percent of the 30-year average.

FLOOD BENEFITS

Precipitation in Colorado was below-average throughout most of the state during WY 2012. The C-BT experienced one of the lowest snowpacks in many years. An early spring warm up melted the limited snowpack pretty rapidly. It was a spring with an early and brief runoff season, with peak flows that were only fractions of the previous year peak flows. Green Mountain Reservoir's start-of-fill was declared in April due to the low levels and the severely dry conditions over the region.

None of the reservoirs within the C-BT system filled during the spring or summer of 2012. Neither Green Mountain nor Granby Reservoir ever reached the bottom of their respective radial gates. All the reservoirs in the system suffered low inflows, as well as high spring and summer temperatures, with little precipitation in the spring and summer months.

Based on the data collected from the Colorado River Basin, and according to figures provided by the U.S. Army Corps of Engineers, the C-BT reservoirs over the west slope did not prevent any potential flood damages during WY 2012. Since construction, the C-BT has prevented potential flood damages totaling $510,300.

C-BT PLANNING AND CONTROL

The C-BT is operated to provide supplemental municipal and industrial water supply, as well as irrigation water supply and hydroelectric power production. Some of the benefits from the operation of the project are reduction of flood damages, recreation, and fish and wildlife preservation, among others. The C-BT is operated for the purposes for which it was authorized and constructed.

The integrated operation of the C-BT is planned and coordinated by the Water Resources Group of the Bureau of Reclamation, Eastern Colorado Area Office (ECAO), and Loveland, Colorado. Staff at this office collects and analyzes information daily and makes the decisions necessary for successful operation of the C-BT. This continuous water management function involves coordination between the Division of Water Resources of the state of Colorado, the NCWCD, Upper Colorado and Great Plains Regions of the Bureau of Reclamation, the Western Area Power Administration (from the Department of Energy), other Bureau of Reclamation groups, and many other local, state, and Federal agencies.

Experience has proven that proper utilization of the available water resource in a multi-purpose project such as the C-BT can be achieved only through careful budgeting and management of the anticipated water supply. One end product of this budgeting and management process is an Annual Operating Plan (AOP).

The C-BT is operated on a water year basis (October 1 through September 30). The AOP is prepared in early October of each year, following the plan's review. AOPs are prepared for reasonable-maximum and reasonable-minimum conditions of water supply and requirements as well as for the most-probable runoff conditions. The C-BT is operated to optimize the most-probable water supply without jeopardizing operational position should either the reasonable-maximum or the reasonable-minimum water supply conditions occur. The plan is reviewed and revised as necessary during the year as new information or changing conditions occur. Flexibility is a keynote and a necessity of the plan. Computer programs and models are used by ECAO to develop the AOP and water supply forecasts.

ANNUAL OPERATING PLAN FOR WATER YEAR 2013

Three operation studies or model runs for the C-BT were developed in October 2012 to establish the Annual Operating Plan (AOP) for WY 2013 based on different potential inflow conditions. Each of the studies conformed to the established operating criteria, but used differing inflow conditions and water demands. The results of these scenarios are discussed below, recognizing that they represent useful operational possibilities. Actual progression through the year will vary depending on how actual hydrology differs from that used in these scenarios. Not even the most-probable scenario has any expectation of predicting precisely what will occur. AOP models are revised every month of the year to include information and updated snow data and reservoir levels. The October 2012 versions of the AOP model runs are presented in this report.

The three inflow conditions were determined from a probability analysis of historic monthly inflows, and were labeled reasonable-minimum, reasonable-maximum, and most probable. Reservoir inflow during WY 2013 was designed to reflect the "lines" where there is a one-in-twenty chance of being less than the reasonable-minimum and there is a one-in-twenty chance of being greater than the reasonable-maximum. Statistically, inflows in 2012 will have a nine-in-ten chance of falling between the two extremes. The most-probable inflow condition is based on long-term averages and approximates the line where actual inflow has equal chances (a 50 percent chance) of being above or below this most probable inflow condition. The three studies for WY 2012 are summarized numerically in Appendix B (Tables 5A, 5B, and 5C), and displayed graphically in Appendix C (Exhibits 3 through 7).

This forward-looking information contained in this report is intended only as a guide for upcoming spring and summer operations. Any of the reservoir levels, canal and tunnel flows, pumping and power operations presented in this report are preliminary and subject to changes as conditions mandate. Forecasts of the April-July reservoir inflows will be prepared at the beginning of each month from February through June. The results are compared to the forecasted inflows developed by the NCWCD and the Natural Resources Conservation Service, then discussed with NCWCD officials during monthly meetings. The majority of snowmelt runoff occurs in the April-July period. Projected operating schedules will be adjusted, as required throughout the water year, consistent with then-available forecasts of inflows, irrigation demands, maintenance schedules, and power loads and then-existing system states.

OCTOBER-JANUARY PERIOD

The operating plans for the October-January period of WY 2013 are similar across all three studies because winter inflows are nearly the same under each. The operations and project condition for the WY 2013 October-January C-BT facilities are summarized in the following paragraphs.

Green Mountain Reservoir

Green Mountain Reservoir began the WY 2013 with 76,719 acre-feet in storage, over 47,000 acre-feet below the 30-year average. Reservoir releases for C-BT for power generation continued from WY 2012 into WY 2013.

But with such low water content, releases from Green Mountain Reservoir for bypass of inflow, replacement or any other C-BT operations were curtailed.
Those releases lowered the storage content to approximately 63,400 acre-feet by December 31 under each of the scenarios.

Willow Creek Reservoir

Willow Creek Reservoir began the WY 2013 with 9,692 acre-feet in storage, 800 acre-feet higher than the 30-year average. Its water surface level is typically lowered during October and part of November in order to prepare the reservoir for the winter and early spring operations. Pumping from Willow Creek to Granby Reservoir is typically done to accomplish that. Once pumping ends in November, the canal between Willow Creek and Granby Reservoirs is winterized. Willow Creek is reduced to a storage of 7,200 acre-feet by late November under each of the scenarios.

Granby Reservoir

The storage in Granby Reservoir at the beginning of the WY 2013 was 333,587 acre-feet, approximately 96,000 acre-feet lower than the 30-year average. The reservoir elevation on October 1, 2012 was 8248.35 feet.

The low reservoir level was expected for October 1, given the poor runoff season experienced in WY 2012. With Adams Tunnel running at full capacity for most of October 2012 and the later part of December, the reservoir content is expected to drop to 291,400 acre-feet by December 31.

East Slope Terminal Storage

Diversions through Adams Tunnel will be kept at maximum capacity during most of October 2012 and through late December. After November 5, the flow through the tunnel will shutdown and put under clearance to allow for inspections and other maintenance work. The same day, the Olympus Tunnel will also enter its clearance period. Lake Estes will be drained after November 5.

After a few weeks of inactivity, water will begin flowing through the Adams Tunnel in early December. The water surface level at Lake Estes will slowly be brought back to regular operational levels during early December, and by the middle of December, the capacity flow through the C-BT system will resume. Most of the C-BT system will be operational by late December.

Pumping to Carter Lake will resume after the middle of December. With Adams Tunnel moving 550 cfs, any flow not pumped will be sent towards Horsetooth Reservoir. The residual flow should be sufficient to prevent any freezing along the Charles Hansen Feeder Canal and to continue pushing the Horsetooth Reservoir level up.

In December, Carter Lake is expected to rise to 46,000 acre-feet of storage (70 percent of the 30-year average). Horsetooth's rising content should reach 73,800 acre-feet (78 percent of the 30-year average).

FEBRUARY THROUGH SEPTEMBER

Most-Probable Inflow Scenario

Green Mountain Reservoir

Green Mountain Reservoir's target storage content for March 31 is 65,000 acre-feet. Under the most-probable runoff conditions the reservoir content will decline slowly during the late winter and early spring. The reservoir elevation could drop slightly below that target. By late April 2013, the reservoir content should bounce back and rise to 90,000 acre-feet. After the start-of-fill, the reservoir level is expected to rise rapidly. Under the most-probable runoff conditions the reservoir is expected to reach a physical fill by early July. Its storage content by the end of July is expected to be 145,000 acre-feet.

According to the most-probable runoff forecast and its associated operating plan, Green Mountain Reservoir might be able to participate in Coordinated Reservoir Operations (CROS) this coming spring. CROS is an interagency program developed to enhance the spring peak flows along the 15-Mile-Reach of the Colorado River in an attempt to benefit endangered species of fish. The operational principle is to pass excess native inflow while continuing the process of filling the reservoir. Participation in the CROS operation does not impact planned reservoir fill by early July. Green Mountain's Reservoir storage content is projected to drop to approximately 110,000 acre-feet by the end of September.

Under the most-probable runoff scenario, the Denver and Colorado Springs' Blue River depletions are approximately 142,300 acre-feet during the WY2013.

Willow Creek Reservoir

Under the most-probable runoff scenario, pumping operations from Willow Creek Reservoir to Granby Reservoir will resume in April 2013. The peak of the runoff occurs in May. The Willow Creek Canal pumps will run from April through June and perhaps July. Under such conditions, the releases to the river average 7 ft^3/s most of WY 2013, with higher releases between May and July. By the end of WY 2013, the Willow Creek Reservoir storage content should be approximately 9,000 acre-feet.

Granby Reservoir

If the most-probable runoff conditions prevail over the Granby Reservoir drainage area, its reservoir storage content should approach a low point of approximately 184,900 acre-feet by the end of April 2013. Runoff is expected to begin in late April or early May. Native runoff along with the pumping operation from Willow Creek should push the reservoir level up rapidly in May and June. Under the most-probable runoff conditions the Windy Gap pumps should remain off-line until March. Windy Gap pumping in April and May should total 15,000 acre-feet. The reservoir should reach a maximum content for the year of approximately 326,400 acre-feet sometime in July, with a water surface level of 8247.1 feet.

Under the most-probable runoff conditions there will not be a spill at Granby Reservoir this water year. Under those circumstances, Lake Granby will not be able to participate in the CROS during the spring of 2013. By September 30, Granby Reservoir's content is expected to drop to 291,300 acre-feet. The most-probable runoff forecast assumes that some pumping from Farr Plant to Shadow Mountain will take place in August and throughout September. A decision about any possible alternative operational options will be made later in the spring.

East Slope - Colorado-Big Thompson Project

If the local climatic conditions produce a most-probable runoff event during WY 2013, irrigation, municipal and industrial demands for C-BT and Windy Gap Project water totaling 252,200 acre-feet should be expected. That volume includes water to be delivered from Horsetooth Reservoir and Carter Lake, as well as the Charles Hansen Feeder Canal Trifurcation and other sections of the C-BT conveyance system. This total includes potential Windy Gap Project deliveries of 18,900 acre-feet.

Pumping to Carter Lake will resume in late December, once the work at the Pole Hill Canal and other facilities ends. Once on, the pump is expected to run uninterrupted until late May. Under the most-probable runoff plan Carter Lake is expected to reach its maximum level for the water year sometime in May. Carter Lake's highest storage content for the year is expected to be approximately 109,500 acre-feet. After May, the reservoir content is expected to drop steadily due to higher water demands. Pumping should resume in September. Total volume pumped to Carter Lake this water year is expected to be 106,300 acre-feet. Under this plan a total of 105,600 acre-feet are expected to be delivered from Carter Lake this year. That volume includes Windy Gap Project water. By the end of the water year, the reservoir content should have dropped down to 48,500 acre-feet.

The Charles Hansen Feeder Canal 930 Section will undergo maintenance between late March and the middle of April. The dates have not been determined yet. But for a period of 2 or 3 weeks perhaps, the flow to Horsetooth Reservoir will drop significantly. Maintenance on the Charles Hansen Feeder Canal 550 Section will not begin until sometime in the fall, most likely September. The maintenance on that section of the canal normally lasts 2 weeks.

Deliveries of C-BT and Windy Gap water from the Charles Hansen Feeder Canal to the Big Thompson River are expected to total 32,100 acre-feet, with an additional 600 acre-feet delivered from Olympus Dam. Deliveries from the Charles Hansen Feeder Canal are made from the trifurcation located at the Big Thompson River Canyon Mouth using the Big Thompson Powerplant, the wasteway chute, or sometimes both simultaneously.

Under the most-probable runoff conditions, Horsetooth Reservoir will reach a storage content of 146,000 acre-feet by June, later dropping to 86,600 by September 31. The reservoir will be delivering 114,000 acre-feet of water in WY 2013.

Reasonable-Minimum Inflow Scenario

Green Mountain Reservoir

Green Mountain Reservoir's storage content for March 31 under the reasonable-minimum inflow forecast is expected to be 58,500 acre-feet. Under the reasonable-minimum runoff conditions the reservoir content will decline slowly during the late winter and early spring. The reservoir elevation could drop slightly below that target. By April 2013, the reservoir content will stabilize and perhaps rise above 59,600 acre-feet. After the start-of-fill the reservoir level is expected to rise rapidly. Under the reasonable-minimum runoff conditions, the reservoir is not expected to reach a physical fill this water year, or even reach the crest of the spillway. However, a paper fill should be expected for Green Mountain in WY 2013, based on the reasonable-minimum runoff forecast. Its storage content by the end of June is expected to be 96,700 acre-feet.

According to the reasonable-minimum runoff forecast, it appears at this time that Green Mountain Reservoir will not be able to participate in CROS this coming spring. A final decision will be made later in the spring. The CROS is an interagency program developed to enhance the spring peak flows along the 15-Mile-Reach of the Colorado River in an attempt to benefit endangered species of fish. The operational principle is to pass excess native inflow while continuing the process of filling the reservoir. Assuming the predicted inflow and releases materialize for August and September, Green Mountain's Reservoir storage content is projected to drop to approximately 77,200 acre-feet by the end of September.

If the coming spring conditions result in a reasonable-minimum runoff, the Denver and Colorado Springs Blue River Depletions are projected to be approximately 87,600 acre-feet in WY 2013.

Willow Creek Reservoir

Under the reasonable-minimum runoff conditions, pumping operations from Willow Creek Reservoir to Granby Reservoir should resume in late April 2013. As usual, the peak of the runoff is predicted for May. The Willow Creek Canal pumps will likely run during May and June also. Under such conditions the releases to the river should average 7 ft^3/s most of WY 2013, with perhaps higher releases between May and July, although nothing compared to the releases experienced in WY 2011. By the end of WY 2013, the Willow Creek Reservoir storage content should be approximately 9,000 acre-feet.

Lake Granby Reservoir

If the reasonable-minimum runoff conditions prevail over the Granby Reservoir drainage area, its reservoir storage content should be approaching a low point of approximately 182,400 acre-feet by the end of April 2013. Runoff is expected to begin in late April or early May. Native runoff along with the pumping operation from Willow Creek will not be sufficient to push the reservoir up very rapidly in May and June. Under the reasonable-minimum runoff, Granby Reservoir will only reach an elevation of approximately 8228.0 feet in June a content of 227,600 acre-feet. Given the low flows under the reasonable-minimum conditions, the Windy Gap pumps will potentially move only 7,000 acre-feet of water this year.

Under the reasonable-minimum runoff conditions there will not be a spill at Granby Reservoir this water year. Since the operational pool is not expected to fill under these conditions, Lake Granby will not be able to participate in CROS during the spring of 2013.

By September 30, Granby Reservoir's content is expected to drop to 139,700 acre-feet. The reasonable-minimum runoff forecast assumes that significant pumping from Farr Plant to Shadow Mountain will take place in August. The forecast assumes that 33,200 acre-feet will be moved from Granby to Shadow Mountain Reservoir that month. A decision about any possible alternative operational options will be made later in the spring.

East Slope - Colorado-Big Thompson Project

If the local climatic conditions produce a reasonable-minimum runoff event during WY 2013, irrigation, municipal and industrial demands for C-BT and Windy Gap Project water totaling 298,800 acre-feet should be expected. That volume includes water to be delivered from Horsetooth Reservoir and Carter Lake as well as the Charles Hansen Feeder Canal Trifurcation and other sections of the C-BT conveyance system. This total includes potential Windy Gap Project deliveries of 18,900 acre-feet.

Pumping to Carter Lake will resume in late December once the work at the Pole Hill Canal and other facilities ends. Once on, the pump is expected to run uninterrupted until late May. Under the reasonable-minimum runoff plan Carter Lake is expected to reach its maximum elevation for the water year sometime in late May or early June. Carter Lake will reach a storage content of approximately 109,500 acre-feet before its water surface level begins to drop due to higher water demands. Pumping could resume in July, August, and/or September, depending on the conditions at the time. Total volume pumped to Carter Lake in WY 2013 under this plan is expected to be 119,700 acre-feet. Also, under this plan, a total of 119,000 acre-feet are expected to be delivered from Carter Lake this year. That volume includes Windy Gap Project water. By the end of the water year, the reservoir content should drop down to 48,500 acre-feet.

The Charles Hansen Feeder Canal 930 Section will undergo maintenance between late March and the middle of April. The dates have not been determined yet. But for a period of 2 or 3 weeks, the flow to Horsetooth Reservoir will drop significantly. Maintenance on the Charles Hansen Feeder Canal 550 Section will not begin until sometime in the fall, most likely September. The maintenance on each section of the canal normally lasts 2 weeks.

Deliveries of C-BT and Windy Gap water from the Charles Hansen Feeder Canal to the Big Thompson River are expected to total 41,200 acre-feet under the reasonable-minimum plan, with an additional 1,000 acre-feet delivered from Olympus Dam. Deliveries from the Charles Hansen Feeder Canal are made from the trifurcation located at the Big Thompson River Canyon Mouth using the Big Thompson Powerplant, the wasteway chute, or sometimes both simultaneously.

Under the reasonable-minimum inflow conditions, Horsetooth Reservoir should reach a storage content of 135,300 acre-feet by June, later dropping to 88,000 by September 31. The reservoir will be delivering 137,300 acre-feet of water in WY 2013.

Reasonable-Maximum Inflow Scenario

Green Mountain Reservoir

Green Mountain Reservoir's storage content for March 31 under the reasonable-maximum inflow forecast is expected to be 58,500 acre-feet. Under the reasonable-maximum runoff conditions the reservoir content will decline slowly during the late winter and early spring. The reservoir elevation could be slightly above that target by the end of March, particularly if the snowpack is significantly above average. By April 2013, the reservoir content should begin to rise, and once the start-of-fill is declared the reservoir level is expected to rise rapidly. Under the reasonable-maximum runoff conditions the reservoir is expected to reach a physical fill this water year by early July.

Under to the reasonable-maximum runoff forecast, it appears likely that Green Mountain Reservoir will be able to participate in CROS this coming spring. A decision will be made later in the spring. The CROS is an interagency program developed to enhance the spring peak flows along the 15-Mile-Reach of the Colorado River in an attempt to benefit endangered species of fish. The operational principle is to pass excess native inflow while continuing the process of filling the reservoir.

Assuming the predicted inflow and releases materialize for August and September, Green Mountain's reservoir storage content is projected to drop to approximately 110,000 acre-feet by the end of September. If the coming spring conditions result in a reasonable-maximum runoff, the Denver and Colorado Springs Blue River Depletions are projected to be approximately 135,100 acre-feet during the WY 2013.

Willow Creek Reservoir

Under the reasonable-maximum runoff conditions, pumping operations from Willow Creek Reservoir to Granby Reservoir should begin in April and continue through July. As usual, the peak of the runoff is predicted for May. Under a reasonable-maximum runoff scenario, the releases to Willow Creek below the reservoir are expected to be higher during May and June than the regular 7 ft^3/sec, but not by much. The added flow will only bypass some of the runoff inflow. No pre-emptive releases are expected. The capacity of the outlet works should be sufficient to pass all the inflow without using the spillway. By the end of WY 2013, the Willow Creek Reservoir storage content could be as high as 9,000 acre-feet.

Lake Granby Reservoir

Given the reasonable-maximum runoff conditions over the Granby Reservoir drainage area, its reservoir storage content should be approaching a low point of approximately 195,000 acre-feet by sometime in April 2013. Runoff will be expected to begin in late April or early May. Even under the reasonable-maximum runoff conditions, with such a low starting content, native runoff will not be sufficient to push Granby's Reservoir level to its maximum capacity. Under the reasonable-maximum runoff, Granby Reservoir could reach an elevation of approximately 8274.00 feet or higher by August.

Given the high runoff and low reservoir levels under the reasonable-maximum conditions, the Windy Gap pumps should be pumping in April, May, and June. Total expected volume pumped from Windy Gap could be as much as 38,000 acre-feet.

Under the reasonable-maximum runoff conditions, Granby Reservoir will not physically fill in WY 2013. For that reason, the reservoir will not be able to participate in CROS operations this water year.

By September 30, Granby Reservoir's is expected to be holding 491,800 acre-feet. The reasonable-maximum runoff forecast assumes that very limited pumping from Farr Plant to Shadow Mountain will take place in May, June, July, and August, with only 5,300 acre-feet of water pumped in September 2013. Decisions about more definite operational options will be made later in the spring.

East Slope - Colorado-Big Thompson Project

If the local climatic conditions produce a reasonable-maximum runoff event during WY 2013, irrigation, municipal, and industrial, demands for C-BT and Windy Gap Project water totaling 176,200 acre-feet should be expected. That volume includes water to be delivered from Horsetooth Reservoir and Carter Lake, as well as the Charles Hansen Feeder Canal Trifurcation and other sections of the C-BT conveyance system. This total includes potential Windy Gap Project deliveries of 19,500 acre-feet.

Pumping to Carter Lake will resume late December 2012, once the work at the Pole Hill Canal and other facilities ends. Once on, the pump is expected to run uninterrupted until late April. Under the reasonable-maximum runoff plan Carter Lake is expected to reach its maximum elevation for the water year sometime in April. Carter Lake will reach a storage content of approximately 107,000 acre-feet before its water surface level begins to drop due to higher water demands. Under the reasonable-maximum runoff conditions, pumping is not expected to resume until WY 2014. Total volume pumped to Carter Lake this water year under this plan is expected to be 80,400 acre-feet. A total of 75,000 acre-feet or water is expected to be delivered from Carter Lake this year. That volume includes Windy Gap Project water. By the end of the water year, the reservoir's content should drop to 53,400 acre-feet.

The Charles Hansen Feeder Canal 930 Section will undergo maintenance between late March and the middle of April. The dates have not been determined yet. But for a period of 2 to 3 weeks, the flow to Horsetooth Reservoir will drop significantly. Maintenance on the Charles Hansen Feeder Canal 550 Section will not begin until sometime in the fall, most likely September. The maintenance on that section of the canal normally lasts 2 weeks.

Deliveries of C-BT and Windy Gap water from the Charles Hansen Feeder Canal to the Big Thompson River are expected to total 15,000 acre-feet under the reasonable-maximum plan, with an additional 400 acre-feet delivered from Olympus Dam. Deliveries from the Charles Hansen Feeder Canal are made from the trifurcation located at the Big Thompson River Canyon Mouth using the Big Thompson Powerplant, the wasteway chute, or sometimes both, simultaneously. Under the reasonable-maximum inflow conditions, Horsetooth Reservoir should reach a storage content of 140,000 acre-feet by May, later dropping to 96,900 by September 30. The reservoir will be delivering 80,800 acre-feet of water in WY 2013.

IRRIGATION REQUIREMENTS

The amount of water to be made available to the C-BT for irrigation will be determined by NCWCD. This determination will be subject to change by agreement throughout the remainder of the irrigation season. Changes may occur due to substantial changes in the prevailing conditions. Estimation of the irrigation requirements for the three inflow conditions was determined by analyzing actual use in similar runoff years.

Estimated supplemental irrigation deliveries from Green Mountain Reservoir to irrigators in the Colorado River Basin are included in the release from Green Mountain Reservoir, according to the "Operating Criteria for Green Mountain Reservoir."

MINIMUM REQUIRED RESERVOIR RELEASES

On January 19, 1961, the Secretary of the Interior established specific guidelines for water releases out of Lake Granby, which satisfy fish requirements. A release from Lake Granby of 20 ft^3/s is required from October through April of each year. During the remaining months of the year, the control point is almost 3 miles downstream from the dam at the YMCA gauging station.

Except in years of subnormal inflow, a flow of 75 ft^3/s during May-July period, 40 ft^3/s during August and 20 ft^3/s during September is required at this location downstream of Lake Granby. The flow during May-September period can be reduced if forecasts indicate that the inflow during the water year to Shadow Mountain Lake, Grand Lake, and Lake Granby (less the decreed rights in the reach of the Colorado River between Granby Dam and the mouth of the Fraser River) and the water capable of being pumped from Willow Creek Reservoir during that year, are 230,000 acre-feet or less.

According to the "Principles to Govern the Release of Water at Granby Dam to Provide Fishery Flows immediately Downstream in the Colorado River" signed by the Secretary of the Interior and Commissioner of the Bureau of Reclamation in 1961, the following reduction of fishery flows below Lake Granby will apply on the basis of a forecast to be made by the Bureau of Reclamation during the last week in April, using information from all available sources.

Forecast Inflow in Acre-Feet	Percentage Reduction in Minimum Release
220,000 - 230,000	15
210,000 - 220,000	20
195,000 - 210,000	25
Less than 195,000	30

Adjustments will be made in the reductions, when appropriate, based on revised forecasts and consideration of actual flows during May, June, and July. A copy of the document is included in the Standard Operating Procedures (SOPs) for Granby Dam and Reservoir, Appendix A, Exhibit 4.

Also according to the same guidelines, Willow Creek below Willow Creek Reservoir is not considered a fishery resource since an irrigation ditch a short distance below the dam generally uses the entire flow in the late summer months. In the Secretarial determination, no releases were provided to maintain Willow Creek as a live stream. However, a release of 7 ft^3/s or inflow (whichever is the lesser) from Willow Creek Reservoir is required between October 1 and April 30 to augment fishery flows in the Colorado River.

In accordance with the SOPs for Shadow Mountain Reservoir, Chapter 4, Section D, minimum releases from Shadow Mountain Lake of 35 ft^3/s during September and October, 45 ft^3/s during November and December, 20 ft^3/s from January through May, 50 ft^3/s in June and July, and 40 ft^3/s in August or inflow (whichever is the lesser) must be maintained in order to protect fish and wildlife in the Colorado River above Lake Granby.

The minimum release required out of Green Mountain Reservoir is controlled by senior adjudicated water rights downstream from the reservoir. Inflow to Green Mountain Reservoir is released as required to meet these downstream rights. Releases at all times are adequate for fish preservation.

The State of Colorado's Division of Wildlife, and the United States Fish and Wildlife Service have recommended the following water release schedule for Lake Estes. This schedule meets the flow requirements of native fish along the Big Thompson River.

Minimum Releases (ft^3/s)	Period
25	November 1 - April 15
50	April 16 - April 30
100	May 1 - May 15
125	May 16 - August 15
100	August 16 - August 31
75	September 1 - September 15
50	September 16 - October 31

Diversion of flows from the Big Thompson River at Lake Estes for power production is generally restricted to the May 15-September 15 period, since runoff during the remaining period usually is much less than the recommended minimum flows. Releases in excess of inflows are not required.

GREEN MOUNTAIN RESERVOIR OPERATIONS

Paragraph 6 of the October 5, 1955, Stipulation, in the decree for the Consolidated Cases Nos. 2782, 5016, and 5017 in the United States District Court for the District of Colorado (Blue River Decree), calls for periodic plans for the operation of Green Mountain Reservoir to be developed. The plans addressing this requirement are included as a part of this report.

Provisions guiding the operations of Green Mountain Reservoir are contained in the following documents:

Manner of Operation of Project Facilities and Auxiliary Features, Senate Document No. 80, 75th Congress, 1st Session

Consolidated Cases Nos. 2782, 5016, and 5017
October 12, 1955, Stipulation and Decree
April 16, 1964, Stipulation and Decree

Operating Policy for Green Mountain Reservoir, Colorado-Big Thompson Project, published in the Federal Register, Vol. 48, No. 247, December 22, 1983,

September 4, 1996, Stipulation and Agreement in Colorado Water Div. 5, Case No. 91CW247 (Orchard Mesa Check Case), and attached HUP Operating Criteria.

Operations will be consistent with the applicable provisions in these documents.

The general operations guided by these provisions are given below:

1. Winter operation (November-March)

   a. Bypass inflow to supply downstream vested senior rights.

   b. Make releases to replace water diverted or stored out of priority by the C-BT collection system, as required.

   c. Make releases for west slope irrigation and domestic uses per Green Mountain Operating Policy and the HUP Operating Criteria.

   d. Make releases for water service contracts pursuant to the Operating Policy.

   e. Maximize power generation, while maintaining:

      (1) Adequate storage to meet the anticipated needs under the guiding documents.

      (2) A minimum power head consistent with the integrated system power operations.

2. Operation during snowmelt period (April-July)
   a. Bypass inflow to supply downstream vested senior rights.

b. Make releases to replace water diverted or stored out of priority by the C-BT collection system, as required.

c. Make releases for west slope irrigation and domestic uses per Green Mountain Operating Policy and the HUP Operating Criteria.

d. Make releases for water service contracts pursuant to the Operating Policy.

e. Participate in the Coordinated Reservoir Operations effort to enhance peak flows for the Colorado River Endangered Fishes. Reduce releases from traditional levels before and after the peak flow period on the Colorado River in the Grand Junction area. During peak flow period, release the lesser of inflows or turbine capacity for approximately a 10-day period.

f. Fill without spilling to maximize power generation by utilizing the storage and power rights concurrently.

g. On or before June 30 each year, meet with Managing Entities established under the settlement of the Orchard Mesa Check Case to assess availability of surplus water in the Historic Users Pool (HUP).

- Confer with Managing Entities on a regular basis through the irrigation season to assess availability of surplus water in the Historic Users Pool (HUP).
- If a surplus condition is declared, make releases up to the amount of surplus, under agreements, to:
  - the Grand Valley Powerplant up to its need or capacity; then to
  - the Grand Valley under the Municipal Recreation contract in excess of that needed by the powerplant

j. Maximize power operation consistent with 1.e.

k. Make releases as outlined in the above referenced documents.[1]

3. Operation after snowmelt period (August-October)

a. Bypass inflow to supply downstream vested senior rights.

b. Make releases to replace water diverted or stored out of priority by the C-BT collection system, as required.

c. Make releases for west slope irrigation and domestic uses per Green Mountain Operating Policy and the HUP Operating Criteria.

d. Make releases for water service contracts pursuant to the Operating Policy.

1 By the use of these provisions for current operating purposes, the United States does not intend to imply any definition of rights and obligations. The order in which these criteria are listed does

g. Confer with Managing Entities on a regular basis through the irrigation season to assess availability of surplus water in the Historic Users Pool (HUP).
- If a surplus condition is declared, make releases up to the amount of surplus, under agreements, to:
    - the Grand Valley Powerplant up to its need or capacity; then to
    - the Grand Valley under the Municipal Recreation contract in excess of that needed by the powerplant

j. Maximize power operation consistent with 1.e.

k. Make releases as outlined in the above referenced documents.[2]

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[1] By the use of these criteria for current operating purposes, the United States does not intend to imply any definition of rights and obligations. The order in which these criteria are listed does not reflect any intended priority.

[2] By the use of these provisions for current operating purposes, the United States does not intend to imply any definition of rights and obligations. The order in which these criteria are listed does not reflect any intended priority.

GREEN MOUNTAIN HISTORIC USERS POOL AND THE ORCHARD MESA CHECK CASE SETTLEMENT

Background and Authority

The Orchard Mesa Check (Check) is a structure below the common afterbay of the Orchard Mesa Irrigation District (OMID) Pumping Plant and the federal Grand Valley Powerplant in the Grand Valley of Colorado. The operation of the Check provides the ability to raise the water level in the common afterbay to a level, which causes water to flow through the bypass channel and return to the Colorado River upstream of the Grand Valley Irrigation Company (GVIC) diversion dam.

Operation of the Check was determined to constitute an 'exchange' of water whereby water destined for the senior GVIC irrigation water rights is borrowed for pumping and hydroelectric power generation purposes and returned to GVIC for irrigation use. Operation of the Check influences the supply of water available to Grand Valley irrigation systems; to the Grand Valley Powerplant for power production; Green Mountain Reservoir releases; and the flow in the 15-Mile Reach of the Colorado River. The 15-Mile Reach is that section of the Colorado River from the GVIC diversion dam to the confluence of the Gunnison River and has been designated critical habitat by the Upper Colorado River Endangered Fish Recovery Program.

The Check has been operated on an informal basis without a decreed right since approximately 1926 to manage flows in the Colorado River for the benefit of the United States, Grand Valley Water Users Association (GVWUA), and OMID (Co-applicants). In the late 1980's, a hydropower development was proposed in a reach of the Colorado River between the Grand Valley Diversion Dam, the point where the exchange water is diverted, and the GVIC diversion dam where the exchange water is returned. The Co-applicants were concerned that a water right awarded for this development would have the ability to interfere with the exchange of water. In response to this potential threat to the continued operation of the exchange, the co-applicants filed an application in State Water Court on December 30, 1991, for approval of an exchange of water. This case (Water Division 5, Case No. 91CW247) was informally known as the Orchard Mesa Check Case. Resolution of the case resulted in a negotiated Stipulation and Agreement entered into the District Court, Water Division No. 5, State of Colorado, on September 4, 1996.

Overview of the Stipulated Settlement

The settlement contains two major components: the Stipulation and Agreement and the Green Mountain Reservoir Historic Users Pool Operating Criteria (Operating Criteria). The Operating Criteria further defines operation of the Green Mountain Reservoir Historic Users Pool (HUP) consistent with Senate Document 80 and the 1984 Operating Policy. The parts of the Stipulation and Agreement pertinent to the operation of the HUP are summarized below:

As part of the Stipulation and Agreement the Co-applicants and GVIC agree not to exercise their irrigation rights against any upstream HUP beneficiary provided that the Check is physically operable; there is at least 66,000 acre-feet of water in storage in the Green Mountain Reservoir HUP, or approved substitute storage reservoir, when Green Mountain Reservoir storage rights cease to be in priority; and the water rights for the Shoshone Powerplant continue to be exercised in a manner consistent with their historical operation. (Section 3.b. of the Stipulation and Agreement).

The Stipulation and Agreement also provides that the Bureau of Reclamation will declare surplus water which is in excess of the needs of HUP beneficiaries for a given water year. Water declared surplus might be delivered through agreements to beneficial uses in western Colorado. This is to be done in accordance with the provisions of the HUP Operating Criteria, which are summarized below:

Management of the HUP under the Operating Criteria

The management of the HUP is accomplished through the process defined in Sections 3.d. and 3.e. of the Operating Criteria. This process requires the development of this Annual HUP Operating Plan on or before June 30 of each year.

The Annual HUP Operating Plan is developed by the Bureau of Reclamation, in consultation with the Grand Valley Water Users Association, the Orchard Mesa Irrigation District, the Grand Valley Irrigation Company, the Division 5 Engineer, the Colorado Water Conservation Board and, Fish and Wildlife Service. These entities are collectively known as the 'Managing Entities'. The Managing Entities agree to make a good faith effort to develop an Annual HUP Operating Plan that is unanimously supported. However, the Bureau of Reclamation reserves the right to establish a release schedule, should unanimous consent be unattainable.

The Annual HUP Operating Plan is based upon actual HUP storage conditions; projected runoff forecasts; operational and climatological conditions; projected irrigation demands; and 15-Mile Reach flow needs. It is expressly recognized, however, that in some years, release of the entire HUP by the end of the irrigation season will not be necessary or possible.

On or before June 30 of each year, the Bureau of Reclamation assembles initial information on storage in the HUP and comparative runoff years. Based upon the information assembled, a meeting is held with the other Managing Entities. During this meeting, a review of the forecasts is analyzed, and initial determinations of the level of “checking” required to preserve water in the HUP, as well as any determination of water surplus to HUP beneficiaries’ needs are made.

The HUP operations are reviewed and modified by the Managing Entities as necessary to respond to changing conditions. Subsequent meetings or conference calls are held on an as needed basis to re-examine HUP storage conditions, runoff forecasts, climatological conditions, irrigation demands, 15-Mile Reach flow needs, and other operational conditions. Based upon this information, the Managing Entities adjust the checking. They also determine the water surplus for HUP beneficiary needs, as well as the release of such water.

During periods of below average river flows, review meetings or conference calls may be held as frequently as every week.

This mechanism provides a way to integrate management of releases from the HUP with operation of the Check to accomplish the purposes of the Operating Criteria. The mechanism is also used to integrate releases from the HUP with releases for the endangered fish from other reservoirs including Ruedi and Wolford Mountain.

OPERATION SKIM

Big Thompson River water in excess of the minimum requirements, as recommended by the State of Colorado Division of Wildlife and the United States Fish and Wildlife Service, is diverted at Olympus Dam into the Foothills System to be used for power generation. This operation is known as operation "skim." The amount diverted depends on the flow at the Big Thompson River and the tributaries above Lake Estes, C-BT water imported through the Adams Tunnel, and the capacity of the Foothills System.

The water taken from the Big Thompson River can be used for power generation immediately. It can also be held in storage and replaced to the river with water from other sections of the system, depending on the power requirements. In general, water taken from the Big Thompson River at a variable rate, on a given date, is returned to the river at a flat rate, on the following day. This operation indirectly benefits the tourist and fishing industries along the Big Thompson Canyon by attenuating and diverting high flows, and by maintaining a steady stream during the runoff season.

Operation "skim" and storage of surplus water from the Big Thompson River in C-BT reservoirs are managed according to the AOP and as prescribed by the ECAO Water Scheduling staff.

The skim operation of WY 2012 was limited by the low runoff, high demands for C-BT water, and the high flows through Adams Tunnel. A large portion of the C-BT system's capacity was occupied by C-BT water headed for Carter and Horsetooth Reservoirs, instead of skim water. Marys and Estes Powerplants benefited from the operation and produce above-average power generation. The plants were running at full capacity most of the runoff season. The movement of C-BT water also kept the Olympus Tunnel running full most of the spring and summer months. Pole Hill and Flatiron Powerplants also produced above-average power generation, but not thanks to any skim operations.

The Olympus Tunnel captured some skim water between May and June. Most of the skim operation benefiting power generation took place via the Dille Tunnel. The diversions through the Dille Tunnel kept the Big Thompson Powerplant generating power most of the season. The combination of C-BT water deliveries and Dille skim water kept the powerplant running from May through early September, almost uninterrupted.

It is expected that during WY 2013 the C-BT should have a successful skim operation, but it will depend on the snowpack and the demands for C-BT water during the spring and summer of 2013. Flatiron Powerplant's Unit #1 should be available for power generation by early winter 2012. The Unit #2 should follow later in the spring. Once both Flatiron Units become available, peaking-power operations will start, for the first time since the fall of 2007.

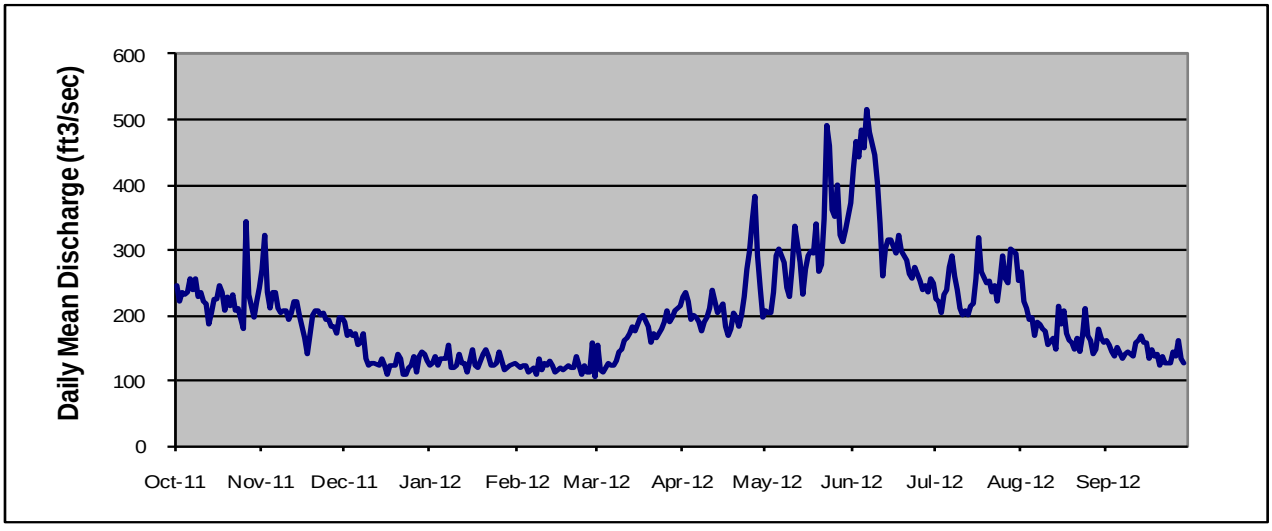
APPENDIX A – DAILY RECORDS

Appendix A (Table 1 of 38)
Green Mountain Reservoir, CO
Inflow

Location. --Lat 39°52'42", long 106°19'42", Summit County, Hydrologic Unit 14010002, on Green Mountain Dam, 13 miles southeast of Kremmling, Colorado, on the Blue River.
Gage. –Water level recorder with satellite telemetry. Elevation of gage is 7960 from topographic map.
Remarks.-- Inflow computed daily based on change in content from midnight to midnight, and on the 24-hour average releases from Green Mountain Reservoir. Recorders were operated from 01-Oct-2011 to 30-Sep-2012. Records are complete and fair, but the data has not been revised. This record consists of operational data which could be subject to future revisions and changes.

Inflow, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	246	269	190	122	123	154	227	206	423	226	268	160
2	221	324	169	125	118	116	235	203	466	221	220	154
3	235	235	175	137	124	111	222	204	441	204	209	145
4	232	212	167	124	124	119	194	234	485	233	193	138
5	234	236	172	132	112	127	201	292	455	237	198	151
6	254	235	155	132	115	123	195	303	517	273	169	134
7	240	209	158	156	119	123	188	279	481	290	188	139
8	256	205	172	119	110	131	175	242	464	259	185	142
9	227	206	133	120	133	143	188	226	447	238	178	139
10	237	209	124	124	116	146	195	273	402	210	176	136
11	220	194	126	142	125	160	210	335	340	201	154	159
12	218	205	125	125	124	165	239	309	260	208	164	161
13	186	220	122	125	131	171	204	280	302	199	146	168
14	202	220	132	113	124	181	212	231	316	214	216	159
15	225	201	123	129	114	177	216	270	314	218	185	156
16	225	183	108	146	117	187	184	292	307	255	207	134
17	244	166	123	124	120	197	170	299	296	319	172	148
18	235	141	124	121	117	200	178	296	322	268	163	136
19	207	200	124	129	119	183	205	341	298	250	158	142
20	226	208	139	139	122	158	197	266	293	252	146	123
21	215	208	133	146	121	171	183	278	283	236	166	138
22	233	200	107	138	118	164	199	346	263	245	145	127
23	208	205	107	122	136	171	227	491	255	221	169	127
24	211	194	121	122	110	181	269	460	274	254	209	126
25	179	193	121	125	122	190	298	362	254	290	167	144
26	345	184	136	144	112	206	344	352	238	257	163	137
27	232	184	113	128	112	189	384	400	245	250	142	160
28	214	173	137	116	156	198	291	323	235	302	146	133
29	196	195	143	120	107	209	241	312	255	299	180	127
30	221	195	141	122		211	198	329	250	296	166	119
31	242		130	125		214		371		253	157	
Min	179	141	107	113	110	111	170	203	235	199	142	119
Max	345	324	190	156	156	214	384	491	517	319	268	168
EOM	242	195	130	125	156	214	198	198	250	253	157	119
ac-ft	13988	12294	8416	7901	6719	10245	13203	18620	20154	15205	10900	8439

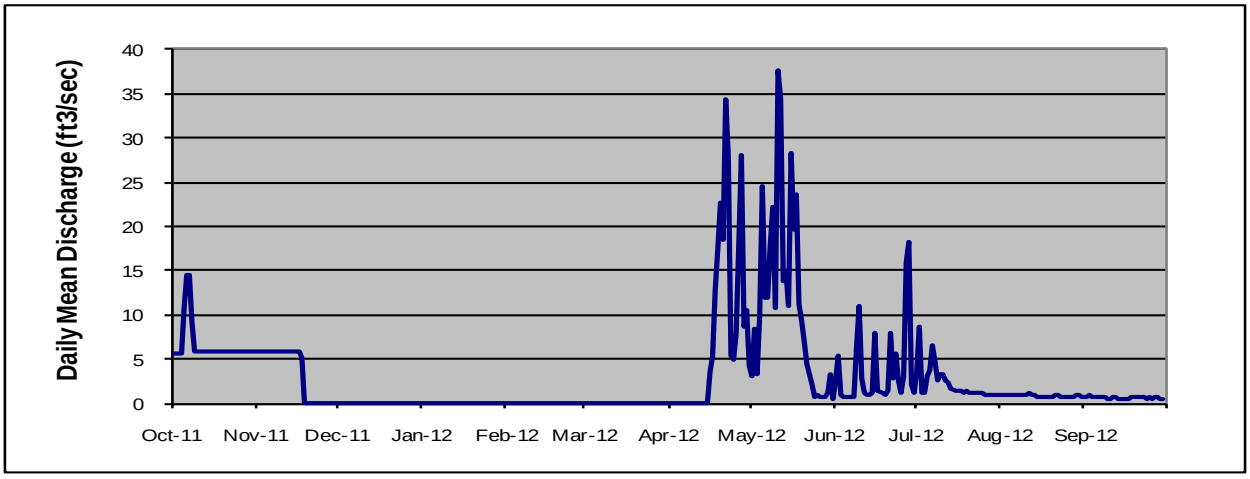


Appendix A (Table 2 of 38)
Elliot Creek Canal near Green Mountain Reservoir, CO

Location. --Lat 39°52'25", long 106°19'49", Summit County, Hydrologic Unit 14010002 , on left bank at concrete flume structure, and 1.1 mile west of Heeney.
Gage.--Water-stage recorder with satellite telemetry. Elevation of gage is 8050 ft from topographic map.
Remarks.—This is a diversion from Elliot Creek in the Blue River Basin to Green Mountain Reservoir. Recorder was operated in the early fall, and from16-Apr-2012 through 30-Sep-2012. Records are incomplete and only reliable while recorder was operated. This record contains operational data which could be subject to future revisions and changes. Official data is published by the United States Geological Survey.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6	6	0	0	0	0	0	3	3	3	1	1
2	6	6	0	0	0	0	0	8	5	9	1	1
3	6	6	0	0	0	0	0	3	1	1	1	1
4	6	6	0	0	0	0	0	10	1	1	1	1
5	11	6	0	0	0	0	0	24	1	3	1	1
6	15	6	0	0	0	0	0	12	1	4	1	1
7	15	6	0	0	0	0	0	12	1	7	1	1
8	9	6	0	0	0	0	0	18	1	5	1	1
9	6	6	0	0	0	0	0	22	6	3	1	1
10	6	6	0	0	0	0	0	11	11	3	1	1
11	6	6	0	0	0	0	0	38	3	3	1	1
12	6	6	0	0	0	0	0	34	1	3	1	1
13	6	6	0	0	0	0	0	14	1	2	1	1
14	6	6	0	0	0	0	0	15	1	2	1	1
15	6	6	0	0	0	0	0	11	1	1	1	1
16	6	6	0	0	0	0	3	28	8	1	1	1
17	6	6	0	0	0	0	5	20	1	1	1	1
18	6	5	0	0	0	0	13	24	1	1	1	1
19	6	0	0	0	0	0	18	11	1	1	1	1
20	6	0	0	0	0	0	23	9	1	1	1	1
21	6	0	0	0	0	0	18	7	8	1	1	1
22	6	0	0	0	0	0	34	5	3	1	1	1
23	6	0	0	0	0	0	28	2	6	1	1	1
24	6	0	0	0	0	0	5	1	3	1	1	1
25	6	0	0	0	0	0	5	1	1	1	1	1
26	6	0	0	0	0	0	8	1	3	1	1	1
27	6	0	0	0	0	0	28	1	16	1	1	1
28	6	0	0	0	0	0	9	1	18	1	1	1
29	6	0	0	0	0	0	10	1	2	1	1	1
30	6	0	0	0		0	4	3	1	1	1	0
31	6		0	0		0		1		1	1	
Min	6	0	0	0	0	0	0	1	1	1	1	0
Max	15	6	0	0	0	0	34	38	18	9	1	1
EOM	6	0	0	0	0	0	4	4	1	1	1	0
ac-ft	410	209	0	0	0	0	421	694	219	134	50	37

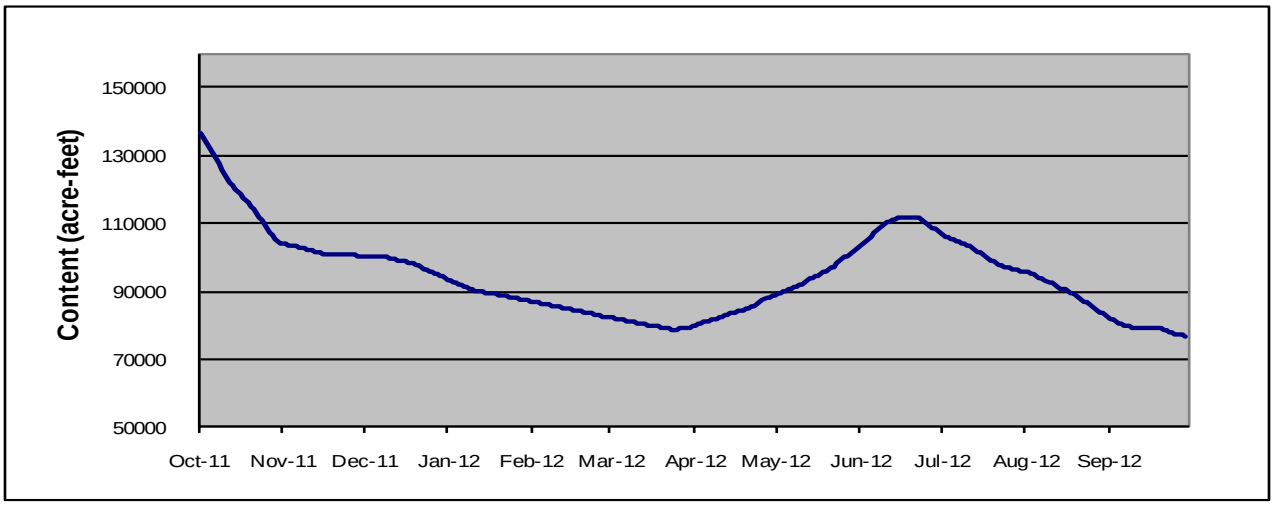


Appendix A (Table 3 of 38)
Green Mountain Reservoir, CO
Storage

Location. --Lat 39°52'42", long 106°19'42", Summit County, Hydrologic Unit 14010002, on Green Mountain Dam, 13 miles southeast of Kremmling, Colorado, on the Blue River.
Gage. –Water level recorder with satellite telemetry. Elevation of gage is 7960 from topographic map.
Remarks.--Reservoir is formed by an earth-fill dam. Construction completed in 1943. Impoundment began on 16-Nov-1942. Green Mountain Reservoir provides storage used for replacement water of the Colorado-Big Thompson Project diversions. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Maximum capacity is 153,639 acre-feet at elevation 7950.00 ft, with 146,779 acre-feet of active capacity. Records are complete and fair, but the data has not been revised. This record consists of operational data which could be subject to future revisions and changes.

Storage, Acre-Feet, 2400-hour Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	136603	103846	100447	93488	86983	82260	80041	89190	103117	106543	95937	81963
2	135228	103749	100400	93147	86814	82085	80362	89448	103862	106114	95633	81490
3	133885	103587	100384	92821	86658	81895	80656	89709	104574	105737	95299	81004
4	132569	103393	100353	92465	86503	81733	80897	90028	105360	105327	94924	80576
5	131240	103247	100305	92127	86321	81584	81152	90433	106114	104999	94564	80282
6	129941	103101	100226	91790	86139	81422	81395	90868	106959	104720	94114	80028
7	128611	102909	100132	91497	85957	81260	81625	91263	107739	104526	93666	79773
8	127327	102702	100053	91146	85748	81111	81828	91585	108476	104283	93177	79535
9	125995	102494	99895	90795	85608	80937	82057	91878	109166	104008	92717	79284
10	124693	102302	99724	90505	85440	80736	82301	92244	109773	103652	92302	79205
11	123342	102079	99553	90288	85300	80549	82573	92747	110267	103263	91834	79258
12	122146	101871	99382	90028	85160	80389	82901	93206	110608	102814	91395	79310
13	121107	101680	99210	89825	85022	80255	83161	93606	110966	102271	90970	79363
14	120178	101504	99055	89651	84856	80134	83435	93919	111239	101728	90737	79403
15	119294	101299	98883	89506	84676	79987	83709	94279	111513	101173	90448	79429
16	118411	101094	98681	89405	84510	79854	83929	94684	111702	100699	90158	79416
17	117590	100983	98510	89248	84344	79747	84123	95119	111771	100337	89695	79429
18	116752	100841	98339	89090	84178	79641	84330	95542	111858	99818	89219	79429
19	115868	100810	98123	88947	84012	79509	84607	96028	111909	99241	88732	79258
20	114968	100810	97847	88818	83846	79324	84883	96407	111944	98790	88246	78980
21	113989	100810	97493	88704	83681	79165	85132	96787	111858	98293	87733	78703
22	112979	100794	97094	88561	83517	78993	85412	97309	111444	97878	87125	78399
23	111875	100778	96696	88389	83367	78875	85748	98108	110915	97478	86587	78112
24	110779	100731	96316	88232	83175	78809	86167	98837	110421	97171	86083	77811
25	109553	100684	95937	88088	83011	78822	86644	99382	109892	96955	85496	77550
26	108544	100636	95587	87960	82833	78888	87210	99895	109318	96711	84897	77302
27	107390	100573	95194	87790	82655	78980	87832	100494	108779	96453	84289	77184
28	106311	100510	94849	87606	82559	79112	88289	100968	108224	96301	83791	77041
29	105393	100494	94519	87436	82368	79271	88647	101409	107689	96149	83339	76886
30	104688	100479	94189	87281		79469	88918	101887	107141	96058	82847	76719
31	104170		93844	87139		79733		102446		96012	82409	
Min	104170	100479	93844	87139	82559	78809	80041	89190	103117	96012	82409	76719
Max	136603	103846	100447	93488	86983	82260	88918	102446	111944	106543	95937	81963
EOM	104170	100479	93844	87139	82559	79733	88918	88918	107141	96012	82409	76719

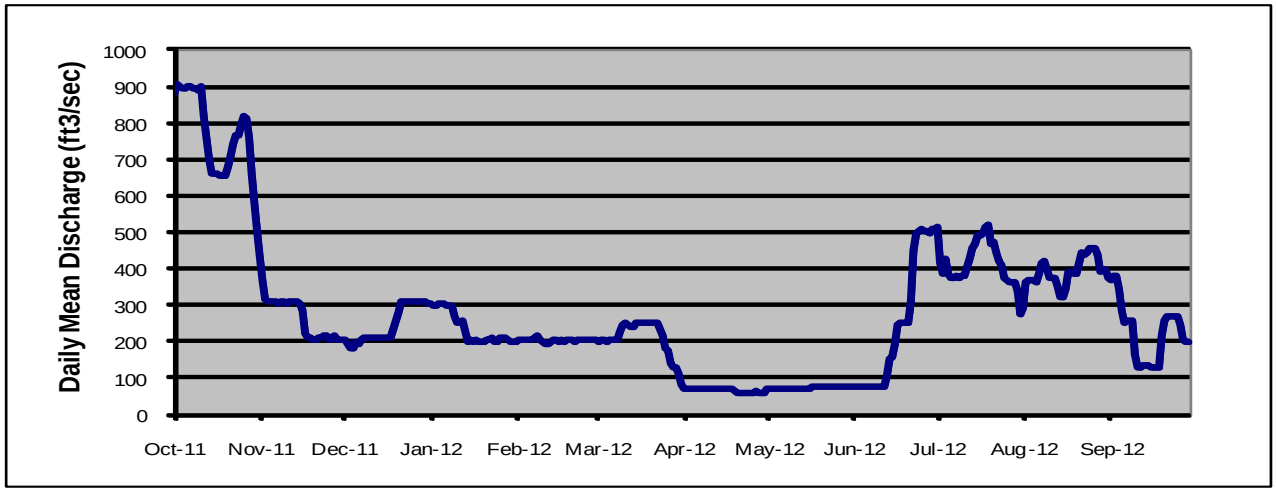


Appendix A (Table 4 of 38)
Blue River below Green Mountain Reservoir, CO

Location.--Lat 39°52'49", long 106°20'00", Summit County, Hydrologic Unit 14010002, on left bank 0.3 miles upstream from Elliot Creek, 0.3 miles downstream from Green Mountain Reservoir and 13 miles southeast of Kremmling.
Gage.-- Water-stage recorder with satellite telemetry. Datum of gage is 7682.66 feet (levels by U.S. Bureau of Reclamation).
Remarks.--Drainage area is 599 mi^2 including 15.3 mi^2 of Elliot Creek above the diversion for Elliot Creek Feeder Canal. Flow regulated by Green Mountain Reservoir since 1942. Diversions for irrigation of 5,000 acres upstream from station. Transmountain diversions upstream from station. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Records are complete and reliable, but the data has not been revised. This record consists of operational data which could be subject to future revisions and changes. Official record is published by the United States Geological Survey.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	882	432	206	302	201	202	72	69	74	512	293	370
2	906	367	193	296	203	204	72	73	74	415	365	383
3	902	317	183	301	202	206	73	73	74	386	366	379
4	894	310	183	303	202	201	72	73	74	425	366	345
5	897	310	196	302	204	202	72	73	74	385	364	285
6	898	308	195	301	207	205	72	73	74	374	384	253
7	903	306	206	297	211	205	72	73	75	374	413	257
8	895	309	211	297	216	206	72	73	75	377	420	257
9	895	311	213	297	204	230	72	73	75	377	396	257
10	887	305	210	270	199	247	72	73	75	379	373	164
11	901	307	212	251	196	254	73	73	75	383	376	131
12	821	309	212	257	194	246	73	73	75	424	374	131
13	702	310	209	227	200	238	73	73	107	456	353	133
14	660	309	211	201	206	242	73	73	154	470	324	133
15	660	305	210	202	205	251	73	73	158	489	320	132
16	660	287	210	196	201	254	73	73	194	493	344	131
17	657	222	209	203	203	251	72	73	243	495	393	131
18	657	213	210	200	201	254	73	73	253	515	389	130
19	653	209	232	201	203	249	64	74	252	523	385	219
20	680	206	278	202	204	251	58	74	252	469	387	257
21	708	208	311	204	204	251	58	74	310	473	413	270
22	742	208	309	207	201	251	58	74	448	444	447	271
23	765	213	308	209	207	231	58	74	499	422	440	268
24	764	218	312	199	206	214	58	74	502	409	443	269
25	797	217	312	197	205	184	58	74	508	372	455	267
26	820	205	312	208	202	173	58	74	506	367	453	246
27	813	216	312	212	202	142	62	74	500	365	438	203
28	758	205	311	208	205	131	61	74	499	365	394	200
29	659	203	309	206	203	129	61	74	511	364	398	201
30	576	203	308	200		111	61	74	509	341	398	201
31	503		303	196		81		74		276	376	
Min	503	203	183	196	194	81	58	69	74	276	293	130
Max	906	432	312	303	216	254	73	74	511	523	455	383
EOM	503	203	303	196	205	81	61	61	509	276	376	201
ac-ft	47355	15932	15039	14562	11272	12860	3998	4497	14456	25578	23837	13611



Appendix A (Table 5 of 38)
Willow Creek Reservoir, CO

Location. -- Lat 40°08'52", long 105°56'28", Grand County, Hydrologic Unit 14010001, at Willow Creek Dam, 4 miles north of Granby, Colorado, on Willow Creek, a tributary of the Colorado River.
Gage.— Water level recorder with satellite telemetry. Elevation of gage is 8130 from topographic map.
Remarks.—Inflow computed daily using change in content from midnight to midnight, plus the 24-hour average releases through the Willow Creek Pump Canal and the reservoir outlet works. Recorders were operated from 01-Oct-2011 to 30-Sep-2012. Records are complete and reliable, but the data has not been revised. This record consists of operational data which could be subject to future revisions and changes.

Inflow, Cubic Feet per Second, Daily Mean Values

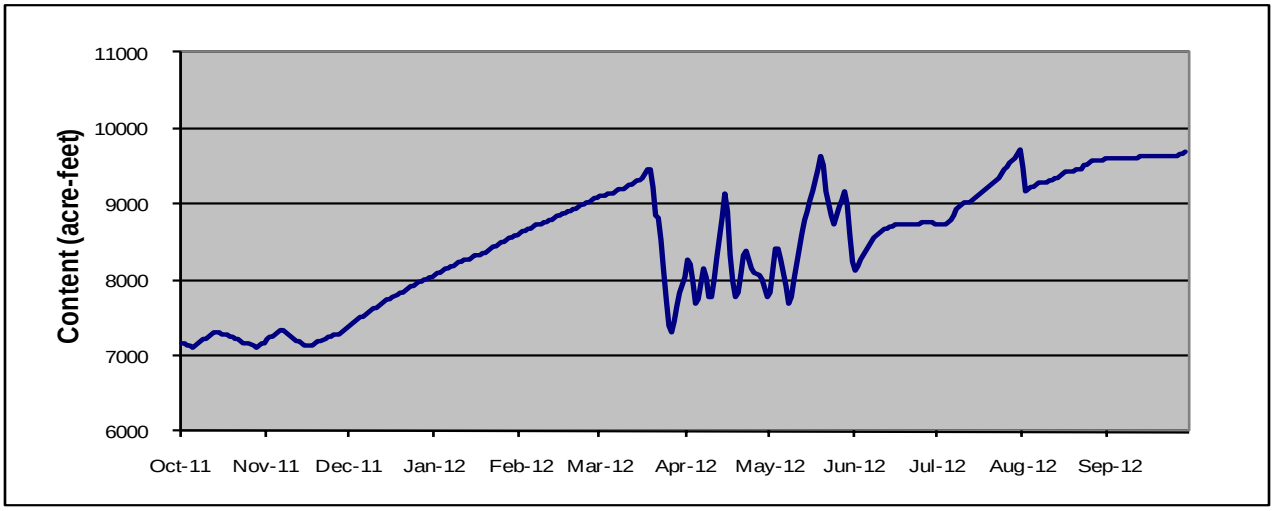
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	37	38	23	17	20	17	122	178	81	22	24	17
2	37	27	19	17	16	13	113	159	70	21	36	14
3	29	21	23	17	17	14	107	160	74	18	16	21
4	33	29	21	16	11	15	104	153	69	20	20	14
5	36	32	21	17	16	13	114	163	67	28	19	14
6	32	25	12	14	13	16	107	161	65	39	20	13
7	36	30	19	19	18	19	106	155	61	45	20	12
8	35	30	18	17	13	12	111	141	57	53	23	13
9	34	21	18	17	16	14	109	139	55	39	16	11
10	36	23	19	16	16	17	119	133	56	34	15	12
11	37	23	18	16	16	19	131	122	50	28	19	11
12	35	27	17	16	15	17	145	121	46	25	16	18
13	46	29	17	15	17	19	147	116	45	24	13	19
14	45	25	20	16	16	24	142	104	45	25	22	16
15	34	27	21	17	14	25	161	106	43	24	17	13
16	32	24	17	13	16	25	142	104	42	25	14	12
17	35	18	19	14	16	31	129	100	42	22	15	12
18	35	26	19	15	15	37	131	102	39	23	12	12
19	29	27	19	17	18	27	131	115	37	20	14	13
20	31	26	18	16	15	20	137	112	36	22	15	11
21	32	24	20	19	15	25	127	104	27	20	14	10
22	30	25	18	18	15	32	140	103	27	24	16	10
23	28	25	17	16	19	32	159	109	28	22	25	10
24	25	24	17	20	14	44	188	126	25	26	22	11
25	31	26	17	17	15	50	191	100	27	34	18	11
26	42	21	17	15	15	63	208	97	27	31	19	15
27	26	20	17	19	16	83	231	88	27	27	13	17
28	15	22	15	16	18	84	218	84	27	26	17	20
29	25	23	15	18	14	97	195	78	25	27	21	13
30	28	24	18	17		96	182	80	26	33	13	15
31	28		16	15		110		84		27	16	
Min	15	18	12	13	11	12	104	78	25	18	12	10
Max	46	38	23	20	20	110	231	178	81	53	36	21
EOM	28	24	16	15	18	110	182	182	26	27	16	15
ac-ft	2004	1512	1119	1013	875	2197	8605	7326	2663	1689	1107	817

Appendix A (Table 6 of 38)
Willow Creek Reservoir, CO
Storage

Location. –-Lat 40° 08’52”, long 105° 56’28”, Grand County, Hydrologic Unit 14010001, at Willow Creek Dam, 4 miles north of Granby, Colorado, on Willow Creek, a tributary of the Colorado River.
Gage.— Water level recorder with satellite telemetry. Elevation of gage is 8130 from topographic map.
Remarks.—Reservoir is formed by an earth-fill dam. Construction completed in 1953. Impoundment began on April 2, 1953. Willow Creek Reservoir stores water from Willow Creek for diversion to Granby Reservoir via the Willow Creek Canal. Maximum capacity is 10,600 acre-feet at elevation 8,130.00 ft, with 9,100 acre-feet of active capacity between elevations 8077.00 and 8130.00 feet. Recorder was operated from 01-Oct 2011 to 30-Sep-2012. Record is complete and fair, but the data has not been revised. This record consists of operational data which could be subject to future revisions and changes.

Storage, Acre-Feet, 2400-hour Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	7169	7215	7404	8064	8624	9099	8258	7821	8125	8744	9496	9598
2	7160	7239	7428	8083	8642	9109	8219	8118	8193	8744	9173	9598
3	7137	7249	7459	8102	8659	9123	7963	8417	8270	8744	9192	9612
4	7124	7275	7488	8118	8667	9136	7700	8420	8333	8744	9215	9612
5	7116	7305	7514	8137	8685	9147	7750	8258	8395	8761	9240	9612
6	7126	7324	7525	8149	8698	9162	7947	8093	8452	8804	9267	9612
7	7154	7324	7549	8171	8720	9184	8140	7909	8502	8859	9283	9612
8	7181	7311	7572	8190	8731	9192	8041	7693	8544	8929	9288	9612
9	7207	7279	7594	8207	8749	9202	7771	7771	8579	8968	9291	9609
10	7235	7251	7616	8224	8766	9221	7768	8000	8617	8994	9305	9606
11	7264	7224	7639	8242	8784	9242	8012	8212	8644	9009	9326	9606
12	7292	7204	7659	8258	8800	9261	8285	8425	8664	9020	9342	9620
13	7320	7190	7680	8275	8817	9283	8562	8627	8682	9035	9356	9631
14	7320	7166	7705	8292	8835	9313	8827	8779	8698	9067	9383	9640
15	7301	7145	7732	8311	8848	9326	9134	8916	8710	9099	9402	9640
16	7284	7120	7752	8323	8866	9348	8921	9048	8720	9139	9416	9640
17	7277	7120	7775	8336	8885	9394	8321	9179	8731	9173	9430	9640
18	7271	7141	7798	8351	8898	9451	7991	9310	8733	9207	9435	9640
19	7251	7164	7821	8368	8918	9474	7768	9468	8733	9234	9441	9642
20	7237	7183	7842	8385	8934	9224	7830	9620	8733	9264	9449	9642
21	7222	7200	7867	8408	8950	8835	8064	9504	8728	9291	9457	9640
22	7207	7218	7888	8429	8965	8817	8323	9165	8728	9326	9471	9637
23	7187	7237	7906	8446	8986	8521	8375	8838	8733	9356	9504	9634
24	7162	7254	7925	8469	8999	8135	8263	8720	8738	9394	9529	9634
25	7150	7271	7944	8489	9015	7748	8159	8846	8749	9449	9545	9634
26	7156	7279	7963	8504	9030	7387	8086	8963	8751	9496	9561	9645
27	7133	7286	7981	8527	9048	7318	8057	9062	8751	9534	9567	9659
28	7110	7309	7995	8544	9067	7468	8000	9157	8751	9575	9578	9676
29	7126	7341	8010	8564	9081	7646	7900	8983	8749	9614	9589	9682
30	7150	7372	8029	8584		7824	7771	8602	8744	9668	9589	9690
31	7171		8045	8599		8029		8224		9707	9595	
Min	7110	7120	7404	8064	8624	7318	7700	7693	8125	8744	9173	9598
Max	7320	7372	8045	8599	9067	9474	9134	9620	8751	9707	9595	9690
EOM	7171	7372	8045	8599	9067	8029	7771	7771	8744	9707	9595	9690



Appendix A (Table 7 of 38)
Willow Creek below Willow Creek Reservoir, CO
Discharge

Location.--Lat 40°08'50", long 105°56'16", Grand County, Hydrologic Unit 14010001, at Willow Creek Dam, 4 miles north of Granby, Colorado, on Willow Creek, a tributary of the Colorado River.
Gage.--Water-stage recorder with satellite telemetry. Elevation of gage is 8040 feet from topographic map.
Remarks.-- Drainage area is 127 square miles. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Records are complete and reliable. The official record is published by the Division of Water Resources, State of Colorado. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

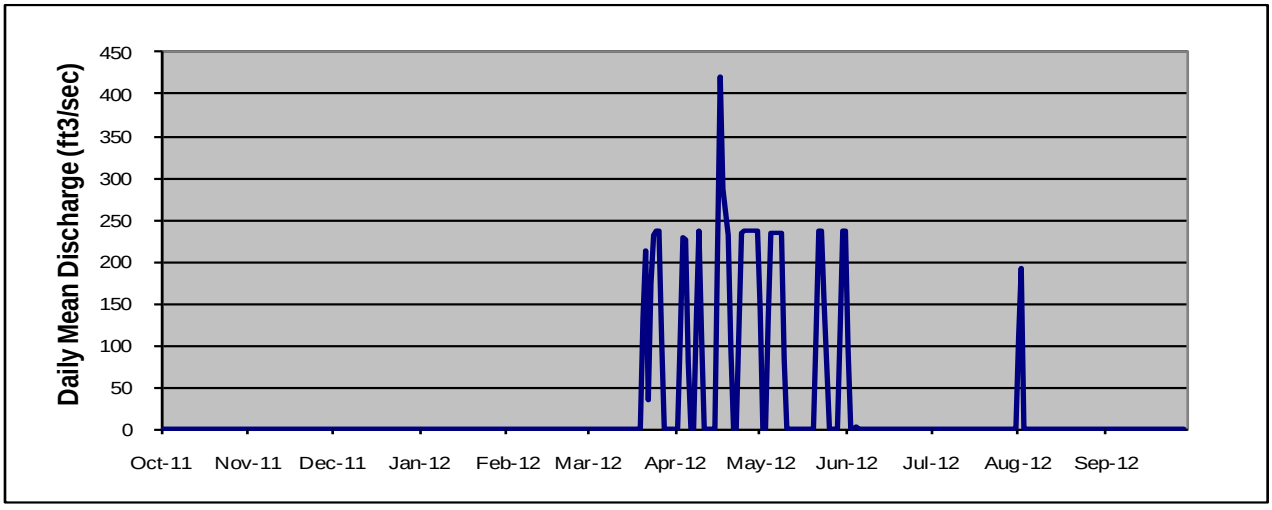
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	40	16	7	7	7	7	7	7	33	17	5	11
2	40	15	7	7	7	7	7	7	33	15	5	10
3	39	16	7	7	7	7	7	7	33	15	5	10
4	39	16	7	7	7	7	7	7	33	15	4	10
5	40	16	7	7	7	7	7	7	33	14	4	10
6	26	16	7	8	7	7	7	7	33	14	4	11
7	21	30	7	7	7	7	7	12	33	14	12	10
8	21	37	7	7	7	7	7	13	32	15	18	10
9	21	36	7	7	7	7	7	13	33	15	11	10
10	21	36	7	7	7	7	7	13	33	15	6	10
11	21	36	7	7	7	8	7	13	33	15	5	10
12	21	36	7	7	7	8	7	13	33	15	5	10
13	31	36	7	7	7	8	7	13	33	11	5	10
14	43	36	7	7	7	8	7	26	33	3	6	10
15	42	36	7	7	7	7	7	33	33	3	6	10
16	38	36	7	7	7	7	7	33	33	4	6	10
17	38	18	7	7	7	8	7	33	33	4	6	10
18	38	16	7	7	7	7	7	34	33	3	6	10
19	38	16	7	7	7	7	7	36	33	3	6	10
20	38	16	7	7	7	7	7	36	30	4	6	10
21	38	16	7	7	7	7	8	35	24	4	6	10
22	38	16	7	7	7	7	7	33	20	4	6	10
23	38	16	7	7	7	7	7	33	19	5	6	10
24	38	16	7	7	7	7	7	33	16	5	6	9
25	38	16	7	7	7	7	7	33	16	5	6	9
26	38	16	7	7	7	7	7	33	20	5	6	10
27	38	16	7	7	7	8	7	33	21	5	6	10
28	26	10	7	7	7	7	7	33	22	5	9	10
29	16	7	7	7	7	7	7	33	22	5	11	10
30	16	7	7	7		7	7	33	21	5	12	10
31	16		7	7		7		33		5	12	
Min	16	7	7	7	7	7	7	7	16	3	4	9
Max	43	37	7	8	7	8	8	36	33	17	18	11
EOM	16	7	7	7	7	7	7	7	21	5	12	10
ac-ft	1966	1287	425	436	384	445	421	1444	1693	527	436	600

Appendix A (Table 8 of 38)
Willow Creek Pump Canal, CO
Discharge

Location. --Lat 40°08'39", long 105°54'10", Grand County, Hydrologic Unit 14010001, at Willow Creek Pump Canal, 4 miles north of Granby, Colorado, on Willow Creek a tributary of the Colorado River.
Gage.— Water-stage recorder with satellite telemetry at 15 foot Parshall Flume. Elevation of gage is 8300 feet from topographic map.
Remarks.—Canal is used to divert water from Willow Creek Reservoir to Granby Reservoir. Diversions are seasonal, mainly during late spring and early summer. Construction completed in 1953. Length of the canal is 3.4 miles. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Records are complete and reliable, but the data has not been revised. This record consists of operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0	0	0	142	94	0	107	0
2	0	0	0	0	0	0	111	0	0	0	193	0
3	0	0	0	0	0	0	228	0	0	0	0	0
4	0	0	0	0	0	0	227	130	2	0	0	0
5	0	0	0	0	0	0	80	233	0	0	0	0
6	0	0	0	0	0	0	0	233	0	0	0	0
7	0	0	0	0	0	0	0	233	0	0	0	0
8	0	0	0	0	0	0	126	233	0	0	0	0
9	0	0	0	0	0	0	236	83	0	0	0	0
10	0	0	0	0	0	0	111	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	215	0	0	0	0	0
17	0	0	0	0	0	0	422	0	0	0	0	0
18	0	0	0	0	0	0	288	0	0	0	0	0
19	0	0	0	0	0	0	233	0	0	0	0	0
20	0	0	0	0	0	132	95	0	0	0	0	0
21	0	0	0	0	0	213	0	115	0	0	0	0
22	0	0	0	0	0	33	0	237	0	0	0	0
23	0	0	0	0	0	173	115	237	0	0	0	0
24	0	0	0	0	0	231	235	150	0	0	0	0
25	0	0	0	0	0	236	236	0	0	0	0	0
26	0	0	0	0	0	236	236	0	0	0	0	0
27	0	0	0	0	0	108	236	0	0	0	0	0
28	0	0	0	0	0	0	237	0	0	0	0	0
29	0	0	0	0	0	0	237	115	0	0	0	0
30	0	0	0	0		0	236	237	0	0	0	0
31	0		0	0		0		237		0	0	
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	236	422	237	94	0	193	0
EOM	0	0	0	0	0	0	236	236	0	0	0	0
ac-ft	12	12	12	12	11	2701	8192	5178	190	0	594	3

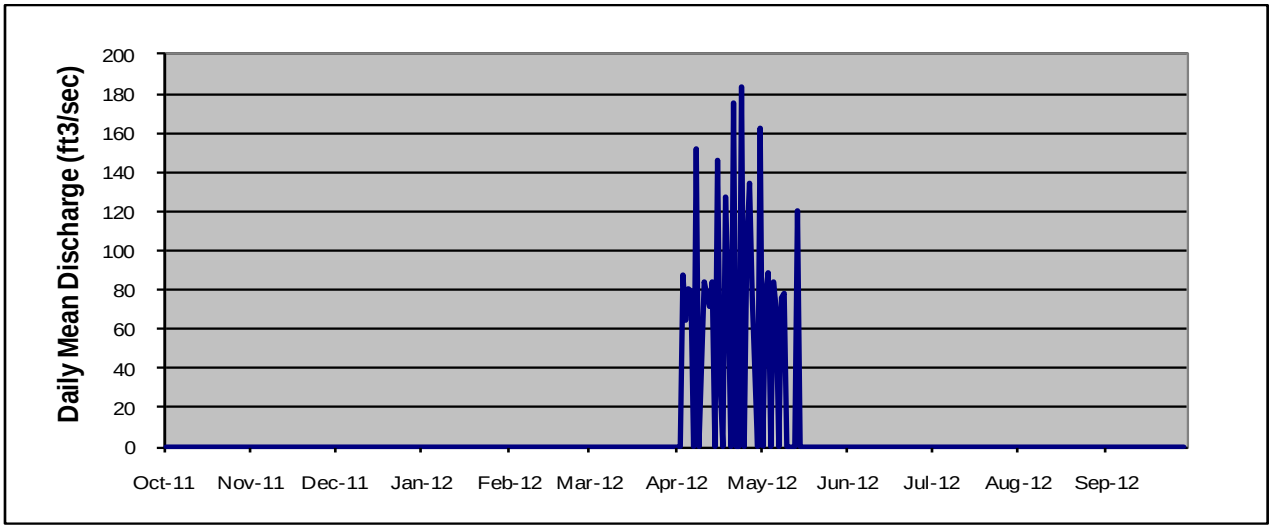


Appendix A (Table 9 of 38)
Windy Gap Pumping Plant, CO

Location. --Lat 40°06'24", long 105°58'48", Grand County, Hydrologic Unit 14010001, 5.5 miles northeast of Granby, Colorado, on the Colorado River.
Gage.-- Reading taken directly from the pumps. Elevation of the pumping plant is 7823 from topographic map.
Remarks.— Water is pumped from Windy Gap Reservoir to Granby Reservoir. Water is stored at Granby Reservoir before delivery through Adams Tunnel. Data was provided by Farr Pumping Plant operators each morning. Data was collected from 01-Oct-2011 to 30-Sep-2012. Records are complete and reliable, but the data has not been revised. This record consists of operational data which could be subject to future revisions and changes.

Windy Gap Pump Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	77	0	0	0	0
3	0	0	0	0	0	0	88	89	0	0	0	0
4	0	0	0	0	0	0	64	0	0	0	0	0
5	0	0	0	0	0	0	81	84	0	0	0	0
6	0	0	0	0	0	0	79	70	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	152	76	0	0	0	0
9	0	0	0	0	0	0	0	78	0	0	0	0
10	0	0	0	0	0	0	84	0	0	0	0	0
11	0	0	0	0	0	0	77	0	0	0	0	0
12	0	0	0	0	0	0	71	0	0	0	0	0
13	0	0	0	0	0	0	84	0	0	0	0	0
14	0	0	0	0	0	0	0	121	0	0	0	0
15	0	0	0	0	0	0	146	0	0	0	0	0
16	0	0	0	0	0	0	31	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	128	0	0	0	0	0
19	0	0	0	0	0	0	77	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	176	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	184	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	103	0	0	0	0	0
27	0	0	0	0	0	0	134	0	0	0	0	0
28	0	0	0	0	0	0	77	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0		0	163	0	0	0	0	0
31	0		0	0		0		0		0	0	
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	184	121	0	0	0	0
EOM	0	0	0	0	0	0	163	163	0	0	0	0
ac-ft	0	0	0	0	0	0	3958	1178	0	0	0	0

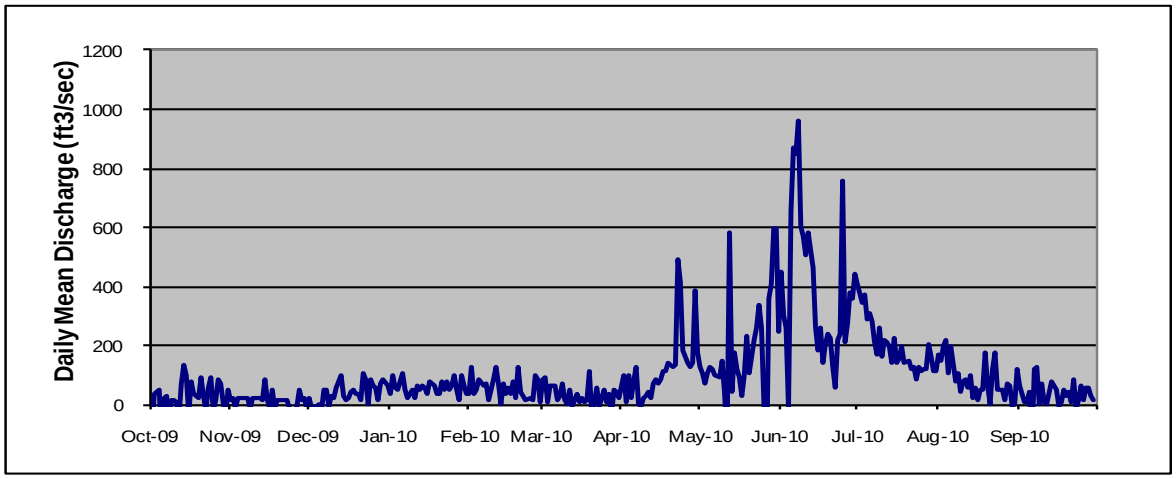


Appendix A (Table 10 of 38)
Granby Reservoir, CO
Inflow

Location. --Lat 40°08'54", long 105°51'48", Grand County, Hydrologic Unit 14010001, on Granby Dam, 5.5 miles northeast of Granby, Colorado, on the Colorado River.
Gage.-- Water level recorder with satellite telemetry. Elevation of gage is 8300 from topographic map.
Remarks.-- Inflow computed daily based on change in content from midnight to midnight, and on the average daily releases through the reservoir outlet works. Recorders were operated from 01-Oct-2011 to 30-Sep-2012. Records are complete, but the data has not been revised. This record consists of operational data which could be subject to future revisions and changes.

Inflow, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	40	129	16	114	59	178	167	171	288	210	135	95
2	139	68	-18	24	82	46	225	153	441	100	69	44
3	72	48	51	104	24	56	110	220	306	122	74	10
4	132	6	16	32	14	108	159	177	429	179	46	41
5	73	48	-18	58	127	40	125	327	421	295	66	87
6	74	-39	-18	55	-34	43	144	311	390	219	136	9
7	-8	60	51	137	51	24	103	296	289	269	10	44
8	107	18	16	10	18	107	107	192	400	263	56	53
9	-1	39	-15	64	78	-106	137	293	355	181	125	-14
10	71	-25	-18	64	63	124	123	288	308	161	31	46
11	127	17	85	53	20	66	212	311	190	228	21	127
12	23	130	-18	59	36	40	180	285	181	94	69	79
13	97	0	50	20	85	37	175	268	283	151	78	69
14	30	22	-15	77	17	81	195	187	218	219	-17	25
15	95	2	15	57	67	39	160	277	238	101	-10	77
16	105	22	16	58	34	76	84	343	270	114	48	28
17	139	26	36	29	87	42	79	298	238	138	71	74
18	-14	29	16	31	0	164	162	353	267	135	10	35
19	-10	50	52	58	101	9	149	406	173	127	115	37
20	62	51	16	27	16	62	89	337	204	86	10	-8
21	59	51	50	96	163	63	98	309	194	137	17	15
22	10	16	45	70	-2	29	176	290	220	140	60	49
23	73	45	24	73	97	74	79	457	193	66	134	22
24	-8	1	16	15	64	116	122	459	173	254	-19	67
25	193	50	13	70	31	117	227	336	179	160	32	58
26	289	-18	15	54	47	116	260	382	151	202	15	1
27	1	16	81	26	33	86	345	391	196	198	63	34
28	10	-18	22	33	106	105	212	237	157	47	30	61
29	57	50	38	37	23	124	147	331	125	147	90	52
30	-32	-18	100	63		193	125	327	186	51	14	0
31	56		-58	48		108		368		86	-38	
Min	-32	-39	-58	10	-34	-106	79	153	125	47	-38	-14
Max	289	130	100	137	163	193	345	459	441	295	136	127
EOM	56	-18	-58	48	106	108	125	125	186	86	-38	0
ac-ft	4079	1729	1306	3402	2940	4684	9263	18575	15174	9664	3049	2608

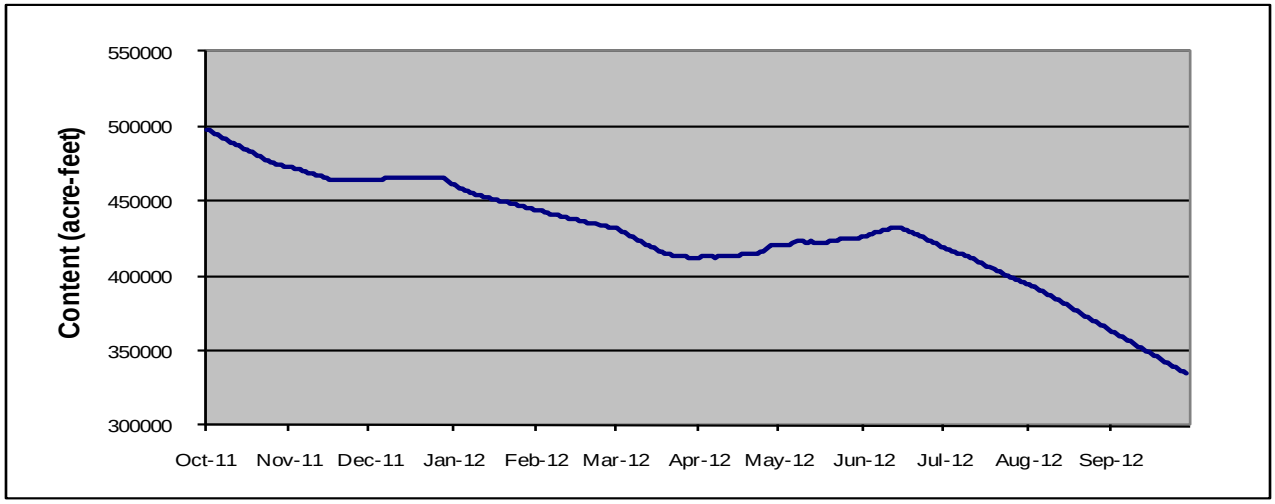


Appendix A (Table 11 of 38)
Granby Reservoir, CO
Storage

Location. --Lat 40°08'54", long 105°51'48", Grand County, Hydrologic Unit 14010001, on Granby Dam, 5.5 miles northeast of Granby, Colorado, on the Colorado River.
Gage.-- Water level recorder with satellite telemetry. Elevation of gage is 8300 from topographic map.
Remarks.--Reservoir is formed by an earth-fill dam and four earth-fill dikes. Construction completed in 1950. Impoundment began on 14-Sep-1949. Granby Reservoir provides west-slope storage for the Colorado-Big Thompson Project. Maximum capacity is 539,800 acre-feet at elevation 8,280.00, with 463,300 acre-feet of active capacity between elevations 8186.90 and 8280.00 feet. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Records are complete, but the data has not been revised. This record consists of operational data which could be subject to future revisions and changes.

Storage, Acre-Feet, 2400-hour Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	497915	472978	464647	460985	444048	431561	412445	420428	426491	419020	393948	363194
2	497075	472567	464647	459970	443651	430973	412827	420234	427075	417992	393512	362117
3	496096	472089	464784	459094	443252	429930	413017	420042	427530	417159	392580	361041
4	495324	471608	464852	458083	442591	429088	413398	420363	428243	416267	391646	360089
5	494413	471196	464852	457207	442196	428047	413207	421201	428894	415951	390658	359076
6	493506	470444	464852	456396	441403	427075	412827	422232	429476	415440	389850	358005
7	492388	469894	464989	455726	441204	426039	412445	423003	429930	415182	388921	356997
8	491551	469281	465057	454922	440939	425200	412827	422874	430519	414801	387935	355989
9	490501	468668	465057	454516	440545	423841	413080	422874	430973	413970	387069	354804
10	489599	468051	465057	454047	440148	423003	413207	422746	431364	413271	386021	353683
11	488830	467439	465262	453646	439684	422039	413271	422810	431561	412445	384913	352858
12	487856	467166	465262	453106	439225	421072	413461	422874	431758	411428	383929	352150
13	487017	466549	465397	452639	438767	420106	413588	422810	432149	410472	382947	351151
14	485978	466074	465397	452239	438373	419276	413651	422553	432344	409651	381843	350092
15	485071	465465	465397	451772	437910	418569	413842	422103	431954	408635	380678	349151
16	484167	464920	465465	451369	437451	417737	414034	422232	431038	407685	379638	348096
17	483472	464510	465465	450767	437057	416839	414483	422232	430322	406738	378603	347100
18	482435	464375	465533	450367	436529	416203	414991	422489	429736	405727	377442	346047
19	481393	464510	465668	449897	436136	415375	415375	422874	428894	404908	376466	344994
20	480491	464647	465736	449298	435679	414801	415247	423067	428243	403835	375315	343885
21	479593	464784	465871	449032	435418	414483	415247	423195	427465	402767	374219	342781
22	478557	464852	465939	448634	434828	413651	415055	423582	426684	401762	373247	341732
23	477659	464784	466007	448167	434565	413207	414991	424487	425846	400631	372523	340685
24	476622	464239	466074	447698	434108	413080	415761	425459	425004	399818	371492	339645
25	475867	464375	466074	447301	433584	412827	416457	425459	424230	399251	370403	338600
26	475524	464375	466074	446835	433124	412763	417480	425653	423259	398375	369260	337500
27	474489	464442	465668	446367	432604	412890	419212	425653	422425	397625	368174	336635
28	473803	464442	465057	445904	432279	412636	420234	425459	421586	396878	367209	335654
29	473733	464578	464036	445375	431758	412445	420234	425135	420815	396126	366251	334672
30	473388	464578	463151	444711		412445	420492	425653	419851	395379	365289	333638
31	473251		461869	444377		412317		426104		394506	364208	
Min	473251	464239	461869	444377	432279	412317	412445	420042	419851	394506	364208	333638
Max	497915	472978	466074	460985	444048	431561	420492	426104	432344	419020	393948	363194
EOM	473251	464578	461869	444377	432279	412317	420492	420492	419851	394506	364208	333638

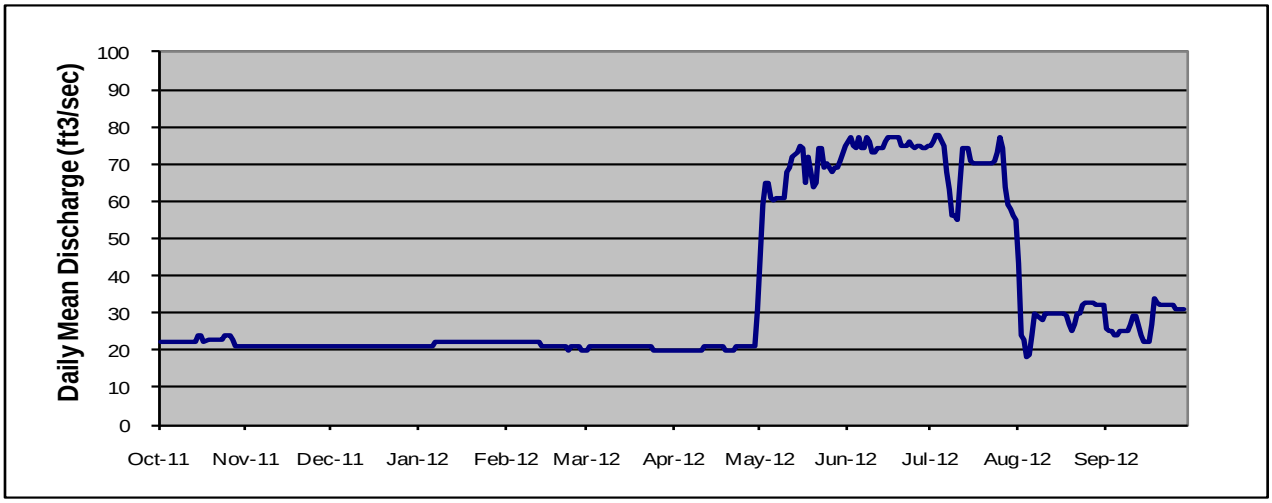


Appendix A (Table 12 of 38)
Granby Reservoir, CO
Discharge

Location. --Lat 40°08'54", long 105°51'48", Grand County, Hydrologic Unit 14010001, on Granby Dam, 5.5 miles northeast of Granby, Colorado, on the Colorado River.
Gage.-- Water level recorder with satellite telemetry. Elevation of gage is 8300 feet, from topographic map.
Remarks.--Reservoir is formed by an earth-fill dam and four earth-fill dikes. Construction completed in 1950. Impoundment began on 14-Sep-1949. Granby Reservoir provides west-slope storage for the Colorado-Big Thompson Project. Data was provided by personnel from the Northern Colorado Water Conservancy District. Releases were made through the outlet works valve. The stream gage directly below the dam is used to measure flows during winter. A USGS station further downstream is used to measure flows between spring and fall. Data was recorded from 01-Oct-2011 to 30-Sep-2012. Records are complete and fair. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, 2400-hour Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	22	21	21	21	22	20	20	45	76	75	43	26
2	22	21	21	21	22	21	20	59	77	76	24	25
3	22	21	21	21	22	21	20	65	75	78	23	25
4	22	21	21	21	22	21	20	65	74	78	18	24
5	22	21	21	21	22	21	20	61	77	75	19	24
6	22	21	21	21	22	21	20	60	74	68	24	25
7	22	21	21	22	22	21	20	61	74	63	30	25
8	22	21	21	22	22	21	20	61	77	56	29	25
9	22	21	21	22	22	21	20	61	76	56	28	25
10	22	21	21	22	22	21	20	61	73	55	30	27
11	22	21	21	22	22	21	21	68	73	65	30	29
12	22	21	21	22	22	21	21	69	74	74	30	29
13	22	21	21	22	22	21	21	72	74	74	30	24
14	22	21	21	22	21	21	21	73	74	74	30	22
15	24	21	21	22	21	21	21	75	76	71	30	22
16	24	21	21	22	21	21	21	74	77	70	30	22
17	22	21	21	22	21	21	21	65	77	70	30	27
18	23	21	21	22	21	21	21	72	77	70	29	34
19	23	21	21	22	21	21	20	68	77	70	27	33
20	23	21	21	22	21	21	20	64	75	70	25	32
21	23	21	21	22	21	21	20	65	75	70	27	32
22	23	21	21	22	21	21	20	74	75	70	30	32
23	23	21	21	22	20	21	21	74	76	71	30	32
24	24	21	21	22	21	20	21	69	75	73	32	32
25	24	21	21	22	21	20	21	70	74	77	33	32
26	24	21	21	22	21	20	21	69	75	74	33	31
27	23	21	21	22	21	20	21	68	75	64	33	31
28	21	21	21	22	20	20	21	69	74	59	32	31
29	21	21	21	22	20	20	21	69	74	58	32	31
30	21	21	21	22		20	31	71	75	56	32	31
31	21		21	22		20		75		55	32	
Min	21	21	21	21	20	20	20	45	73	55	18	22
Max	24	21	21	22	22	21	31	75	77	78	43	34
EOM	21	21	21	22	20	20	31	31	75	55	32	31
ac-ft	1376	1247	1289	1338	1186	1271	1239	4103	4465	4188	1792	1663

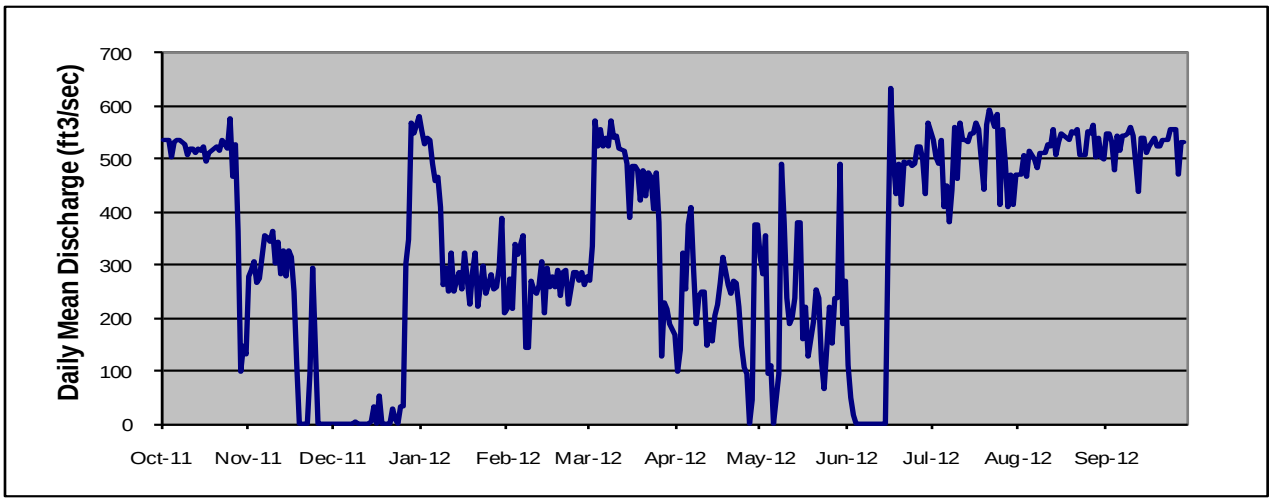


Appendix A (Table 13 of 38)
Farr Pumping Plant, Granby Reservoir, CO

Location. --Lat 40°11'30", long 105°52'52", Grand County, Hydrologic Unit 14010001, at Farr Pumping Plant on the north end of Granby Reservoir, 8 miles northeast of Granby, Colorado on the Colorado River.
Gage.-- Reading taken directly from the pumps, based on conduit pressure and Granby Reservoir's elevation. Elevation of the pumping plant is 8320 from topographic map.
Remarks.-- Water is pumped from Granby to the Granby Pump Canal which discharges into Shadow Mountain Reservoir. The operation keeps Shadow Mountain Reservoir/Grand Lake at a steady water surface level when transmountain diversions via Adams Tunnel are taking place. Data was provided by Farr Pumping Plant operators, Northern Colorado Water Conservancy District, each morning. Data was collected from 01-Oct-2011 to 30-Sep-2012. Records are complete and reliable. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	537	279	0	553	217	271	98	316	111	538	469	547
2	537	292	0	529	274	335	139	284	48	505	469	547
3	536	306	0	539	218	575	325	356	16	490	508	531
4	503	266	0	535	340	526	253	95	0	537	468	477
5	534	273	0	493	318	558	377	111	0	410	514	543
6	537	357	0	457	358	526	410	0	0	452	498	515
7	535	354	0	467	144	540	290	95	0	379	482	544
8	534	344	0	408	144	523	188	492	0	442	513	543
9	528	365	3	261	269	572	240	382	0	559	512	549
10	508	303	0	293	255	540	249	238	0	461	511	559
11	520	343	0	248	246	545	251	188	0	567	527	545
12	519	284	0	323	260	520	149	199	0	535	526	437
13	512	328	0	248	308	517	189	238	0	535	556	541
14	519	278	3	271	209	493	157	379	0	534	506	540
15	517	327	33	285	293	388	204	379	335	550	534	511
16	523	314	0	253	259	489	227	158	635	549	547	525
17	495	251	54	325	279	488	268	223	498	571	544	534
18	513	115	0	225	259	477	316	127	432	558	542	539
19	520	0	2	287	292	420	260	159	493	443	538	522
20	522	0	0	322	240	477	244	191	413	563	553	524
21	517	0	0	222	288	430	269	254	494	594	550	538
22	538	0	29	263	289	475	268	237	492	578	555	537
23	530	98	8	300	224	465	220	119	497	562	506	536
24	519	294	0	244	288	406	147	64	488	585	506	556
25	578	0	31	262	288	476	106	222	493	413	551	557
26	466	0	33	281	272	379	94	150	523	558	547	557
27	528	0	304	254	288	125	0	238	524	495	566	471
28	363	0	348	259	264	228	47	238	498	408	504	534
29	99	0	571	296	280	215	378	493	434	470	540	534
30	149	0	550	390		188	378	190	571	415	503	510
31	132		582	208		167		270		469	500	
Min	99	0	0	208	144	125	0	0	0	379	468	437
Max	578	365	582	553	358	575	410	493	635	594	566	559
EOM	132	0	582	208	264	167	378	378	571	469	500	510
ac-ft	29439	11427	5051	20396	14618	26401	13347	14028	15830	31136	31967	31488

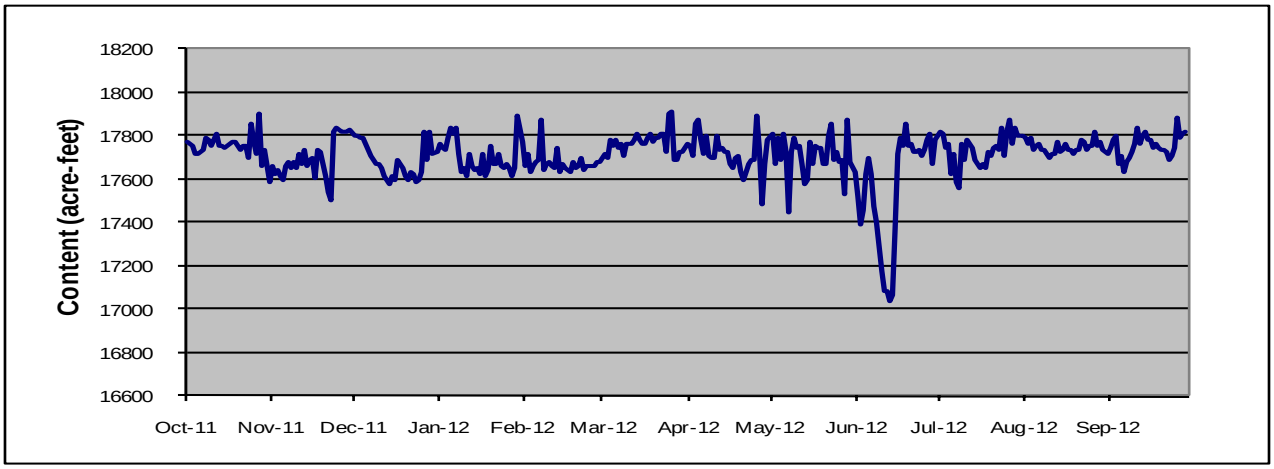


Appendix A (Table 14 of 38)
Shadow Mountain/Grand Lake, CO

Location. --Lat 40°12'26", long 105°50'28", Grand County, Hydrologic Unit 14010001, on the Colorado River at the Shadow Mountain outlet works structure, 10 miles northeast of Granby, Colorado.
Gage.--Water-stage recorder with satellite telemetry. Elevation of gage is 8375 feet from topographic map.
Remarks.—Shadow Mountain/Grand Lake was constructed between 1944 and 1946. Impoundment began in 1946. Active capacity between elevations 8,366 and 8,367 is 1,800 acre-feet. Grand Lake is used as forebay storage for Adams Tunnel. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Some data were provided by Farr Pumping Plant personnel during down time. Records are complete and fair. This record contains operational data which could be subject to future revisions and changes.

Storage, Acre-Feet, 2400-hour Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	17772	17662	17800	17767	17656	17716	17753	17808	17524	17819	17791	17744
2	17767	17627	17800	17749	17716	17699	17706	17674	17390	17806	17759	17786
3	17754	17645	17795	17730	17632	17777	17853	17790	17456	17743	17791	17804
4	17714	17614	17790	17791	17659	17754	17874	17690	17626	17764	17736	17672
5	17717	17592	17763	17833	17677	17786	17777	17810	17695	17619	17754	17704
6	17727	17659	17739	17809	17688	17749	17714	17721	17621	17719	17759	17635
7	17736	17677	17708	17833	17877	17767	17798	17448	17474	17587	17731	17680
8	17788	17654	17690	17714	17637	17707	17706	17724	17400	17562	17731	17699
9	17778	17682	17671	17632	17674	17767	17701	17790	17292	17764	17717	17727
10	17754	17651	17666	17651	17679	17767	17701	17748	17180	17685	17699	17759
11	17783	17719	17648	17614	17656	17767	17798	17753	17088	17778	17712	17838
12	17809	17674	17616	17714	17651	17777	17735	17674	17088	17759	17712	17759
13	17754	17734	17598	17659	17748	17809	17748	17577	17033	17741	17772	17796
14	17754	17661	17574	17641	17632	17777	17724	17596	17064	17691	17722	17819
15	17741	17692	17616	17654	17674	17759	17729	17771	17368	17667	17736	17783
16	17754	17701	17598	17627	17651	17764	17669	17666	17714	17654	17759	17777
17	17759	17601	17685	17714	17646	17793	17651	17758	17790	17667	17736	17746
18	17772	17739	17666	17614	17632	17811	17701	17745	17751	17649	17731	17764
19	17772	17721	17648	17641	17682	17774	17706	17740	17853	17722	17717	17746
20	17754	17671	17616	17751	17651	17788	17632	17674	17751	17704	17736	17732
21	17736	17616	17598	17669	17661	17790	17596	17666	17761	17741	17736	17732
22	17754	17542	17634	17669	17698	17811	17632	17800	17729	17754	17778	17722
23	17749	17504	17621	17714	17637	17811	17674	17860	17729	17736	17772	17691
24	17694	17819	17589	17664	17656	17727	17684	17693	17738	17838	17736	17709
25	17854	17837	17598	17651	17661	17903	17690	17729	17706	17709	17754	17741
26	17772	17832	17634	17674	17656	17908	17892	17676	17732	17814	17754	17883
27	17717	17819	17822	17651	17661	17693	17731	17684	17783	17874	17822	17791
28	17900	17819	17687	17614	17679	17693	17485	17532	17811	17764	17754	17809
29	17661	17819	17817	17651	17679	17729	17669	17873	17672	17838	17772	17814
30	17739	17826	17720	17895		17724	17779	17679	17777	17796	17736	17777
31	17582		17725	17769		17766		17629		17796	17712	
Min	17582	17504	17574	17614	17632	17693	17485	17448	17033	17562	17699	17635
Max	17900	17837	17822	17895	17877	17908	17892	17873	17853	17874	17822	17883
EOM	17582	17826	17725	17769	17679	17766	17779	17779	17777	17796	17712	17777

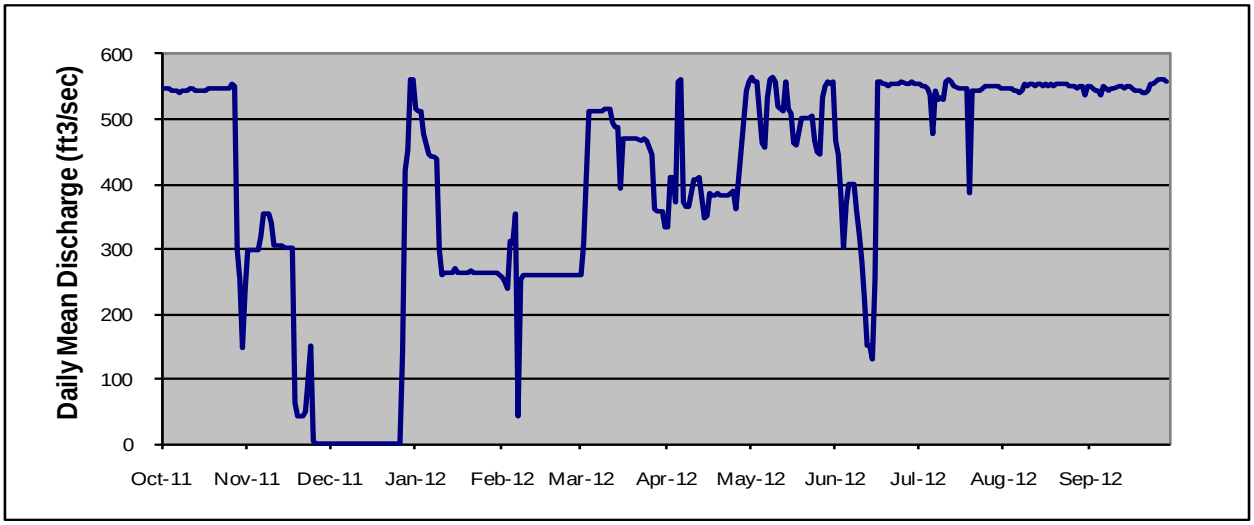


Appendix A (Table 15 of 38)
Alva B. Adams Tunnel at East Portal, near Estes Park, CO

Location. --Lat 40°19'40", long 105°34'39", Larimer County, Hydrologic Unit 10190006, 4.5 miles southwest of Estes Park, Colorado.
Gage.-- Water-stage recorder with satellite telemetry at 15 foot Parshall flume. Elevation of gage is 8250 from topographic map.
Remarks.-- Constructed between 1940 and 1947. Tunnel is 13.1 miles long, and extends between Grand Lake and Estes Park. Its maximum capacity is 550 cubic feet per second. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Records are complete and reliable. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	548	297	0	514	258	261	333	564	468	553	546	549
2	547	297	0	511	249	309	410	558	446	552	548	548
3	546	298	0	512	238	512	409	558	381	552	548	544
4	546	299	0	478	313	513	372	509	303	548	544	544
5	544	299	0	445	308	513	558	462	370	535	543	535
6	545	318	0	442	354	514	560	456	399	476	542	550
7	542	355	0	441	41	513	371	533	401	545	545	546
8	545	355	0	440	254	514	363	560	358	530	554	545
9	545	339	0	297	259	515	364	564	324	535	549	547
10	545	305	0	261	259	516	408	557	281	530	553	548
11	546	304	0	262	259	516	408	518	222	559	554	550
12	547	305	0	262	259	493	409	516	152	560	550	550
13	546	304	0	262	260	489	379	514	151	558	554	549
14	545	303	0	262	259	488	349	558	129	550	555	550
15	543	302	0	269	260	392	350	514	252	549	553	549
16	542	302	0	263	260	470	385	507	558	549	553	547
17	543	303	0	263	261	471	383	463	558	549	552	544
18	547	63	0	264	261	472	383	459	553	549	553	545
19	546	41	0	263	260	471	386	502	555	384	550	543
20	547	41	0	264	261	471	384	501	551	545	553	541
21	546	41	0	265	261	470	382	500	556	543	553	541
22	546	47	0	264	261	468	382	503	555	543	553	546
23	548	97	0	264	261	471	384	506	554	542	554	554
24	547	150	0	264	261	468	386	466	555	549	553	553
25	549	3	0	264	261	455	391	450	556	551	552	557
26	553	0	0	264	260	445	361	447	555	550	550	562
27	552	0	141	264	260	361	407	533	555	551	546	561
28	300	0	420	264	261	357	452	550	558	553	551	561
29	252	0	453	264	261	357	542	556	553	551	550	559
30	147	0	561	264		356	559	554	554	549	538	558
31	234		560	260		333		557		548	549	
Min	147	0	0	260	41	261	333	447	129	384	538	535
Max	553	355	561	514	354	516	560	564	558	560	555	562
EOM	234	0	560	260	261	333	559	559	554	548	549	558
ac-ft	31040	11428	4245	19547	14295	27628	24180	31666	25661	33142	33758	32624

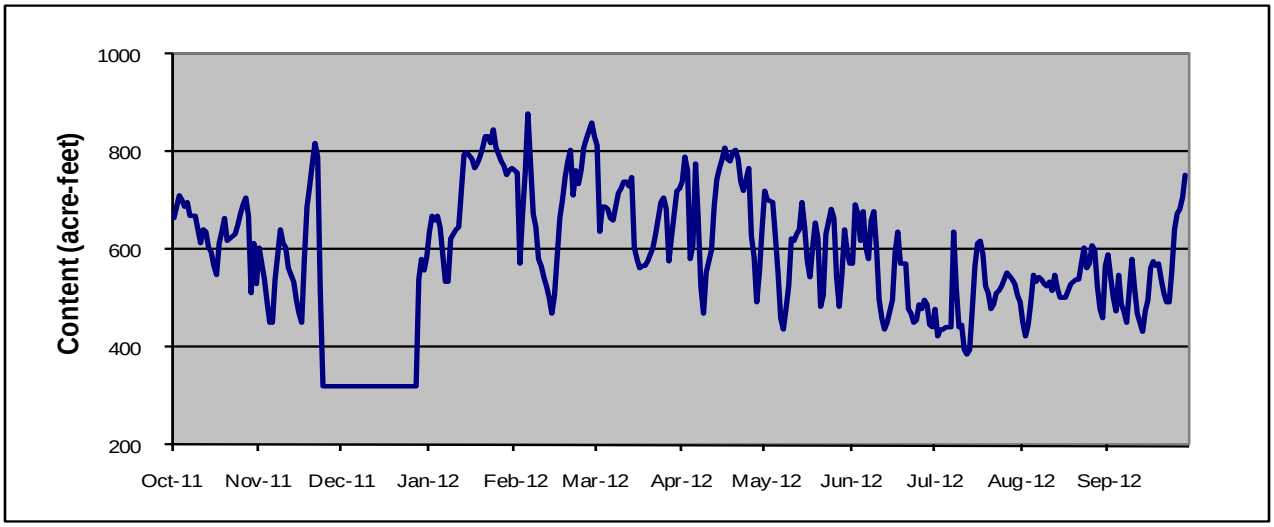


Appendix A (Table16 of 38)
Marys Lake, CO

Location. --Lat 40°22'40", long 105°31'50", Larimer County, Hydrologic Unit 10190006, 2 miles southwest of Estes Park, Colorado.
Gage.-- Water-level recorder with satellite telemetry. Elevation of gage is 8060 feet from topographic map.
Remarks.-- Constructed between 1947 and 1949. Impoundment began in August, 1950. Active capacity between elevations 8,025 and 8,040 is 500 acre-feet. Used as a forebay storage for Estes Powerplant. The only measurable inflow into the reservoir comes from Adams Tunnel. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Record is complete and reliable, except for the days between November 24 and December 28, when the water surface level dropped below 8,022.62. The gage does not record water surface levels below elevation 8,022.62 feet, content of 322 acre-feet. These are operational data which could be subject to further revisions and changes.

Storage, Acre-Feet, 2400-hour Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	667	606	322	637	762	814	741	721	572	481	452	593
2	689	574	322	671	757	636	789	700	695	424	424	545
3	710	538	322	662	574	688	763	696	674	439	445	504
4	701	491	322	670	676	688	579	627	617	439	494	472
5	688	452	322	647	758	686	608	553	678	442	551	549
6	696	453	322	591	879	666	775	461	605	442	534	490
7	669	537	322	535	673	661	663	440	581	638	545	474
8	669	592	322	533	648	690	528	481	662	519	539	449
9	671	643	322	624	584	718	471	527	678	443	532	584
10	642	616	322	635	568	728	555	623	607	448	525	519
11	615	604	322	642	546	740	598	620	497	394	534	470
12	643	564	322	647	526	740	689	633	459	386	517	453
13	636	537	322	723	502	730	742	642	437	397	551	434
14	607	496	322	797	468	751	769	696	453	477	521	475
15	595	471	322	800	507	604	788	647	500	566	502	498
16	569	450	322	787	587	582	812	577	594	613	501	565
17	549	583	322	770	664	563	787	543	635	617	501	575
18	615	686	322	778	700	567	780	605	571	592	528	568
19	637	731	322	792	748	567	802	656	572	526	534	574
20	663	776	322	810	780	578	804	624	573	510	539	541
21	620	820	322	831	807	603	788	484	479	479	539	513
22	629	792	322	832	713	634	741	509	470	490	574	492
23	634	512	322	821	762	667	719	633	451	510	604	492
24	653	322	322	848	735	699	744	685	457	516	562	558
25	676	322	322	812	763	707	767	665	490	527	572	642
26	691	322	322	793	808	685	626	543	480	541	610	675
27	708	322	322	780	828	578	586	484	499	555	601	686
28	669	322	541	770	860	627	495	548	491	542	526	706
29	513	322	582	753	833	673	554	640	444	530	477	734
30	615	322	556	763		721	641	597	442	509	462	755
31	529		585	766		728		574		494	566	
Min	513	322	322	533	468	563	471	440	437	386	424	434
Max	710	820	585	848	879	814	812	721	695	638	610	755
EOM	529	322	585	766	860	728	641	641	442	494	566	755

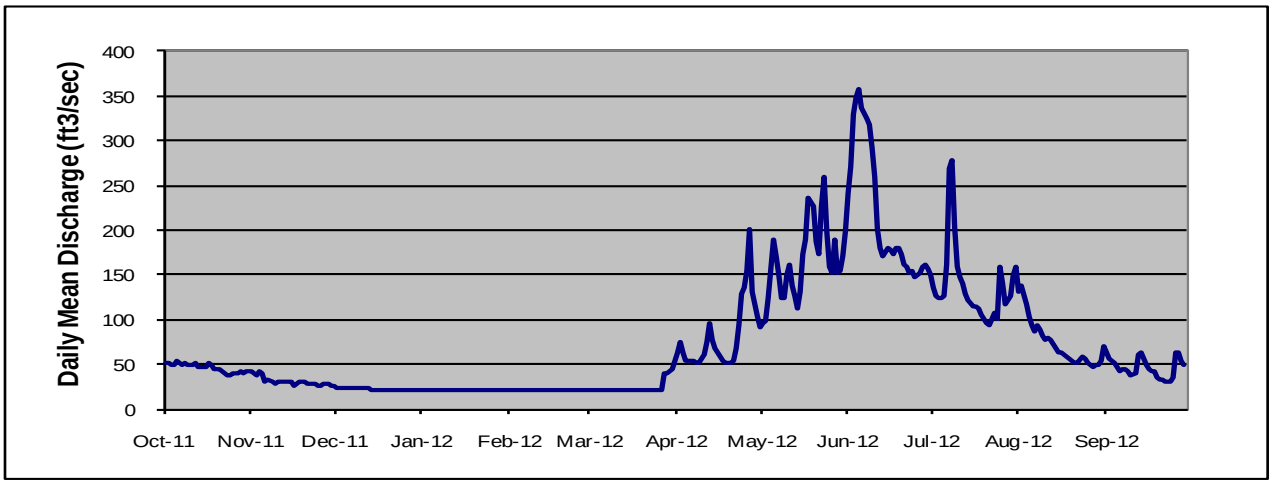


Appendix A (Table 17 of 38)
Big Thompson River above Lake Estes, CO

Location. --Lat 40°22'42", long 105°30'48", Larimer County, Hydrologic Unit 10190006, 600 feet downstream from bridge on state highways 7 and 36 in Estes Park, Colorado, downstream from Black Canyon Creek, and 0.3 miles northwest of Estes Powerplant.
Gage.-- Water-stage recorder with satellite telemetry. 15 foot Parshall flume with overflow weirs and supplemental outside gage. Datum of gage at 7492.5 feet.
Remarks.— Drainage area is 137 mi^2. Station consists of data collection platform as primary record with graphic chart recorder as backup. Recorder was operated from 01-Oct-2011 until the middle of December, then winterized, and put back into service from 27-Mar-2012 to 30-Sep-2012. Values for the off-season are estimated. Peak flows in June may have been affected as the water rose above the side boards of the flume, therefore affecting the rating table. This record contains operational data which could be subject to future revisions and changes. The official record for this station is published by the State of Colorado, Department of Water Resources.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	51	41	23	20	20	20	64	95	240	135	132	63
2	51	39	23	20	20	20	74	98	270	126	138	56
3	50	38	24	20	20	20	63	125	329	123	116	53
4	50	41	24	20	20	20	54	156	349	123	104	52
5	53	39	24	20	20	20	54	190	358	126	94	47
6	52	31	24	20	20	20	54	170	337	161	87	43
7	49	33	24	20	20	20	53	149	325	270	95	45
8	51	31	24	20	20	20	51	125	317	278	88	44
9	50	28	24	20	20	20	53	125	293	203	83	41
10	48	30	24	20	20	20	60	149	260	160	78	38
11	50	31	24	20	20	20	75	162	202	148	81	40
12	52	31	24	20	20	20	96	138	179	140	76	60
13	47	30	24	20	20	20	78	126	171	129	73	62
14	48	31	20	20	20	20	68	113	176	121	69	55
15	46	30	20	20	20	20	64	131	180	115	64	48
16	46	25	20	20	20	20	58	173	179	114	63	44
17	51	28	20	20	20	20	54	190	173	113	61	43
18	48	31	20	20	20	20	51	237	181	106	58	42
19	44	29	20	20	20	20	53	228	179	100	56	36
20	44	30	20	20	20	20	51	186	173	96	54	33
21	42	29	20	20	20	20	53	174	161	94	52	32
22	41	28	20	20	20	20	68	227	158	101	50	31
23	38	28	20	20	20	20	94	260	153	108	58	30
24	37	28	20	20	20	20	128	200	154	102	57	30
25	39	27	20	20	20	20	136	160	148	158	52	35
26	40	25	20	20	20	22	154	152	153	140	49	64
27	39	29	20	20	20	39	200	190	160	118	48	63
28	42	28	20	20	20	40	131	152	162	122	48	55
29	39	27	20	20	20	42	103	154	157	126	50	49
30	41	26	20	20		45	91	171	150	150	55	45
31	41		20	20		54		198		158	71	
Min	37	25	20	20	20	20	51	95	148	94	48	30
Max	53	41	24	20	20	54	200	260	358	278	138	64
EOM	41	26	20	20	20	54	91	91	150	158	71	45
ac-ft	2812	1826	1332	1228	1109	1470	4726	10104	12727	8443	4473	2736

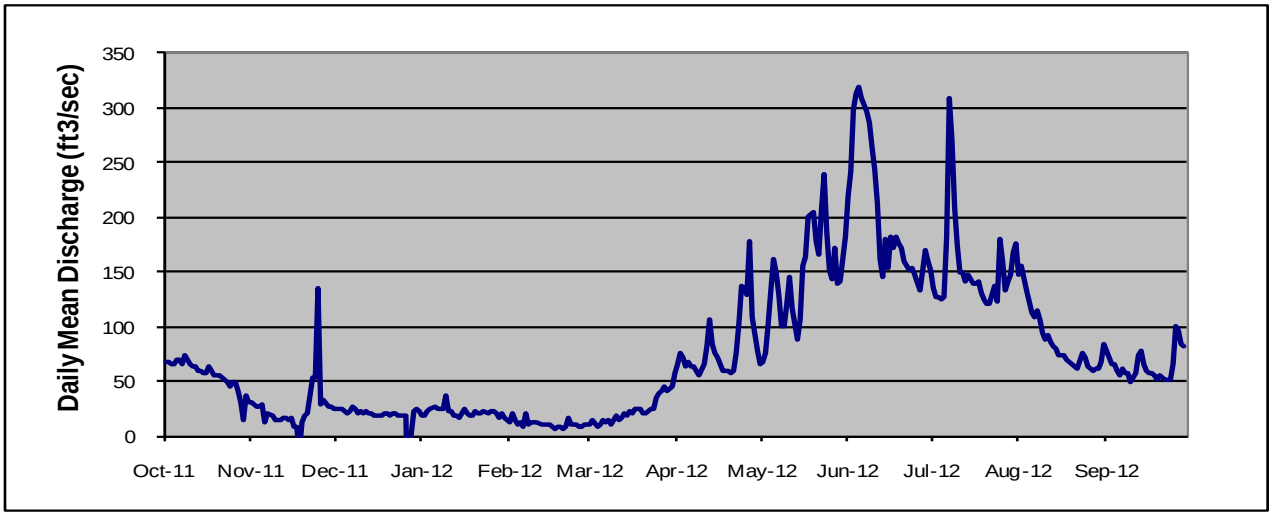


Appendix A (Table 18 of 38)
Olympus Dam, CO
Inflow

Location. --Lat 40°22'31", long 105°29'15", Larimer County, Hydrologic Unit 10190006, 1.5 miles east of Estes Park, Colorado, on the Big Thompson River.
Gage.—Water-stage recorders with satellite telemetry. Inflow computed daily based on the change in content from midnight to midnight at Marys Lake and Lake Estes, daily average releases from Olympus Dam, and daily average discharge at Olympus Tunnel and Adams Tunnel.
Remarks.— Olympus dam was constructed between 1947 and 1949. Impoundment began on November 1948. Total capacity at maximum water surface elevation of 7475.0 feet is 3,070 acre-feet. Inflow is computed based on change-in-storage, flow through the Adams Tunnel and outflow. Records are complete and reliable, but have not been revised. This record contains operational data which could be subject to future revisions and changes.

Inflow, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	67	32	24	19	13	10	65	67	220	135	148	79
2	67	29	25	18	21	14	75	75	242	127	156	71
3	66	27	25	22	15	8	72	103	300	127	133	66
4	66	27	23	24	10	10	64	133	312	126	123	65
5	70	29	21	26	13	14	67	162	320	128	113	58
6	70	13	22	24	9	12	63	149	309	183	108	55
7	65	20	26	25	20	15	64	128	297	309	115	60
8	74	18	25	24	10	11	60	100	286	270	107	57
9	70	15	21	37	12	14	55	100	264	209	93	57
10	66	14	22	23	11	18	66	121	243	173	88	50
11	64	14	21	22	13	15	83	144	212	149	91	57
12	64	17	22	18	10	17	106	117	162	150	87	74
13	58	16	20	17	11	20	84	103	146	142	82	77
14	59	14	21	16	11	18	75	87	180	147	79	66
15	57	16	18	20	11	22	71	106	154	139	74	60
16	58	8	18	25	9	20	66	156	183	140	74	58
17	64	9	19	20	7	25	60	164	173	141	74	56
18	60	-14	21	18	9	25	58	200	181	131	69	55
19	56	12	20	19	9	24	59	205	176	125	67	51
20	54	19	18	23	7	21	58	177	171	120	65	55
21	54	20	21	21	9	21	59	165	160	120	63	53
22	52	37	20	21	17	25	76	207	155	129	62	52
23	50	53	19	22	9	25	102	239	151	136	76	51
24	45	54	18	20	11	34	137	186	154	122	72	52
25	50	134	18	23	10	40	134	152	147	179	63	65
26	50	28	17	22	7	40	129	143	132	160	61	100
27	42	33	-120	20	8	46	178	172	152	134	60	97
28	31	27	1	17	10	42	109	139	170	140	61	83
29	14	26	22	21	10	43	79	141	160	146	61	82
30	36	25	24	17		46	65	161	151	169	67	78
31	31		24	15		57		183		177	85	
Min	14	-14	-120	15	7	8	55	67	132	120	60	50
Max	74	134	26	37	21	57	178	239	320	309	156	100
EOM	31	25	24	15	10	57	65	65	151	177	85	78
ac-ft	3426	1529	983	1303	617	1487	4832	8883	12002	9470	5302	3838

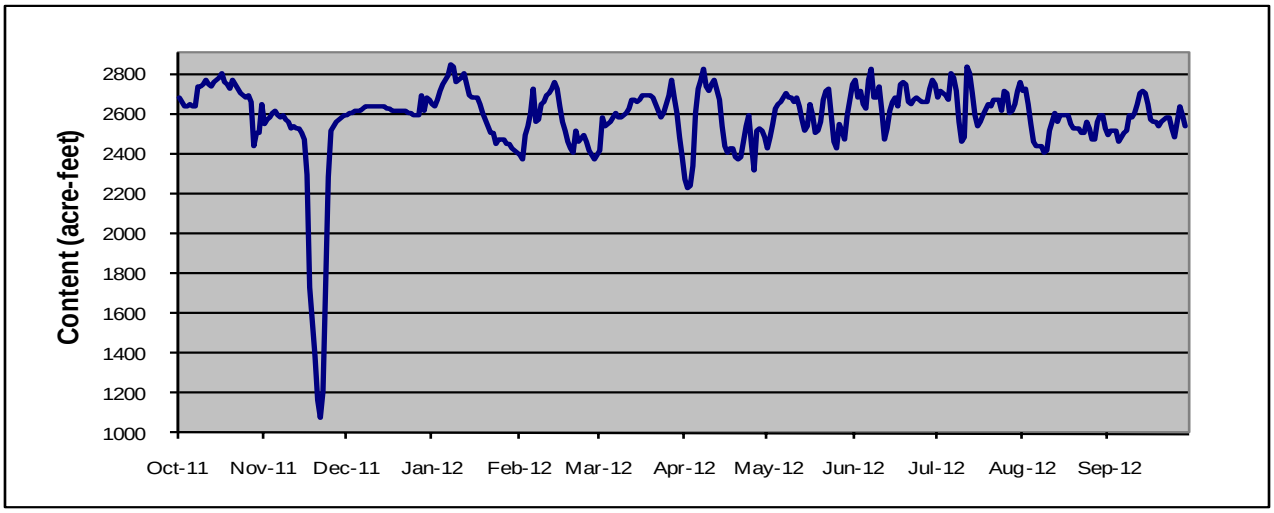


Appendix A (Table 19 of 38)
Olympus Dam, CO
Storage

Location. --Lat 40°22'31", long 105°29'19", Larimer County, Hydrologic Unit 10190006, 1.5 miles east of Estes Park, Colorado, on the Big Thompson River.
Gage.-- Water-level recorder with satellite telemetry. Elevation of gage is 7490 feet from topographic map.
Remarks.-- Constructed between 1947 and 1949. Impoundment began in November, 1948. Active capacity between elevations 7,450.25 and 7,474.00 is 2,476 acre-feet. Used as afterbay storage for Estes Powerplant and forebay for Olympus Tunnel. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Records are complete and reliable. This record contains operational data which could be subject to future revisions and changes.

Storage, Acre-Feet, 2400-hour Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2679	2547	2592	2643	2387	2416	2273	2424	2769	2677	2710	2488
2	2655	2572	2599	2630	2367	2582	2225	2478	2674	2710	2728	2513
3	2630	2575	2606	2667	2488	2532	2233	2551	2710	2701	2650	2516
4	2633	2597	2609	2716	2537	2542	2331	2623	2650	2689	2549	2511
5	2642	2613	2609	2744	2606	2554	2604	2647	2623	2664	2455	2462
6	2631	2591	2611	2792	2718	2582	2723	2652	2762	2804	2437	2503
7	2637	2575	2621	2843	2559	2603	2769	2696	2826	2782	2435	2509
8	2733	2587	2630	2832	2572	2584	2827	2677	2684	2713	2431	2585
9	2737	2566	2630	2754	2642	2579	2739	2682	2677	2556	2408	2575
10	2750	2553	2631	2768	2659	2596	2715	2655	2737	2462	2410	2601
11	2771	2522	2631	2784	2686	2603	2747	2682	2613	2478	2511	2648
12	2742	2532	2633	2797	2705	2626	2764	2635	2468	2836	2606	2696
13	2735	2522	2631	2742	2728	2664	2664	2567	2519	2797	2558	2715
14	2759	2521	2631	2686	2759	2665	2537	2517	2618	2698	2591	2696
15	2762	2504	2626	2681	2720	2655	2439	2534	2652	2587	2594	2650
16	2780	2470	2621	2681	2637	2667	2405	2642	2681	2532	2587	2567
17	2801	2290	2618	2676	2554	2693	2424	2585	2630	2558	2585	2554
18	2761	1732	2618	2642	2514	2693	2421	2497	2744	2591	2551	2559
19	2749	1387	2616	2606	2464	2693	2381	2516	2761	2642	2529	2537
20	2721	1165	2611	2571	2427	2674	2367	2556	2740	2638	2522	2556
21	2766	1077	2611	2532	2402	2643	2376	2672	2654	2664	2529	2569
22	2747	1209	2609	2508	2511	2611	2457	2713	2645	2667	2497	2579
23	2728	1737	2606	2501	2462	2584	2541	2727	2667	2665	2503	2582
24	2698	2287	2599	2450	2491	2603	2591	2587	2679	2618	2561	2522
25	2682	2516	2594	2473	2464	2643	2445	2464	2659	2716	2521	2478
26	2693	2532	2587	2473	2415	2694	2314	2424	2655	2701	2467	2553
27	2652	2558	2585	2467	2395	2769	2513	2542	2655	2604	2468	2630
28	2439	2571	2686	2447	2368	2679	2529	2509	2720	2614	2553	2591
29	2499	2577	2613	2445	2395	2597	2513	2465	2768	2647	2594	2537
30	2504	2585	2677	2427		2484	2478	2589	2750	2708	2591	2478
31	2645		2672	2405		2379		2742		2754	2527	
Min	2439	1077	2585	2405	2367	2379	2225	2424	2468	2462	2408	2462
Max	2801	2613	2686	2843	2759	2769	2827	2742	2826	2836	2728	2715
EOM	2645	2585	2672	2405	2368	2379	2478	2478	2750	2754	2527	2478

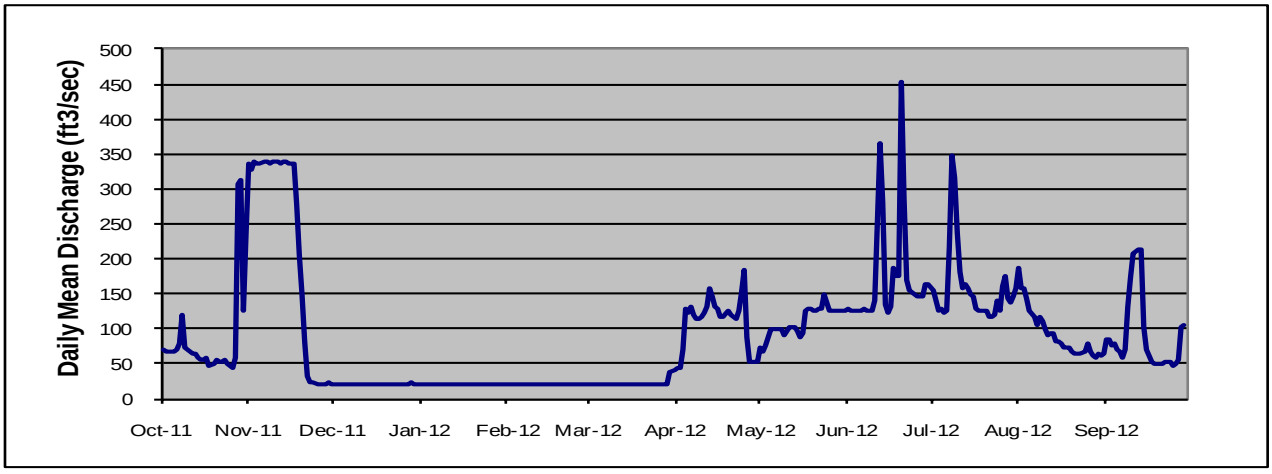


Appendix A (Table 20 of 38)
Big Thompson River below Olympus Dam, CO

Location. --Lat 40°22'35", long 105°29'06", Larimer County, Hydrologic Unit 10190006, 600 feet downstream from Olympus Dam and 100 feet upstream of Dry Gulch, 2.0 miles east in Estes Park.
Gage.-- Water-stage recorder with satellite telemetry. 15 foot Parshall flume with overflow weirs in a concrete shelter with a supplemental outside gage. Datum of gage at 7492.50 feet.
Remarks.— Drainage area is 155 mi^2. Area at site used between 29-Jan-1934 and 21-Mar-1951 was 162 mi^2. Station consists of data collection platform and digital recorder as primary record. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Record is complete. Flow calculations during peak runoff could lose accuracy as the water begins to flow over the outside boards. This record contains operational data which could be subject to future revisions and changes. The official record for this station is published by the State of Colorado, Department of Water Resources.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	69	337	21	20	19	20	44	73	128	154	188	86
2	68	327	22	20	20	21	44	69	126	140	158	84
3	67	339	22	21	20	21	69	76	125	125	159	77
4	67	336	22	21	21	21	128	89	126	130	143	78
5	68	337	21	21	21	21	122	101	125	124	125	70
6	69	339	21	21	21	21	131	100	126	126	118	68
7	78	338	20	21	21	21	120	100	128	217	104	60
8	120	338	21	21	21	21	113	99	126	347	116	69
9	73	338	21	21	21	21	113	90	124	314	111	132
10	71	338	21	21	21	21	116	97	127	236	101	172
11	66	339	21	21	21	21	123	102	139	181	89	206
12	64	336	21	21	21	21	132	103	365	159	93	213
13	63	338	21	21	22	21	159	101	282	163	93	215
14	58	338	21	21	22	22	146	96	135	157	81	102
15	56	337	21	21	22	21	133	87	124	149	83	70
16	56	338	21	21	22	20	128	93	132	145	79	62
17	57	335	21	21	21	20	117	126	187	128	74	52
18	46	278	21	21	21	20	118	127	174	126	75	51
19	50	204	21	19	21	21	126	128	174	125	73	50
20	54	150	21	20	21	21	118	127	454	126	68	51
21	53	83	21	21	21	21	118	127	287	117	64	51
22	54	31	21	21	21	21	113	128	170	116	65	52
23	56	24	21	20	20	21	126	128	156	119	64	52
24	50	23	21	20	20	21	152	150	151	141	68	51
25	47	21	21	20	21	21	184	127	150	125	78	47
26	43	20	21	20	20	22	88	126	147	159	68	50
27	58	20	21	20	20	22	52	126	146	176	61	55
28	308	20	21	21	20	21	51	127	147	144	59	103
29	312	23	22	20	21	22	52	127	163	136	64	104
30	127	20	21	20		39	52	126	165	147	63	105
31	236		21	19		40		126		159	64	
Min	43	20	20	19	19	20	44	69	124	116	59	47
Max	312	339	22	21	22	40	184	150	454	347	188	215
EOM	236	20	21	19	20	40	52	52	165	159	64	105
ac-ft	5278	13158	1289	1263	1152	1364	6507	6737	10116	9727	5646	5222

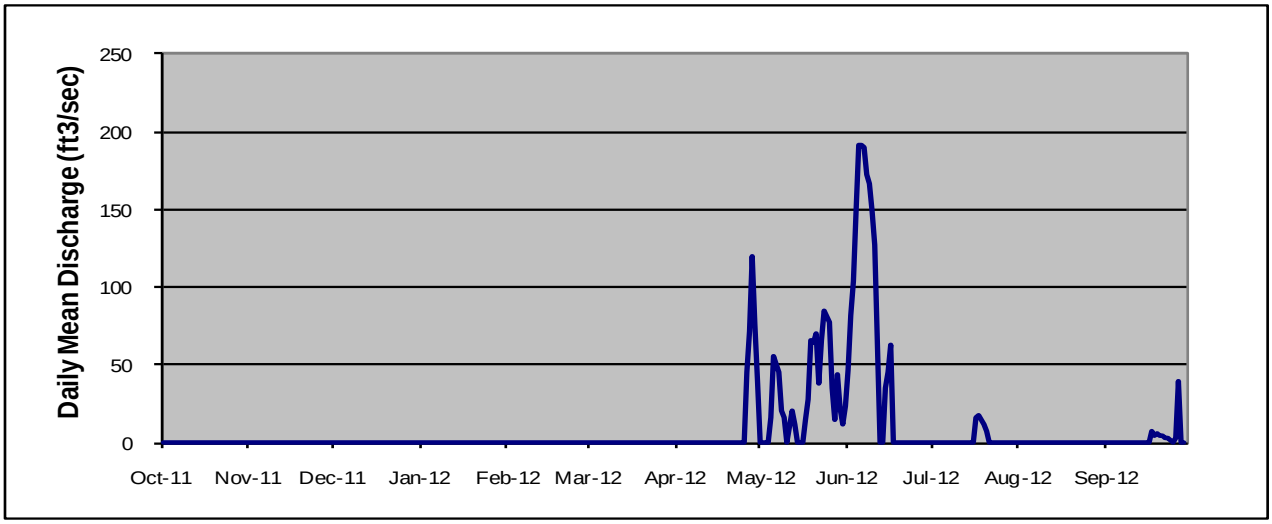


Appendix A (Table 21 of 38)
Olympus Tunnel near Estes Park, CO

Location. --Lat 40°22'24", long 105°29'00", Larimer County, Hydrologic Unit 10190006, southeast of Estes Park, Colorado.
Gage.-- Water-stage recorder and satellite telemetry. Elevation of gage is 7460 from topographic map.
Remarks.— Constructed between 1949 and 1952. The tunnel is 7.2 miles long, between Estes Park and the Pole Hill Canal. Its diameter is 9.75 feet and maximum capacity is 550 cubic feet per second. The hydropower diversion operation, also known as the skim operation, diverts water from the Big Thompson River through Olympus Tunnel for power generation at three power plants down the foothills, before returning it to the Big Thompson River near the canyon mouth. The skim daily value is determined based on the data from the stream gages in the system. Period of record includes from 01-Oct-2011 through 30-Sep-2012. Records are complete and reliable. This record contains operational data which could be subject to future revisions and changes.

Hydropower Diversion (Skim), Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0	0	0	0	48	0	0	0
2	0	0	0	0	0	0	0	0	83	0	0	0
3	0	0	0	0	0	0	0	0	104	0	0	0
4	0	0	0	0	0	0	0	0	150	0	0	0
5	0	0	0	0	0	0	0	16	191	0	0	0
6	0	0	0	0	0	0	0	55	192	0	0	0
7	0	0	0	0	0	0	0	45	190	0	0	0
8	0	0	0	0	0	0	0	20	173	0	0	0
9	0	0	0	0	0	0	0	16	167	0	0	0
10	0	0	0	0	0	0	0	0	149	0	0	0
11	0	0	0	0	0	0	0	10	127	0	0	0
12	0	0	0	0	0	0	0	21	0	0	0	0
13	0	0	0	0	0	0	0	12	0	0	0	0
14	0	0	0	0	0	0	0	0	35	0	0	0
15	0	0	0	0	0	0	0	0	45	0	0	0
16	0	0	0	0	0	0	0	0	63	0	0	0
17	0	0	0	0	0	0	0	15	0	16	0	7
18	0	0	0	0	0	0	0	29	0	18	0	4
19	0	0	0	0	0	0	0	67	0	12	0	6
20	0	0	0	0	0	0	0	65	0	7	0	4
21	0	0	0	0	0	0	0	70	0	0	0	4
22	0	0	0	0	0	0	0	39	0	0	0	3
23	0	0	0	0	0	0	0	66	0	0	0	3
24	0	0	0	0	0	0	0	85	0	0	0	1
25	0	0	0	0	0	0	0	78	0	0	0	0
26	0	0	0	0	0	0	46	36	0	0	0	3
27	0	0	0	0	0	0	72	15	0	0	0	39
28	0	0	0	0	0	0	120	44	0	0	0	0
29	0	0	0	0	0	0	76	22	0	0	0	0
30	0	0	0	0		0	40	12	0	0	0	0
31	0		0	0		0		24		0	0	
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	120	85	192	18	0	39
EOM	0	0	0	0	0	0	40	40	0	0	0	0
ac-ft	0	0	0	0	0	0	701	1694	3396	105	0	147

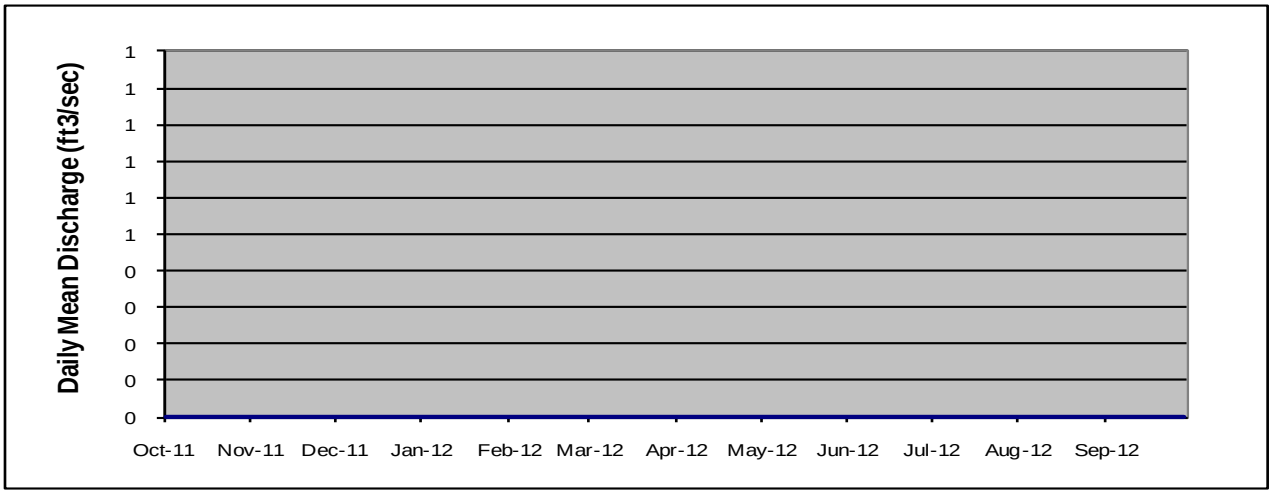


Appendix A (Table 22 of 38)
Olympus Tunnel, CO

Location. --Lat 40°22'24", long 105°29'00", Larimer County, Hydrologic Unit 10190006, southeast of Estes Park, Colorado.
Gage.-- Water-stage recorder and satellite telemetry. Elevation of gage is 7460 from topographic map.
Remarks.— Constructed between 1949 and 1952. The tunnel is 7.2 miles long, between Estes Park and the Pole Hill Canal. Its diameter is 9.75 feet and maximum capacity is 550 cubic feet per second. The right to divert native run-off is determined by the State of Colorado. Period of record from 01-Oct-2011 through 30-Sep-2012. Record is complete and reliable.

Priority Diversion Flow, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0		0	0	0	0	0	0	0
31	0		0	0		0		0		0	0	
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0	0	0	0	0
EOM	0	0	0	0	0	0	0	0	0	0	0	0
ac-ft	0	0	0	0	0	0	0	0	0	0	0	0

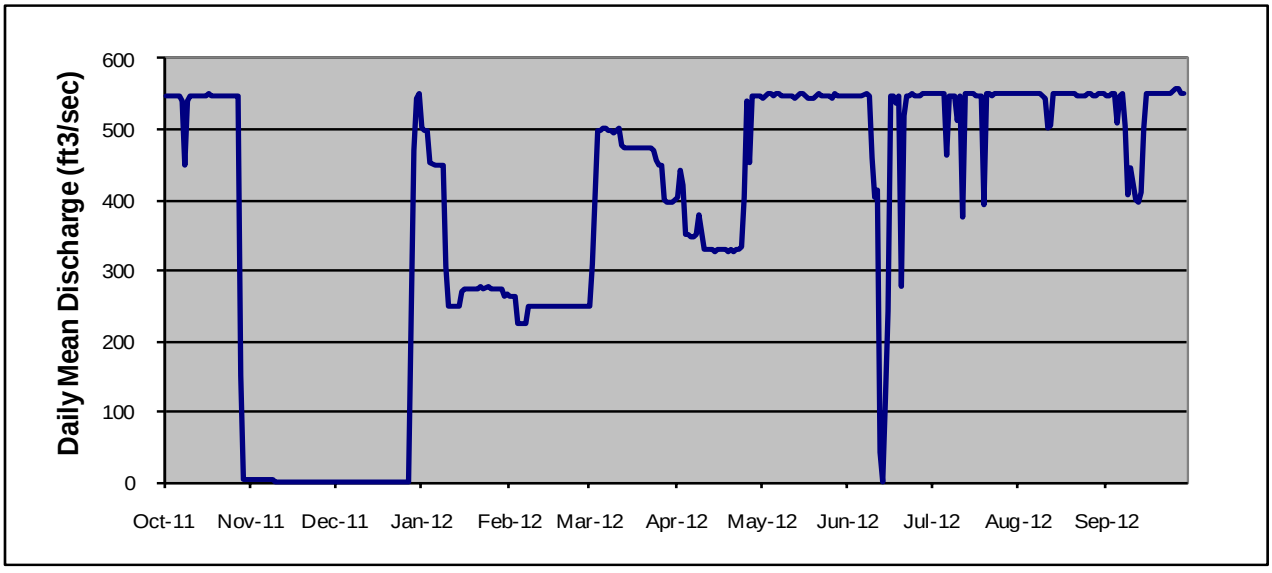


Appendix A (Table 23 of 38)
Olympus Tunnel, CO

Location. --Lat 40°22'24", long 105°29'00", Larimer County, Hydrologic Unit 10190006, southeast of Estes Park, Colorado, on the Big Thompson River.
Gage.-- Water-stage recorder with satellite telemetry. Elevation of gage is 7460 from topographic map.
Remarks.— Constructed between 1949 and 1952. The tunnel is 7.2 miles long, between Estes Park and the Pole Hill Canal. Its diameter is 9.75 feet and maximum capacity is 550 cubic feet per second. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Records are complete and reliable. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	547	2	0	501	262	250	402	545	547	551	549	548
2	548	2	0	498	264	309	441	548	548	552	551	547
3	548	2	0	500	264	498	421	550	549	551	550	552
4	548	2	0	453	226	498	351	551	548	550	550	550
5	548	2	0	448	224	500	351	549	548	551	550	510
6	547	2	0	449	224	501	349	549	549	462	550	547
7	540	2	0	449	224	500	348	550	549	549	551	551
8	450	2	0	449	249	498	349	548	548	548	550	507
9	539	1	0	306	248	496	380	548	459	547	546	409
10	547	1	0	251	249	499	329	547	403	512	543	446
11	547	1	0	251	248	501	329	548	413	546	501	401
12	548	1	0	249	249	477	328	547	41	375	504	395
13	548	1	0	248	248	474	328	545	0	550	552	412
14	548	1	0	249	250	473	327	547	116	550	551	503
15	549	1	0	269	249	473	328	549	240	550	552	551
16	548	1	0	274	249	474	329	551	547	547	551	550
17	550	1	0	273	249	473	329	546	549	547	552	550
18	548	1	0	273	250	474	328	545	535	549	551	549
19	548	1	0	275	250	474	328	545	546	392	552	551
20	548	1	0	275	249	474	329	548	279	549	551	551
21	547	1	0	274	249	473	327	550	519	549	549	551
22	549	1	0	276	250	472	329	548	548	548	549	551
23	549	1	0	274	250	472	329	547	548	551	548	552
24	548	1	0	276	251	455	333	546	549	551	548	551
25	547	1	0	273	250	450	403	547	548	550	552	555
26	547	1	0	274	249	449	539	544	547	551	550	558
27	548	0	0	274	248	401	453	549	551	550	548	558
28	150	0	239	274	249	398	548	547	551	550	548	551
29	2	0	469	274	251	396	547	546	549	550	551	550
30	2	0	545	264		396	546	548	550	551	551	550
31	2		551	265		399		548		550	551	
Min	2	0	0	248	224	250	327	544	0	375	501	395
Max	550	2	551	501	264	501	548	551	551	552	552	558
EOM	2	0	551	265	249	399	546	546	550	550	551	550
ac-ft	29370	61	3589	19674	13703	27872	22492	33615	27670	32829	33568	31100



Appendix A (Table 24 of 38)
Pinewood Reservoir near Loveland, Colorado , CO

Location. --Lat 40°22', long 105°17.9', Larimer County, Hydrologic Unit 10190006, 10 miles southwest of Loveland, Colorado.
Gage.-- Water-level recorder with satellite telemetry. Elevation of gage is 6,600 feet from topographic map.
Remarks.-- Constructed between 1951 and 1952. Impoundment began in January 4, 1954. Active capacity between elevations 6,550.00 and 6.580.00 is 1,570 acre-feet. Used as the forebay storage for Flatiron Powerplant. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Record is complete and reliable. The gage is capable of measuring the water surface elevation down to 6555.70 feet, a content of 604 acre-feet. This record contains operational data which could be subject to future revisions and changes.

Storage, Acre-Feet, 2400-hour Values

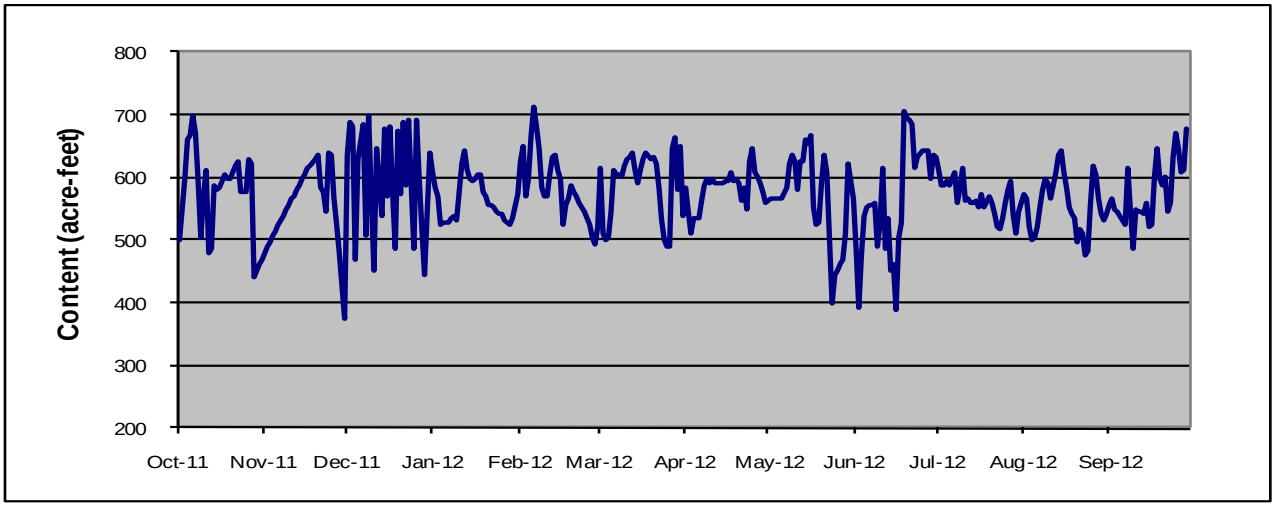
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1066	2099	605	1866	1648	1247	1197	1357	1756	1156	1635	1332
2	1135	2099	605	1856	1611	1321	1311	1345	1931	1281	1587	1254
3	1205	2099	605	1843	1617	1417	1434	1338	1922	1398	1603	1220
4	1277	2097	605	1870	1602	1512	1415	1328	1862	1505	1581	1188
5	1302	2095	605	1885	1577	1519	1423	1320	1867	1620	1548	1110
6	1271	2093	605	1898	1572	1488	1431	1313	1877	1569	1511	1111
7	1232	2091	605	1914	1597	1514	1411	1287	1895	1694	1532	1136
8	1456	2090	605	1928	1584	1538	1399	1235	1906	1806	1447	1217
9	1855	2088	605	2017	1596	1566	1457	1204	1983	1786	1400	1206
10	1833	2086	605	2014	1593	1591	1438	1200	1939	1777	1353	1194
11	1799	2084	605	2004	1593	1624	1409	1197	1880	1793	1247	1192
12	1770	2082	605	1988	1570	1633	1388	1195	1684	1498	1085	1177
13	1747	2080	605	1968	1541	1620	1370	1237	1385	1552	1070	1181
14	1722	2079	605	1951	1497	1637	1349	1243	1216	1608	1085	1159
15	1696	2077	605	1967	1460	1657	1327	1111	1249	1668	1113	1215
16	1671	2075	605	1957	1424	1676	1308	913	1563	1728	1137	1281
17	1648	2073	605	1937	1473	1691	1297	869	1828	1756	1119	1309
18	1617	2070	605	1919	1430	1708	1293	815	1712	1826	1118	1286
19	1640	2070	605	1927	1397	1705	1285	770	1783	1559	1099	1347
20	1690	2069	605	1909	1358	1691	1284	707	1640	1612	1127	1372
21	1737	1932	605	1889	1345	1680	1299	692	1589	1671	1085	1396
22	1786	1564	605	1873	1330	1704	1275	748	1512	1728	956	1472
23	1836	1155	605	1851	1326	1768	1303	864	1476	1730	825	1506
24	1838	715	605	1834	1315	1801	1223	1004	1359	1689	851	1451
25	1807	605	605	1814	1303	1819	1334	986	1234	1648	1251	1411
26	1781	605	605	1795	1295	1840	1503	1045	1133	1602	1641	1368
27	1749	605	605	1774	1283	1607	1364	1118	1051	1565	1838	1319
28	2094	605	667	1757	1267	1491	1355	1194	979	1616	1727	1283
29	2100	605	1506	1740	1252	1467	1368	1321	933	1674	1620	1238
30	2099	605	1907	1723		1290	1373	1428	1034	1725	1515	1257
31	2097		1861	1688		1304		1598		1696	1409	
Min	1066	605	605	1688	1267	1247	1197	692	933	1156	825	1110
Max	2100	2099	1907	2017	1648	1840	1503	1598	1983	1826	1838	1506
EOM	2097	605	1861	1688	1267	1304	1373	1373	1034	1696	1409	1257

Appendix A (Table 25 of 38)
Flatiron Reservoir, CO

Location. --Lat 40°22.1', long 105°13.3', Larimer County, Hydrologic Unit 10190006, 8 miles southwest of Loveland, Colorado.
Gage.-- Water-level recorder with satellite telemetry. Elevation of gage is 5,600 feet from topographic map.
Remarks.-- Constructed between 1951 and 1953. Impoundment began in January, 1954. Active capacity between elevations 5,462.00 and 5.472.80 is 436 acre-feet. Used as the afterbay storage for Flatiron Powerplant. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Record is complete but unreliable. The quality is the data is compromised. This record contains operational data which could be subject to future revisions and changes.

Storage, Acre-Feet, 2400-hour Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	500	480	637	609	625	614	583	564	486	611	574	556
2	548	489	689	582	649	510	545	566	390	587	567	567
3	599	498	682	569	570	500	511	565	474	587	522	548
4	659	506	467	526	598	505	534	568	538	593	501	544
5	669	514	628	526	669	546	536	568	553	587	505	538
6	698	524	658	529	713	610	536	568	556	597	521	525
7	671	532	686	535	683	606	563	582	554	608	551	614
8	593	540	507	538	648	605	586	623	561	559	580	546
9	504	548	698	530	585	603	599	636	490	585	596	487
10	570	557	570	576	569	619	592	625	528	614	589	549
11	612	565	452	622	569	630	598	580	617	563	567	544
12	481	570	645	642	606	631	592	626	484	566	608	546
13	485	580	538	612	632	639	589	625	534	561	635	543
14	586	587	679	597	636	611	589	661	452	559	642	561
15	580	597	569	594	612	590	594	653	463	563	607	522
16	582	606	680	599	596	613	594	668	389	553	585	525
17	592	615	576	604	524	631	608	552	503	572	552	600
18	606	620	488	603	555	639	595	524	528	551	541	647
19	598	630	674	576	568	630	599	529	705	571	536	598
20	597	638	574	568	586	632	591	592	697	558	496	586
21	607	583	689	556	577	623	564	635	692	542	518	601
22	618	575	586	555	571	584	584	609	686	522	510	545
23	627	545	693	553	558	530	550	504	614	516	475	558
24	576	638	588	547	547	501	625	398	632	536	482	631
25	577	635	485	543	536	488	647	444	642	559	560	670
26	628	566	694	542	523	489	610	452	644	579	619	646
27	623	524	597	532	504	647	600	463	642	594	604	607
28	442	479	517	528	494	663	591	469	597	538	565	612
29	451	428	444	524	520	580	578	512	637	512	541	679
30	462	375	545	534		651	561	622	633	547	531	677
31	469		641	572		539		565		559	541	
Min	442	375	444	524	494	488	511	398	389	512	475	487
Max	698	638	698	642	713	663	647	668	705	614	642	679
EOM	469	375	641	572	494	539	561	561	633	559	541	677

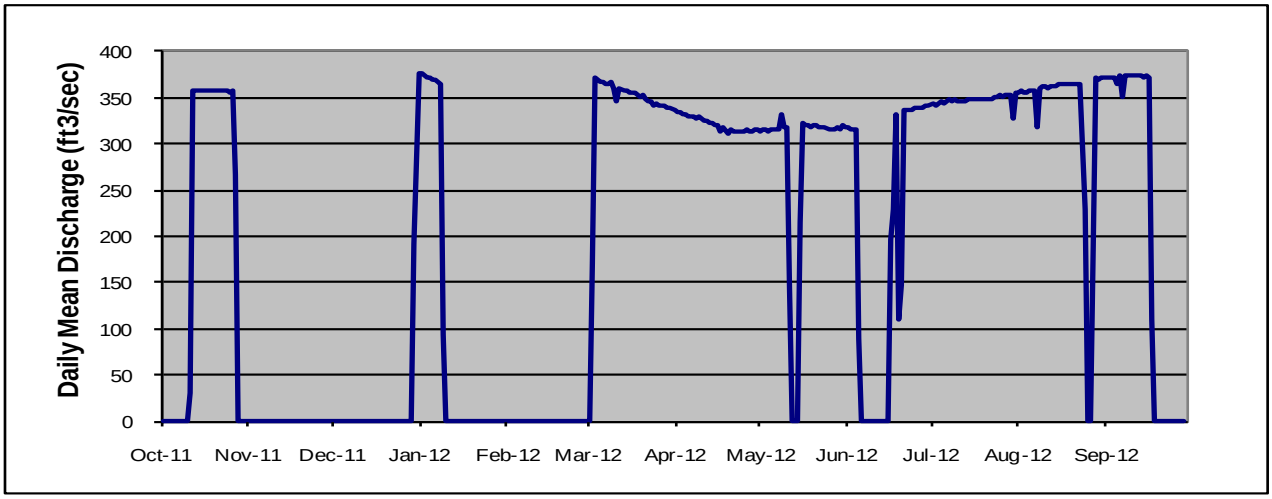


Appendix A (Table 26 of 38)
Flatiron Powerplant Unit #3 Pump, CO

Location. --Lat 40°21'53", long 105°14'09", Larimer County, Hydrologic Unit 10190006, 9 miles west of Loveland, Colorado.
Gage.-- There is no flow meter or gage in place. Flow is estimated by converting Megawatt-hours to cubic feet per second from calibrated tables.
Remarks.-- Constructed between 1951 and 1953. The Powerplant consists of three generating units. Unit #3 can be used to pump water from Flatiron Reservoir to Carter Lake. The maximum capacity is approximately 480 cubic feet per second, but the efficiency varies according to the water surface levels at Carter Lake and Flatiron Reservoir. Discharges are obtained by converting the electric energy needed to pump into flow using an efficiency curve. Record is complete and fair. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	376	0	0	335	314	318	344	355	371
2	0	0	0	375	0	170	336	315	317	343	357	373
3	0	0	0	372	0	371	332	316	315	345	356	373
4	0	0	0	371	0	370	332	314	316	345	356	373
5	0	0	0	370	0	367	330	316	88	344	357	365
6	0	0	0	369	0	368	329	316	0	346	357	373
7	0	0	0	367	0	366	329	316	0	348	318	351
8	0	0	0	366	0	365	328	333	0	347	360	375
9	0	0	0	93	0	367	329	318	0	349	361	373
10	0	0	0	0	0	361	327	318	0	347	362	373
11	31	0	0	0	0	347	325	145	0	347	360	373
12	358	0	0	0	0	361	325	0	0	347	362	375
13	357	0	0	0	0	358	323	0	0	346	363	374
14	359	0	0	0	0	359	322	0	0	348	363	372
15	359	0	0	0	0	355	320	216	0	348	365	374
16	359	0	0	0	0	356	321	322	196	348	364	371
17	359	0	0	0	0	355	313	320	229	348	364	110
18	359	0	0	0	0	352	318	320	332	348	364	0
19	359	0	0	0	0	351	312	317	109	349	365	0
20	358	0	0	0	0	352	316	320	147	349	365	0
21	358	0	0	0	0	348	314	320	337	349	365	0
22	358	0	0	0	0	347	314	319	336	350	366	0
23	358	0	0	0	0	346	313	319	338	350	364	0
24	358	0	0	0	0	342	313	317	337	350	229	0
25	357	0	0	0	0	343	313	316	339	352	0	0
26	358	0	0	0	0	341	316	317	339	351	0	0
27	266	0	0	0	0	342	313	317	340	353	186	0
28	0	0	0	0	0	341	315	318	340	353	372	0
29	0	0	0	0	0	338	315	317	341	354	371	0
30	0	0	191	0		339	315	321	341	326	371	0
31	0		377	0		337		318		356	373	
Min	0	0	0	0	0	0	312	0	0	326	0	0
Max	359	0	377	376	0	371	336	333	341	356	373	375
EOM	0	0	377	0	0	337	315	315	341	356	373	0
ac-ft	11230	0	1124	6058	0	20622	19093	17095	11396	21345	20139	11979

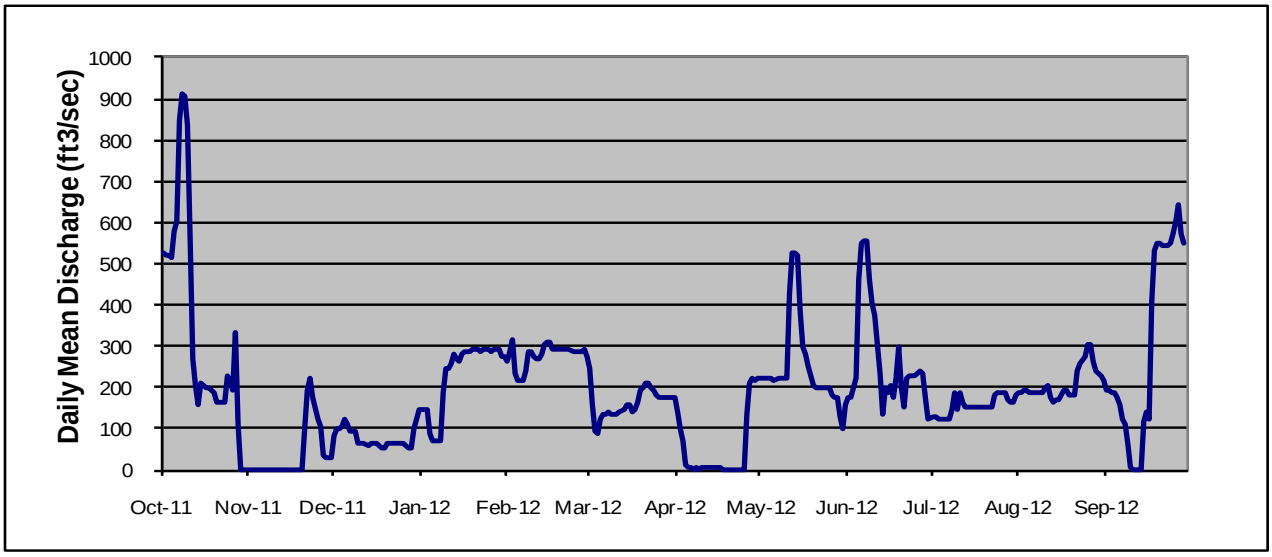


Appendix A (Table 27 of 38)
Charles Hansen Feeder Canal 930 Section, CO

Location. --Lat 40°22'26", long 105°13'52", Larimer County, Hydrologic Unit 10190006, 8 miles southwest of Loveland, Colorado.
Gage.-- Water-stage recorder with satellite telemetry. Elevation of gage is 5470 feet from topographic map.
Remarks.-- Constructed between 1949 and 1953. The canal is 3.8 miles long and has a maximum capacity of 930 cubic feet per second. The canal is used to move Colorado-Big Thompson Project water and diverted native water to the Big Thompson River and/or Horsetooth Reservoir. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Data from this station has been question previously for its accuracy (algae issues). But for Water Year 2012, the record is complete and fair. This record contains operational data which could be subject to future revisions and changes.

Flow, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	525	0	82	145	265	248	140	224	177	127	189	192
2	523	0	99	145	286	156	99	224	177	128	189	194
3	520	0	99	144	317	92	69	224	198	122	193	189
4	516	0	108	89	234	87	13	223	223	120	196	185
5	582	0	123	69	216	121	4	220	463	121	188	176
6	601	0	111	69	218	136	4	219	552	120	189	157
7	845	0	94	70	241	137	3	221	553	123	188	123
8	910	0	93	71	289	138	3	221	553	147	188	112
9	904	0	93	185	289	137	3	223	463	186	186	67
10	834	0	66	244	275	136	3	220	403	144	198	7
11	563	0	62	245	267	136	3	427	372	189	204	1
12	269	0	63	260	268	138	3	529	236	162	177	2
13	203	0	59	282	280	145	3	526	136	154	166	1
14	156	0	62	270	301	156	3	521	202	154	167	115
15	210	0	63	265	311	155	3	388	188	153	169	141
16	206	0	63	282	309	140	3	296	203	153	179	120
17	199	0	59	286	294	145	3	278	175	154	191	408
18	201	0	53	287	291	162	1	249	222	154	191	532
19	185	0	56	290	291	191	0	229	297	154	184	550
20	167	0	63	291	290	198	0	203	202	154	183	552
21	165	99	63	293	290	211	0	198	150	154	184	541
22	165	190	63	289	291	213	0	198	224	153	242	541
23	164	221	67	291	290	198	0	200	228	182	259	541
24	225	173	66	291	289	194	0	199	231	189	277	553
25	214	121	65	290	289	179	0	201	231	188	305	570
26	195	106	66	289	289	175	136	178	236	189	305	604
27	333	37	61	292	289	176	209	174	238	188	266	641
28	108	29	54	290	290	174	221	175	236	168	241	572
29	1	30	50	289	275	174	218	127	176	164	234	548
30	1	29	99	275		174	225	100	125	163	226	539
31	0		146	273		173		156		183	216	
Min	0	0	50	69	216	87	0	100	125	120	166	1
Max	910	221	146	293	317	248	225	529	553	189	305	641
EOM	0	29	146	273	290	173	225	225	125	183	216	539
ac-ft	21162	2052	4690	14164	15544	9892	2723	15386	15974	9584	12809	18764

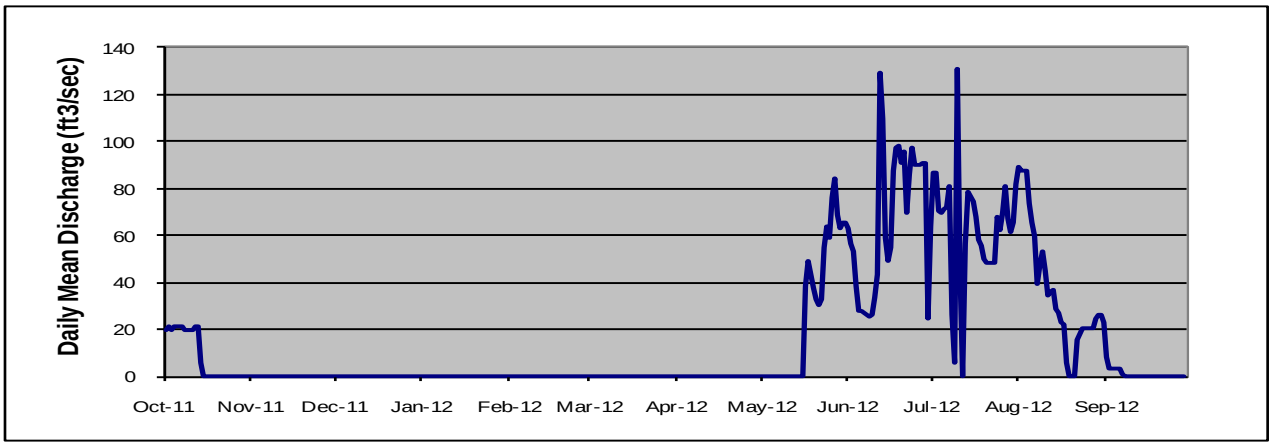


Appendix A (Table 28 of 38)
Dille Tunnel near Drake, CO

Location. --Lat 40°25'02", long 105°14'35", Larimer County, Hydrologic Unit 10190006, 11 miles west of Loveland, Colorado, on the Big Thompson River.
Gage.-- Water-stage recorder with satellite telemetry at Parshall Flume. Elevation of gage is 5520 feet from topographic map.
Remarks.-- Constructed in 1950. Maximum capacity is 600 cubic feet per second. Dille Tunnel diverts water from the Big Thompson River for power generation and water supply. The hydropower diversion operation, also known as the skim operation, diverts water from the Big Thompson River through Dille Tunnel for power generation at the Big Thompson Power Plant, where the diverted water is returned to the river. The skim daily value is determined based on the data from the gage. Recorder was operated from 01-Oct-2011 to 22-Nov-2011 and from early April 2012 to 30-Sep-2012. There were no diversions between during the winter months. Record is complete and reliable. This record contains operational data which could be subject to future revisions and changes.

Hydropower Diversion Flow (Skim), Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	20	0	0	0	0	0	0	0	63	87	89	8
2	21	0	0	0	0	0	0	0	56	87	87	3
3	20	0	0	0	0	0	0	0	54	71	88	3
4	21	0	0	0	0	0	0	0	38	69	74	3
5	21	0	0	0	0	0	0	0	28	71	65	3
6	21	0	0	0	0	0	0	0	28	72	60	3
7	21	0	0	0	0	0	0	0	26	81	39	1
8	20	0	0	0	0	0	0	0	26	26	47	0
9	20	0	0	0	0	0	0	0	26	6	53	0
10	20	0	0	0	0	0	0	0	34	131	45	0
11	20	0	0	0	0	0	0	0	44	46	34	0
12	21	0	0	0	0	0	0	0	129	0	36	0
13	21	0	0	0	0	0	0	0	110	57	37	0
14	6	0	0	0	0	0	0	0	59	79	29	0
15	0	0	0	0	0	0	0	0	49	75	27	0
16	0	0	0	0	0	0	0	0	55	68	23	0
17	0	0	0	0	0	0	0	38	88	58	22	0
18	0	0	0	0	0	0	0	49	97	56	6	0
19	0	0	0	0	0	0	0	37	98	50	0	0
20	0	0	0	0	0	0	0	33	91	48	0	0
21	0	0	0	0	0	0	0	30	96	48	0	0
22	0	0	0	0	0	0	0	32	69	49	16	0
23	0	0	0	0	0	0	0	55	86	49	21	0
24	0	0	0	0	0	0	0	64	97	68	21	0
25	0	0	0	0	0	0	0	59	90	62	21	0
26	0	0	0	0	0	0	0	76	90	69	21	0
27	0	0	0	0	0	0	0	85	91	81	21	0
28	0	0	0	0	0	0	0	69	91	67	24	0
29	0	0	0	0	0	0	0	63	25	62	26	0
30	0	0	0	0		0	0	65	64	65	26	0
31	0		0	0		0		65		82	23	
Min	0	0	0	0	0	0	0	0	25	0	0	0
Max	21	0	0	0	0	0	0	85	129	131	89	8
EOM	0	0	0	0	0	0	0	0	64	82	23	0
ac-ft	541	0	0	0	0	0	0	1625	3951	3832	2139	47

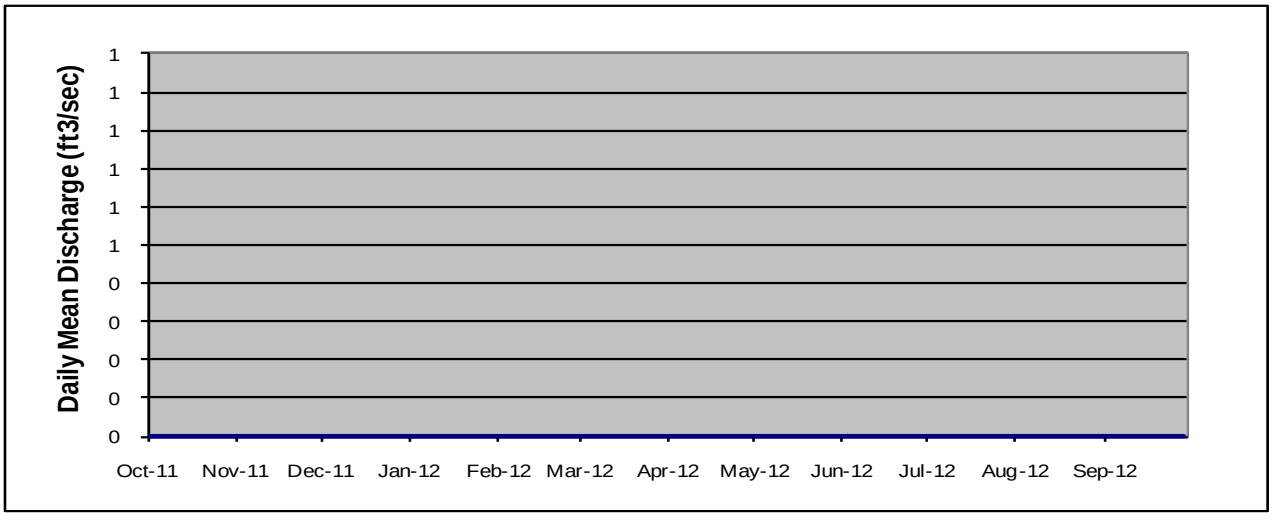


Appendix A (Table 29 of 38)
Dille Tunnel near Drake, CO

Location. --Lat 40°25'02", long 105°14'35", Larimer County, Hydrologic Unit 10190006, 11 miles west of Loveland, Colorado, on the Big Thompson River.
Gage.-- None.
Remarks.-- Constructed in 1950. Maximum capacity is 600 cubic feet per second. Dille Tunnel diverts water from the Big Thompson River for power generation and water supply. The right to divert native run-off is determined by the State of Colorado. Recorder was operated from 01-Oct-2011 to 22-Nov-2011 and from early April, 2012 to 30-Sep-2012. There were no diversions between during the winter months. Record is complete and reliable. This record contains operational data which could be subject to future revisions and changes.

Priority Diversion Flow, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0		0	0	0	0	0	0	0
31	0		0	0		0		0		0	0	
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	0	0	0	0	0	0	0	0	0	0	0	0
EOM	0	0	0	0	0	0	0	0	0	0	0	0
ac-ft	0	0	0	0	0	0	0	0	0	0	0	0

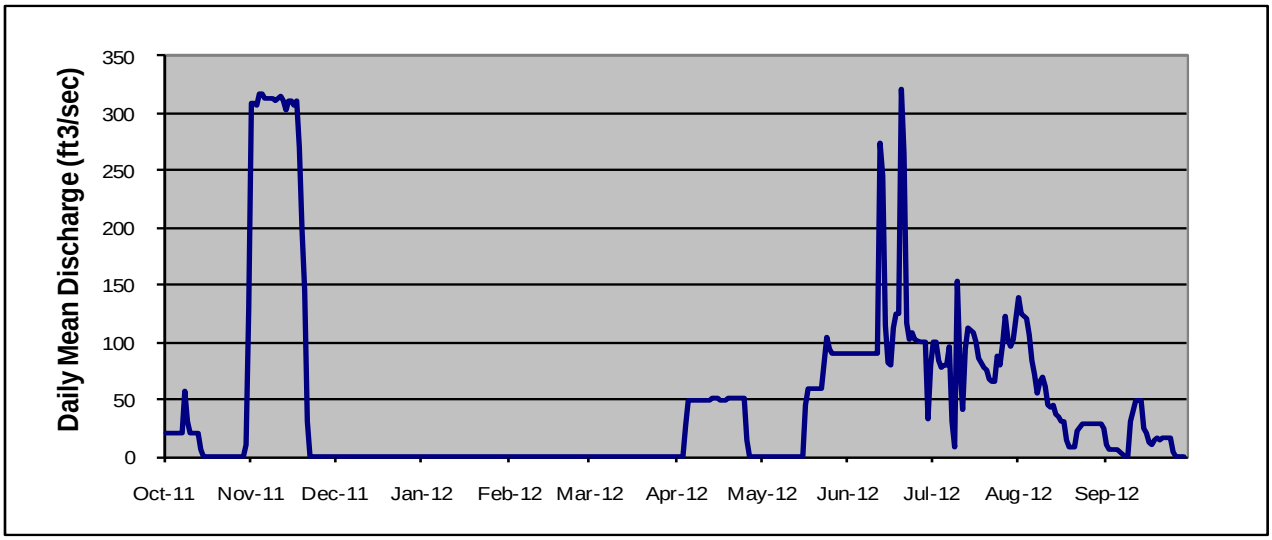


Appendix A (30 of 38)
Dille Tunnel near Drake, CO

Location. --Lat 40°25'02", long 105°14'35", Larimer County, Hydrologic Unit 10190006, 11 miles west of Loveland, Colorado, on the Big Thompson River.
Gage.-- Water-stage recorder with satellite telemetry at Parshall Flume. Elevation of gage is 5520 feet from topographic map.
Remarks.— Constructed in 1950. Maximum capacity is 600 cubic feet per second. Dille Tunnel diverts water from the Big Thompson River for power generation and water supply. Recorder was operated from 01-Oct-2011 to 22-Nov-2011 and from early April, 2012 to 30-Sep-2012. There were no diversions between during the winter months. Record is complete and reliable, although data has not been revised. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	20	309	0	0	0	0	0	0	90	100	140	10
2	20	309	0	0	0	0	0	0	90	100	126	5
3	20	307	0	0	0	0	0	0	91	84	120	5
4	21	317	0	0	0	0	26	0	91	79	106	5
5	21	317	0	0	0	0	49	0	91	79	85	5
6	20	314	0	0	0	0	50	0	91	80	73	5
7	21	313	0	0	0	0	50	0	90	95	55	2
8	58	313	0	0	0	0	50	0	89	31	65	1
9	32	311	0	0	0	0	49	0	89	8	70	1
10	20	313	0	0	0	0	50	0	90	153	62	30
11	20	316	0	0	0	0	50	0	91	80	45	50
12	21	312	0	0	0	0	50	0	275	42	44	50
13	21	303	0	0	0	0	50	0	246	95	45	50
14	5	310	0	0	0	0	50	0	115	112	37	25
15	0	310	0	0	0	0	50	0	81	108	35	21
16	0	307	0	0	0	0	50	0	81	101	31	13
17	0	312	0	0	0	0	50	44	114	87	30	11
18	0	269	0	0	0	0	50	59	124	83	14	15
19	0	199	0	0	0	0	50	59	125	77	8	16
20	0	145	0	0	0	0	50	59	322	75	8	15
21	0	31	0	0	0	0	50	59	265	67	8	16
22	0	0	0	0	0	0	50	59	116	65	23	16
23	0	0	0	0	0	0	51	83	102	65	28	16
24	0	0	0	0	0	0	51	105	109	88	28	16
25	0	0	0	0	0	0	51	95	102	80	28	5
26	0	0	0	0	0	0	14	90	100	98	28	1
27	0	0	0	0	0	0	0	91	100	123	28	1
28	0	0	0	0	0	0	0	91	100	103	28	1
29	0	0	0	0	0	0	0	90	32	95	28	1
30	11	0	0	0		0	0	89	80	103	28	0
31	128		0	0		0		90		121	24	
Min	0	0	0	0	0	0	0	0	32	8	8	0
Max	128	317	0	0	0	0	51	105	322	153	140	50
EOM	128	0	0	0	0	0	0	0	80	121	24	0
ac-ft	915	11754	0	0	0	0	2165	2310	7090	5303	2924	807

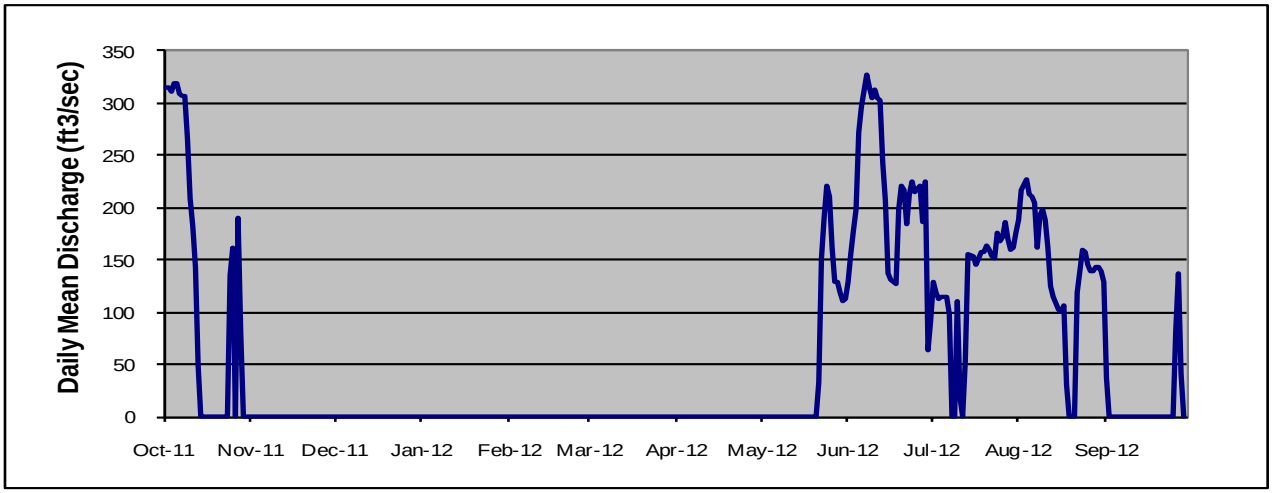


Appendix A (Table 31 of 38)
Big Thompson Power Plant, CO

Location. --Lat 40°25'16", long 105°13'26", Larimer County, Hydrologic Unit 10190006, 9 miles west of Loveland, Colorado, on the Big Thompson River.
Gage.-- Flow meter with satellite telemetry. Elevation of gage is 5280 feet from topographic map.
Remarks.-- Initial operation in 1959. Maximum capacity is 400 cubic feet per second. Power plant returns hydropower diversions to the Big Thompson River downstream of the Big Thompson River canyon mouth. The plant is also used to deliver Colorado-Big Thompson project and Windy Gap Project water to the Big Thompson River. The plant is winterized from November through April each year. This record contains data recorded between 01-Oct-2011 and 30-Sep-2012. Record is complete and fair. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	316	0	0	0	0	0	0	0	129	128	189	38
2	316	0	0	0	0	0	0	0	155	120	216	0
3	312	0	0	0	0	0	0	0	178	112	228	0
4	319	0	0	0	0	0	0	0	199	114	213	0
5	320	0	0	0	0	0	0	0	272	115	210	0
6	310	0	0	0	0	0	0	0	298	115	205	0
7	306	0	0	0	0	0	0	0	327	98	162	0
8	307	0	0	0	0	0	0	0	315	0	191	0
9	266	0	0	0	0	0	0	0	305	0	198	0
10	209	0	0	0	0	0	0	0	313	111	188	0
11	183	0	0	0	0	0	0	0	305	18	162	0
12	144	0	0	0	0	0	0	0	302	0	124	0
13	50	0	0	0	0	0	0	0	243	54	114	0
14	0	0	0	0	0	0	0	0	208	156	109	0
15	0	0	0	0	0	0	0	0	137	153	103	0
16	0	0	0	0	0	0	0	0	130	145	101	0
17	0	0	0	0	0	0	0	0	129	151	106	0
18	0	0	0	0	0	0	0	0	126	157	31	0
19	0	0	0	0	0	0	0	0	198	158	0	0
20	0	0	0	0	0	0	0	0	221	163	0	0
21	0	0	0	0	0	0	0	33	217	159	0	0
22	0	0	0	0	0	0	0	152	184	153	119	0
23	0	0	0	0	0	0	0	191	212	151	161	0
24	136	0	0	0	0	0	0	222	226	175	158	0
25	161	0	0	0	0	0	0	211	216	168	144	0
26	0	0	0	0	0	0	0	161	221	172	139	82
27	190	0	0	0	0	0	0	129	186	186	140	136
28	80	0	0	0	0	0	0	128	226	169	142	42
29	0	0	0	0	0	0	0	118	64	160	143	0
30	0	0	0	0		0	0	111	93	161	139	0
31	0		0	0		0		112		176	130	
Min	0	0	0	0	0	0	0	0	64	0	0	0
Max	320	0	0	0	0	0	0	222	327	186	228	136
EOM	0	0	0	0	0	0	0	0	93	176	130	0
ac-ft	7773	0	0	0	0	0	0	3104	12541	7718	8449	590



Appendix A (Table 32 of 38)
Charles Hansen Feeder Canal Wasteway, CO

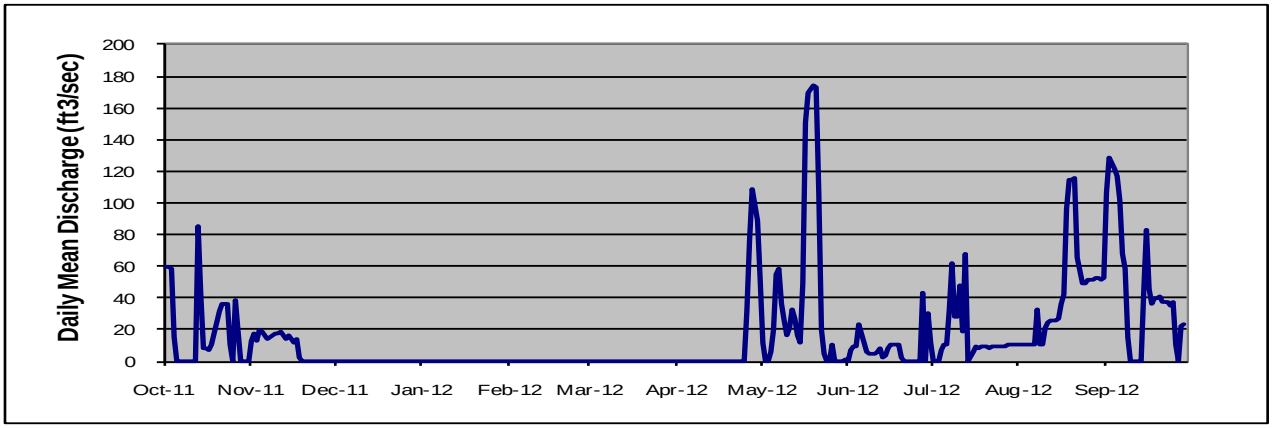
Location. --Lat 40°25'13", long 105°13'28", Larimer County, Hydrologic Unit 10190006, 9 miles west of Loveland, Colorado, on the Big Thompson River.

Gage.-- Water-stage recorder with satellite telemetry at 15 foot Parshall Flume. Elevation of gage is 5465 feet from Designer's Operating Criteria.

Remarks.-- Constructed between 1949 and 1953. Maximum capacity is 400 cubic feet per second. The structure is used to return diverted water and to deliver Colorado-Big Thompson Project and Windy Gap Project water to the Big Thompson River. The structure is winterized between November and April. Recorder was operated in October and November 2011, and between the middle of April and 30-Sep-2012. Record is complete and reliable. These data are provisional operations data and are subject to further revision and change.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	60	13	0	0	0	0	0	11	0	0	11	106
2	60	18	0	0	0	0	0	0	7	0	10	128
3	59	13	0	0	0	0	0	0	10	0	11	125
4	16	20	0	0	0	0	0	6	10	7	11	122
5	0	19	0	0	0	0	0	20	23	10	10	117
6	0	16	0	0	0	0	0	55	18	10	11	102
7	0	14	0	0	0	0	0	58	6	33	33	67
8	0	17	0	0	0	0	0	36	5	62	10	58
9	0	17	0	0	0	0	0	26	5	28	10	16
10	0	17	0	0	0	0	0	16	5	28	21	0
11	0	19	0	0	0	0	0	21	5	47	25	0
12	0	17	0	0	0	0	0	33	8	18	26	0
13	86	14	0	0	0	0	0	27	3	68	26	0
14	42	17	0	0	0	0	0	16	4	0	26	44
15	8	14	0	0	0	0	0	12	9	6	26	83
16	8	12	0	0	0	0	0	49	10	9	37	46
17	8	14	0	0	0	0	0	151	10	9	42	36
18	10	2	0	0	0	0	0	169	10	9	96	40
19	18	0	0	0	0	0	0	174	10	9	115	40
20	32	0	0	0	0	0	0	173	3	9	115	40
21	36	0	0	0	0	0	0	107	0	9	116	38
22	36	0	0	0	0	0	0	20	0	9	65	37
23	36	0	0	0	0	0	0	5	0	9	49	37
24	10	0	0	0	0	0	0	0	0	9	49	35
25	0	0	0	0	0	0	0	0	0	9	52	38
26	38	0	0	0	0	0	32	11	0	9	51	11
27	18	0	0	0	0	0	76	0	43	9	51	0
28	0	0	0	0	0	0	109	0	0	10	53	22
29	0	0	0	0	0	0	88	0	30	11	53	23
30	0	0	0	0		0	51	0	12	11	52	16
31	0		0	0		0		1		11	52	
Min	0	0	0	0	0	0	0	0	0	0	10	0
Max	86	20	0	0	0	0	109	174	43	68	116	128
EOM	0	0	0	0	0	0	51	51	12	11	52	16
ac-ft	1148	539	0	0	0	0	706	2370	487	936	2606	2829

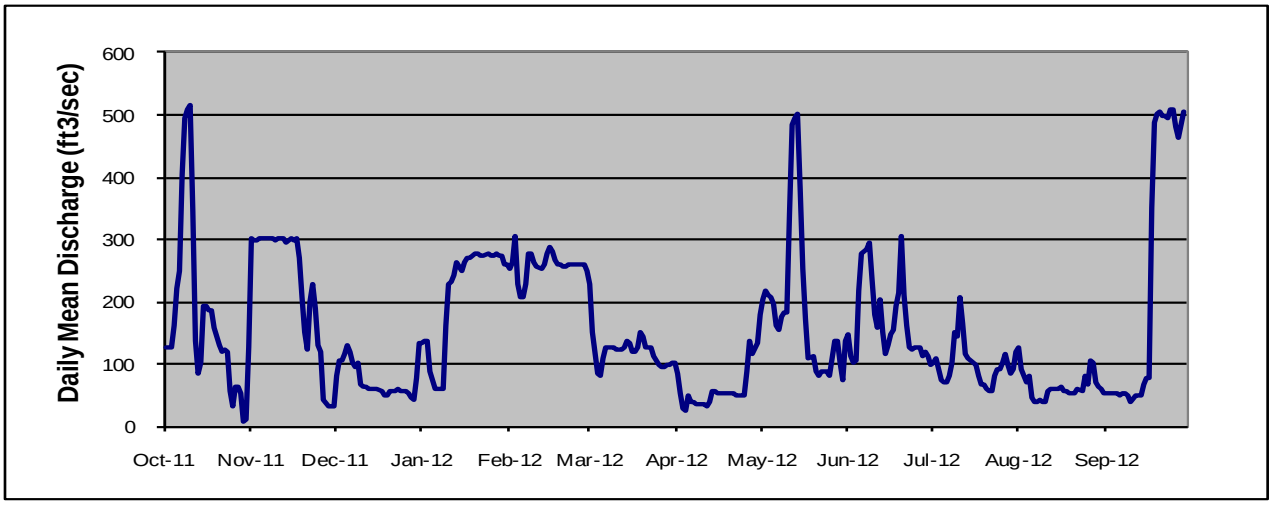


Appendix A (Table 33 of 38)
Charles Hansen Feeder Canal 550 Section, CO

Location. --Lat 40°25'25", long 105°13'34", Larimer County, Hydrologic Unit 10190006, 9 miles west of Loveland, Colorado.
Gage.-- Water-stage recorder with satellite telemetry. Elevation of gage is 5460 feet from topographic map.
Remarks.-- Constructed between 1949 and 1953. The canal is 9.4 miles long and has a maximum capacity of 550 cubic feet per second. The canal is used to convey Colorado-Big Thompson Project water and move native runoff to Horsetooth Reservoir. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Record is complete and reliable. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	125	302	79	133	252	228	84	204	147	103	128	52
2	125	300	107	135	263	150	52	216	111	108	92	52
3	128	297	104	135	306	85	28	210	101	93	71	53
4	160	301	115	86	228	79	25	208	106	73	79	53
5	222	302	131	61	206	108	49	196	218	69	45	52
6	248	301	118	61	208	125	39	162	278	69	37	50
7	405	303	101	61	227	126	38	154	284	82	38	53
8	494	301	96	61	277	127	36	176	296	103	43	52
9	507	298	101	160	277	125	35	184	236	149	39	51
10	515	300	68	228	264	123	34	181	178	144	38	38
11	349	301	63	230	255	123	33	339	158	208	57	48
12	136	301	64	243	253	123	40	483	204	163	59	48
13	83	295	60	263	260	127	55	494	150	116	60	48
14	101	299	59	256	278	136	55	501	115	109	59	67
15	192	301	60	250	286	133	54	381	129	101	60	76
16	193	299	59	264	281	118	53	253	148	99	64	77
17	186	302	57	269	266	118	52	171	154	79	57	350
18	186	272	48	270	260	128	52	109	191	68	57	487
19	158	206	48	274	258	149	51	113	214	66	54	501
20	128	150	56	276	257	143	51	87	304	61	53	505
21	121	124	56	278	256	125	51	82	210	56	53	497
22	121	200	56	274	259	125	50	86	161	56	59	499
23	118	228	58	275	259	113	50	88	127	80	55	496
24	57	188	58	276	259	106	51	87	124	90	80	509
25	31	129	56	275	259	97	50	80	126	90	66	510
26	63	119	56	274	259	94	88	108	125	101	107	481
27	65	42	53	276	260	96	135	137	113	115	101	464
28	52	30	44	275	260	97	116	138	121	97	69	486
29	7	32	42	274	247	99	134	101	113	84	63	505
30	10	30	78	261		102	178	73	99	93	59	505
31	125		133	259		102		136		118	52	
Min	7	30	42	61	206	79	25	73	99	56	37	38
Max	515	303	133	278	306	228	178	501	304	208	128	510
EOM	125	30	133	259	260	102	178	178	99	118	52	505
ac-ft	10712	13569	4530	13294	14318	7382	3605	11760	9975	6026	3870	15173

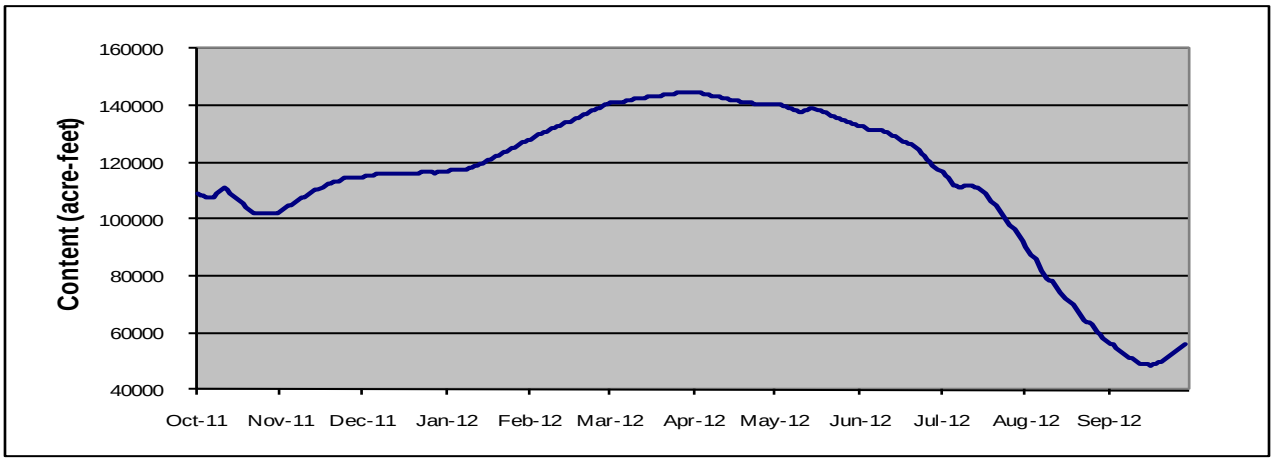


Appendix A (34 of 38)
Horsetooth Reservoir near Fort Collins, CO

Location. —Lat 40°36'00", long 105°10'05" , Larimer County, Hydrologic Unit 10190007, at Horsetooth Dam outlet works, 4.8 miles west of Fort Collins, Colorado.
Gage.— Water level recorder with satellite telemetry. Elevation of gage is 5300 from topographic map.
Remarks.—Reservoir is formed by four earth-fill dams. Construction completed in 1949. Impoundment began in 1951. Horsetooth Reservoir is one of two terminal reservoirs for Colorado-Big Thompson Project diversions. Transmountain diversions are stored at Horsetooth Reservoir before final delivery. Maximum capacity is 156,735 acre-feet at elevation 5430.00 ft, with 142,038 acre-feet of active storage. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. Record is complete but fair. This record contains operational data which could be subject to future revisions and changes.

Storage, Acre-Feet, 2400-hour Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	108972	102724	114921	116952	128235	140942	144504	140174	132787	116517	90418	56283
2	108535	103394	115042	117161	128709	141192	144465	140212	132471	115440	88818	55749
3	108049	103936	115215	117388	129387	141250	144387	140154	131988	114352	87759	54857
4	107631	104611	115353	117458	129755	141365	144231	140078	131562	113217	86991	53864
5	107346	105073	115527	117511	130122	141384	144057	139790	131340	112174	85706	53071
6	107413	105684	115708	117511	130435	141500	143745	139408	131322	111627	83926	52366
7	107915	106298	115844	117616	130768	141754	143570	139045	131322	111441	82108	51748
8	108753	106913	115927	117651	131229	142079	143221	138587	131414	111458	80337	51422
9	109511	107413	115931	117878	131748	142195	143008	138188	131285	111576	79243	51075
10	110286	107966	115936	118229	132192	142349	142930	137883	130823	111559	78656	50408
11	110862	108535	115941	118649	132601	142484	142678	137769	130380	111576	78071	49688
12	110168	109258	115978	118966	133085	142601	142426	138150	130086	111525	77107	49415
13	109258	109646	116013	119441	133477	142736	142311	138492	129645	111373	75516	49189
14	108266	110303	116082	119882	133963	142853	142195	138759	129149	111219	73970	48974
15	107513	110795	116065	120235	134468	142969	141847	138854	128636	110778	72315	48782
16	106864	111356	116134	120820	134974	143066	141828	138683	128107	109899	71238	48580
17	105983	111951	116116	121139	135369	143202	141673	138283	127541	108770	70626	48850
18	105271	112327	116238	121654	135840	143241	141442	137826	126977	107530	70044	49166
19	104495	112771	116168	122188	136273	143356	141153	137428	126522	106315	68862	49438
20	103690	113046	116203	122599	136821	143570	141018	136992	126197	105502	67355	49779
21	102855	113217	116203	123170	137049	143745	140980	136481	125671	104808	66047	50419
22	102285	113474	116325	123494	137750	143862	140884	135990	124949	103789	64713	51064
23	102252	113922	116447	124067	138092	143998	140710	135595	124103	102333	63855	51724
24	102203	114403	116447	124553	138454	144095	140576	135256	123278	100855	63468	52390
25	102220	114386	116447	125058	138873	144192	140499	134918	122278	99549	62772	53130
26	102220	114714	116517	125437	139313	144309	140403	134618	121263	98189	61761	53876
27	102252	114714	116604	125871	139771	144309	140423	134299	120182	97344	60567	54557
28	102220	114732	116360	126450	140250	144406	140480	134037	119071	96647	59322	55266
29	102040	114732	116569	126904	140557	144465	140384	133738	118299	95384	58065	55944
30	102008	114714	116708	127395		144484	140346	133290	117511	93693	57288	56638
31	102171		116760	127797		144523		133010		92079	56736	
Min	102008	102724	114921	116952	128235	140942	140346	133010	117511	92079	56736	48580
Max	110862	114732	116760	127797	140250	144523	144504	140212	132787	116517	90418	56638
EOM	102171	114714	116760	127797	140250	144523	140346	140346	117511	92079	56736	56638

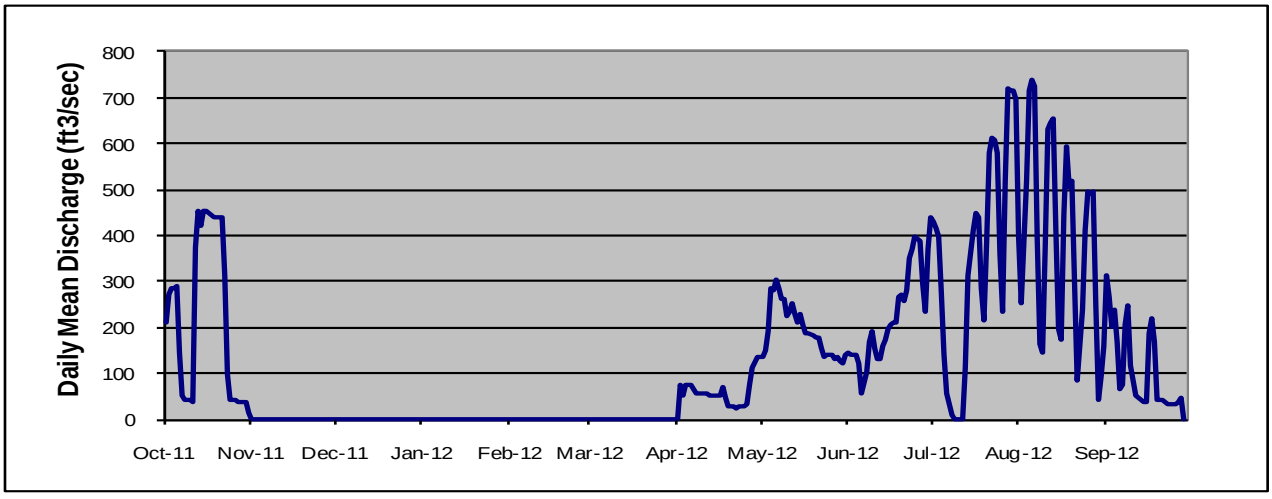


Appendix A (35 of 38)
Charles Hansen Supply Canal below Horsetooth Reservoir, CO

Location. --Lat 40°36'01", long 105°10'18", Larimer County, Hydrologic Unit 10190007, 4 miles west of Fort Collins, Colorado.
Gage.-- Two flow meters with satellite telemetry have now been installed at each of the conduits leading toward the hollow jet valves. Elevation of gage has not been determined.
Remarks.-- Constructed between 1950 and 1952. The canal is 5.1 miles long and has a maximum capacity of 1500 cubic feet per second. The canal is used to deliver Colorado-Big Thompson Project and Windy Gap Project water stored at Horsetooth Reservoir. Recorder was operated from 01-Oct-2011 to 30-Sep-2012 by the Northern Colorado Water Conservancy District. Record is complete and fair. This record contains operational data which could be subject to future revisions and changes.

Discharge, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	212	0	0	0	0	0	0	136	143	432	400	313
2	269	0	0	0	0	0	74	149	138	416	252	266
3	285	0	0	0	0	0	53	190	140	399	520	203
4	287	0	0	0	0	0	76	288	140	276	716	238
5	288	0	0	0	0	0	76	279	122	141	741	170
6	145	0	0	0	0	0	76	303	58	58	727	68
7	51	0	0	0	0	0	63	287	102	32	395	75
8	40	0	0	0	0	0	55	261	167	12	165	204
9	41	0	0	0	0	0	56	262	192	0	143	246
10	41	0	0	0	0	0	56	227	154	0	374	116
11	38	0	0	0	0	0	55	236	130	0	630	51
12	373	0	0	0	0	0	52	253	130	0	646	46
13	456	0	0	0	0	0	52	230	159	113	654	40
14	419	0	0	0	0	0	52	212	173	312	414	39
15	454	0	0	0	0	0	52	227	194	413	198	36
16	453	0	0	0	0	0	52	206	208	451	175	189
17	450	0	0	0	0	0	68	189	210	438	446	219
18	443	0	0	0	0	0	45	187	209	285	593	169
19	439	0	0	0	0	0	27	182	266	216	505	41
20	442	0	0	0	0	0	27	180	270	382	520	41
21	440	0	0	0	0	0	27	180	259	578	301	41
22	313	0	0	0	0	0	25	153	281	612	84	36
23	99	0	0	0	0	0	26	137	349	607	238	32
24	44	0	0	0	0	0	27	138	371	580	411	31
25	43	0	0	0	0	0	27	139	400	360	495	31
26	41	0	0	0	0	0	34	139	388	233	493	32
27	39	0	0	0	0	0	73	131	293	519	497	40
28	39	0	0	0	0	0	112	133	236	720	250	45
29	39	0	0	0	0	0	136	126	369	714	42	0
30	39	0	0	0		0	134	121	440	715	93	0
31	12		0	0		0		140		695	157	
Min	12	0	0	0	0	0	0	121	58	0	42	0
Max	456	0	0	0	0	0	136	303	440	720	741	313
EOM	12	0	0	0	0	0	134	134	440	695	157	0
ac-ft	13411	15	9	13	11	20	3337	11926	13250	21205	24304	6050



Appendix A (36 of 38)
Carter Lake near Berthoud, Colorado, CO

Location. --Lat 40°19' 28" , long 105°12' 41" , Larimer County, Hydrologic Unit 10190006, on Dam #1, 7 miles northwest of Berthoud, Colorado, and 10 miles west of Loveland, Colorado.
Gage.--Water level recorder with satellite telemetry. Elevation of gage is 5770 from topographic map.
Remarks.--Reservoir is formed by three earth-fill dams. Construction completed in 1952. Carter Lake is one of two terminal reservoirs for Colorado-Big Thompson Project water diversions. Transmountain water diversions are stored at Carter Lake before final delivery. Maximum capacity is 112,200 acre-feet at elevation 5759.00 ft, with 108,900 acre-feet of active capacity. Recorder was operated from 01-Oct-2011 to 30-Sep-2012. A new radio transmitter was installed in July 2010. Record is complete and fair. This record contains operational data which could be subject to future revisions and changes.

Storage, Acre-Feet, 2400-hour Values

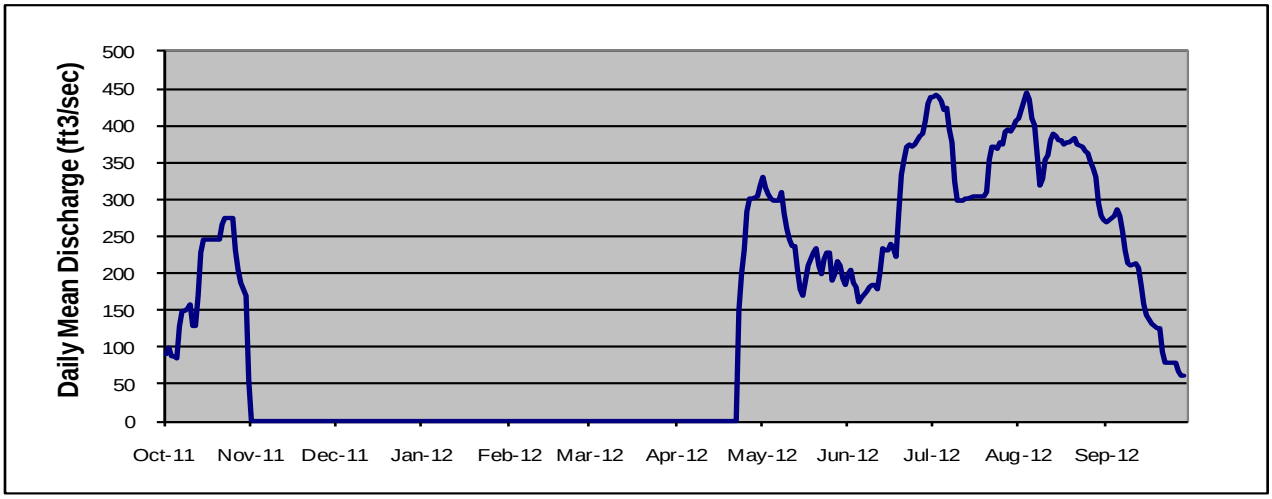
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	72217	65817	62779	58839	61973	60098	78411	88945	86570	74218	67311	58821
2	71843	65712	62470	59518	61918	60338	78950	88830	86622	73800	67023	58747
3	71489	65655	62208	60171	61936	60986	79530	88661	86727	73393	66697	58647
4	71136	65550	62161	60829	61862	61610	80154	88514	86811	72997	66343	58592
5	70754	65455	61657	61498	61787	62273	80686	88387	86351	72572	66065	58491
6	70276	65340	61331	62133	61731	62873	81220	88219	85891	72217	65769	58391
7	69565	65321	61052	62779	61657	63503	81796	88187	85338	72049	65465	58309
8	68440	65245	60977	63418	61572	64154	82311	88134	84745	71863	65321	58355
9	67225	65160	60514	63588	61554	64817	82879	88029	84163	71814	65150	58419
10	66505	65064	60440	63513	61470	65465	83396	87987	83490	71735	64970	58473
11	66161	64989	60366	63446	61386	66065	83852	87609	82858	71607	64751	58537
12	66477	64960	59997	63362	61340	66707	84402	87000	82208	71528	64524	58638
13	66697	64770	59941	63305	61266	67283	84943	86382	81539	71372	64277	58894
14	66793	64694	59591	63258	61238	67928	85516	85839	80830	71234	64079	59096
15	66918	64618	59491	63183	61135	68565	86069	85745	80092	71097	63861	59371
16	66918	64533	59215	63127	61089	69176	86549	85860	79816	70970	63569	59619
17	66975	64439	59105	63014	60977	69759	87042	86027	79428	70842	63418	59454
18	67023	64296	59032	62863	60949	70325	87556	86027	79388	70715	63192	58995
19	67110	64240	58711	62892	60885	70911	88039	86038	78715	70578	62929	58555
20	67167	64145	58638	62816	60885	71587	88556	86027	78045	70422	62648	58082
21	67206	64088	58391	62741	60764	72207	89496	86121	77782	70207	62470	57682
22	67206	63985	58355	62629	60653	72799	89506	86163	77509	69964	62264	57247
23	67244	63909	58055	62582	60671	73374	89633	86163	77155	69672	62058	56885
24	67244	63804	57972	62507	60597	73939	89686	86173	76843	69468	61629	56470
25	67292	63729	57908	62451	60625	74486	89708	86204	76540	69215	60671	56111
26	67475	63626	57509	62376	60440	75045	89570	86277	76179	68943	59822	55797
27	67504	63551	57428	62320	60421	75596	89474	86361	75837	68681	59316	55511
28	67043	63465	57355	62217	60329	76259	89401	86372	75496	68420	59160	55197
29	66582	63305	57256	62217	60255	76783	89263	86403	75076	68140	59041	54921
30	66113	63221	57618	62096		77317	89126	86487	74656	67841	58958	54636
31	65846		58264	61992		77873		86591		67591	58867	
Min	65846	63221	57256	58839	60329	60098	78411	85745	74656	67591	58867	54636
Max	72217	65817	62779	63588	61973	77873	89708	88945	86811	74218	67311	59619
EOM	65846	63221	58264	61992	60329	77873	89126	89126	74656	67591	58867	54636

Appendix A (37 of 38)
Saint Vrain Canal below Carter Reservoir, CO

Location. --Lat 40°19'27", long 105°12'35", Larimer County, Hydrologic Unit 10190006, downstream from Carter Reservoir Dam #1, 7 miles northwest of Berthoud, Colorado, and 10 miles west of Loveland, Colorado.
Gage.-- Water-stage recorder with telephone telemetry. Data provided by the Northern Colorado Water Conservancy District. Elevation of gage is 5,590 feet from topographic map.
Remarks.-- Constructed between 1952 and 1954. The canal is 9.8 miles long and has a maximum capacity of 625 cubic feet per second. The canal is used to deliver Colorado-Big Thompson Project and Windy Gap Project water as well as diverted native water from conveyance contract holders. Record was provided by the Northern Colorado Water Conservancy District for the period 01-Oct-2011 to 30-Sep-2012. Record is complete and fair. This record contains operational data which could be subject to future revisions and changes.

Flow, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	89	0	0	0	0	0	0	330	198	440	408	270
2	98	0	0	0	0	0	0	315	205	441	421	273
3	87	0	0	0	0	0	0	306	188	440	443	275
4	88	0	0	0	0	0	0	301	180	433	436	278
5	83	0	0	0	0	0	0	299	162	422	410	287
6	130	0	0	0	0	0	0	299	168	425	400	277
7	148	0	0	0	0	0	0	299	175	395	361	257
8	148	0	0	0	0	0	0	309	182	378	318	232
9	153	0	0	0	0	0	0	280	185	325	329	214
10	159	0	0	0	0	0	0	261	185	298	353	210
11	129	0	0	0	0	0	0	246	178	298	360	213
12	127	0	0	0	0	0	0	238	202	298	380	208
13	169	0	0	0	0	0	0	238	235	301	390	186
14	227	0	0	0	0	0	0	206	232	302	387	158
15	246	0	0	0	0	0	0	178	232	304	381	143
16	246	0	0	0	0	0	0	168	238	305	379	137
17	246	0	0	0	0	0	0	189	233	305	376	132
18	246	0	0	0	0	0	0	211	223	305	376	130
19	246	0	0	0	0	0	0	228	280	305	377	127
20	246	0	0	0	0	0	0	234	333	311	380	125
21	265	0	0	0	0	0	0	211	352	353	382	95
22	275	0	0	0	0	0	0	200	372	372	374	80
23	275	0	0	0	0	0	150	219	374	372	370	80
24	275	0	0	0	0	0	200	229	370	369	365	80
25	275	0	0	0	0	0	232	229	373	378	363	80
26	230	0	0	0	0	0	283	189	385	376	351	80
27	205	0	0	0	0	0	300	200	389	391	342	67
28	188	0	0	0	0	0	300	215	406	396	329	60
29	179	0	0	0	0	0	303	212	429	393	296	60
30	170	0	0	0		0	318	193	439	397	277	57
31	55		0	0		0		185		405	272	
Min	55	0	0	0	0	0	0	168	162	298	272	57
Max	275	0	0	0	0	0	318	330	439	441	443	287
EOM	55	0	0	0	0	0	318	318	439	405	272	57
ac-ft	11296	0	0	0	0	0	4132	14685	16045	22238	22544	9643

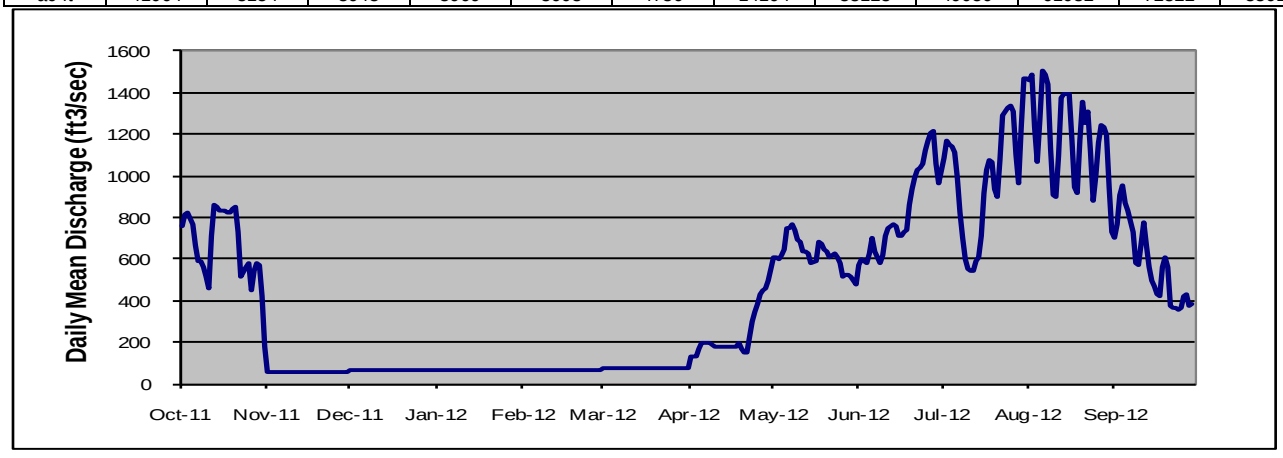


Appendix A (38 of 38)
Colorado-Big Thompson Project, CO

Location. -- Larimer , Grand, Summit, Boulder, Weld counties in Colorado, hydrologic units 14010001, 14010002 and 10190006, 10190007, on the Colorado River, Big Thompson River and Cache La Poudre River Basins.
Remarks.— This table presents a summation of all the daily deliveries of Colorado-Big Thompson Project and Windy Gap Project water through the Saint Vrain Canal, the Charles Hansen Supply Canal, the Dixon Canal ,the Charles Hansen Feeder Canal and small deliveries upstream from Flatiron Reservoir. These values include metered water. The Colorado-Big Thompson Project is a transmountain water diversion system. The water diverted is used for irrigation, municipal and industrial purposes, to generate hydroelectric power and to provide recreation for the public. This record contains operational data which could be subject to future revisions and changes. Period of record is between 01-Oct-2011 and 30-Sep-2012. Data was provided by the Northern Colorado Water Conservancy District. Record is complete and reliable.

Total Daily Water Deliveries, Cubic Feet per Second, Daily Mean Values

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	757	53	64	65	65	78	126	609	568	1088	1463	700
2	818	53	64	65	65	78	127	606	600	1166	1487	764
3	826	53	64	65	65	78	128	603	593	1155	1234	910
4	791	53	64	65	65	78	170	613	578	1138	1069	953
5	769	53	64	65	65	78	197	650	625	1115	1276	874
6	669	53	64	65	65	78	196	753	702	990	1504	833
7	588	53	64	65	65	78	196	748	635	824	1484	729
8	587	53	64	65	65	78	195	769	581	706	1439	582
9	562	53	64	65	65	78	184	738	615	603	1129	572
10	512	53	64	65	65	78	175	697	713	555	910	678
11	457	53	64	65	65	78	176	682	750	543	895	773
12	713	53	64	65	65	78	177	637	757	543	1093	662
13	858	53	64	65	65	78	177	638	767	590	1379	557
14	847	53	64	65	65	78	176	625	759	610	1394	496
15	835	53	64	65	65	78	175	577	710	712	1393	469
16	833	53	64	65	65	78	175	585	712	920	1177	435
17	832	53	64	65	65	78	175	680	730	1028	944	417
18	822	53	64	65	65	78	175	670	735	1077	920	562
19	821	53	64	65	65	78	196	647	864	1069	1171	608
20	844	53	64	65	65	78	172	641	939	940	1355	557
21	854	53	64	65	65	78	149	609	995	899	1253	377
22	734	53	64	65	65	78	146	616	1028	1079	1307	364
23	519	53	64	65	65	78	295	628	1035	1289	1116	364
24	565	53	64	65	65	78	347	606	1058	1327	879	360
25	576	53	64	65	65	78	382	578	1124	1339	1001	369
26	452	53	64	65	65	78	434	518	1166	1307	1158	425
27	540	53	64	65	65	78	451	523	1206	1103	1245	432
28	581	53	64	65	66	78	455	525	1215	967	1231	372
29	572	55	64	65	66	78	491	513	1053	1231	1196	379
30	423	54	64	65		78	548	494	964	1465	946	407
31	180		64	65		78		478		1471	731	
Min	180	53	64	65	65	78	126	478	568	543	731	360
Max	858	55	64	65	66	78	548	769	1215	1471	1504	953
EOM	180	54	64	65	66	78	548	548	964	1471	731	407
ac-ft	41064	3154	3943	3969	3608	4786	14194	38123	49056	61082	72822	33619



APPENDIX B – OPERATIONAL DATA

TABLE 1

WESTERN DIVISION – PICK-SLOAN MISSOURI BASIN PROGRAM
PERTINENT RESERVOIR DATA

(Data in Acre-feet)

Reservoir	Dead Storage 1/	Active Storage 2/	Total Storage	Normal Minimum Storage	Limitation on normal minimum storage
Green Mountain	6,860	146,779	153,639	47,684	Minimum elevation for rated power output
Willow Creek	1,486	9,779	10,553	6,675	Elevation of pump canal head-works
Lake Granby	74,190	465,568	539,758	74,190	Lowest outlet elevation
Shadow Mountain	506	16,848	17,354	16,026	Minimum permissible Grand Lake elevation; 8,366 ft.
Grand Lake	3/	511	1,015	504	Legislation limits fluctuation
Marys Lake	42	885	927	308	Minimum elevation for power generation
Lake Estes	409	2,659	3,068	740	Minimum elevation to release 550 ft^3/s
Pinewood Lake	416	1,765	2,181	613	Minimum elevation for power generation
Flatiron	125	635	760	324	Minimum elevation to release 550 ft^3/s
Carter Lake	3,306	108,924	112,230	306	Lowest outlet elevation
Horsetooth	7,003	149,732	156,735	17,600	Elevation on highest delivery works
Total	94,343	903,373	998,220	167,970	

1/ Storage capacity below elevation of lowest outlet
2/ Total storage minus dead storage
3/ Not determined

TABLE 2

COLORADO-BIG THOMPSON PROJECT

WATER YEAR 2012 — **MONTHLY SUMMARY OF BLUE RIVER OPERATIONS** — **(ACRE-FEET)**

	INI	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
UNDEPLETED RUNOFF ABOVE GREEN MTN. RESERVOIR		19,600	14,100	10,000	9,800	8,300	12,300	23,900	38,100	33,700	23,200	17,800	12,900	223,700
UNDEPLETED RUNOFF ABOVE DILLON RES.		11,100	7,300	5,000	5,200	4,500	6,000	13,700	22,800	16,900	11,500	10,200	7,700	121,900
PERCENT OF TOTAL UN-DEPLETED RUNOFF ORI-GINATING ABOVE DILLON		0.566	0.518	0.500	0.531	0.542	0.488	0.573	0.598	0.502	0.496	0.573	0.597	0.545
DEPLETIONS BY 1929 COLORADO SPRINGS RIGHT		0	0	0	0	0	0	61	104	111	55	29	0	360
DEPLETIONS BY 1948 COLORADO SPRINGS RIGHT		37	-157	0	0	0	0	305	1238	1691	32	-5	-2	3139
INFLOW TO DILLON		11,100	7,500	5,000	5,200	4,500	6,000	13,300	21,400	15,000	11,400	10,200	7,700	118,300
DILLON STORAGE (1000 AF)	247.8	243.2	239.2	240.8	242.7	244.1	243.1	239.6	243.2	234.9	221.8	208.0	198.9	
ROBERTS TUNNEL DIVERSIONS		9,000	5,200	0	0	0	2,900	13,700	13,900	19,200	20,400	19,700	12,600	116,600
DILLON OUTFLOW TO THE RIVER		5,500	5,200	3,400	3,300	3,100	4,000	3,200	3,300	3,200	3,300	3,300	3,200	44,000
TOTAL DEPLETIONS BY DENVER		5,500	2,200	1,600	1,900	1,400	2,000	10,100	18,000	11,800	8,000	6,800	4,500	73,800
RUNOFF ORIGINATING BETWEEN DILLON AND GREEN MTN RESERVOIR		8,700	6,900	5,100	4,700	3,900	6,300	10,300	15,600	17,100	12,000	7,700	5,300	103,600
ACTUAL INFLOW TO GREEN MTN RESERVOIR		14,000	12,100	8,400	7,900	6,900	10,300	13,400	18,700	20,200	15,100	10,900	8,400	146,300
GREEN MTN RESERVOIR STORAGE (1000 AF)	137.9	104.2	100.5	93.8	87.1	82.4	79.7	88.9	102.4	107.1	96.0	82.4	76.7	
TOTAL GREEN MTN OUTFLOW		47,400	15,700	15,100	14,600	11,700	12,900	4,000	4,500	14,500	25,600	23,900	13,650	203,550

PICK-SLOAN MISSOURI BASIN PROGRAM
WESTERN DIVISION WATER AND POWER SYSTEM
COLORADO-BIG THOMPSON PROJECT

2012 ACTUAL OPERATIONS

WATER IN 1000 ACRE-FEET *** *** *** *** *** ENERGY IN GWH

	INITIAL OR TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
GREEN MOUNTAIN RESERVOIR													
Depleted Watershed Inflow	146.3	14.0	12.1	8.4	7.9	6.9	10.3	13.4	18.7	20.2	15.1	10.9	8.4
Turbine Release	190.4	47.4	15.7	15.1	14.6	11.7	12.6	00.0	00.0	12.6	25.6	23.9	11.2
Bypass	13.1	0.0	0.0	0.0	0.0	0.0	0.3	4.0	4.5	1.9	0.0	0.0	2.4
Spill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
End of Month Content	137.9	104.2	100.5	93.8	87.1	82.4	79.7	88.9	102.4	107.1	96.0	82.4	76.7
Kwh/AF		200.4	159.2	152.3	150.7	136.8	142.9	0.0	0.0	182.5	187.5	175.7	169.6
Generation	33.1	9.5	2.5	2.3	2.2	1.6	1.8	0.0	0.0	2.3	4.8	4.2	1.9
WILLOW CREEK RESERVOIR													
Inflow	30.9	2.0	1.5	1.1	1.0	0.9	2.1	8.7	7.3	2.6	1.7	1.1	0.8
Release to River	9.9	2.0	1.3	0.4	0.4	0.4	0.4	0.4	1.4	1.7	0.5	0.4	0.6
Pumped to Granby	16.9	0.0	0.0	0.0	0.0	0.0	2.7	8.2	5.2	0.2	0.0	0.6	0.0
End of Month Content	7.2	7.2	7.4	8.1	8.6	9.1	8.0	7.8	8.2	8.8	9.7	9.6	9.7
Pump Energy	3.3	0.0	0.0	0.0	0.0	0.0	0.5	1.6	1.1	0.0	0.0	0.1	0.0
GRANBY - SHADOW MOUNTAIN - GRAND LAKE													
Natural Watershed Inflow	153.8	8.9	5.1	3.1	3.7	3.7	7.5	23.0	38.7	29.3	16.0	8.1	6.7
Total Inflow into Granby	127.3	7.1	4.8	4.1	4.6	4.2	8.9	24.1	26.8	18.4	13.2	6.3	4.8
Granby Fish Release	25.5	1.4	1.3	1.3	1.4	1.2	1.3	1.3	4.1	4.5	4.2	1.8	1.7
Granby Seepage	4.3	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3
Granby Spill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adams Tunnel	289.9	31.1	11.4	4.2	19.6	14.8	27.5	24.2	31.7	25.7	33.2	33.8	32.97
Granby End of Month content	499.0	473.2	464.6	461.9	444.4	431.8	412.4	420.6	426.1	419.9	394.6	364.3	333.6
SM-GL End of Month Content	17.8	17.6	17.8	17.7	17.8	17.7	17.8	17.8	17.6	17.8	17.8	17.7	17.8
Pumped from Granby	246.1	29.5	11.5	5.1	20.4	15.2	26.4	13.4	14.1	15.8	31.2	32.0	31.5
Granby Pump Kwh/AF		139.0	139.1	117.6	142.2	144.7	147.7	149.3	148.9	145.6	150.6	162.5	165.1
Granby Pump Energy	36.8	4.1	1.6	0.6	2.9	2.2	3.9	2.0	2.1	2.3	4.7	5.2	5.2

PICK-SLOAN MISSOURI BASIN PROGRAM
WESTERN DIVISION WATER AND POWER SYSTEM
COLORADO-BIG THOMPSON PROJECT

2012 ACTUAL OPERATIONS

	WATER IN 1000 ACRE-FEET				***	***	***	***	***	ENERGY IN GWH			
	INITIAL OR TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MARYS LAKE – ESTES – FLATIRON													
Adams Tunnel Water	289.9	31.1	11.4	4.2	19.6	14.8	27.5	24.2	31.7	25.7	33.2	33.8	32.7
Marys Lake Generation	47.4	5.4	0.6	0.6	3.3	2.4	4.9	4.2	5.4	4.1	5.6	5.3	5.6
Estes Generation	126.1	14.3	4.8	1.6	8.6	6.4	12.0	10.5	13.3	10.8	14.4	14.9	14.5
Divertible Big-Thompson	11.4	0.3	0.0	0.0	0.0	0.0	0.1	2.7	2.0	4.5	1.7	0.0	0.1
Diverted Big-Thompson Water	6.05	0.05	0.0	0.0	0.0	0.0	0.0	0.7	1.7	3.4	0.1	0.0	0.1
Olympus Tunnel	276.3	29.4	0.0	3.6	19.7	14.2	27.9	22.5	33.7	27.6	33.0	33.6	31.1
Pole Hill Generation	184.1	21.2	0.0	0.0	6.9	8.9	20.0	15.5	24.5	19.2	22.8	23.4	21.7
Flatiron 1 & 2 Generation	245.2	26.3	1.2	1.6	17.0	12.0	25.4	19.9	29.9	25.4	28.8	30.0	27.7
Flatiron 3 Turbine Release	6.0	2.1	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Flatiron 3 Kwh/AF Gen.		190.5	0.0	189.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flatiron 3 Generation	1.1	0.4	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flatiron 3 Pumping	140.3	11.2	0.0	1.1	6.1	0.0	20.7	19.1	17.1	11.4	21.4	20.2	12.0
Flatiron 3 Kwh/AF Pump		312.5	0.0	272.7	295.1	0.0	309.2	329.8	333.3	324.6	313.1	302.0	300.0
Flatiron 3 Pump Energy	44.2	3.5	0.1	0.3	1.8	0.0	6.4	6.3	5.7	3.7	6.7	6.1	3.6
CARTER LAKE													
Pumped from Flatiron	140.3	11.2	0.0	1.1	6.1	0.0	20.7	19.1	17.1	11.4	21.4	20.2	12.0
Release to Flatiron	6.0	2.1	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Irrigation Delivery	141.4	15.2	1.6	1.6	1.7	1.6	2.0	7.1	18.8	21.6	27.4	27.7	15.1
Evaporation & Seepage	2.9	0.2	0.1	0.0	0.0	0.0	0.2	0.3	0.4	0.6	0.4	0.4	0.3
End of Month Content	72.6	65.8	63.2	58.3	62.0	60.3	77.9	89.1	86.6	74.7	67.6	58.9	54.6
BIG THOMPSON POWERPLANT													
Diverted Dille Tunnel Water	33.3	0.9	11.8	0.0	0.0	0.0	0.0	2.2	2.3	7.1	5.3	2.9	0.8
Irrigation Delivery	49.26	11.1	0.02	0.01	0.01	0.01	0.01	0.4	4.0	10.1	6.8	10.9	5.9
Turbine Release	40.3	7.8	0.0	0.0	0.0	0.0	0.0	0.0	3.1	12.6	7.7	8.5	0.6
Generation	5.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.7	0.9	1.0	0.0
HORSETOOTH RESERVOIR													
Hansen Feeder Canal Inflow	101.9	9.4	13.6	4.5	13.3	14.8	7.3	3.5	10.5	5.7	4.1	1.9	13.3
Irrigation Delivery	134.0	14.6	0.8	1.5	1.6	1.7	2.2	5.8	15.5	18.1	26.9	33.6	11.7
Evaporation	4.1	0.3	0.1	0.0	0.0	0.0	0.5	0.7	0.7	1.0	0.7	0.6	0.4
End of Month Content	109.3	102.2	114.7	116.8	127.8	140.6	144.5	140.3	133.0	117.5	92.1	56.7	56.6
TOTAL CBT DELIVERY	324.66	40.9	2.42	3.11	3.31	3.81	4.21	13.3	38.3	49.8	61.1	72.2	32.7

PICK-SLOAN MISSOURI BASIN PROGRAM
WESTERN DIVISION WATER AND POWER SYSTEM
COLORADO-BIG THOMPSON PROJECT

2012 ACTUAL OPERATIONS

WATER IN 1000 ACRE-FEET * * * * * * * * * * * * ENERGY IN GWH

	INITIAL OR TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BASE GENERATION													
Green Mountain	33.1	9.5	2.5	2.3	2.2	1.6	1.8	0.0	0.0	2.3	4.8	4.2	1.9
Flatiron 3	1.1	0.4	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Big Thompson	5.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.7	0.9	1.0	0.0
TOTAL	39.4	11.1	2.5	3.0	2.2	1.6	1.8	0.0	0.4	4.0	5.7	5.2	1.9
LOAD FOLLOWING GENERATION													
Marys Lake	47.4	5.4	0.6	0.6	3.3	2.4	4.9	4.2	5.4	4.1	5.6	5.3	5.6
Estes	126.1	14.3	4.8	1.6	8.6	6.4	12.0	10.5	13.3	10.8	14.4	14.9	14.5
Pole Hill	184.1	21.2	0.0	0.0	6.9	8.9	20.0	15.5	24.5	19.2	22.8	23.4	21.7
Flatiron 1 & 2	245.2	26.3	1.2	1.6	17.0	12.0	25.4	19.9	29.9	25.4	28.8	30.0	27.7
TOTAL	602.8	67.2	6.6	3.8	35.8	29.7	62.3	50.1	73.1	59.5	71.6	73.6	69.5
PUMP ENERGY													
Willow Creek	3.3	0.0	0.0	0.0	0.0	0.0	0.5	1.6	1.1	0.0	0.0	0.1	0.0
Granby	36.8	4.1	1.6	0.6	2.9	2.2	3.9	2.0	2.1	2.3	4.7	5.2	5.2
Flatiron 3	44.2	3.5	0.1	0.3	1.8	0.0	6.4	6.3	5.7	3.7	6.7	6.1	3.6
TOTAL	84.3	7.6	1.7	0.9	4.7	2.2	10.8	9.9	8.9	6.0	11.4	11.4	8.8
TOTAL GENERATION	642.2	78.3	9.1	6.8	38.0	31.3	64.1	50.1	73.5	63.5	77.3	78.8	71.4
TOTAL GENERATION MINUS PUMP	557.9	70.7	7.4	5.9	33.3	29.1	53.3	40.2	64.6	57.5	65.9	67.4	62.6

TABLE 4

COLORADO-BIG THOMPSON PROJECT

FLOOD DAMAGE PREVENTED IN WATER YEAR 2012

	Cumulative Total Prior to WY 2011	WY 2012	Cumulative Total Current
Granby, Willow Creek, Shadow Mountain and Grand Lake	$357,700	$0.00	$357,700
Green Mountain	$152,600	$0.00	$152,600
Total	$510,300	$0.00	$510,300

CBTAOP V2.06 Run: 11-Oct-2012 08:57
Most Probable Plan (70-Percent Quota)

COLORADO-BIG THOMPSON MONTHLY OPERATIONS

HYDROLOGY OPERATIONS

Green Mtn Reservoir — Initial Cont 76.7 kaf, Elev 7904.59 ft; Maximum Cont 154.6 kaf, Elev 7950.38 ft; Minimum Cont 8.0 kaf, Elev 7804.68 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Dillon Inflow	kaf	4.8	4.9	4.4	4.0	3.6	4.3	8.2	40.5	74.8	38.2	15.8	7.8	211.3
Dillon-Grn Mtn Gain	kaf	4.7	4.8	4.2	3.8	3.2	4.1	8.8	28.3	48.9	26.8	13.3	8.4	159.3
Undepleted Inflow	kaf	9.5	9.7	8.6	7.8	6.8	8.4	17.0	68.8	123.7	65.0	29.1	16.2	370.6
Depletion	kaf	1.8	1.9	1.1	0.8	0.7	0.8	5.0	37.2	50.0	30.0	10.0	3.0	142.3
Depleted Inflow	kaf	7.7	7.8	7.5	7.0	6.1	7.6	12.0	31.6	73.7	35.0	19.1	13.2	228.3
Turbine Release	kaf	17.2	9.7	9.0	9.2	7.3	9.0	8.9	6.1	9.3	39.2	38.5	27.7	191.1
Spill/Waste	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total River Release	kaf	17.2	9.7	9.0	9.2	7.3	9.0	8.9	6.1	9.3	39.2	38.5	27.7	191.1
Min Release	cfs	280	163	147	149	132	146	150	100	100	425	550	335	
Total River Release	cfs	280	163	146	150	131	146	150	99	156	638	626	466	
Evaporation	kaf	0.3	0.1	0.0	0.0	0.0	0.1	0.2	0.5	0.8	0.8	0.6	0.5	3.9
End-Month Targets	kaf	85.0	80.0	77.0	72.0	68.0	65.0	90.0	110.0	150.0	145.0	125.0	110.0	
End-Month Content	kaf	66.9	64.9	63.4	61.2	60.0	58.5	61.4	86.4	150.0	145.0	125.0	110.0	
End-Month Elevation	ft	7896.63	7894.89	7893.56	7891.56	7890.45	7889.03	7891.75	7911.79	7948.20	7945.78	7935.52	7927.08	

Willow Crk Reservoir — Initial Cont 9.7 kaf, Elev 8127.09 ft; Maximum Cont 10.2 kaf, Elev 8128.83 ft; Minimum Cont 7.2 kaf, Elev 8116.90 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Native Inflow	kaf	1.1	0.9	0.8	0.8	0.7	1.0	3.6	22.7	17.6	4.0	1.6	1.4	56.2
Min Release	kaf	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.5	2.6	2.2	0.5	0.4	10.0
Spill/Bypass	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total River Release	kaf	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.5	2.6	2.2	0.5	0.4	10.0
Pumped to Granby	kaf	1.8	1.8	0.0	0.0	0.0	0.0	4.8	19.3	13.9	2.7	1.0	0.9	46.2
Evaporation	kaf	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.7
End-Month Targets	kaf		7.2					7.2	9.0	10.0	9.0		9.0	
End-Month Content	kaf	8.5	7.2	7.6	8.0	8.3	8.9	7.2	9.0	10.0	9.0	9.0	9.0	
End-Month Elevation	ft	8122.55	8116.90	8118.74	8120.48	8121.73	8124.12	8116.90	8124.50	8128.14	8124.50	8124.50	8124.50	

Lake Granby — Initial Cont 333.6 kaf, Elev 8248.35 ft; Maximum Cont 539.8 kaf, Elev 8280.01 ft; Minimum Cont 76.5 kaf, Elev 8186.91 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Native inflow	kaf	2.1	1.3	1.4	1.4	1.2	1.5	4.8	23.4	35.8	13.6	4.7	2.4	93.6
Rels frm Shadow Mtn	kaf	2.2	2.7	2.8	1.2	1.1	1.2	1.2	1.2	35.1	5.2	2.5	2.1	58.5
Pump frm Windy Gap	kaf	0.0	0.0	0.0	0.0	0.0	0.0	5.0	10.0	0.0	0.0	0.0	0.0	15.0
Pump frm Willow Crk	kaf	1.8	1.8	0.0	0.0	0.0	0.0	4.8	19.3	13.9	2.7	1.0	0.9	46.2
Total Inflow	kaf	6.1	5.8	4.2	2.6	2.3	2.7	15.8	53.9	84.8	21.5	8.2	5.4	213.3
Min River Release	kaf	1.2	1.2	1.2	1.2	1.1	1.2	1.2	3.7	3.6	3.7	5.0	3.5	27.8
Spill/Bypass	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total River Release	kaf	1.2	1.2	1.2	1.2	1.1	1.2	1.2	3.7	3.6	3.7	5.0	3.5	27.8
Pumped to Shadow Mtn	kaf	33.2	0.9	17.7	32.9	29.7	33.1	27.1	0.7	0.0	0.0	10.1	26.1	211.5
Evaporation	kaf	1.3	0.6	0.2	0.0	0.0	0.6	1.0	1.6	2.3	2.3	1.8	1.6	13.3
Seepage loss	kaf	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	3.0
End-Month Content	kaf	303.7	306.5	291.4	259.7	231.0	198.6	184.9	232.6	311.2	326.4	317.4	291.3	
End-Month Elevation	ft	8243.04	8243.55	8240.78	8234.70	8228.84	8221.77	8218.60	8229.18	8244.40	8247.10	8245.50	8240.76	

Shadow Mtn — Initial Cont 17.8 kaf, Elev 8366.68 ft; Maximum Cont 18.4 kaf, Elev 8367.00 ft; Minimum Cont 16.6 kaf, Elev 8366.02 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Native inflow	kaf	3.2	2.0	2.1	2.1	1.9	2.2	7.2	35.0	53.8	20.4	7.1	3.6	140.6
Pumped from Granby	kaf	33.2	0.9	17.7	32.9	29.7	33.1	27.1	0.7	0.0	0.0	10.1	26.1	211.5
Total Inflow	kaf	36.4	2.9	19.8	35.0	31.6	35.3	34.3	35.7	53.8	20.4	17.2	29.7	352.1
Min River Release	kaf	2.2	2.7	2.8	1.2	1.1	1.2	1.2	1.2	3.0	3.1	2.5	2.1	24.3
Spill/Bypass	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.1	2.1	0.0	0.0	34.2
Total River Release	kaf	2.2	2.7	2.8	1.2	1.1	1.2	1.2	1.2	35.1	5.2	2.5	2.1	58.5
Adams Tunnel Flow	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	17.9	14.5	14.1	27.1	288.9
Evaporation	kaf	0.4	0.2	0.1	0.0	0.0	0.3	0.4	0.7	0.8	0.7	0.6	0.5	4.7
End-Month Content	kaf	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	
End-Month Elevation	ft	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	

Adams Tunnel 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Max Tunnel Capacity	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.8	32.7	348.3
Actual delivery	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	17.9	14.5	14.1	27.1	288.9
% max delivery	%	100	0	100	100	100	100	100	100	55	43	42	83	

Big T @ Lake Estes	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Big Thompson inflow	kaf	2.6	1.8	1.2	1.0	0.7	1.0	3.3	15.1	32.2	16.4	8.4	3.8	87.5
Min river release	kaf	3.1	1.5	1.5	1.5	1.4	1.5	2.2	6.9	7.4	7.7	6.9	3.7	45.3
Act river release	kaf	2.6	1.8	1.2	1.0	0.7	1.0	3.3	15.0	17.3	7.7	6.9	3.7	62.2
Max div available	kaf	0.0	0.3	0.0	0.0	0.0	0.0	1.1	8.2	24.8	8.7	1.5	0.1	44.7
Priority water div	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Skim water diverted	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	14.9	8.7	1.5	0.1	25.3
% max diverted	%								1	60	100	100	100	
Irrigation demand	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.6
Irrigation delivery	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.6
Total river release	kaf	2.6	1.8	1.2	1.0	0.7	1.0	3.3	15.1	17.4	7.9	7.1	3.7	62.8

Olympus Tunnel	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Max Tunnel Capacity	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.8	32.7	348.3
Actual delivery	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	23.0	15.4	27.2	313.6
% max delivery	%	100	0	100	100	100	100	100	100	100	68	46	83	
Seepage and Evap	kaf	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.2
Inflow to Flatiron	kaf	33.6	0.0	16.7	33.6	30.3	33.6	32.5	33.6	32.5	22.8	15.2	27.0	311.4

Carter Lake		Initial Cont Elev	54.6 kaf 5702.72 ft			Maximum Cont Elev	112.2 kaf 5758.98 ft			Minimum Cont Elev	6.0 kaf 5626.80 ft		
	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Pump from Flatiron	kaf	0.0	0.0	8.6	21.5	17.4	17.6	16.1	13.5	0.4	0.0	0.0	11.2	106.3
Carter to Flatiron	kaf	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Evaporation loss	kaf	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.3	0.2	2.1
Seepage loss	kaf	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	1.7
End-Month Targets	kaf	44.4	42.0	49.4	69.6	85.6	101.1	109.7	110.0	100.2	80.4	55.9	49.0	
End-Month Content	kaf	44.5	39.4	46.0	65.4	80.8	96.1	104.9	109.5	100.2	80.5	56.0	48.5	
End-Month Elevation	ft	5690.95	5684.64	5692.75	5714.44	5730.01	5744.52	5752.52	5756.60	5748.28	5729.72	5704.29	5695.71	
Irrigation demand	kaf	6.2	0.0	0.0	0.0	0.0	0.0	4.2	3.7	3.3	12.7	18.0	13.4	61.5
Metered delivery	kaf	3.2	1.5	1.5	1.5	1.4	1.6	2.2	3.1	3.9	4.7	4.5	3.6	32.7
Windy Gap demand	kaf	0.5	0.4	0.4	0.4	0.4	0.4	0.5	1.7	2.0	1.7	1.6	1.4	11.4
Total demand	kaf	9.9	1.9	1.9	1.9	1.8	2.0	6.9	8.5	9.2	19.1	24.1	18.4	105.6
Total delivery	kaf	9.9	1.9	1.9	1.9	1.8	2.0	6.9	8.5	9.2	19.1	24.1	18.4	105.6
% required delivery	%	100	100	100	100	100	100	100	100	100	100	100	100	
Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hansen Canal 930	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Minimum flow	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum flow	kaf	57.2	55.3	57.2	57.2	51.6	57.2	55.3	57.2	55.3	57.2	57.2	55.3	673.2
Actual flow	kaf	33.6	3.0	8.1	12.1	12.9	16.0	16.4	20.1	32.1	22.8	15.2	15.8	208.1

Dille Tunnel	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Big T @ Canyon Mouth	kaf	4.0	2.3	1.5	1.4	1.3	1.8	5.6	21.6	35.2	21.8	10.9	5.1	112.5
Less Estes skim	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	14.9	8.7	1.5	0.1	25.3
Big T irr (Estes)	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.6
Handy Ditch release	kaf	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.8	2.9	1.7	11.2
Water available	kaf	2.8	2.3	1.5	1.4	1.3	1.8	4.4	20.4	19.2	11.5	6.7	3.3	76.6
Water diverted	kaf	2.8	2.3	0.0	0.0	0.0	0.0	4.4	20.4	9.0	11.5	6.7	3.3	60.4
% diverted	%	100	100					100	100	47	100	100	100	

Trifurcation Works	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Rels from Flatiron	kaf	33.6	3.0	8.1	12.1	12.9	16.0	16.4	20.1	32.1	22.8	15.2	15.8	208.1
Rels to 550 Canal	kaf	29.7	3.0	8.1	12.1	12.9	16.0	16.4	20.0	17.2	12.2	7.8	5.4	160.8
Big T irrigation	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	5.9	10.3	22.0
Dille Tunnel	kaf	2.8	2.3	0.0	0.0	0.0	0.0	4.4	20.4	9.0	11.5	6.7	3.3	60.4
Tot rels to river	kaf	6.7	2.3	0.0	0.0	0.0	0.0	4.4	20.5	23.9	22.1	14.1	13.7	107.7
Irrigation demand	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	5.7	10.1	21.4
Big T irr (Estes)	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.6
Windy Gap demand	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.6
Total requirement	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.1	6.1	10.3	22.6
Total delivery	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.1	6.1	10.3	22.6
% required delivery	%	100	0	0	0	0	0	0	100	100	100	100	100	
Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hansen Canal 550	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Inflow from Flatiron	kaf	29.7	3.0	8.1	12.1	12.9	16.0	16.4	20.0	17.2	12.2	7.8	5.4	160.8
Maximum flow	kaf	33.8	32.7	33.8	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.8	32.7	397.9
Seepage loss	kaf	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.4
Irrigation demand	kaf	0.9	0.4	0.4	0.4	0.4	0.5	0.6	0.9	0.7	1.5	1.4	1.4	9.5
Irrigation delivery	kaf	0.9	0.4	0.4	0.4	0.4	0.5	0.6	0.9	0.7	1.5	1.4	1.4	9.5
Minimum flow	kaf	2.5	2.4	6.1	6.1	5.6	6.1	2.4	2.5	2.4	2.5	2.5	2.4	43.5
Rels to Horsetooth	kaf	28.6	2.4	7.5	11.5	12.3	15.3	15.6	18.9	16.3	10.5	6.2	3.8	148.9

Horsetooth Reservoir		Initial Cont		56.6 kaf			Maximum Cont		152.0 kaf			Minimum Cont		13.0 kaf	
				Elev	5368.13 ft				Elev	5427.66 ft				Elev	5316.81 ft	
	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Inflow	kaf	28.6	2.4	7.5	11.5	12.3	15.3	15.6	18.9	16.3	10.5	6.2	3.8	148.9
Priority water div	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total irr delivery	kaf	17.5	1.5	1.6	1.7	1.6	1.7	2.3	3.7	4.2	29.1	33.9	15.1	113.9
Evaporation loss	kaf	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.6	0.6	0.5	0.3	3.3
Seepage loss	kaf	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	1.7
End-Month Targets	kaf	67.6	68.6	74.4	83.6	94.1	107.5	120.0	135.2	146.0	126.6	98.3	86.6	
End-Month Content	kaf	67.4	68.1	73.8	83.3	93.8	107.2	120.0	134.7	146.0	126.6	98.3	86.6	
End-Month Elevation	ft	5376.59	5377.12	5381.32	5387.97	5394.91	5403.21	5410.67	5418.74	5424.64	5414.35	5397.76	5390.20	
Irrigation demand	kaf	11.8	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6	22.9	28.2	11.0	75.1
Metered delivery	kaf	5.3	1.1	1.2	1.3	1.2	1.3	1.7	2.9	3.2	5.1	4.6	3.0	31.9
Windy Gap demand	kaf	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.1	1.1	1.1	6.9
Total demand	kaf	17.5	1.5	1.6	1.7	1.6	1.7	2.3	3.7	4.2	29.1	33.9	15.1	113.9
Total irr delivery	kaf	17.5	1.5	1.6	1.7	1.6	1.7	2.3	3.7	4.2	29.1	33.9	15.1	113.9
% required delivery	%	100	100	100	100	100	100	100	100	100	100	100	100	
Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total CBT Delivery	kaf	31.3	3.0	3.1	3.2	3.0	3.4	8.9	11.1	11.8	48.8	62.6	42.5	232.7

Windy Gap Ownership	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Accrual	kaf	0.0	0.0	0.0	0.0	0.0	0.0	4.5	9.0	0.0	0.0	0.0	0.0	13.5
Total release	kaf	0.9	0.8	0.8	0.8	0.8	0.8	0.9	2.1	2.4	3.0	2.9	2.7	18.9
Spill	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
End-month Ownership	kaf	0.3	-0.5	-1.3	-2.1	-2.9	-3.7	-0.1	6.8	4.4	1.4	-1.5	-4.2	

PUMPING AND GENERATION OPERATIONS

Green Mtn Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Max Generation	gwh	18.600	8.932	13.675	17.996	12.043	8.802	17.123	18.600	18.000	18.600	18.600	18.000	188.971
Generation	gwh	2.869	1.577	1.451	1.471	1.158	1.419	1.408	1.027	1.824	8.209	7.859	5.422	35.694
% Max Generation	%	15	18	11	8	10	16	8	6	10	44	42	30	
Ave kwh/af		167	163	161	160	159	158	158	168	196	209	204	196	

Willow Crk Pumping	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Maximum pumping	kaf	27.7	26.8	0.0	0.0	0.0	0.0	26.8	27.7	26.8	27.7	27.7	26.8	218.0
Actual pumping	kaf	1.8	1.8	0.0	0.0	0.0	0.0	4.8	19.3	13.9	2.7	1.0	0.9	46.2
Pump energy	gwh	0.383	0.383	0.000	0.000	0.000	0.000	1.022	4.111	2.961	0.575	0.213	0.192	9.840
% max pumping	%	6	7					18	70	52	10	4	3	
Average kwh/af		213	213					213	213	213	213	213	213	

Lake Granby Pumping	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Maximum pumping	kaf	36.9	35.7	36.9	36.9	33.3	36.9	35.7	36.9	8.9	36.9	36.9	35.7	407.6
Actual pumping	kaf	33.2	0.9	17.7	32.9	29.7	33.1	27.1	0.7	0.0	0.0	10.1	26.1	211.5
Pump energy	gwh	5.113	0.140	2.779	5.297	4.990	5.826	4.905	0.124	0.000	0.000	1.555	4.098	34.827
% max pumping	%	90	3	48	89	89	90	76	2			27	73	
Average kwh/af		154	156	157	161	168	176	181	177			154	157	

Marys Lake Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Adams Tunnel Flow	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	17.9	14.5	14.1	27.1	
Max generation	gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	5.840	6.060	6.060	5.840	62.260
Generation	gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	3.180	2.550	2.510	4.820	51.520
% Max Generation	%	100		100	100	100	100	100	100	54	42	41	83	
Ave kwh/af		179		176	179	177	179	179	179	178	176	178	178	

Lake Estes Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Adams Tunnel Flow	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	17.9	14.5	14.1	27.1	
Max generation	gwh	9.980	9.660	9.980	9.980	9.100	9.980	9.660	9.980	9.660	14.920	14.920	14.450	132.270
Generation	gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	8.160	6.750	6.550	11.940	99.840
% Max Generation	%	100		78	100	100	100	100	100	84	45	44	83	
Ave kwh/af		440		459	440	444	440	441	440	456	466	465	441	

Pole Hill Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Olympus Tunnel flow	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	23.0	15.4	27.2	313.6
Max generation	gwh	25.260	0.000	12.910	25.260	22.800	25.260	24.460	25.260	24.460	25.260	25.260	24.460	260.650
Generation	gwh	12.910	0.000	12.730	25.120	11.540	12.910	24.300	25.120	24.300	17.060	11.460	12.460	189.910
% Max Generation	%	51		99	99	51	51	99	99	99	68	45	51	
Ave kwh/af		382		753	743	378	382	743	743	743	742	744	458	

Flatiron 1&2 Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Inflow to Flatiron	kaf	33.6	0.0	16.7	33.6	30.3	33.6	32.5	33.6	32.5	22.8	15.2	27.0	311.4
Max generation	gwh	15.100	28.130	29.040	29.040	13.640	15.100	28.130	29.040	28.130	29.040	15.100	14.600	274.090
Generation	gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	20.420	13.560	14.600	220.980
% Max Generation	%	100		51	99	100	100	99	99	99	70	90	100	
Ave kwh/af		893		892	860	892	893	860	860	860	896	892	890	

Flatiron 3 Pump/Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Maximum pumping	kaf	0.0	23.9	24.6	22.8	18.4	18.4	16.4	16.1	15.8	18.2	21.0	11.2	206.8
Pump from Flatiron	kaf	0.0	0.0	8.6	21.5	17.4	17.6	16.1	13.5	0.4	0.0	0.0	11.2	106.3
Pump energy	gwh	0.000	0.000	2.288	6.085	5.446	6.054	5.973	5.225	0.153	0.000	0.000	3.114	34.338
% max pumping	%			35	94	95	96	98	84	3			100	
Average kwh/af				266	283	313	344	371	387	382			278	
Max turbine rels	kaf	0.0	21.1	21.9	23.0	22.0	25.3	25.3	26.6	25.6	25.4	24.0	11.0	251.2
Carter to Flatiron	kaf	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Maximum generation	gwh	0.000	3.735	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.735
Actual generation	gwh	0.000	0.531	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.531
% max generation	%		14											
Average kwh/af			177											

Big Thompson Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Total release	kaf	6.7	2.3	0.0	0.0	0.0	0.0	4.4	20.5	23.9	22.1	14.1	13.7	107.7
Turbine release	kaf	6.7	2.3	0.0	0.0	0.0	0.0	4.4	20.5	23.9	22.1	14.1	13.7	107.7
Wasteway release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max generation	gwh	3.940	1.700	0.000	0.000	0.000	0.000	1.700	3.940	3.800	3.940	3.940	3.800	26.760
Generation	gwh	0.740	0.197	0.000	0.000	0.000	0.000	0.480	3.200	3.800	3.520	2.020	2.000	15.957
% Max Generation	%	19	12					28	81	100	89	51	53	
Ave kwh/af		110	86					109	156	159	159	143	146	

PROJECT GENERATION AND PUMPING SUMMARY

Project Generation 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Base Generation:														
Big Thompson	gwh	0.740	0.197	0.000	0.000	0.000	0.000	0.480	3.200	3.800	3.520	2.020	2.000	15.957
Green Mtn	gwh	2.869	1.577	1.451	1.471	1.158	1.419	1.408	1.027	1.824	8.209	7.859	5.422	35.694
Flatiron 3	gwh	0.000	0.531	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.531
Total	gwh	3.609	2.305	1.451	1.471	1.158	1.419	1.888	4.227	5.624	11.729	9.879	7.422	52.182
Load Following Generation:														
Marys Lake	gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	3.180	2.550	2.510	4.820	51.520
Lake Estes	gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	8.160	6.750	6.550	11.940	99.840
Pole Hill	gwh	12.910	0.000	12.730	25.120	11.540	12.910	24.300	25.120	24.300	17.060	11.460	12.460	189.910
Flatiron 1,2	gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	20.420	13.560	14.600	220.980
Total	gwh	44.050	0.000	38.370	70.040	39.680	44.050	67.750	70.040	63.590	46.780	34.080	43.820	562.250
Total generation	gwh	47.659	2.305	39.821	71.511	40.838	45.469	69.638	74.267	69.214	58.509	43.959	51.242	614.432
Total max generation	gwh	78.940	52.157	68.585	88.336	62.983	65.202	86.913	92.880	89.890	97.820	83.880	81.150	948.736

Project Pump Energy 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Granby	gwh	5.113	0.140	2.779	5.297	4.990	5.826	4.905	0.124	0.000	0.000	1.555	4.098	34.827
Willow Creek	gwh	0.383	0.383	0.000	0.000	0.000	0.000	1.022	4.111	2.961	0.575	0.213	0.192	9.840
Flatiron 3	gwh	0.000	0.000	2.288	6.085	5.446	6.054	5.973	5.225	0.153	0.000	0.000	3.114	34.338
Total pump energy	gwh	5.496	0.523	5.067	11.382	10.436	11.880	11.900	9.460	3.114	0.575	1.768	7.404	79.005
Total net generation	gwh	42.163	1.782	34.754	60.129	30.402	33.589	57.738	64.807	66.100	57.934	42.191	43.838	535.427

Release Flexibility 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Adams Tunnel	Min kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	17.9	14.5	14.1	27.1	
Adams Tunnel	Max kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	17.9	14.5	14.1	27.1	
Marys Lake	Min gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	3.180	2.550	2.510	4.820	
Marys Lake	Max gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	3.180	2.550	2.510	4.820	
Lake Estes	Min gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	8.160	6.750	6.550	11.940	
Lake Estes	Max gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	8.160	6.750	6.550	11.940	
Olympus Tunnel	Min kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	23.0	15.4	27.2	
Olympus Tunnel	Max kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	23.0	15.4	27.2	
Pole Hill	Min gwh	25.260	0.000	12.910	25.260	22.800	25.260	24.460	25.260	24.460	17.200	11.620	20.340	
Pole Hill	Max gwh	25.260	0.000	12.910	25.260	22.800	25.260	24.460	25.260	24.460	17.200	11.620	20.340	
Flatiron 1&2	Min gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	20.420	13.560	14.600	
Flatiron 1&2	Max gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	20.420	13.560	14.600	
Load following	Min gwh	56.400	0.000	38.550	70.180	50.940	56.400	67.910	70.180	63.750	46.920	34.240	51.700	
Load following	Max gwh	56.400	0.000	38.550	70.180	50.940	56.400	67.910	70.180	63.750	46.920	34.240	51.700	
Total project	Min gwh	60.009	2.305	40.001	71.651	52.098	57.819	69.798	74.407	69.374	58.649	44.119	59.122	
Total project	Max gwh	60.009	2.305	40.001	71.651	52.098	57.819	69.798	74.407	69.374	58.649	44.119	59.122	

GENERATION CAPACITY AND DURATION

Project Generation 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Base Generation:														
Green Mtn	mw	3.9	2.2	2.0	2.0	1.7	1.9	2.0	1.4	2.5	11.0	10.6	7.5	
Flatiron 3	mw		0.7											
Big Thompson	mw	1.0	0.3					0.7	4.3	5.3	4.7	2.7	2.8	
Total base load	mw	4.9	3.2	2.0	2.0	1.7	1.9	2.7	5.7	7.8	15.7	13.3	10.3	

Load Following Generation:													
Marys Lake													
Min Capacity	mw	8.1	0.0	0.0	8.1	1.4	8.1	8.1	8.1	0.0	0.0	0.0	0.0
Duration	hr/d	12.0	12.0	10.9	12.0	1.6	12.0	12.0	12.0	10.3	10.9	10.9	3.5
Max Capacity	mw	8.1	0.0	8.1	8.1	8.1	8.1	8.1	8.1	8.1	6.9	6.7	8.1
Duration	hr/d	12.0	12.0	12.1	12.0	22.0	12.0	12.0	12.0	12.7	12.1	12.1	19.5
Lake Estes													
Min Capacity	mw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Duration	hr/d	11.0	12.0	12.0	11.0	12.4	11.0	11.0	11.0	12.0	12.0	12.0	12.0
Max Capacity	mw	45.0	0.0	20.8	45.0	40.1	45.0	45.0	45.0	21.9	17.4	16.8	33.7
Duration	hr/d	10.0	12.0	12.0	10.0	11.7	10.0	10.0	10.0	12.0	12.0	12.0	12.0
Pole Hill													
Min Capacity	mw	34.0	0.0	0.0	34.0	0.0	34.0	34.0	34.0	34.0	0.0	0.0	0.0
Duration	hr/d	12.0	12.0	11.6	12.0	1.8	12.0	12.0	12.0	12.0	7.1	12.0	4.1
Max Capacity	mw	34.0	0.0	33.9	34.0	34.0	34.0	34.0	34.0	34.0	34.0	32.4	34.0
Duration	hr/d	12.0	12.0	12.5	12.0	22.4	12.0	12.0	12.0	12.0	16.9	12.0	19.9
Flatiron 1&2													
Min Capacity	mw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Duration	hr/d	8.8	12.0	11.4	8.8	11.5	8.8	9.6	8.8	9.6	12.0	12.0	12.0
Max Capacity	mw	86.0	0.0	42.4	86.0	79.2	86.0	85.0	86.0	85.0	55.6	37.8	67.0
Duration	hr/d	10.0	12.0	12.6	10.0	11.4	10.0	10.1	10.0	10.1	12.0	12.0	12.0
Total Load Following													
Min Capacity	mw	42.1	0.0	0.0	42.1	1.4	42.1	42.1	42.1	34.0	0.0	0.0	0.0
Max Capacity	mw	173.1	0.0	105.2	173.1	161.4	173.1	172.1	173.1	149.0	113.9	93.7	142.8
Total Project Capacity													
Min Capacity	mw	47.0	3.2	2.0	44.1	3.1	44.0	44.8	47.8	41.8	15.7	13.3	10.3
Max Capacity	mw	178.0	3.2	107.2	175.1	163.1	175.0	174.8	178.8	156.8	129.6	107.0	153.1

CBTAOP V2.06 Run: 11-Oct-2012 08:59
Minimum Reasonable Plan (90-Percent Quota)

COLORADO-BIG THOMPSON MONTHLY OPERATIONS

HYDROLOGY OPERATIONS

Green Mtn Reservoir — Initial Cont 76.7 kaf, Elev 7904.59 ft; Maximum Cont 154.6 kaf, Elev 7950.38 ft; Minimum Cont 8.0 kaf, Elev 7804.68 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Dillon Inflow	kaf	4.8	4.9	4.4	4.0	3.6	4.3	6.8	24.6	33.5	18.2	10.0	5.7	124.8
Dillon-Grn Mtn Gain	kaf	4.7	4.8	4.2	3.8	3.2	4.1	7.2	18.6	24.0	14.8	9.9	5.9	105.2
Undepleted Inflow	kaf	9.5	9.7	8.6	7.8	6.8	8.4	14.0	43.2	57.5	33.0	19.9	11.6	230.0
Depletion	kaf	1.8	1.9	1.1	0.8	0.7	0.8	3.8	21.5	30.5	15.0	7.0	2.7	87.6
Depleted Inflow	kaf	7.7	7.8	7.5	7.0	6.1	7.6	10.2	21.7	27.0	18.0	12.9	8.9	142.4
Turbine Release	kaf	17.2	9.7	9.0	9.2	7.3	9.0	8.9	4.6	6.0	21.5	18.4	17.9	138.7
Spill/Waste	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total River Release	kaf	17.2	9.7	9.0	9.2	7.3	9.0	8.9	4.6	6.0	21.5	18.4	17.9	138.7
Min Release	cfs	280	163	147	149	132	146	150	75	100	350	300	300	
Total River Release	cfs	280	163	146	150	131	146	150	75	101	350	299	301	
Evaporation	kaf	0.3	0.1	0.0	0.0	0.0	0.1	0.2	0.4	0.6	0.6	0.5	0.4	3.2
End-Month Targets	kaf	85.0	80.0	77.0	72.0	68.0	65.0	90.0	110.0	150.0	145.0	125.0	110.0	
End-Month Content	kaf	66.9	64.9	63.4	61.2	60.0	58.5	59.6	76.3	96.7	92.6	86.6	77.2	
End-Month Elevation	ft	7896.63	7894.89	7893.56	7891.56	7890.45	7889.03	7890.07	7904.28	7918.82	7916.09	7911.93	7904.98	

Willow Crk Reservoir — Initial Cont 9.7 kaf, Elev 8127.09 ft; Maximum Cont 10.2 kaf, Elev 8128.83 ft; Minimum Cont 7.2 kaf, Elev 8116.90 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Native Inflow	kaf	1.1	0.9	0.8	0.8	0.7	1.0	3.8	12.7	6.3	2.1	1.1	0.7	32.0
Min Release	kaf	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.5	2.6	2.2	0.5	0.4	10.0
Spill/Bypass	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total River Release	kaf	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.5	2.6	2.2	0.5	0.4	10.0
Pumped to Granby	kaf	1.8	1.8	0.0	0.0	0.0	0.0	5.0	9.3	2.6	0.8	0.4	0.3	22.0
Evaporation	kaf	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.7
End-Month Targets	kaf		7.2					7.2	9.0	10.0	9.0		9.0	
End-Month Content	kaf	8.5	7.2	7.6	8.0	8.3	8.9	7.2	9.0	10.0	9.0	9.1	9.0	
End-Month Elevation	ft	8122.55	8116.90	8118.74	8120.48	8121.73	8124.12	8116.90	8124.50	8128.14	8124.50	8124.88	8124.50	

Lake Granby — Initial Cont 333.6 kaf, Elev 8248.35 ft; Maximum Cont 539.8 kaf, Elev 8280.01 ft; Minimum Cont 76.5 kaf, Elev 8186.91 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Native inflow	kaf	2.1	1.3	1.4	1.4	1.2	1.5	4.9	17.3	21.8	7.0	2.5	1.6	64.0
Rels frm Shadow Mtn	kaf	2.2	2.7	2.8	1.2	1.1	1.2	1.2	1.2	9.0	3.1	2.5	2.1	30.3
Pump frm Windy Gap	kaf	0.0	0.0	0.0	0.0	0.0	0.0	2.0	5.0	0.0	0.0	0.0	0.0	7.0
Pump frm Willow Crk	kaf	1.8	1.8	0.0	0.0	0.0	0.0	5.0	9.3	2.6	0.8	0.4	0.3	22.0
Total Inflow	kaf	6.1	5.8	4.2	2.6	2.3	2.7	13.1	32.8	33.4	10.9	5.4	4.0	123.3
Min River Release	kaf	1.2	1.2	1.2	1.2	1.1	1.2	1.2	3.7	3.6	3.7	5.0	3.5	27.8
Spill/Bypass	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total River Release	kaf	1.2	1.2	1.2	1.2	1.1	1.2	1.2	3.7	3.6	3.7	5.0	3.5	27.8
Pumped to Shadow Mtn	kaf	33.2	0.9	17.7	32.9	29.7	33.1	26.9	9.7	0.0	24.9	33.2	32.8	275.0
Evaporation	kaf	1.3	0.6	0.2	0.0	0.0	0.6	1.0	1.6	2.0	1.9	1.4	1.1	11.7
Seepage loss	kaf	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	2.7
End-Month Content	kaf	303.7	306.5	291.4	259.7	231.0	198.6	182.4	200.0	227.6	207.7	173.3	139.7	
End-Month Elevation	ft	8243.04	8243.55	8240.78	8234.70	8228.84	8221.77	8218.01	8222.08	8228.12	8223.81	8215.82	8207.19	

Shadow Mtn — Initial Cont 17.8 kaf, Elev 8366.68 ft; Maximum Cont 18.4 kaf, Elev 8367.00 ft; Minimum Cont 16.6 kaf, Elev 8366.02 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Native inflow	kaf	3.2	2.0	2.1	2.1	1.9	2.2	7.4	26.0	32.6	10.6	3.7	2.5	96.3
Pumped from Granby	kaf	33.2	0.9	17.7	32.9	29.7	33.1	26.9	9.7	0.0	24.9	33.2	32.8	275.0
Total Inflow	kaf	36.4	2.9	19.8	35.0	31.6	35.3	34.3	35.7	32.6	35.5	36.9	35.3	371.3
Min River Release	kaf	2.2	2.7	2.8	1.2	1.1	1.2	1.2	1.2	3.0	3.1	2.5	2.1	24.3
Spill/Bypass	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	6.0
Total River Release	kaf	2.2	2.7	2.8	1.2	1.1	1.2	1.2	1.2	9.0	3.1	2.5	2.1	30.3
Adams Tunnel Flow	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	22.8	31.7	33.8	32.7	336.3
Evaporation	kaf	0.4	0.2	0.1	0.0	0.0	0.3	0.4	0.7	0.8	0.7	0.6	0.5	4.7
End-Month Content	kaf	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	
End-Month Elevation	ft	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	

Adams Tunnel 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Max Tunnel Capacity	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.8	32.7	348.3
Actual delivery	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	22.8	31.7	33.8	32.7	336.3
% max delivery	%	100	0	100	100	100	100	100	100	70	94	100	100	

Big T @ Lake Estes	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Big Thompson inflow	kaf	2.6	1.8	1.2	1.0	0.7	1.0	1.9	10.9	19.6	12.5	5.8	2.8	61.8
Min river release	kaf	3.1	1.5	1.5	1.5	1.4	1.5	2.2	6.9	7.4	7.7	6.9	3.7	45.3
Act river release	kaf	2.6	1.8	1.2	1.0	0.7	1.0	1.9	10.8	9.6	10.1	5.8	2.8	49.3
Max div available	kaf	0.0	0.3	0.0	0.0	0.0	0.0	0.0	4.0	12.2	4.8	0.0	0.0	21.3
Priority water div	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Skim water diverted	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	10.0	2.4	0.0	0.0	12.5
% max diverted	%								3	82	50			
Irrigation demand	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.2	1.0
Irrigation delivery	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.2	1.0
Total river release	kaf	2.6	1.8	1.2	1.0	0.7	1.0	1.9	10.9	9.7	10.4	6.1	3.0	50.3

Olympus Tunnel	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Max Tunnel Capacity	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.8	32.7	348.3
Actual delivery	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.5	32.5	347.8
% max delivery	%	100	0	100	100	100	100	100	100	100	100	99	99	
Seepage and Evap	kaf	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.2
Inflow to Flatiron	kaf	33.6	0.0	16.7	33.6	30.3	33.6	32.5	33.6	32.5	33.6	33.3	32.3	345.6

Carter Lake		Initial Cont Elev	54.6 kaf 5702.72 ft			Maximum Cont Elev	112.2 kaf 5758.98 ft			Minimum Cont Elev	6.0 kaf 5626.80 ft		
	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Pump from Flatiron	kaf	0.0	0.0	8.5	21.5	17.4	17.6	16.0	15.0	0.4	9.5	6.0	7.8	119.7
Carter to Flatiron	kaf	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Evaporation loss	kaf	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.3	0.2	2.1
Seepage loss	kaf	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	1.7
End-Month Targets	kaf	44.4	42.0	49.4	69.6	85.6	101.1	109.7	110.0	98.2	85.2	62.2	49.0	
End-Month Content	kaf	44.5	39.4	45.9	65.3	80.7	96.0	104.7	109.5	98.2	85.2	62.2	48.5	
End-Month Elevation	ft	5690.95	5684.64	5692.63	5714.34	5729.91	5744.43	5752.34	5756.60	5746.45	5734.27	5711.05	5695.71	
Irrigation demand	kaf	6.2	0.0	0.0	0.0	0.0	0.0	4.2	5.0	5.3	15.5	22.5	16.1	74.8
Metered delivery	kaf	3.2	1.5	1.5	1.5	1.4	1.6	2.2	3.1	3.9	4.7	4.5	3.7	32.8
Windy Gap demand	kaf	0.5	0.4	0.4	0.4	0.4	0.4	0.5	1.7	2.0	1.7	1.6	1.4	11.4
Total demand	kaf	9.9	1.9	1.9	1.9	1.8	2.0	6.9	9.8	11.2	21.9	28.6	21.2	119.0
Total delivery	kaf	9.9	1.9	1.9	1.9	1.8	2.0	6.9	9.8	11.2	21.9	28.6	21.2	119.0
% required delivery	%	100	100	100	100	100	100	100	100	100	100	100	100	
Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hansen Canal 930	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Minimum flow	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum flow	kaf	57.2	55.3	57.2	57.2	51.6	57.2	55.3	57.2	55.3	57.2	57.2	55.3	673.2
Actual flow	kaf	33.6	3.0	8.2	12.1	12.9	16.0	16.5	18.6	32.1	24.1	27.3	24.5	228.9

Dille Tunnel	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Big T @ Canyon Mouth	kaf	4.0	2.3	1.5	1.4	1.3	1.8	2.9	14.0	23.0	15.1	7.2	3.9	78.4
Less Estes skim	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	10.0	2.4	0.0	0.0	12.5
Big T irr (Estes)	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.2	1.0
Handy Ditch release	kaf	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.8	2.9	1.7	11.2
Water available	kaf	2.8	2.3	1.5	1.4	1.3	1.8	1.7	12.8	11.9	11.2	4.6	2.4	55.7
Water diverted	kaf	2.8	2.3	0.0	0.0	0.0	0.0	1.7	12.8	11.9	11.2	4.6	2.4	49.7
% diverted	%	100	100					100	100	100	100	100	100	

Trifurcation Works	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Rels from Flatiron	kaf	33.6	3.0	8.2	12.1	12.9	16.0	16.5	18.6	32.1	24.1	27.3	24.5	228.9
Rels to 550 Canal	kaf	29.7	3.0	8.2	12.1	12.9	16.0	16.3	16.2	20.8	18.4	19.2	13.7	186.5
Big T irrigation	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.2	2.3	1.3	3.3	8.1	10.8	29.9
Dille Tunnel	kaf	2.8	2.3	0.0	0.0	0.0	0.0	1.7	12.8	11.9	11.2	4.6	2.4	49.7
Tot rels to river	kaf	6.7	2.3	0.0	0.0	0.0	0.0	1.9	15.2	23.2	16.9	12.7	13.2	92.1
Irrigation demand	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.2	2.3	1.3	3.1	7.9	10.6	29.3
Big T irr (Estes)	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.2	1.0
Windy Gap demand	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.6
Total requirement	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.2	2.4	1.4	3.6	8.4	11.0	30.9
Total delivery	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.2	2.4	1.4	3.6	8.4	11.0	30.9
% required delivery	%	100	0	0	0	0	0	100	100	100	100	100	100	
Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hansen Canal 550	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Inflow from Flatiron	kaf	29.7	3.0	8.2	12.1	12.9	16.0	16.3	16.2	20.8	18.4	19.2	13.7	186.5
Maximum flow	kaf	33.8	32.7	33.8	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.8	32.7	397.9
Seepage loss	kaf	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.4
Irrigation demand	kaf	0.9	0.4	0.5	0.4	0.4	0.5	0.6	0.9	0.8	1.7	1.7	1.5	10.3
Irrigation delivery	kaf	0.9	0.4	0.5	0.4	0.4	0.5	0.6	0.9	0.8	1.7	1.7	1.5	10.3
Minimum flow	kaf	2.5	2.4	6.1	6.1	5.6	6.1	2.4	2.5	2.4	2.5	2.5	2.4	43.5
Rels to Horsetooth	kaf	28.6	2.4	7.5	11.5	12.3	15.3	15.5	15.1	19.8	16.5	17.3	12.0	173.8

Horsetooth Reservoir		Initial Cont Elev 5368.13 ft	56.6 kaf			Maximum Cont Elev 5427.66 ft	152.0 kaf			Minimum Cont Elev 5316.81 ft	13.0 kaf		
2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Inflow	kaf	28.6	2.4	7.5	11.5	12.3	15.3	15.5	15.1	19.8	16.5	17.3	12.0	173.8
Priority water div	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total irr delivery	kaf	17.5	1.5	1.6	1.7	1.6	1.7	2.3	9.7	8.6	34.5	41.1	15.8	137.6
Evaporation loss	kaf	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.5	0.6	0.5	0.3	3.2
Seepage loss	kaf	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	1.7
End-Month Targets	kaf	67.6	68.6	74.4	83.6	94.0	107.4	120.0	125.3	135.3	116.5	92.2	88.4	
End-Month Content	kaf	67.4	68.1	73.8	83.3	93.8	107.2	119.9	124.8	135.3	116.5	92.1	87.9	
End-Month Elevation	ft	5376.59	5377.12	5381.32	5387.97	5394.91	5403.21	5410.61	5413.36	5419.06	5408.67	5393.81	5391.06	
Irrigation demand	kaf	11.8	0.0	0.0	0.0	0.0	0.0	0.2	6.3	4.9	27.9	35.1	11.5	97.7
Metered delivery	kaf	5.3	1.1	1.2	1.3	1.2	1.3	1.7	3.0	3.3	5.5	4.9	3.2	33.0
Windy Gap demand	kaf	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.1	1.1	1.1	6.9
Total demand	kaf	17.5	1.5	1.6	1.7	1.6	1.7	2.3	9.7	8.6	34.5	41.1	15.8	137.6
Total irr delivery	kaf	17.5	1.5	1.6	1.7	1.6	1.7	2.3	9.7	8.6	34.5	41.1	15.8	137.6
% required delivery	%	100	100	100	100	100	100	100	100	100	100	100	100	
Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total CBT Delivery	kaf	31.3	3.0	3.2	3.2	3.0	3.4	9.1	20.7	19.6	58.7	76.9	46.8	278.9

Windy Gap Ownership 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Accrual	kaf	0.0	0.0	0.0	0.0	0.0	0.0	1.8	4.5	0.0	0.0	0.0	0.0	6.3
Total release	kaf	0.9	0.8	0.8	0.8	0.8	0.8	0.9	2.1	2.4	3.0	2.9	2.7	18.9
Spill	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
End-month Ownership	kaf	0.3	-0.5	-1.3	-2.1	-2.9	-3.7	-2.8	-0.4	-2.8	-5.8	-8.7	-11.4	

PUMPING AND GENERATION OPERATIONS

Green Mtn Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Max Generation	gwh	18.600	8.932	13.675	17.996	12.043	8.802	17.011	18.600	18.000	18.600	18.600	18.000	188.859
Generation	gwh	2.869	1.577	1.451	1.471	1.158	1.419	1.402	0.754	1.065	3.930	3.307	3.117	23.520
% Max Generation	%	15	18	11	8	10	16	8	4	6	21	18	17	
Ave kwh/af		167	163	161	160	159	158	158	164	178	183	180	174	

Willow Crk Pumping 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Maximum pumping	kaf	27.7	26.8	0.0	0.0	0.0	0.0	26.8	27.7	26.8	27.7	27.7	26.8	218.0
Actual pumping	kaf	1.8	1.8	0.0	0.0	0.0	0.0	5.0	9.3	2.6	0.8	0.4	0.3	22.0
Pump energy	gwh	0.383	0.383	0.000	0.000	0.000	0.000	1.065	1.981	0.554	0.170	0.085	0.064	4.685
% max pumping	%	6	7					19	34	10	3	1	1	
Average kwh/af		213	213					213	213	213	213	213	213	

Lake Granby Pumping 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Maximum pumping	kaf	36.9	35.7	36.9	36.9	33.3	36.9	35.7	36.9	8.9	36.9	36.9	35.7	407.6
Actual pumping	kaf	33.2	0.9	17.7	32.9	29.7	33.1	26.9	9.7	0.0	24.9	33.2	32.8	275.0
Pump energy	gwh	5.113	0.140	2.779	5.297	4.990	5.826	4.896	1.765	0.000	4.358	6.042	6.298	47.504
% max pumping	%	90	3	48	89	89	90	75	26		67	90	92	
Average kwh/af		154	156	157	161	168	176	182	182		175	182	192	

Marys Lake Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Adams Tunnel Flow	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	22.8	31.7	33.8	32.7	
Max generation	gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	5.840	6.060	6.060	5.840	62.260
Generation	gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	4.060	5.640	6.060	5.840	60.060
% Max Generation	%	100		100	100	100	100	100	100	70	93	100	100	
Ave kwh/af		179		176	179	177	179	179	179	178	178	179	179	

Lake Estes Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Adams Tunnel Flow	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	22.8	31.7	33.8	32.7	
Max generation	gwh	9.980	9.660	9.980	9.980	9.100	9.980	9.660	9.980	9.660	14.920	14.920	14.450	132.270
Generation	gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	9.660	13.980	14.920	14.450	119.450
% Max Generation	%	100		78	100	100	100	100	100	100	94	100	100	
Ave kwh/af		440		459	440	444	440	441	440	441	441	441	442	

Pole Hill Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Olympus Tunnel flow	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.5	32.5	347.8
Max generation	gwh	25.260	0.000	12.910	25.260	22.800	25.260	24.460	25.260	24.460	25.260	25.260	24.460	260.650
Generation	gwh	12.910	0.000	12.730	25.120	11.540	12.910	24.300	25.120	24.300	25.120	12.910	12.460	199.420
% Max Generation	%	51		99	99	51	51	99	99	99	99	51	51	
Ave kwh/af		382		753	743	378	382	743	743	743	743	385	383	

Flatiron 1&2 Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Inflow to Flatiron	kaf	33.6	0.0	16.7	33.6	30.3	33.6	32.5	33.6	32.5	33.6	33.3	32.3	345.6
Max generation	gwh	15.100	28.130	29.040	29.040	13.640	15.100	28.130	29.040	28.130	29.040	15.100	14.600	274.090
Generation	gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	28.880	15.100	14.600	230.980
% Max Generation	%	100		51	99	100	100	99	99	99	99	100	100	
Ave kwh/af		893		892	860	892	893	860	860	860	860	893	890	

Flatiron 3 Pump/Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Maximum pumping	kaf	0.0	23.9	24.6	22.8	18.4	18.4	16.4	16.2	16.0	18.0	20.3	11.0	206.0
Pump from Flatiron	kaf	0.0	0.0	8.5	21.5	17.4	17.6	16.0	15.0	0.4	9.5	6.0	7.8	119.7
Pump energy	gwh	0.000	0.000	2.261	6.085	5.446	6.054	5.936	5.805	0.152	3.335	1.884	2.200	39.158
% max pumping	%			35	94	95	96	98	93	3	53	30	71	
Average kwh/af				266	283	313	344	371	387	379	351	314	282	
Max turbine rels	kaf	0.0	21.1	21.9	23.0	22.0	25.3	25.3	26.6	25.5	25.5	24.4	11.1	251.7
Carter to Flatiron	kaf	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Maximum generation	gwh	0.000	3.735	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.735
Actual generation	gwh	0.000	0.531	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.531
% max generation	%		14											
Average kwh/af			177											

Big Thompson Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Total release	kaf	6.7	2.3	0.0	0.0	0.0	0.0	1.9	15.2	23.2	16.9	12.7	13.2	92.1
Turbine release	kaf	6.7	2.3	0.0	0.0	0.0	0.0	1.9	15.2	23.2	16.9	12.7	13.2	92.1
Wasteway release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max generation	gwh	3.940	1.700	0.000	0.000	0.000	0.000	1.700	3.940	3.800	3.940	3.940	3.800	26.760
Generation	gwh	0.740	0.197	0.000	0.000	0.000	0.000	0.163	2.240	3.740	2.580	1.840	1.940	13.440
% Max Generation	%	19	12					10	57	98	65	47	51	
Ave kwh/af		110	86					86	147	161	153	145	147	

PROJECT GENERATION AND PUMPING SUMMARY

Project Generation 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Base Generation:														
Big Thompson	gwh	0.740	0.197	0.000	0.000	0.000	0.000	0.163	2.240	3.740	2.580	1.840	1.940	13.440
Green Mtn	gwh	2.869	1.577	1.451	1.471	1.158	1.419	1.402	0.754	1.065	3.930	3.307	3.117	23.520
Flatiron 3	gwh	0.000	0.531	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.531
Total	gwh	3.609	2.305	1.451	1.471	1.158	1.419	1.565	2.994	4.805	6.510	5.147	5.057	37.491
Load Following Generation:														
Marys Lake	gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	4.060	5.640	6.060	5.840	60.060
Lake Estes	gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	9.660	13.980	14.920	14.450	119.450
Pole Hill	gwh	12.910	0.000	12.730	25.120	11.540	12.910	24.300	25.120	24.300	25.120	12.910	12.460	199.420
Flatiron 1,2	gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	28.880	15.100	14.600	230.980
Total	gwh	44.050	0.000	38.370	70.040	39.680	44.050	67.750	70.040	65.970	73.620	48.990	47.350	609.910
Total generation	gwh	47.659	2.305	39.821	71.511	40.838	45.469	69.315	73.034	70.775	80.130	54.137	52.407	647.401
Total max generation	gwh	78.940	52.157	68.585	88.336	62.983	65.202	86.801	92.880	89.890	97.820	83.880	81.150	948.624

Project Pump Energy 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Granby	gwh	5.113	0.140	2.779	5.297	4.990	5.826	4.896	1.765	0.000	4.358	6.042	6.298	47.504
Willow Creek	gwh	0.383	0.383	0.000	0.000	0.000	0.000	1.065	1.981	0.554	0.170	0.085	0.064	4.685
Flatiron 3	gwh	0.000	0.000	2.261	6.085	5.446	6.054	5.936	5.805	0.152	3.335	1.884	2.200	39.158
Total pump energy	gwh	5.496	0.523	5.040	11.382	10.436	11.880	11.897	9.551	0.706	7.863	8.011	8.562	91.347
Total net generation	gwh	42.163	1.782	34.781	60.129	30.402	33.589	57.418	63.483	70.069	72.267	46.126	43.845	556.054

Release Flexibility 2012			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Adams Tunnel	Min	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	22.8	31.7	33.8	32.7	
Adams Tunnel	Max	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	22.8	31.7	33.8	32.7	
Marys Lake	Min	gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	4.060	5.640	6.060	5.840	
Marys Lake	Max	gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	4.060	5.640	6.060	5.840	
Lake Estes	Min	gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	9.660	13.980	14.920	14.450	
Lake Estes	Max	gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	9.660	13.980	14.920	14.450	
Olympus Tunnel	Min	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.5	32.5	
Olympus Tunnel	Max	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.5	32.5	
Pole Hill	Min	gwh	25.260	0.000	12.910	25.260	22.800	25.260	24.460	25.260	24.460	25.260	25.050	24.300	
Pole Hill	Max	gwh	25.260	0.000	12.910	25.260	22.800	25.260	24.460	25.260	24.460	25.260	25.050	24.300	
Flatiron 1&2	Min	gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	28.880	15.100	14.600	
Flatiron 1&2	Max	gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	28.880	15.100	14.600	
Load following	Min	gwh	56.400	0.000	38.550	70.180	50.940	56.400	67.910	70.180	66.130	73.760	61.130	59.190	
Load following	Max	gwh	56.400	0.000	38.550	70.180	50.940	56.400	67.910	70.180	66.130	73.760	61.130	59.190	
Total project	Min	gwh	60.009	2.305	40.001	71.651	52.098	57.819	69.475	73.174	70.935	80.270	66.277	64.247	
Total project	Max	gwh	60.009	2.305	40.001	71.651	52.098	57.819	69.475	73.174	70.935	80.270	66.277	64.247	

GENERATION CAPACITY AND DURATION

Project Generation 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Base Generation:														
Green Mtn	mw	3.9	2.2	2.0	2.0	1.7	1.9	1.9	1.0	1.5	5.3	4.4	4.3	
Flatiron 3	mw		0.7											
Big Thompson	mw	1.0	0.3					0.2	3.0	5.2	3.5	2.5	2.7	
Total base load	mw	4.9	3.2	2.0	2.0	1.7	1.9	2.1	4.0	6.7	8.8	6.9	7.0	

Load Following Generation:													
Marys Lake													
Min Capacity	mw	8.1	0.0	0.0	8.1	1.4	8.1	8.1	8.1	0.0	2.7	8.1	8.1
Duration	hr/d	12.0	12.0	10.9	12.0	1.6	12.0	12.0	12.0	6.6	1.2	12.0	12.0
Max Capacity	mw	8.1	0.0	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Duration	hr/d	12.0	12.0	12.1	12.0	22.0	12.0	12.0	12.0	16.4	22.8	12.0	12.0
Lake Estes													
Min Capacity	mw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Duration	hr/d	11.0	12.0	12.0	11.0	12.4	11.0	11.0	11.0	12.0	11.5	11.0	11.0
Max Capacity	mw	45.0	0.0	20.8	45.0	40.1	45.0	45.0	45.0	29.1	44.1	45.0	45.0
Duration	hr/d	10.0	12.0	12.0	10.0	11.7	10.0	10.0	10.0	12.0	10.4	10.0	10.0
Pole Hill													
Min Capacity	mw	34.0	0.0	0.0	34.0	0.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
Duration	hr/d	12.0	12.0	11.6	12.0	1.8	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Max Capacity	mw	34.0	0.0	33.9	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
Duration	hr/d	12.0	12.0	12.5	12.0	22.4	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Flatiron 1&2													
Min Capacity	mw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Duration	hr/d	8.8	12.0	11.4	8.8	11.5	8.8	9.6	8.8	9.6	8.8	9.0	9.7
Max Capacity	mw	86.0	0.0	42.4	86.0	79.2	86.0	85.0	86.0	85.0	86.0	86.0	84.6
Duration	hr/d	10.0	12.0	12.6	10.0	11.4	10.0	10.1	10.0	10.1	10.0	10.0	10.1
Total Load Following													
Min Capacity	mw	42.1	0.0	0.0	42.1	1.4	42.1	42.1	42.1	34.0	36.7	42.1	42.1
Max Capacity	mw	173.1	0.0	105.2	173.1	161.4	173.1	172.1	173.1	156.2	172.2	173.1	171.7
Total Project Capacity													
Min Capacity	mw	47.0	3.2	2.0	44.1	3.1	44.0	44.2	46.1	40.7	45.5	49.0	49.1
Max Capacity	mw	178.0	3.2	107.2	175.1	163.1	175.0	174.2	177.1	162.9	181.0	180.0	178.7

CBTAOP V2.06 Run: 11-Oct-2012 09:00
Maximum Reasonable Plan (50-Percent Quota)

COLORADO-BIG THOMPSON MONTHLY OPERATIONS

HYDROLOGY OPERATIONS

Green Mtn Reservoir — Initial Cont 76.7 kaf, Elev 7904.59 ft; Maximum Cont 154.6 kaf, Elev 7950.38 ft; Minimum Cont 8.0 kaf, Elev 7804.68 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Dillon Inflow	kaf	4.8	4.9	4.4	4.0	3.6	4.3	7.7	41.0	110.4	73.2	28.9	10.3	297.5
Dillon-Grn Mtn Gain	kaf	4.7	4.8	4.2	3.8	3.2	4.1	8.3	28.6	70.4	48.0	21.2	10.0	211.3
Undepleted Inflow	kaf	9.5	9.7	8.6	7.8	6.8	8.4	16.0	69.6	180.8	121.2	50.1	20.3	508.8
Depletion	kaf	1.8	1.9	1.1	0.8	0.7	0.8	5.0	30.0	50.0	30.0	10.0	3.0	135.1
Depleted Inflow	kaf	7.7	7.8	7.5	7.0	6.1	7.6	11.0	39.6	130.8	91.2	40.1	17.3	373.7
Turbine Release	kaf	17.2	9.7	9.0	9.2	7.3	9.0	8.9	19.6	70.0	80.4	64.5	31.8	336.6
Spill/Waste	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total River Release	kaf	17.2	9.7	9.0	9.2	7.3	9.0	8.9	19.6	70.0	80.4	64.5	31.8	336.6
Min Release	cfs	280	163	147	149	132	146	150	100	100	425	550	335	
Total River Release	cfs	280	163	146	150	131	146	150	319	1176	1308	1049	534	
Evaporation	kaf	0.3	0.1	0.0	0.0	0.0	0.1	0.2	0.4	0.8	0.8	0.6	0.5	3.8
End-Month Targets	kaf	85.0	80.0	77.0	72.0	68.0	60.0	70.0	80.0	140.0	150.0	125.0	110.0	
End-Month Content	kaf	66.9	64.9	63.4	61.2	60.0	58.5	60.4	80.0	140.0	150.0	125.0	110.0	
End-Month Elevation	ft	7896.63	7894.89	7893.56	7891.56	7890.45	7889.03	7890.82	7907.11	7943.31	7948.20	7935.52	7927.08	

Willow Crk Reservoir — Initial Cont 9.7 kaf, Elev 8127.09 ft; Maximum Cont 10.2 kaf, Elev 8128.83 ft; Minimum Cont 7.2 kaf, Elev 8116.90 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Native Inflow	kaf	1.1	0.9	0.8	0.8	0.7	1.0	5.9	30.2	31.8	7.1	3.0	1.5	84.8
Min Release	kaf	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.5	2.6	2.2	0.5	0.4	10.0
Spill/Bypass	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	1.1
Total River Release	kaf	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.5	3.7	2.2	0.5	0.4	11.1
Pumped to Granby	kaf	1.8	1.8	0.0	0.0	0.0	0.0	7.1	26.8	26.8	6.0	1.7	1.7	73.7
Evaporation	kaf	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.7
End-Month Targets	kaf		7.2					7.2	9.0	10.0	9.0		9.0	
End-Month Content	kaf	8.5	7.2	7.6	8.0	8.3	8.9	7.2	9.0	10.2	9.0	9.7	9.0	
End-Month Elevation	ft	8122.55	8116.90	8118.74	8120.48	8121.73	8124.12	8116.90	8124.50	8128.83	8124.50	8127.09	8124.50	

Lake Granby — Initial Cont 333.6 kaf, Elev 8248.35 ft; Maximum Cont 539.8 kaf, Elev 8280.01 ft; Minimum Cont 76.5 kaf, Elev 8186.91 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Native inflow	kaf	2.1	1.3	1.4	1.4	1.2	1.5	6.7	24.0	54.6	24.1	8.6	3.4	130.3
Rels frm Shadow Mtn	kaf	2.2	2.7	2.8	1.2	1.1	1.2	1.2	11.9	77.2	30.4	4.9	2.1	138.9
Pump frm Windy Gap	kaf	0.0	0.0	0.0	0.0	0.0	0.0	8.0	20.0	10.0	0.0	0.0	0.0	38.0
Pump frm Willow Crk	kaf	1.8	1.8	0.0	0.0	0.0	0.0	7.1	26.8	26.8	6.0	1.7	1.7	73.7
Total Inflow	kaf	6.1	5.8	4.2	2.6	2.3	2.7	23.0	82.7	168.6	60.5	15.2	7.2	380.9
Min River Release	kaf	1.2	1.2	1.2	1.2	1.1	1.2	1.2	3.7	3.6	3.7	5.0	3.5	27.8
Spill/Bypass	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total River Release	kaf	1.2	1.2	1.2	1.2	1.1	1.2	1.2	3.7	3.6	3.7	5.0	3.5	27.8
Pumped to Shadow Mtn	kaf	33.2	0.9	17.7	32.9	29.7	32.8	24.2	0.0	0.0	0.0	0.0	5.3	176.7
Evaporation	kaf	1.3	0.6	0.2	0.0	0.0	0.6	1.0	1.7	2.6	2.7	2.2	2.0	14.9
Seepage loss	kaf	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	3.3
End-Month Content	kaf	303.7	306.5	291.4	259.7	231.0	198.9	195.3	272.4	434.5	488.2	495.8	491.8	
End-Month Elevation	ft	8243.04	8243.55	8240.78	8234.70	8228.84	8221.84	8221.02	8237.18	8264.80	8272.74	8273.83	8273.26	

Shadow Mtn — Initial Cont 17.8 kaf, Elev 8366.68 ft; Maximum Cont 18.4 kaf, Elev 8367.00 ft; Minimum Cont 16.6 kaf, Elev 8366.02 ft

2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Native inflow	kaf	3.2	2.0	2.1	2.1	1.9	2.2	10.1	36.1	81.8	36.2	12.8	5.1	195.6
Pumped from Granby	kaf	33.2	0.9	17.7	32.9	29.7	32.8	24.2	0.0	0.0	0.0	0.0	5.3	176.7
Total Inflow	kaf	36.4	2.9	19.8	35.0	31.6	35.0	34.3	36.1	81.8	36.2	12.8	10.4	372.3
Min River Release	kaf	2.2	2.7	2.8	1.2	1.1	1.2	1.2	1.2	3.0	3.1	2.5	2.1	24.3
Spill/Bypass	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	74.2	27.3	2.4	0.0	114.6
Total River Release	kaf	2.2	2.7	2.8	1.2	1.1	1.2	1.2	11.9	77.2	30.4	4.9	2.1	138.9
Adams Tunnel Flow	kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	23.5	3.8	5.1	7.3	7.8	228.7
Evaporation	kaf	0.4	0.2	0.1	0.0	0.0	0.3	0.4	0.7	0.8	0.7	0.6	0.5	4.7
End-Month Content	kaf	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	
End-Month Elevation	ft	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	8366.68	

Adams Tunnel 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Max Tunnel Capacity	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.8	32.7	348.3
Actual delivery	kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	23.5	3.8	5.1	7.3	7.8	228.7
% max delivery	%	100	0	100	100	100	99	100	70	12	15	22	24	

Big T @ Lake Estes	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Big Thompson inflow	kaf	2.6	1.8	1.2	1.0	0.7	1.0	2.9	17.6	50.5	26.0	13.6	6.0	124.9
Min river release	kaf	3.1	1.5	1.5	1.5	1.4	1.5	2.2	6.9	7.4	7.7	6.9	3.7	45.3
Act river release	kaf	2.6	1.8	1.2	1.0	0.7	1.0	2.9	7.3	21.6	7.7	6.9	3.7	58.4
Max div available	kaf	0.0	0.3	0.0	0.0	0.0	0.0	0.7	10.7	43.1	18.3	6.7	2.3	82.1
Priority water div	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Skim water diverted	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	28.9	18.3	6.7	2.3	66.5
% max diverted	%								96	67	100	100	100	
Irrigation demand	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.4
Irrigation delivery	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.4
Total river release	kaf	2.6	1.8	1.2	1.0	0.7	1.0	2.9	7.3	21.6	7.8	7.1	3.8	58.8

Olympus Tunnel	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Max Tunnel Capacity	kaf	33.8	0.0	16.9	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.8	32.7	348.3
Actual delivery	kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	33.8	32.7	23.3	13.8	10.0	294.8
% max delivery	%	100	0	100	100	100	99	100	100	100	69	41	31	
Seepage and Evap	kaf	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.2
Inflow to Flatiron	kaf	33.6	0.0	16.7	33.6	30.3	33.3	32.5	33.6	32.5	23.1	13.6	9.8	292.6

Carter Lake		Initial Cont Elev	54.6 kaf 5702.72 ft			Maximum Cont Elev	112.2 kaf 5758.98 ft			Minimum Cont Elev	6.0 kaf 5626.80 ft		
	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Pump from Flatiron	kaf	0.0	0.0	9.1	22.2	18.0	17.9	13.2	0.0	0.0	0.0	0.0	0.0	80.4
Carter to Flatiron	kaf	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
Evaporation loss	kaf	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.3	0.2	2.1
Seepage loss	kaf	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	1.7
End-Month Targets	kaf	44.4	42.0	49.4	69.6	85.6	101.1	110.0	99.0	90.0	79.0	64.0	49.0	
End-Month Content	kaf	44.5	39.9	47.4	67.8	84.1	100.0	107.0	99.6	91.7	79.4	64.8	53.4	
End-Month Elevation	ft	5690.95	5685.27	5694.42	5716.95	5733.21	5748.10	5754.39	5747.73	5740.43	5728.64	5713.81	5701.36	
Irrigation demand	kaf	6.2	0.0	0.0	0.0	0.0	0.0	3.8	3.2	2.9	6.4	9.4	7.2	39.1
Metered delivery	kaf	3.2	1.2	1.1	1.2	1.1	1.3	1.5	2.1	2.5	3.3	3.0	2.4	23.9
Windy Gap demand	kaf	0.5	0.4	0.4	0.4	0.4	0.4	0.5	1.7	2.0	2.0	1.8	1.5	12.0
Total demand	kaf	9.9	1.6	1.5	1.6	1.5	1.7	5.8	7.0	7.4	11.7	14.2	11.1	75.0
Total delivery	kaf	9.9	1.6	1.5	1.6	1.5	1.7	5.8	7.0	7.4	11.7	14.2	11.1	75.0
% required delivery	%	100	100	100	100	100	100	100	100	100	100	100	100	
Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hansen Canal 930	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Minimum flow	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum flow	kaf	57.2	55.3	57.2	57.2	51.6	57.2	55.3	57.2	55.3	57.2	57.2	55.3	673.2
Actual flow	kaf	33.6	2.8	7.6	11.4	12.3	15.4	19.3	33.6	32.5	23.1	13.6	9.8	215.0

Dille Tunnel	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Big T @ Canyon Mouth	kaf	4.0	2.3	1.5	1.4	1.3	1.8	6.9	29.2	61.5	37.7	20.1	7.6	175.3
Less Estes skim	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	28.9	18.3	6.7	2.3	66.5
Big T irr (Estes)	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.4
Handy Ditch release	kaf	1.2	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.8	2.9	1.7	11.2
Water available	kaf	2.8	2.3	1.5	1.4	1.3	1.8	5.7	17.7	31.4	17.7	10.7	3.7	98.0
Water diverted	kaf	2.8	2.3	0.0	0.0	0.0	0.0	5.7	13.3	0.0	5.1	10.7	3.7	43.6
% diverted	%	100	100					100	75		29	100	100	

Trifurcation Works	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Rels from Flatiron	kaf	33.6	2.8	7.6	11.4	12.3	15.4	19.3	33.6	32.5	23.1	13.6	9.8	215.0
Rels to 550 Canal	kaf	29.7	2.8	7.6	11.4	12.3	15.4	19.2	22.2	3.0	3.5	3.5	3.3	133.9
Big T irrigation	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.1	1.1	0.6	1.3	3.4	4.2	14.6
Dille Tunnel	kaf	2.8	2.3	0.0	0.0	0.0	0.0	5.7	13.3	0.0	5.1	10.7	3.7	43.6
Tot rels to river	kaf	6.7	2.3	0.0	0.0	0.0	0.0	5.8	24.7	29.5	24.7	20.8	10.2	124.7
Irrigation demand	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.1	1.1	0.6	1.1	3.2	4.0	14.0
Big T irr (Estes)	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.4
Windy Gap demand	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.6
Total requirement	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.1	1.1	0.6	1.4	3.6	4.3	15.0
Total delivery	kaf	3.9	0.0	0.0	0.0	0.0	0.0	0.1	1.1	0.6	1.4	3.6	4.3	15.0
% required delivery	%	100	0	0	0	0	0	100	100	100	100	100	100	
Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hansen Canal 550	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Inflow from Flatiron	kaf	29.7	2.8	7.6	11.4	12.3	15.4	19.2	22.2	3.0	3.5	3.5	3.3	133.9
Maximum flow	kaf	33.8	32.7	33.8	33.8	30.5	33.8	32.7	33.8	32.7	33.8	33.8	32.7	397.9
Seepage loss	kaf	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.4
Irrigation demand	kaf	0.9	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.4	0.8	0.8	0.7	5.4
Irrigation delivery	kaf	0.9	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.4	0.8	0.8	0.7	5.4
Minimum flow	kaf	2.5	2.4	6.1	6.1	5.6	6.1	2.4	2.5	2.4	2.5	2.5	2.4	43.5
Rels to Horsetooth	kaf	28.6	2.4	7.2	11.0	11.9	15.0	18.7	21.5	2.4	2.5	2.5	2.4	126.1

Horsetooth Reservoir		Initial Cont		56.6 kaf		Maximum Cont		152.0 kaf		Minimum Cont		13.0 kaf		
			Elev	5368.13 ft			Elev	5427.66 ft			Elev	5316.81 ft		
2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Inflow	kaf	28.6	2.4	7.2	11.0	11.9	15.0	18.7	21.5	2.4	2.5	2.5	2.4	126.1
Priority water div	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total irr delivery	kaf	17.5	1.2	1.2	1.3	1.2	1.4	1.6	5.1	4.5	17.3	20.1	8.4	80.8
Evaporation loss	kaf	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.5	0.6	0.5	0.4	3.3
Seepage loss	kaf	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	1.7
End-Month Targets	kaf	67.6	68.6	74.4	83.6	94.1	107.5	127.3	140.0	135.0	121.0	100.0	95.0	
End-Month Content	kaf	67.4	68.4	74.2	83.6	94.1	107.5	124.1	140.0	137.2	121.6	103.4	96.9	
End-Month Elevation	ft	5376.59	5377.35	5381.61	5388.18	5395.10	5403.39	5412.97	5421.54	5420.07	5411.57	5400.91	5396.88	
Irrigation demand	kaf	11.8	0.0	0.0	0.0	0.0	0.0	0.0	2.9	2.1	13.0	16.0	5.3	51.1
Metered delivery	kaf	5.3	0.8	0.8	0.9	0.8	1.0	1.2	1.8	2.0	3.2	3.0	2.0	22.8
Windy Gap demand	kaf	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.1	1.1	1.1	6.9
Total demand	kaf	17.5	1.2	1.2	1.3	1.2	1.4	1.6	5.1	4.5	17.3	20.1	8.4	80.8
Total irr delivery	kaf	17.5	1.2	1.2	1.3	1.2	1.4	1.6	5.1	4.5	17.3	20.1	8.4	80.8
% required delivery	%	100	100	100	100	100	100	100	100	100	100	100	100	
Shortage	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total CBT Delivery	kaf	31.3	2.2	2.1	2.3	2.1	2.5	6.9	11.6	10.5	27.9	35.6	21.7	156.7

Windy Gap Ownership 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Accrual	kaf	0.0	0.0	0.0	0.0	0.0	0.0	7.2	18.0	9.0	0.0	0.0	0.0	34.2
Total release	kaf	0.9	0.8	0.8	0.8	0.8	0.8	0.9	2.1	2.4	3.3	3.1	2.8	19.5
Spill	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
End-month Ownership	kaf	0.3	-0.5	-1.3	-2.1	-2.9	-3.7	2.6	18.5	25.1	21.8	18.7	15.9	

PUMPING AND GENERATION OPERATIONS

Green Mtn Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Max Generation	gwh	18.600	8.932	13.675	17.996	12.043	8.802	17.061	18.600	18.000	18.600	18.600	18.000	188.909
Generation	gwh	2.869	1.577	1.451	1.471	1.158	1.419	1.405	3.247	13.440	16.752	13.234	6.225	64.248
% Max Generation	%	15	18	11	8	10	16	8	17	75	90	71	35	
Ave kwh/af		167	163	161	160	159	158	158	166	192	208	205	196	

Willow Crk Pumping	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Maximum pumping	kaf	27.7	26.8	0.0	0.0	0.0	0.0	26.8	27.7	26.8	27.7	27.7	26.8	218.0
Actual pumping	kaf	1.8	1.8	0.0	0.0	0.0	0.0	7.1	26.8	26.8	6.0	1.7	1.7	73.7
Pump energy	gwh	0.383	0.383	0.000	0.000	0.000	0.000	1.512	5.708	5.708	1.278	0.362	0.362	15.696
% max pumping	%	6	7					26	97	100	22	6	6	
Average kwh/af		213	213					213	213	213	213	213	213	

Lake Granby Pumping	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Maximum pumping	kaf	36.9	35.7	36.9	36.9	33.3	36.9	35.7	36.9	8.9	36.9	36.9	35.7	407.6
Actual pumping	kaf	33.2	0.9	17.7	32.9	29.7	32.8	24.2	0.0	0.0	0.0	0.0	5.3	176.7
Pump energy	gwh	5.113	0.140	2.779	5.297	4.990	5.773	4.356	0.000	0.000	0.000	0.000	0.753	29.201
% max pumping	%	90	3	48	89	89	89	68					15	
Average kwh/af		154	156	157	161	168	176	180					142	

Marys Lake Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Adams Tunnel Flow	kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	23.5	3.8	5.1	7.3	7.8	
Max generation	gwh	6.060	0.000	2.980	6.060	5.400	6.060	5.840	6.060	5.840	6.060	6.060	5.840	62.260
Generation	gwh	6.060	0.000	2.980	6.060	5.400	6.000	5.840	4.200	0.660	0.820	1.160	1.260	40.440
% Max Generation	%	100		100	100	100	99	100	69	11	14	19	22	
Ave kwh/af		179		176	179	177	179	179	179	174	161	159	162	

Lake Estes Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Adams Tunnel Flow	kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	23.5	3.8	5.1	7.3	7.8	
Max generation	gwh	9.980	9.660	9.980	9.980	9.100	9.980	9.660	9.980	9.660	14.920	14.920	14.450	132.270
Generation	gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	1.620	2.140	3.050	3.300	76.550
% Max Generation	%	100		78	100	100	100	100	100	17	14	20	23	
Ave kwh/af		440		459	440	444	440	441	440	426	420	418	423	

Pole Hill Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Olympus Tunnel flow	kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	33.8	32.7	23.3	13.8	10.0	294.8
Max generation	gwh	25.260	0.000	12.910	25.260	22.800	25.260	24.460	25.260	24.460	25.260	25.260	24.460	260.650
Generation	gwh	12.910	0.000	12.730	25.120	11.540	12.910	24.300	25.120	24.300	17.280	10.280	6.660	183.150
% Max Generation	%	51		99	99	51	51	99	99	99	68	41	27	
Ave kwh/af		382		753	743	378	385	743	743	743	742	745	666	

Flatiron 1&2 Gen	2012	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Inflow to Flatiron	kaf	33.6	0.0	16.7	33.6	30.3	33.3	32.5	33.6	32.5	23.1	13.6	9.8	292.6
Max generation	gwh	15.100	28.130	29.040	29.040	13.640	15.100	28.130	29.040	28.130	29.040	15.100	14.600	274.090
Generation	gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	20.690	12.140	8.120	213.350
% Max Generation	%	100		51	99	100	100	99	99	99	71	80	56	
Ave kwh/af		893		892	860	892	893	860	860	860	896	893	829	

Flatiron 3 Pump/Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Maximum pumping	kaf	0.0	23.8	24.5	22.5	18.1	17.9	16.0	16.6	16.9	18.7	20.5	10.8	206.3
Pump from Flatiron	kaf	0.0	0.0	9.1	22.2	18.0	17.9	13.2	0.0	0.0	0.0	0.0	0.0	80.4
Pump energy	gwh	0.000	0.000	2.430	6.349	5.724	6.301	4.990	0.000	0.000	0.000	0.000	0.000	25.794
% max pumping	%			37	99	99	100	83						
Average kwh/af				267	286	318	352	378						
Max turbine rels	kaf	0.0	21.2	22.0	23.2	22.2	25.5	25.5	26.3	24.9	25.1	24.3	11.3	251.5
Carter to Flatiron	kaf	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
Maximum generation	gwh	0.000	3.752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.752
Actual generation	gwh	0.000	0.496	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.496
% max generation	%		13											
Average kwh/af			177											

Big Thompson Gen 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Total release	kaf	6.7	2.3	0.0	0.0	0.0	0.0	5.8	24.7	29.5	24.7	20.8	10.2	124.7
Turbine release	kaf	6.7	2.3	0.0	0.0	0.0	0.0	5.8	24.7	23.9	24.7	20.8	10.2	119.1
Wasteway release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	5.6
Max generation	gwh	3.940	1.700	0.000	0.000	0.000	0.000	1.700	3.940	3.800	3.940	3.940	3.800	26.760
Generation	gwh	0.740	0.197	0.000	0.000	0.000	0.000	0.600	3.940	3.800	3.940	3.260	1.340	17.817
% Max Generation	%	19	12					35	100	100	100	83	35	
Ave kwh/af		110	86					103	160	159	160	157	131	

PROJECT GENERATION AND PUMPING SUMMARY

Project Generation 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Base Generation:														
Big Thompson	gwh	0.740	0.197	0.000	0.000	0.000	0.000	0.600	3.940	3.800	3.940	3.260	1.340	17.817
Green Mtn	gwh	2.869	1.577	1.451	1.471	1.158	1.419	1.405	3.247	13.440	16.752	13.234	6.225	64.248
Flatiron 3	gwh	0.000	0.496	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.496
Total	gwh	3.609	2.270	1.451	1.471	1.158	1.419	2.005	7.187	17.240	20.692	16.494	7.565	82.561
Load Following Generation:														
Marys Lake	gwh	6.060	0.000	2.980	6.060	5.400	6.000	5.840	4.200	0.660	0.820	1.160	1.260	40.440
Lake Estes	gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	1.620	2.140	3.050	3.300	76.550
Pole Hill	gwh	12.910	0.000	12.730	25.120	11.540	12.910	24.300	25.120	24.300	17.280	10.280	6.660	183.150
Flatiron 1,2	gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	20.690	12.140	8.120	213.350
Total	gwh	44.050	0.000	38.370	70.040	39.680	43.990	67.750	68.180	54.530	40.930	26.630	19.340	513.490
Total generation	gwh	47.659	2.270	39.821	71.511	40.838	45.409	69.755	75.367	71.770	61.622	43.124	26.905	596.051
Total max generation	gwh	78.940	52.174	68.585	88.336	62.983	65.202	86.851	92.880	89.890	97.820	83.880	81.150	948.691

Project Pump Energy 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Granby	gwh	5.113	0.140	2.779	5.297	4.990	5.773	4.356	0.000	0.000	0.000	0.000	0.753	29.201
Willow Creek	gwh	0.383	0.383	0.000	0.000	0.000	0.000	1.512	5.708	5.708	1.278	0.362	0.362	15.696
Flatiron 3	gwh	0.000	0.000	2.430	6.349	5.724	6.301	4.990	0.000	0.000	0.000	0.000	0.000	25.794
Total pump energy	gwh	5.496	0.523	5.209	11.646	10.714	12.074	10.858	5.708	5.708	1.278	0.362	1.115	70.691
Total net generation	gwh	42.163	1.747	34.612	59.865	30.124	33.335	58.897	69.659	66.062	60.344	42.762	25.790	525.360

Release Flexibility 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Adams Tunnel	Min kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	23.5	3.8	5.1	7.3	7.8	
Adams Tunnel	Max kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	23.5	3.8	5.1	7.3	7.8	
Marys Lake	Min gwh	6.060	0.000	2.980	6.060	5.400	6.000	5.840	4.200	0.660	0.820	1.160	1.260	
Marys Lake	Max gwh	6.060	0.000	2.980	6.060	5.400	6.000	5.840	4.200	0.660	0.820	1.160	1.260	
Lake Estes	Min gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	1.620	2.140	3.050	3.300	
Lake Estes	Max gwh	9.980	0.000	7.760	9.980	9.100	9.980	9.660	9.980	1.620	2.140	3.050	3.300	
Olympus Tunnel	Min kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	33.8	32.7	23.3	13.8	10.0	
Olympus Tunnel	Max kaf	33.8	0.0	16.9	33.8	30.5	33.5	32.7	33.8	32.7	23.3	13.8	10.0	
Pole Hill	Min gwh	25.260	0.000	12.910	25.260	22.800	25.050	24.460	25.260	24.460	17.440	10.440	6.800	
Pole Hill	Max gwh	25.260	0.000	12.910	25.260	22.800	25.050	24.460	25.260	24.460	17.440	10.440	6.800	
Flatiron 1&2	Min gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	20.690	12.140	8.120	
Flatiron 1&2	Max gwh	15.100	0.000	14.900	28.880	13.640	15.100	27.950	28.880	27.950	20.690	12.140	8.120	
Load following	Min gwh	56.400	0.000	38.550	70.180	50.940	56.130	67.910	68.320	54.690	41.090	26.790	19.480	
Load following	Max gwh	56.400	0.000	38.550	70.180	50.940	56.130	67.910	68.320	54.690	41.090	26.790	19.480	
Total project	Min gwh	60.009	2.270	40.001	71.651	52.098	57.549	69.915	75.507	71.930	61.782	43.284	27.045	
Total project	Max gwh	60.009	2.270	40.001	71.651	52.098	57.549	69.915	75.507	71.930	61.782	43.284	27.045	

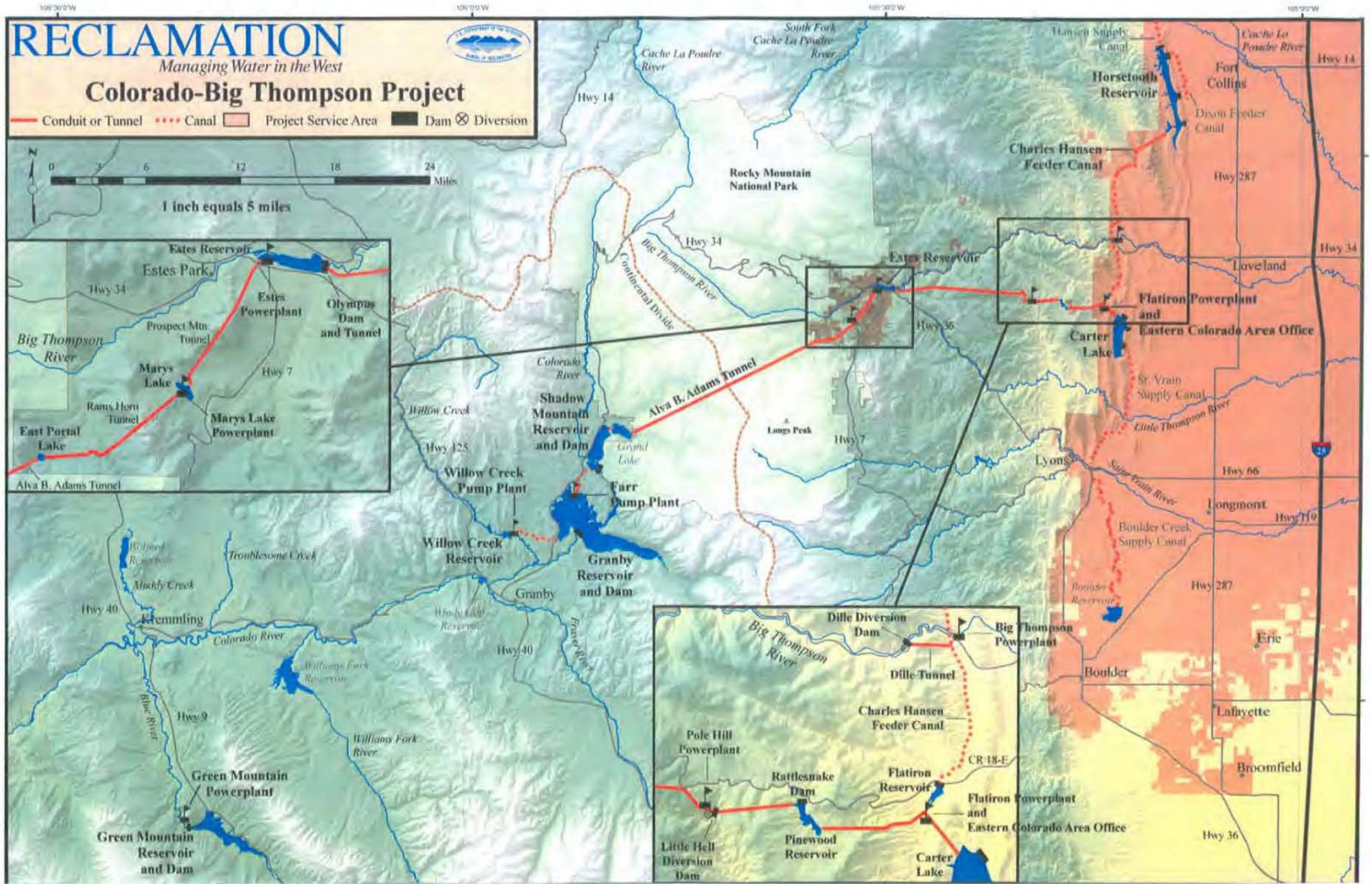
GENERATION CAPACITY AND DURATION

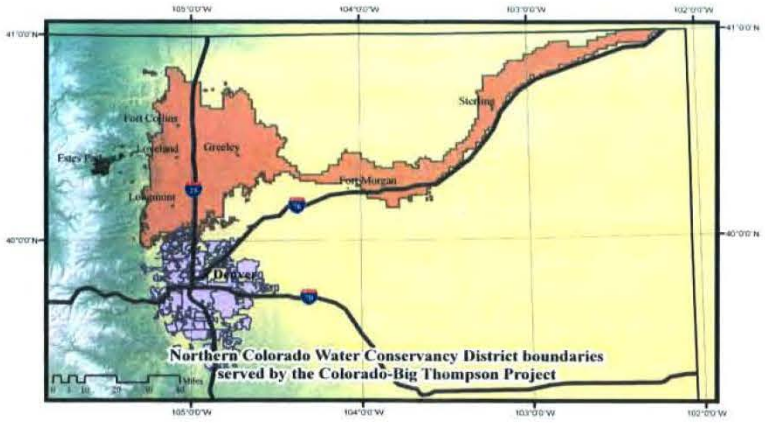
Project Generation 2012		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Base Generation:														
Green Mtn	mw	3.9	2.2	2.0	2.0	1.7	1.9	2.0	4.4	18.7	22.5	17.8	8.6	
Flatiron 3	mw		0.7											
Big Thompson	mw	1.0	0.3					0.8	5.3	5.3	5.3	4.4	1.9	
Total base load	mw	4.9	3.2	2.0	2.0	1.7	1.9	2.8	9.7	24.0	27.8	22.2	10.5	

Load Following Generation:													
Marys Lake													
Min Capacity	mw	8.1	0.0	0.0	8.1	1.4	8.1	8.1	0.0	0.0	0.0	0.0	0.0
Duration	hr/d	12.0	12.0	10.9	12.0	1.6	12.0	12.0	6.2	16.2	13.8	10.3	10.8
Max Capacity	mw	8.1	0.0	8.1	8.1	8.1	8.1	8.1	8.1	2.7	2.7	2.9	3.3
Duration	hr/d	12.0	12.0	12.1	12.0	22.0	12.0	12.0	16.9	7.8	10.2	13.4	12.4
Lake Estes													
Min Capacity	mw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Duration	hr/d	11.0	12.0	12.0	11.0	12.4	11.0	11.0	12.0	16.2	13.8	12.0	12.0
Max Capacity	mw	45.0	0.0	20.8	45.0	40.1	45.0	45.0	29.7	7.0	7.0	9.0	9.7
Duration	hr/d	10.0	12.0	12.0	10.0	11.7	10.0	10.0	12.0	7.8	10.2	12.0	12.0
Pole Hill													
Min Capacity	mw	34.0	0.0	0.0	34.0	0.0	34.0	34.0	34.0	34.0	0.0	0.0	0.0
Duration	hr/d	12.0	12.0	11.6	12.0	1.8	12.0	12.0	12.0	12.0	6.9	12.0	12.0
Max Capacity	mw	34.0	0.0	33.9	34.0	34.0	34.0	34.0	34.0	34.0	34.0	29.4	20.0
Duration	hr/d	12.0	12.0	12.5	12.0	22.4	12.0	12.0	12.0	12.0	17.1	12.0	12.0
Flatiron 1&2													
Min Capacity	mw	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Duration	hr/d	8.8	12.0	11.4	8.8	11.5	9.0	9.6	8.8	9.6	12.0	12.0	12.0
Max Capacity	mw	86.0	0.0	42.4	86.0	79.2	86.0	85.0	86.0	85.0	56.3	33.8	23.6
Duration	hr/d	10.0	12.0	12.6	10.0	11.4	10.0	10.1	10.0	10.1	12.0	12.0	12.0
Total Load Following													
Min Capacity	mw	42.1	0.0	0.0	42.1	1.4	42.1	42.1	34.0	34.0	0.0	0.0	0.0
Max Capacity	mw	173.1	0.0	105.2	173.1	161.4	173.1	172.1	157.8	128.7	100.0	75.1	56.6
Total Project Capacity													
Min Capacity	mw	47.0	3.2	2.0	44.1	3.1	44.0	44.9	43.7	58.0	27.8	22.2	10.5
Max Capacity	mw	178.0	3.2	107.2	175.1	163.1	175.0	174.9	167.5	152.7	127.8	97.3	67.1

APPENDIX C - EXHIBITS

Exhibit 1


RECLAMATION
Managing Water in the West
Colorado-Big Thompson Project
Conduit or Tunnel
Canal
Project Service Area
Dam
Diversion
1 inch equals 5 miles
Miles
Rocky Mountain National Park
Estes Reservoir
Estes Park
Estes Powerplant
Olympus Dam and Tunnel
Prospect Mtn. Tunnel
Big Thompson River
Marys Lake
Rams Horn Tunnel
Marys Lake Powerplant
East Portal Lake
Alva B. Adams Tunnel
Shadow Mountain Reservoir and Dam
Grand Lake
Willow Creek Pump Plant
Farr Pump Plant
Willow Creek Reservoir
Granby Reservoir and Dam
Granby
Troublesome Creek
Muddy Creek
Kremmling
Colorado River
Williams Fork Reservoir
Williams Fork River
Green Mountain Powerplant
Green Mountain Reservoir and Dam
Dille Diversion Dam
Dille Tunnel
Big Thompson Powerplant
Charles Hansen Feeder Canal
Pole Hill Powerplant
Rattlesnake Dam
Flatiron Reservoir
Flatiron Powerplant and Eastern Colorado Area Office
Pinewood Reservoir
Little Hell Diversion Dam
Carter Lake
Horsetooth Reservoir
Fort Collins
Loveland
Lyons
Longmont
Boulder
Erie
Lafayette
Broomfield
Hwy 14
Hwy 34
Hwy 287
Hwy 36
Hwy 7
Hwy 66
Hwy 119
Hwy 40
Hwy 9
Hwy 125
CR 18-E



Colorado-Big Thompson Facts

- A trans-mountain, trans-basin water diversion, storage, and delivery project
- Signed into law by President Roosevelt in 1937
- Construction period: 1938-1952
- Ten major reservoirs (Green Mountain, Willow Creek, Granby, Shadow Mountain, Marys Lake, Estes, Pinewood, Carter, Flatiron and Horsetooth)
- Twenty major dams and dikes
- Twenty-two tunnels, canals and other conduits covering about 130 miles
- Six hydroelectric powerplants (Green Mountain, Marys, Estes, Pole Hill, Flatiron, Big Thompson)
- Water right allows for diversion of up to 310,000 acre-feet of water a year
- Average annual diversion over life of project is 260,000 acre-feet
- Water falls over 2000 feet from Continental Divide to Colorado's eastern Plains, providing for hydroelectric power generation.
- Together, all six powerplants generate approximately 759 million kilo-Watt hours of electricity a year—enough to power 58,300 American homes for a year.
- The C-BT provides water to 29 cities and towns, including 620,000 irrigated acres and a population of 725,000 people

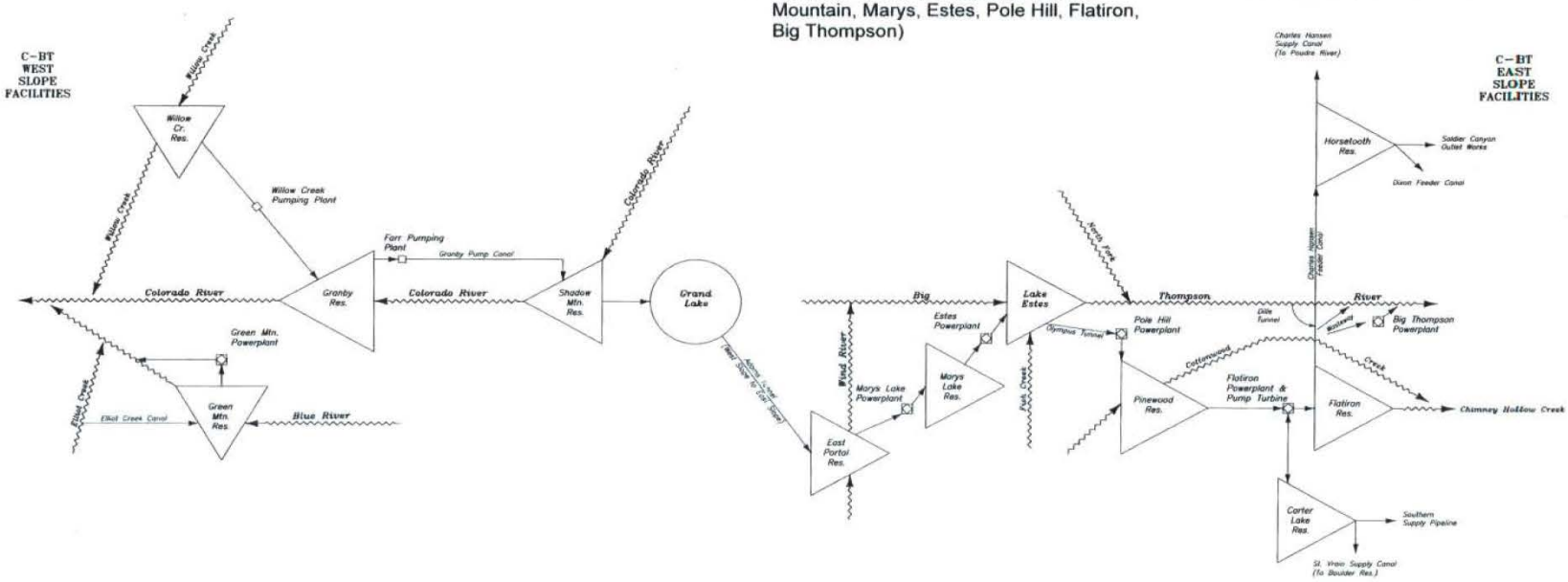


Exhibit 2

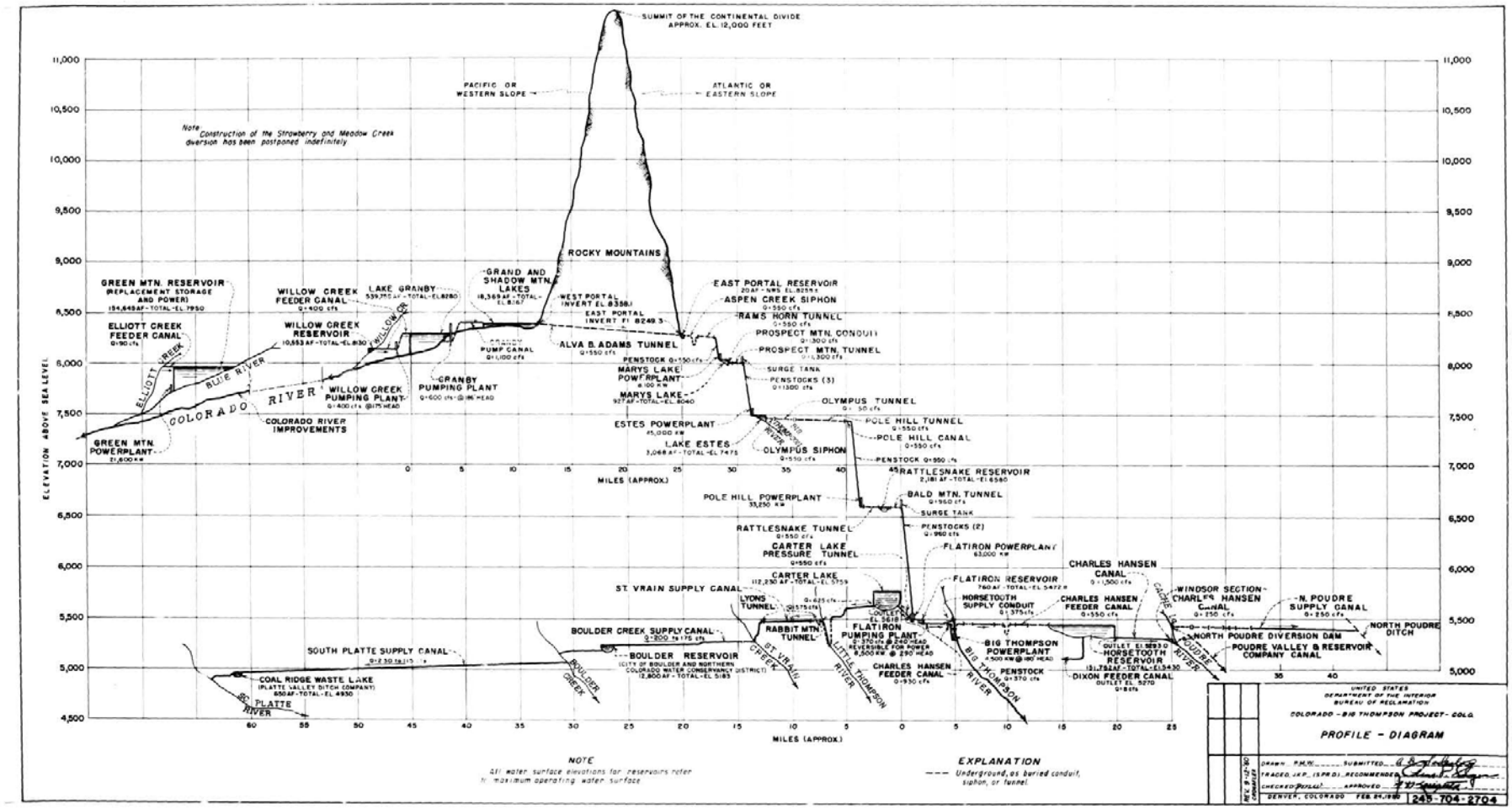
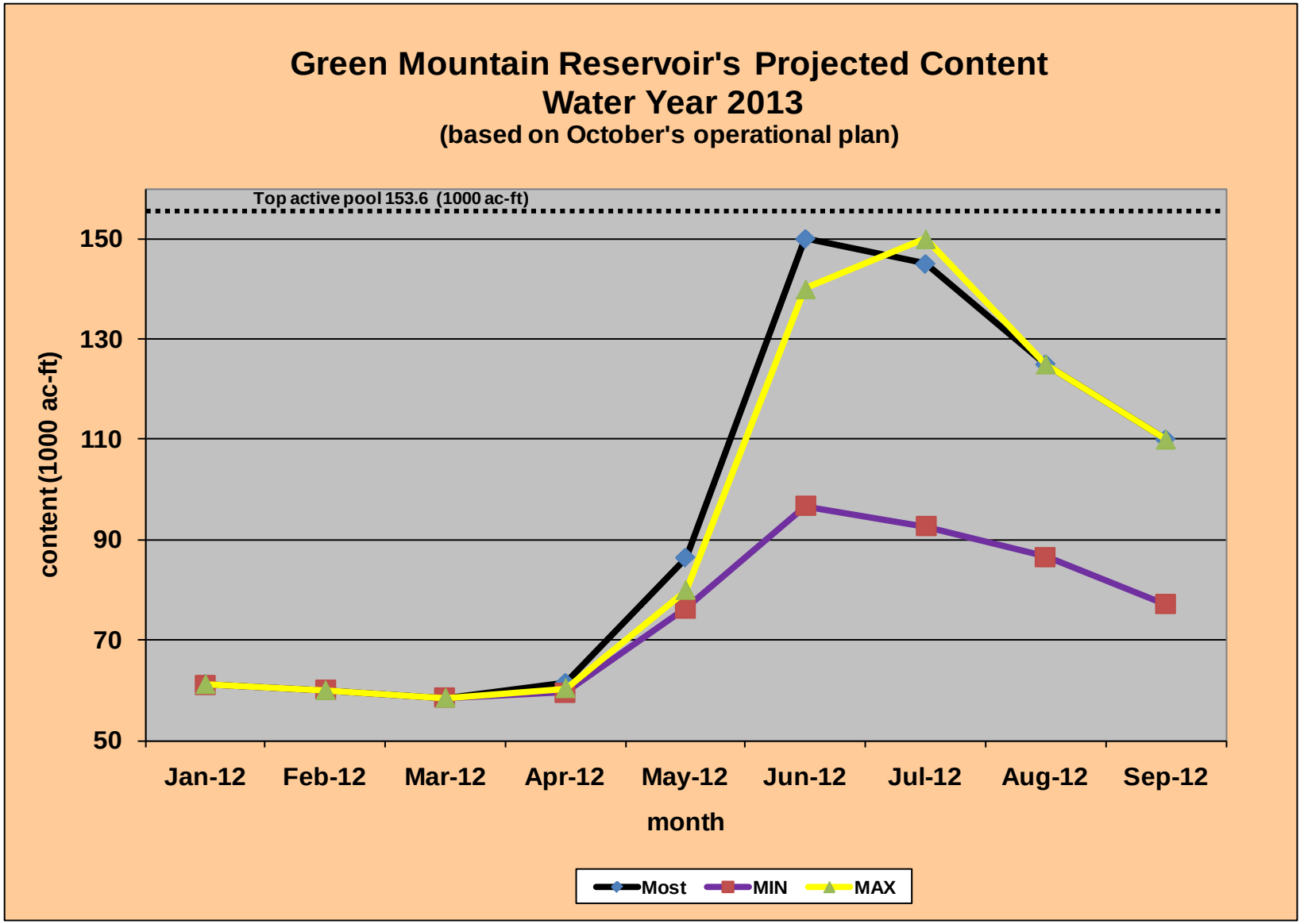
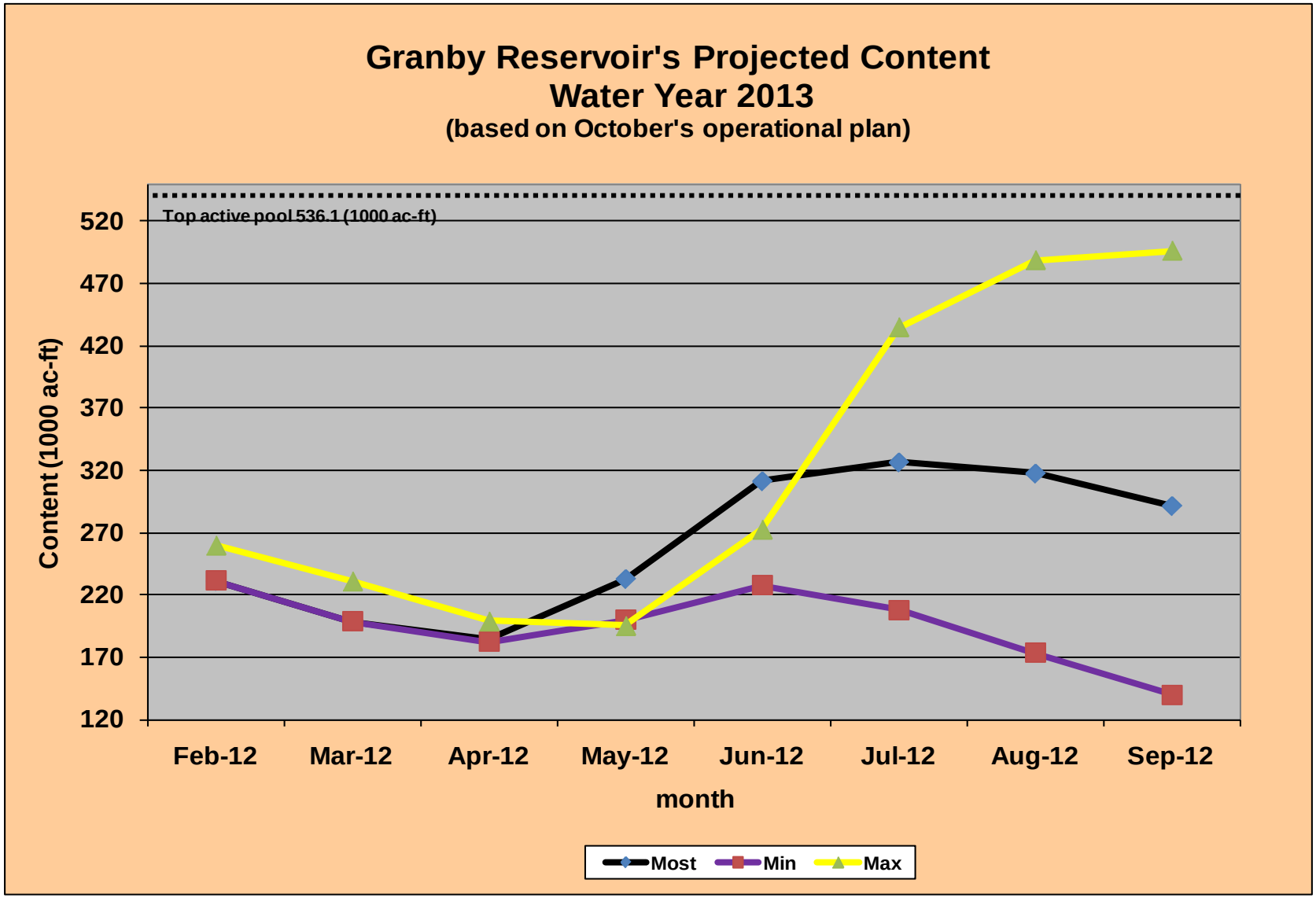

SUMMIT OF THE CONTINENTAL DIVIDE
APPROX. EL. 12,000 FEET
PACIFIC OR WESTERN SLOPE
ATLANTIC OR EASTERN SLOPE
Note Construction of the Strawberry and Meadow Creek diversion has been postponed indefinitely
ROCKY MOUNTAINS
GREEN MTN. RESERVOIR (REPLACEMENT STORAGE AND POWER) 154,648 AF - TOTAL - EL. 7950
ELLIOTT CREEK FEEDER CANAL Q=150 cfs
WILLOW CREEK FEEDER CANAL Q=400 cfs
LAKE GRANBY 539,730 AF - TOTAL - EL. 8280
WILLOW CREEK RESERVOIR 10,553 AF - TOTAL - EL. 8130
GRAND AND SHADOW MTN. LAKES 18,369 AF - TOTAL - EL. 8167
WEST PORTAL INVERT EL. 8388
EAST PORTAL INVERT EL. 8249.5
ARAPAHOE PUMP CANAL Q=1,100 cfs
ALVA B. ADAMS TUNNEL Q=550 cfs
EAST PORTAL RESERVOIR 20 AF - NWS EL. 8255
ASPEN CREEK SIPHON Q=550 cfs
RAMS HORN TUNNEL Q=550 cfs
PROSPECT MTN. CONDUIT Q=300 cfs
PROSPECT MTN. TUNNEL Q=1,300 cfs
SURGE TANK
PENSTOCKS (3) Q=1300 cfs
PENSTOCK Q=550 cfs
MARYS LAKE POWERPLANT 8,100 KW
MARYS LAKE 927 AF - TOTAL - EL. 8040
ELLIOTT CREEK
BLUE RIVER
COLORADO RIVER
WILLOW CREEK PUMPING PLANT Q=400 cfs @175 HEAD
GRANBY PUMPING PLANT Q=600 cfs @ 186 HEAD
COLORADO RIVER IMPROVEMENTS
GREEN MTN. POWERPLANT 21,600 KW
ESTES POWERPLANT 45,000 KW
LAKE ESTES 3,068 AF - TOTAL - EL. 7475
STONEHAM TUNNEL
OLYMPUS TUNNEL Q= 50 cfs
POLE HILL TUNNEL Q=550 cfs
POLE HILL CANAL Q=550 cfs
OLYMPUS SIPHON Q=550 cfs
PENSTOCK Q=550 cfs
RATTLESNAKE RESERVOIR 2,181 AF - TOTAL - EL 6560
POLE HILL POWERPLANT 33,250 KW
BALD MTN. TUNNEL Q=950 cfs
SURGE TANK
PENSTOCKS (2) Q=950 cfs
RATTLESNAKE TUNNEL Q=550 cfs
CARTER LAKE PRESSURE TUNNEL Q=550 cfs
FLATIRON POWERPLANT 63,000 KW
CARTER LAKE 112,250 AF - TOTAL - EL. 5759
ST. VRAIN SUPPLY CANAL
LYONS TUNNEL Q=575 cfs
FLATIRON RESERVOIR 760 AF - TOTAL - EL 5472
HORSETOOTH SUPPLY CONDUIT Q=575 cfs
CHARLES HANSEN FEEDER CANAL Q=550 cfs
CHARLES HANSEN CANAL Q=1,500 cfs
WINDSOR SECTION - CHARLES HANSEN CANAL Q= 250 cfs
N. POUDRE SUPPLY CANAL Q= 250 cfs
NORTH POUDRE DITCH
NORTH POUDRE DIVERSION DAM
POUDRE VALLEY & RESERVOIR COMPANY CANAL
CACHE LA POUDRE RIVER
OUTLET EL. 5610
FLATIRON PUMPING PLANT Q=370 cfs @ 240 HEAD REVERSIBLE FOR POWER 8,500 KW @ 290 HEAD
RABBIT MTN. TUNNEL
BOULDER CREEK SUPPLY CANAL Q=200 to 175 cfs
BOULDER RESERVOIR (CITY OF BOULDER AND NORTHERN COLORADO WATER CONSERVANCY DISTRICT) 12,800 AF - TOTAL - EL 5183
SOUTH PLATTE SUPPLY CANAL Q=250 to 215
COAL RIDGE WASTE LAKE (PLATTE VALLEY DITCH COMPANY) 850 AF - TOTAL - EL 4930
SO. PLATTE RIVER
BOULDER CREEK
ST. VRAIN CREEK
LITTLE THOMPSON RIVER
BIG THOMPSON RIVER
BIG THOMPSON POWERPLANT 4,500 KW @ 880 HEAD
PENSTOCK Q=370 cfs
CHARLES HANSEN FEEDER CANAL Q=550 cfs
OUTLET EL. 5893.0
HORSETOOTH RESERVOIR 151,752 AF - TOTAL - EL 5430
DIXON FEEDER CANAL OUTLET EL. 5270 Q=85 cfs
ELEVATION ABOVE SEA LEVEL
MILES (APPROX.)
NOTE
All water surface elevations for reservoirs refer to maximum operating water surface
EXPLANATION
Underground, as buried conduit, siphon, or tunnel
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION
COLORADO - BIG THOMPSON PROJECT - COLO.
PROFILE - DIAGRAM
DRAWN P.M.W. SUBMITTED
TRACED J.K.P. (SPRD.) RECOMMENDED
CHECKED APPROVED
DENVER, COLORADO FEB. 24, 1950
245-704-2704

Exhibit 3



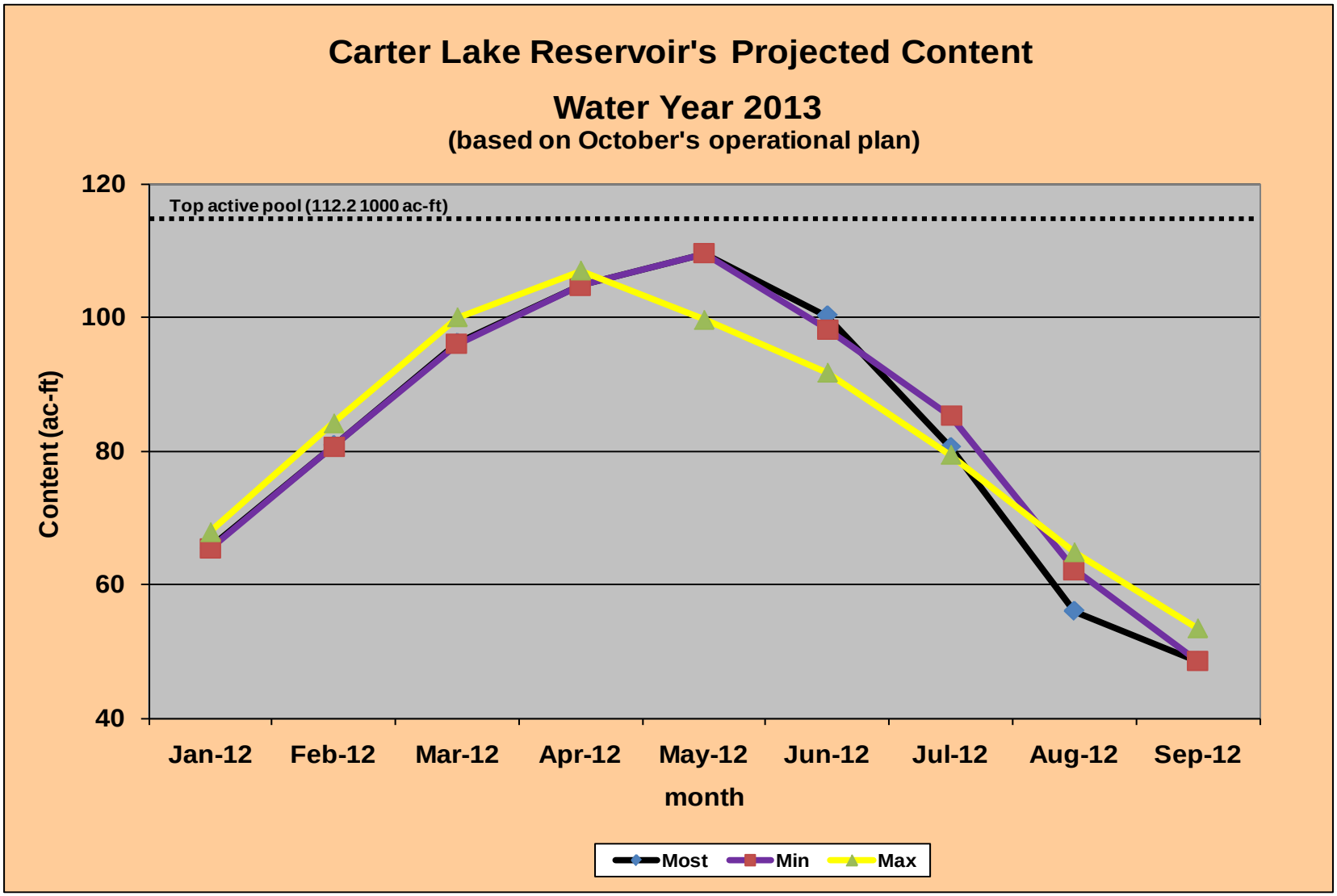
Active Pool between Elevations 7,800.00 and 7,950.00 feet (between 6,860 and 153,639 acre-feet).

Exhibit 4



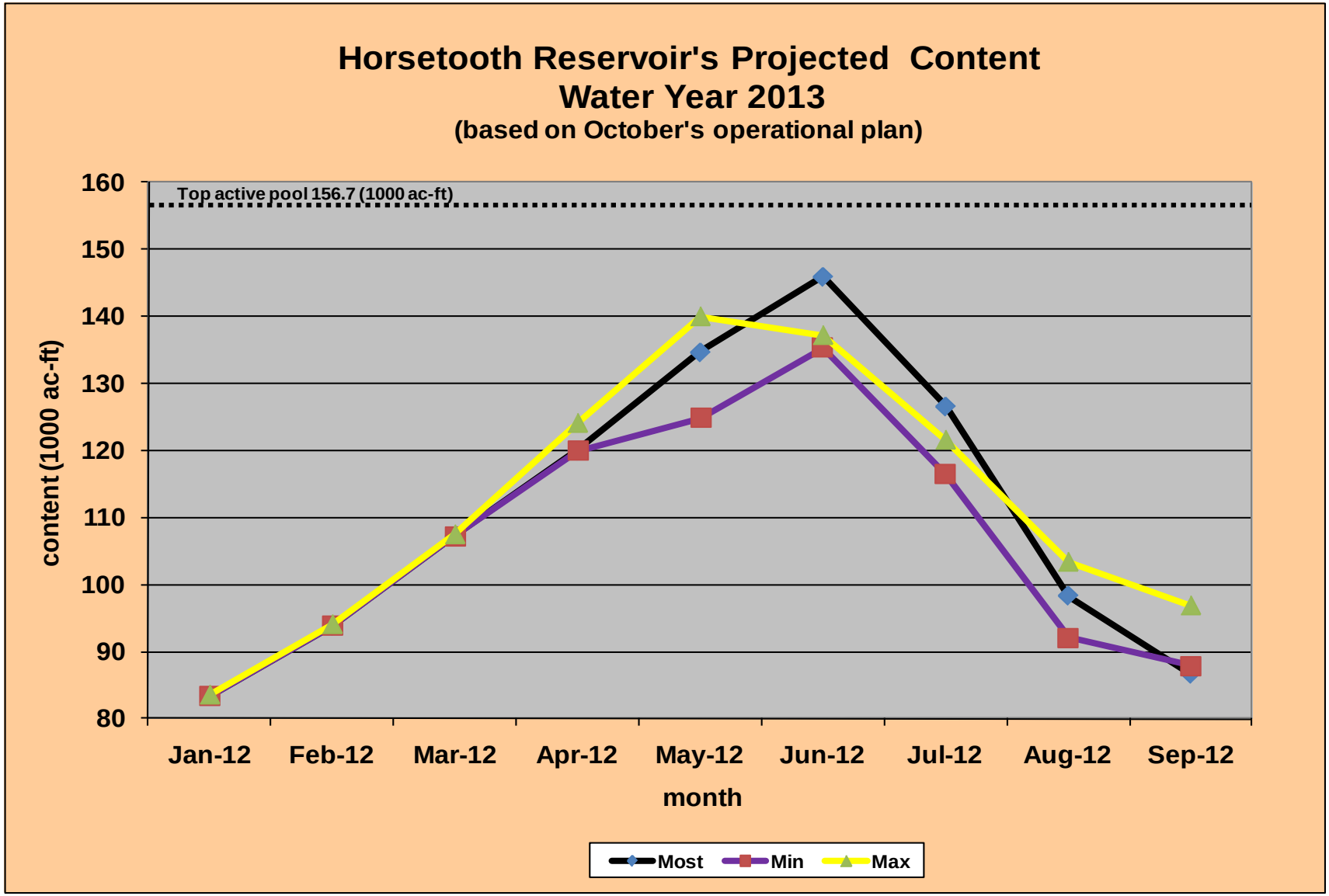
Active Pool between Elevations 8,186.90 and 8,280.00 feet (between 74,190 and 539,758 acre-feet).

Exhibit 5



Active Pool between Elevations 5,618.00 and 5,759.00 feet (3,306 and 112,230 acre-feet).

Exhibit 6



Active Pool between Elevations 5,325.00 and 5,430.00 feet (between 17,600 and 156,735 acre-feet).

WESTERN DIVISION POWER SYSTEM
WATER YEAR 2012 – GENERATION AND PUMP ENERGY SUMMARY

Water Year 2012 (WY 2012) was a productive year for power plants in the Colorado-Big Thompson (C-BT) and the Fryingpan-Arkansas (FryArk) projects. C-BT powerplants produced an accumulated gross generation total of 641.2 GWh of electricity during WY 2012 representing 107 percent of its 30-year average. Meanwhile, the gross generation produced by the entire Western Division Power System's (System) was 2,382.0 giga-watt hours (GWh) or 90 percent of average. Gross generation includes one-half of the Yellowtail generation. Total generation is the gross generation less the energy used for pumping at Farr Plant, Willow Creek Pump, Flatiron Unit #3 and the two Mount Elbert Units. The System's total generation was 1945.1 GWh. The average for a water year is 2400.7 GWh. The total System load includes firm energy deliveries, C-BT use-energy, support-energy, plant station service, and an estimate of transmission-system losses.

The Western Division Power System boundaries are illustrated in Exhibit 1. Table 1 in this section includes the total generation for every powerplant in the system. Table 3 shows monthly generation and pumping energy, by plant, as well as monthly System loads for the water year. The total energy that was required to operate the pumps in the System is included in Table 2. Some of the numbers included in this section were provided by Western Area Power Administration (WAPA).

Inflow for all the C-BT reservoirs during WY 2012 was the lowest since Water Year 2002. The months of April, May, and part of June were particularly dry and warm. For the C-BT the snowpack recorded was the lowest in several years, one of the causes of the poor skim operation in WY 2012. Diversions through the Adams Tunnel were high during most of the spring and summer months. C-BT water occupied most of the C-BT conveyance facilities, keeping the powerplants running at full capacity for several months. The movement of C-BT water kept Carter and Horsetooth Reservoir contents from dropping to dangerous levels.

Pumping from the Willow Creek Canal during WY 2012 required 3.3 GWh, while Farr Plant and Flatiron Powerplant were 36.8 and 44.2 GWh, respectively. Of those three plants, only Willow Creek was below-average in WY 2012. That total represents 141 percent of the 30-year average. The total energy used from the System to pump water during WY 2012 (including Mount Elbert) totaled 436.9 GWh. The average energy used per water year is 245.2 GWh. Mount Elbert's total energy used to pump water was 352.6 GWh. Mount Elbert's average energy used according to the 10-year average (years 1990-1999) is 182.1 GWh.

According to the numbers provided by WAPA's office in Loveland sales of electric power totaled 2,473,746 mega-watt hours (MWh) during WY 2012 for a total of $89,038,149. Energy deficits were covered by a combination of scheduled interchange energy, use of the Mount Elbert pumped storage plant, and power purchases. The power purchases totaled 570,470 MWh during WY 2012 for which WAPA paid a total of $16,714,174, significantly higher than the previous water year.

WESTERN DIVISION POWER SYSTEM
WATER YEAR 2013 – GENERATION AND PUMP ENERGY FORECAST

Under the most-probable runoff condition plan developed on October 2012, the gross generation for the C-BT powerplants is projected to be 598.1 GWh during WY 2013, while pump energy requirements from the C-BT Power System are expected to reach 78.9 GWh. The total generation for the entire Western Division Power System (System) is expected to be 1,847.3 GWh, with a total load of 2,163.4 GWh, leaving a shortfall of 316.1 GWh. The System generation includes one-half of the total Yellowtail Powerplant generation and the Mount Elbert Powerplant generation resulting from Fryingpan-Arkansas Project water deliveries. The total load includes energy deliveries under firm contracts, seasonal support energy deliveries, energy dedicated for C-BT use, estimates of station service energy, and estimates of transmission system losses.

Under the reasonable-minimum runoff conditions plan from October 2012, the Gross Generation for the C-BT powerplants is projected to be 634.0 GWh in WY 2013 while the total System generation is projected to be 1,573.0 GWh during WY 2013, 274.3 GWh less than the total generation projected under most probable runoff conditions. Under this plan, pump energy requirements for the C-BT would total 91.4 GWh. The total System load is expected to be 2163.4 GWh over the entire water year, leaving a total generation shortfall of 590.4 GWh. Under the reasonable-minimum runoff conditions, total generation shortfalls are expected for every month of the water year.

If reasonable-maximum runoff conditions occur during WY 2013, the C-BT powerplants should produce 578.2 GWh of power generation while the System total generation should reach 2174.8 GWh, 327.5 GWh more than the generation projected under most-probable runoff conditions. Under the reasonable-maximum conditions the total C-BT pump energy requirements would be 70.7 GWh. The total System load is expected to be 2,163.4 GWh over the entire water year, leaving a total generation surplus of 11.4 GWh.

Tables 4A through 4C summarize the projected monthly System generation, pump energy, and loads for the three forecasted runoff conditions for WY 2013. Exhibits 3A through 3C graphically display the gross generation less pumping for the C-BT contributing to the System for the most probable, reasonable-minimum, and reasonable-maximum inflow conditions. Tables 5A and 5B lists the scheduled maintenance for the various facilities in the C-BT. Tables 6 and 7 summarize the capacity data for the powerplants and pumping plants within the System, including the Yellowtail and Mount Elbert Units.

APPENDIX A - TABLES

TABLE 1

WESTERN DIVISION SYSTEM

GROSS GENERATION - WATER YEAR 2012

(Energy in GWh)

Powerplant	September Gross Generation			Accum. Gross Generation 1/		
	2012 (GWH)	Avg 2/ (GWH)	% of Avg.	WY 2012 (GWH)	Avg 2/ (GWH)	% of Avg
Green Mtn.	1.9	6.4	30	33.1	51.9	64
Marys Lake	5.6	2.6	215	47.4	37.3	127
Estes	14.5	7.4	196	126.1	100.3	126
Pole Hill	21.7	11.1	196	184.1	172.3	107
Flatiron 1&2	27.7	14.9	186	245.2	226.7	108
Big Thompson	0.1	0.9	11	5.3	10.9	49
Seminoe	7.0	7.3	96	118.1	132.5	89
Kortes	8.3	7.9	105	127.8	140.3	91
Fremont C.	22.3	22.1	101	179.5	239.6	75
Alcova	10.9	10.4	105	132.5	118.1	112
Glendo	4.7	7.2	65	91.4	80.3	114
Guernsey	2.1	3.2	66	18.5	19.4	95
Boysen	3.6	5.9	61	32.3	69.3	47
Heart Mtn.	3.4	2.8 3/	121	16.2	15.2 3/	107
Buffalo Bill	4.2	6.2 3/	68	70.1	69.4 3/	101
Shoshone	1.6	2.0 3/	80	17.4	20.4 3/	85
Spirit Mtn.	3.0	2.8 3/	107	18.2	14.0 3/	130
Mt. Elbert	32.8	14.5 4/	226	273.1	169.0 4/	162
Yellowtail	31.7	63.9 5/	50	645.7	959.0 5/	67
Total	207.1	199.5	104	2382.0	2645.9	90

1/ October-September
2/ 1976-2005 average
3/ 1995-2005 average
4/ 1990-1999 average
5/ 1971-1990 average; one-half of the Yellowtail energy is dedicated to the Western Division System through marketing arrangement. The other half is marketed through the Eastern Division System.

TABLE 2

WESTERN DIVISION SYSTEM
PUMP ENERGY-WATER YEAR 2012

Pumping Plant	September Pump Energy			Oct-September Pump Energy		
	2012 (GWH)	Avg 1/ (GWH)	% of Avg	WY2012 (GWH)	Avg 1/ (GWH)	% of Avg
Willow Creek	0.0	0.2	-	3.3	5.7	58
Farr	5.2	2.5	208	36.8	30.6	120
Flatiron 3	3.6	0.9	400	44.2	26.8	165
Mt. Elbert	40.7	18.8 2/	216	352.6	182.1 2/	194
Total	49.5	22.4	221	436.9	245.2	178

1/ 1976-2005 average
2/ 1990-1999 average

TABLE 3

PICK-SLOAN MISSOURI BASIN PROGRAM WESTERN DIVISION POWER SYSTEM
WATER YEAR 2012 OPERATIONS
GROSS GENERATION LESS PUMPING IN GIGAWATT-HOURS

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
Mt. Elbert *	0.0	6.4	7.5	7.6	6.1	5.1	0.1	0.8	0.9	0.8	1.7	4.9	47.6
Green Mtn.	9.5	2.5	2.3	2.2	1.6	1.8	0.0	0.0	2.3	4.8	4.2	1.9	78.0
Willow Cr. pump	0.0	0.0	0.0	0.0	0.0	0.5	1.6	1.1	0.0	0.0	0.1	0.0	0.7
Farr pump	4.1	1.6	0.6	2.9	2.2	3.9	2.0	2.1	2.3	4.7	5.2	5.2	26.8
Marys Lake	5.4	0.6	0.6	3.3	2.4	4.9	4.2	5.4	4.1	5.6	5.3	5.6	41.7
Estes	14.3	4.8	1.6	8.6	6.4	12.0	10.5	13.3	10.8	14.4	14.9	14.5	110.5
Pole Hill	21.2	0.0	0.0	6.9	8.9	20.0	15.5	24.5	19.2	22.8	23.4	21.7	196.9
Flatiron 1&2	26.3	1.2	1.6	17.0	12.0	25.4	19.9	29.9	25.4	28.8	30.0	27.7	253.3
Flatiron 3	0.4	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Flatiron 3 pump	3.5	0.1	0.3	1.8	0.0	6.4	6.3	5.7	3.7	6.7	6.1	3.6	41.6
Big Thompson	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.7	0.9	1.0	0.0	10.5
Seminoe	4.1	4.0	4.1	5.8	9.8	13.7	15.5	15.9	19.3	9.5	9.4	7.0	191.7
Kortes	5.0	4.7	4.9	6.1	9.0	13.7	17.5	15.8	19.4	12.4	11.0	8.3	118.4
Fremont Canyon	0.4	6.7	6.7	6.8	6.0	7.3	17.9	23.4	22.6	22.4	37.0	22.3	291.6
Alcova	3.1	2.9	3.1	3.0	0.0	3.1	4.6	22.7	28.2	26.7	24.2	10.9	166.2
Glendo	0.0	0.0	0.0	0.0	0.0	0.0	2.9	24.9	20.3	21.0	17.6	4.7	162.6
Guernsey	0.0	0.0	0.0	0.0	0.0	0.0	2.4	4.3	3.9	2.0	3.8	2.1	25.2
Pilot Butte **	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Boysen	0.0	0.0	0.0	0.0	0.0	0.7	5.0	5.9	6.1	5.9	5.1	3.6	63.9
Shoshone	1.7	1.5	1.6	0.4	0.0	1.4	1.7	1.8	1.9	2.0	1.9	1.6	18.4
Buffalo Bill	4.9	0.0	2.0	2.5	3.3	2.7	7.5	12.1	11.7	11.0	8.2	4.2	79.9
Spirit Mtn.	1.7	0.0	0.0	0.0	0.0	0.0	0.9	2.8	3.1	3.4	3.3	3.0	13.8
Diamond Cr. pump	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heart Mtn.	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.2	3.5	3.5	3.4	16.6
Yellowtail/2	44.9	33.1	33.0	33.5	30.6	28.7	26.1	20.0	18.8	19.8	18.7	15.9	522.7
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Fry-Ark	0.0	6.4	7.5	7.6	6.1	5.1	0.1	0.8	0.9	0.8	1.7	4.9	47.6
CBT	70.7	7.4	5.9	33.3	29.1	53.3	40.2	64.6	57.5	65.9	67.4	62.6	624.3
North Platte	12.6	18.3	18.8	21.7	24.8	37.8	60.8	107.0	113.7	94.0	103.0	55.3	955.7
Bighorn	54.9	34.6	36.6	36.4	33.9	33.5	41.2	43.5	44.8	45.6	40.7	31.7	715.3
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TOTAL GEN	138.2	66.7	68.8	99.0	93.9	129.7	142.2	215.8	216.9	206.3	212.7	154.5	2342.9
TOTAL LOAD	162.5	162.3	177.2	172.6	137.1	149.2	176.3	184.8	211.2	262.2	211.2	156.8	2163.4
SURPLUS/DEFICIT	-24.3	-95.6	-108.4	-73.6	-43.2	-19.5	-34.1	31.0	5.7	-55.9	1.5	-2.3	179.5

* projected values are historic average flow through energy

** projected values are marketed energy

PICK-SLOAN MISSOURI BASIN PROGRAM WESTERN DIVISION POWER SYSTEM
WATER YEAR 2013 FORECASTED OPERATIONS
MOST PROBABLE WATER SUPPLY CONDITION
GROSS GENERATION AND PUMPING IN GIGAWATT-HOURS

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
Mt. Elbert *	1.3	2.4	2.4	2.5	3.1	2.5	3.5	3.9	4.7	4.4	2.0	1.0	33.7
Green Mtn.	2.9	1.6	1.5	1.5	1.2	1.4	1.4	1.0	1.8	8.2	7.9	5.4	35.7
Willow Cr. pump	0.4	0.4	0.0	0.0	0.0	0.0	1.0	4.1	3.0	0.6	0.2	0.2	9.8
Farr pump	5.1	0.1	2.8	5.3	5.0	5.8	4.9	0.1	0.0	0.0	1.6	4.1	34.8
Marys Lake	6.1	0.0	3.0	6.1	5.4	6.1	5.8	6.1	3.2	2.6	2.5	4.8	51.5
Estes	10.0	0.0	7.8	10.0	9.1	10.0	9.7	10.0	8.2	6.8	6.6	11.9	99.8
Pole Hill	12.9	0.0	12.7	25.1	11.5	12.9	24.3	25.1	24.3	17.1	11.5	12.5	189.9
Flatiron 1&2	15.1	0.0	14.9	28.9	13.6	15.1	28.0	28.9	28.0	20.4	13.6	14.6	221.0
Flatiron 3	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Flatiron 3 pump	0.0	0.0	2.3	6.1	5.4	6.1	6.0	5.2	0.2	0.0	0.0	3.1	34.3
Big Thompson	0.7	0.2	0.0	0.0	0.0	0.0	0.5	3.2	3.8	3.5	2.0	2.0	16.0
Seminoe	5.2	5.0	5.1	5.1	4.6	5.1	8.1	22.7	23.0	24.2	23.5	14.2	145.7
Kortes	5.6	5.4	5.6	5.6	5.0	5.6	8.7	23.8	23.0	23.8	23.8	14.8	150.8
Fremont Canyon	0.5	6.5	6.7	6.7	6.1	9.0	20.8	21.5	21.0	38.1	37.1	24.3	198.2
Alcova	4.3	4.1	4.2	4.2	3.8	5.4	9.9	15.5	15.0	18.8	18.8	12.9	116.6
Glendo	0.0	0.0	0.0	0.0	0.0	0.0	2.3	16.2	13.9	24.1	18.7	7.5	82.7
Guernsey	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.3	3.2	3.3	3.3	2.7	17.0
Pilot Butte**	0.4	0.0	0.0	0.0	0.0	0.0	0.6	1.2	1.2	1.2	1.2	1.2	7.0
Boysen	3.0	2.5	2.6	2.6	2.3	2.6	5.9	11.8	11.5	11.9	8.5	5.6	70.7
Shoshone	0.7	1.1	1.1	1.1	1.0	1.1	1.1	1.8	2.2	2.2	1.6	1.3	16.5
Buffalo Bill	1.7	1.6	1.7	1.7	1.5	1.7	4.1	13.4	13.0	13.4	13.4	13.0	80.1
Spirit Mtn.	1.6	0.0	0.0	0.0	0.0	0.0	1.1	2.8	2.9	3.2	3.3	3.0	17.9
Diamond Cr. pump	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heart Mtn.	1.8	0.0	0.0	0.0	0.0	0.0	0.9	4.5	4.3	4.5	4.5	4.3	24.7
Yellowtail/2	18.8	18.6	19.2	19.0	16.7	18.9	21.0	56.3	56.7	38.1	35.0	32.0	350.4
Fry-Ark	1.3	2.4	2.4	2.5	3.1	2.5	3.5	3.9	4.7	4.4	2.0	1.0	33.7
CBT	42.2	1.8	34.8	60.1	30.4	33.6	57.7	64.8	66.1	57.9	42.2	43.8	535.4
North Platte	15.6	20.9	21.6	21.5	19.4	25.0	50.9	103.0	99.1	132.2	125.1	76.4	710.9
Bighorn	28.0	23.8	24.6	24.4	21.6	24.3	34.7	91.8	91.7	74.4	67.4	60.4	567.3
TOTAL GEN	87.1	48.9	83.3	108.6	74.5	85.4	146.9	263.5	261.6	269.0	236.8	181.6	1847.3
TOTAL LOAD	162.5	162.3	177.2	172.6	137.1	149.2	176.3	184.8	211.2	262.2	211.2	156.8	2163.4
SURPLUS/DEFICIT	-75.4	-113.4	-93.9	-64.0	-62.6	-63.8	-29.4	78.7	50.4	6.8	25.6	24.8	-316.1

* PROJECTED VALUES ARE HISTORIC AVERAGE FLOW THROUGH ENERGY

** PROJECTED VALUES ARE MARKETED ENERGY

TABLE 4B

PICK-SLOAN MISSOURI BASIN PROGRAM WESTERN DIVISION POWER SYSTEM
WATER YEAR 2013 FORECASTED OPERATIONS
REASONABLE-MINIMUM WATER SUPPLY CONDITION
GROSS GENERATION AND PUMPING IN GIGAWATT-HOURS

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
Mt. Elbert *	1.3	2.4	2.4	2.5	3.1	2.5	3.5	3.9	4.7	4.4	2.0	1.0	33.7
Green Mtn.	2.9	1.6	1.5	1.5	1.2	1.4	1.4	0.8	1.1	3.9	3.3	3.1	23.5
Willow Cr. pump	0.4	0.4	0.0	0.0	0.0	0.0	1.1	2.0	0.6	0.2	0.1	0.1	4.7
Farr pump	5.1	0.1	2.8	5.3	5.0	5.8	4.9	1.8	0.0	4.4	6.0	6.3	47.5
Marys Lake	6.1	0.0	3.0	6.1	5.4	6.1	5.8	6.1	4.1	5.6	6.1	5.8	60.1
Estes	10.0	0.0	7.8	10.0	9.1	10.0	9.7	10.0	9.7	14.0	14.9	14.5	119.5
Pole Hill	12.9	0.0	12.7	25.1	11.5	12.9	24.3	25.1	24.3	25.1	12.9	12.5	199.4
Flatiron 1&2	15.1	0.0	14.9	28.9	13.6	15.1	28.0	28.9	28.0	28.9	15.1	14.6	231.0
Flatiron 3	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Flatiron 3 pump	0.0	0.0	2.3	6.1	5.4	6.1	5.9	5.8	0.2	3.3	1.9	2.2	39.2
Big Thompson	0.7	0.2	0.0	0.0	0.0	0.0	0.2	2.2	3.7	2.6	1.8	1.9	13.4
Seminoe	5.2	5.0	5.1	5.1	4.5	5.0	13.3	14.8	14.5	14.9	14.3	5.2	107.0
Kortes	5.6	5.4	5.6	5.6	5.0	5.6	14.8	16.4	15.9	16.4	16.4	6.2	119.1
Fremont Canyon	0.5	6.5	6.7	6.7	6.0	8.9	20.8	21.3	20.8	28.4	27.3	16.4	170.3
Alcova	4.3	4.1	4.2	4.2	3.8	5.4	10.3	10.8	13.3	13.8	13.8	8.8	96.7
Glendo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	11.8	23.9	18.1	5.4	61.4
Guernsey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.2	3.3	3.3	2.7	13.5
Pilot Butte **	1.2	0.5	0.0	0.0	0.0	0.0	0.8	1.9	4.0	3.8	3.7	1.7	17.6
Boysen	3.0	2.4	2.5	2.5	2.3	2.6	3.7	5.6	5.8	6.3	5.5	4.6	47.0
Shoshone	0.7	1.1	1.1	1.1	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.1	13.0
Buffalo Bill	1.7	1.6	1.7	1.7	1.5	1.7	4.0	13.3	12.8	13.1	11.2	9.7	73.9
Spirit Mtn.	1.6	0.0	0.0	0.0	0.0	0.0	1.1	3.0	3.1	3.2	3.1	3.0	18.1
Diamond Cr. pump	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heart Mtn.	1.8	0.0	0.0	0.0	0.0	0.0	0.9	1.6	1.8	3.2	3.2	1.5	14.1
Yellowtail/2	18.1	18.1	18.7	18.4	12.7	14.4	15.1	23.5	23.1	24.3	23.9	21.3	231.6
Fry-Ark	1.3	2.4	2.4	2.5	3.1	2.5	3.5	3.9	4.7	4.4	2.0	1.0	33.7
CBT	42.2	1.8	34.8	60.1	30.4	33.6	57.4	63.5	70.1	72.3	46.1	43.8	556.1
North Platte	15.6	20.9	21.5	21.5	19.4	24.9	59.2	66.7	79.5	100.7	93.2	44.8	567.9
Bighorn	28.1	23.8	24.0	23.8	17.6	19.8	26.7	50.0	51.7	55.1	51.8	42.9	415.3
TOTAL GEN	87.2	48.9	82.7	107.9	70.5	80.8	146.9	184.1	206.0	232.4	193.1	132.5	1573.0
TOTAL LOAD	162.5	162.3	177.2	172.6	137.1	149.2	176.3	184.8	211.2	262.2	211.2	156.8	2163.4
SURPLUS/DEFICIT	-75.3	-113.4	-94.5	-64.7	-66.6	-68.4	-29.4	-0.7	-5.2	-29.8	-18.1	-24.3	-590.4

*** PROJECTED VALUES ARE HISTORIC AVERAGE FLOW THROUGH ENERGY**

**** PROJECTED VALUES ARE MARKETED ENERGY**

TABLE 4C

PICK-SLOAN MISSOURI BASIN PROGRAM WESTERN DIVISION POWER SYSTEM
WATER YEAR 2013 FORECASTED OPERATIONS
REASONABLE-MAXIMUM WATER SUPPLY CONDITION
GROSS GENERATION AND PUMPING IN GIGAWATT-HOURS

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
Mt. Elbert *	1.3	2.4	2.4	2.5	3.0	2.5	3.5	3.9	4.7	4.4	2.0	1.0	33.6
Green Mtn.	2.9	1.6	1.5	1.5	1.2	1.4	1.4	3.2	13.4	16.8	13.2	6.2	64.2
Willow Cr. pump	0.4	0.4	0.0	0.0	0.0	0.0	1.5	5.7	5.7	1.3	0.4	0.4	15.7
Farr pump	5.1	0.1	2.8	5.3	5.0	5.8	4.4	0.0	0.0	0.0	0.0	0.8	29.2
Marys Lake	6.1	0.0	3.0	6.1	5.4	6.0	5.8	4.2	0.7	0.8	1.2	1.3	40.4
Estes	10.0	0.0	7.8	10.0	9.1	10.0	9.7	10.0	1.6	2.1	3.1	3.3	76.6
Pole Hill	12.9	0.0	12.7	25.1	11.5	12.9	24.3	25.1	24.3	17.3	10.3	6.7	183.2
Flatiron 1&2	15.1	0.0	14.9	28.9	13.6	15.1	28.0	28.9	28.0	20.7	12.1	8.1	213.4
Flatiron 3	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Flatiron 3 pump	0.0	0.0	2.4	6.3	5.7	6.3	5.0	0.0	0.0	0.0	0.0	0.0	25.8
Big Thompson	0.7	0.2	0.0	0.0	0.0	0.0	0.6	3.9	3.8	3.9	3.3	1.3	17.8
Seminoe	5.2	5.0	0.0	5.2	4.7	9.8	28.9	30.9	32.2	32.1	16.5	12.6	183.1
Kortes	5.6	5.4	5.6	5.6	5.1	10.6	20.8	27.6	26.7	27.6	15.9	12.3	168.8
Fremont Canyon	0.5	6.5	6.7	6.7	6.1	9.1	10.4	18.3	22.8	47.3	46.7	35.2	216.3
Alcova	4.3	4.1	4.2	4.2	3.8	5.4	7.4	8.4	21.2	21.9	21.9	17.1	123.7
Glendo	0.0	0.0	0.0	0.0	0.0	0.0	2.1	21.6	25.7	23.6	19.3	8.5	100.8
Guernsey	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.3	3.2	3.3	3.3	2.8	17.1
Pilot Butte**	1.6	0.0	0.0	0.0	0.0	0.0	0.7	1.5	3.5	4.1	3.0	1.7	16.1
Boysen	3.0	2.5	2.6	2.6	2.4	6.5	8.8	10.9	11.5	11.9	10.5	6.5	79.7
Shoshone	0.7	1.1	1.1	1.1	1.0	1.1	1.1	2.2	2.2	2.2	2.2	1.7	17.9
Buffalo Bill	1.7	1.6	1.7	1.7	1.5	1.7	10.5	13.4	13.0	13.4	13.4	13.0	86.5
Spirit Mtn.	1.6	0.0	0.0	0.0	0.0	0.0	1.5	2.7	2.8	3.2	3.3	3.0	18.0
Diamond Cr. pump	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heart Mtn.	1.8	0.0	0.0	0.0	0.0	0.0	2.0	4.5	4.3	4.5	4.5	4.3	25.8
Yellowtail/2	18.2	19.7	20.3	20.2	17.7	36.7	50.5	98.4	97.2	98.2	46.9	37.9	561.9
Fry-Ark	1.3	2.4	2.4	2.5	3.0	2.5	3.5	3.9	4.7	4.4	2.0	1.0	33.6
CBT	42.2	1.7	34.6	59.9	30.1	33.3	58.9	69.7	66.1	60.3	42.8	25.8	525.4
North Platte	15.6	21.0	16.5	21.6	19.6	34.9	70.8	110.2	131.9	155.7	123.6	88.6	809.9
Bighorn	28.7	24.9	25.7	25.6	22.7	46.1	75.1	133.6	134.4	137.5	83.7	68.1	806.0
TOTAL GEN	87.7	50.0	79.2	109.6	75.4	116.8	208.4	317.3	337.0	357.9	252.1	183.4	2174.8
TOTAL LOAD	162.5	162.3	177.2	172.6	137.1	149.2	176.3	184.8	211.2	262.2	211.2	156.8	2163.4
SURPLUS/DEFICIT	-74.8	-112.3	-98.0	-63.0	-61.7	-32.4	32.1	132.5	125.8	95.7	40.9	26.6	11.4

*** PROJECTED VALUES ARE HISTORIC AVERAGE FLOW THROUGH ENERGY**

**** PROJECTED VALUES ARE MARKETED ENERGY**

Table 5

COLORADO-BIG THOMPSON AND FRYINGPAN-ARKANSAS PROJECTS
ESTIMATED MAINTENANCE SCHEDULE FOR WATER YEAR 2013

Facility	Description of Work	Begin Date	End Date	Generation Affected	Water ops Affected
Marys Lake Plant	Annual Maintenance	5-Nov-12	14-Dec-12	Y	N
Estes Unit 1	Unit #1 Annual Maintenance	8-Jul-13	2-Aug-13	Y	N
Estes Unit 2	Headcover Repair	1-Oct-13	31-May-14	Y	N
Estes Unit 3	Headcover Repair	1-Oct-12	31-May-13	Y	N
Estes Unit 3	Unit #3 Annual Maintenance	8-Apr-13	17-May-13	Y	N
Estes Units - All	Black Start Annual Test (0700 – 1200)	21-May-13	21-May-13	Y	Y
Pole Hill Canal (ARRA)	Canal Lining Repair - Seal any possible leaks	5-Nov-12	07-Dec-12	Y	Y
Pole Hill Powerplant	Unit Annual Maintenance	5-Nov-12	14-Dec-12	Y	N
Pole Hill	K1A Transformer Annual Maintenance	26-Nov-12	29-Nov-12	Y	N
Flatiron Unit #3	Annual Maintenance	15-Sep-12	26-Oct-12	N	Y
Flatiron Unit #2	Annual Maintenance	4-Mar-13	11-Apr-13	Y	N
Flatiron Unit #2	KW2A Annual Transformer Maintenance	11-Mar-13	21-Mar-13	Y	N
Flatiron Unit #1	Penstock Relining & Butterfly Seals Calibration	01-Oct-12	30-Nov-12	Y	N
Big T Powerplant	Annual Maintenance	14-Jan-13	21-Feb-13	N	N
Hansen Canal 930 Section	Annual Maintenance of Canal	29-Mar-13	19-Apr-13	Y	Y
Hansen Canal 550 Section	Annual Maintenance of Canal	30-Sep-12	14-Oct-12	Y	Y
Green Mountain Unit #1	GM Unit #1 Annual Maintenance	7-Jan-13	15-Feb-13	N	N
Green Mountain Unit #2	GM Unit #2 Annual Maintenance	4-Mar-13	12-Apr-13	N	N
Green Mountain Unit #1	KZ1A Annual Transformer Maintenance	4-Feb-13	7-Feb-13	Y	N
Green Mountain Unit #2	KZ2A Annual Transformer Maintenance	18-Mar-13	21-Mar-13	Y	N
Mt Elbert Unit # 1	Annual Maintenance	29-Oct-12	21-Dec-12	Y	N
Mt Elbert Unit # 2	Generator Rehabilitation	29-Apr-13	30-Aug-13	Y	N
Mt Elbert Units #1 and #2	Dual Maintenance Outage	16-Sep-13	20-Sep-13	Y	Y
Mt Elbert Unit # 1	Annual Maintenance	16-Sep-13	9-Nov-13	Y	N

TABLE 6

WESTERN DIVISION - PICK-SLOAN MISSOURI BASIN PROGRAM

POWERPLANT DATA

Facility	No. Units	Capacity Each Unit	Total Installed Capacity	Normal Operating Head (ft)	Output at Rated Head (ft^3/s)
Green Mountain	2	13,000	26,000	192-262	1,660
Marys Lake	1	8,100	8,100	202-217	550
Estes	3	16,500	49,500	551-571	1,300
Pole Hill	1	33,250	33,250	830-838	550
Flatiron	2	43,000	86,000	1,096 - 1,118	1,070
(Flatiron 1/)	1	8,500	8,500	158-287	440
Big Thompson	1	5,300	5,300	183- 184	350
Seminoe	3	15,000	45,000	97-227	2,850
Kortes	3	12,000	36,000	192-204	2,700
Fremont Canyon	2	33,000	66,000	247-363	2,200
Alcova	2	18,000	36,000	153-165	2,200
Glendo	2	19,000	38,000	73-156	2,800
Guernsey	2	2,400	4,800	89-91	820
Pilot Butte2/	2	800	1,600	-- --	---
Boysen	2	7,500	15,000	72-112	2,415
Shoshone3/	1	3,000	3,000	-- --	---
Buffalo Bill3/	3	6,000	18,000	-- --	---
Heart Mountain	1	5,000	5,000	265-275	355
Mt. Elbert	2	103,000	206,000	447-477	6,400
Yellowtail	4	72,000	288,000	327-440	8,500
TOTAL	34	--------	979,050	----------	-------

TABLE 7

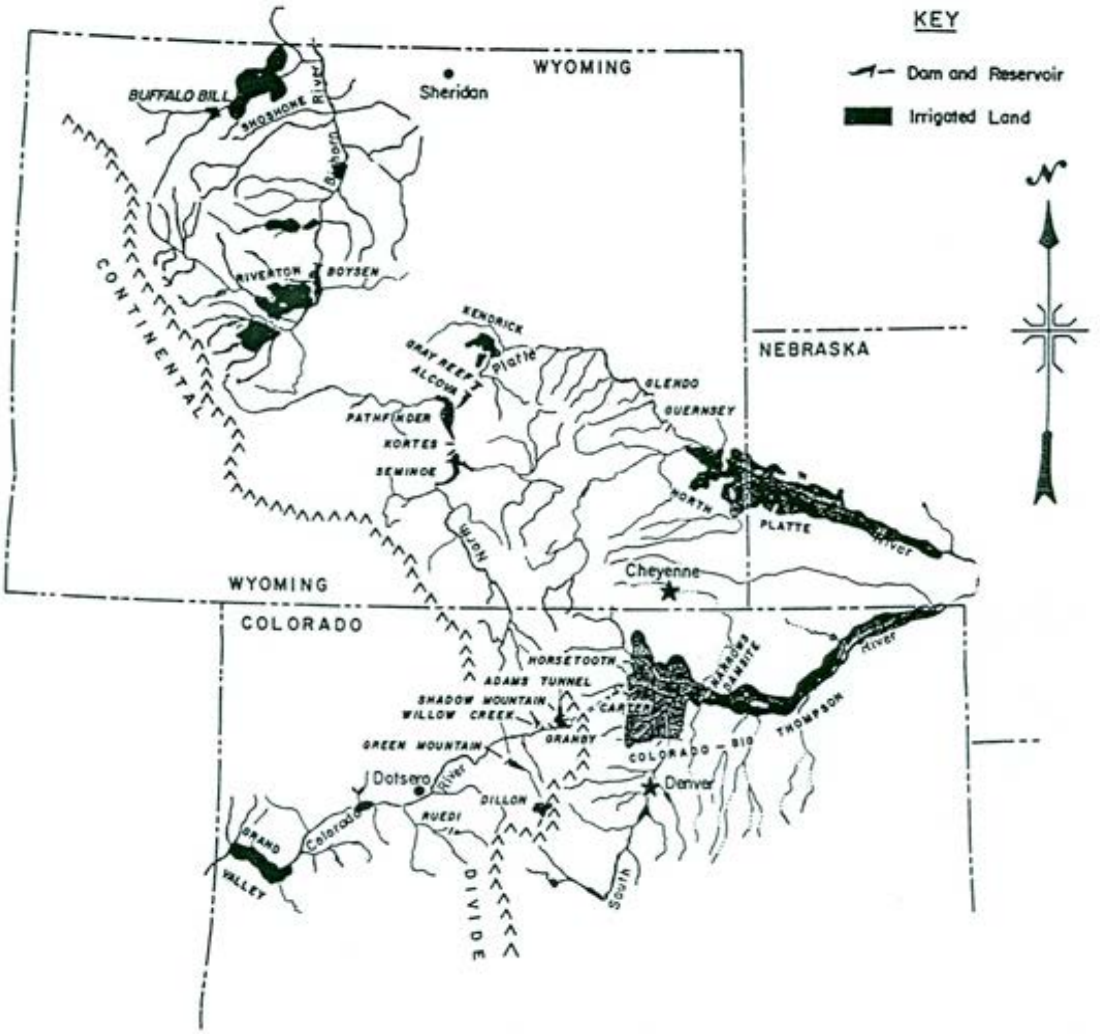
WESTERN DIVISION - PICK-SLOAN MISSOURI BASIN PROGRAM

PUMPING PLANT DATA

	Pumping Units		Plant Rating		
Facilities	No	Capacity (ft^3/s)	Normal Operating Head (ft)	Installed (Hp)	Kwh to Pump 1-Acre-ft at Maximum Head
Granby	3	600	92-186	18,000	227
Willow Creek	2	400	167-169	18,000	227
Flatiron	11/	440	173-287	13,000	391
Mt. Elbert	2	5,690	447-477	340,000	620

APPENDIX B - EXHIBITS

Exhibit 1



PICK-SLOAN MISSOURI BASIN PROJECT

WESTERN DIVISION

WATER RESOURCE MAP

50 0 50 100

SCALE OF MILES

MAP NO. X-700-121

JUNE 1, 1976

Exhibit 2

LAP GROSS GENERATION LESS PUMPING
WATER YEAR 2012

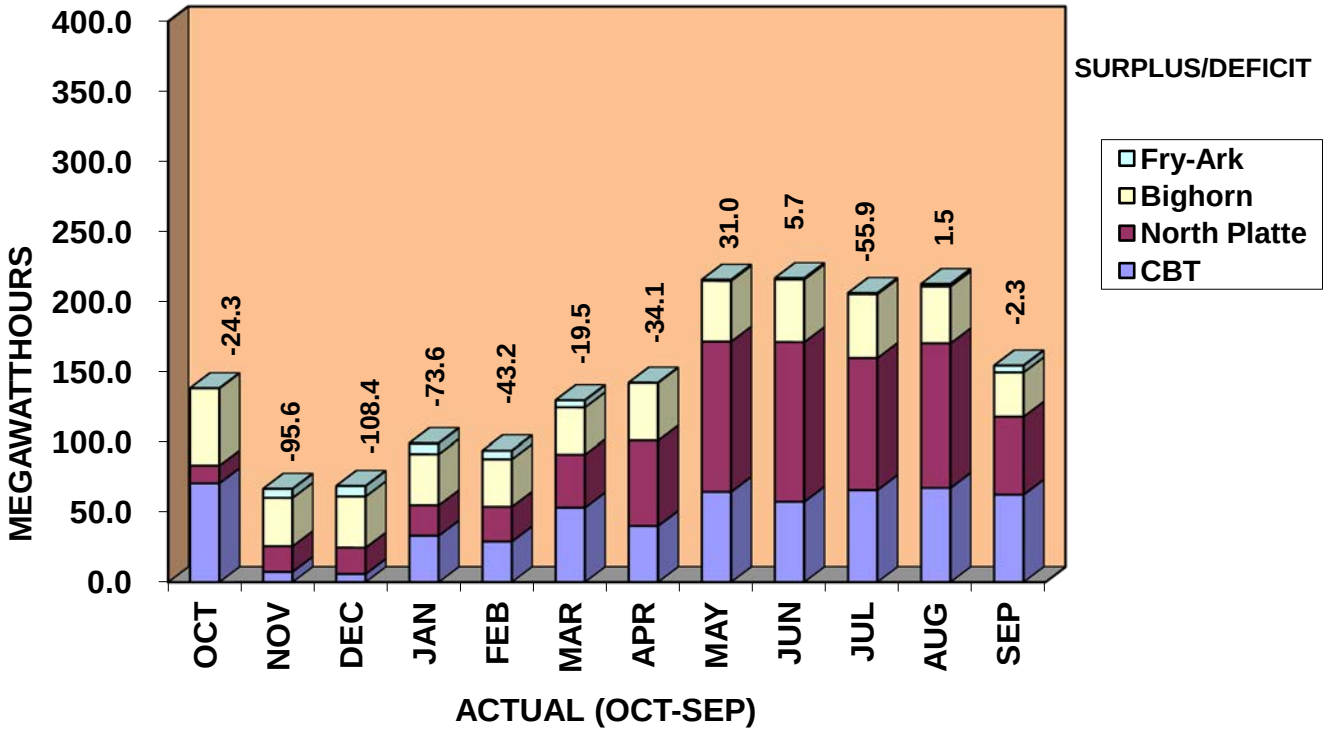


Exhibit 3

LAP GROSS GENERATION LESS PUMPING
WATER YEAR 2013

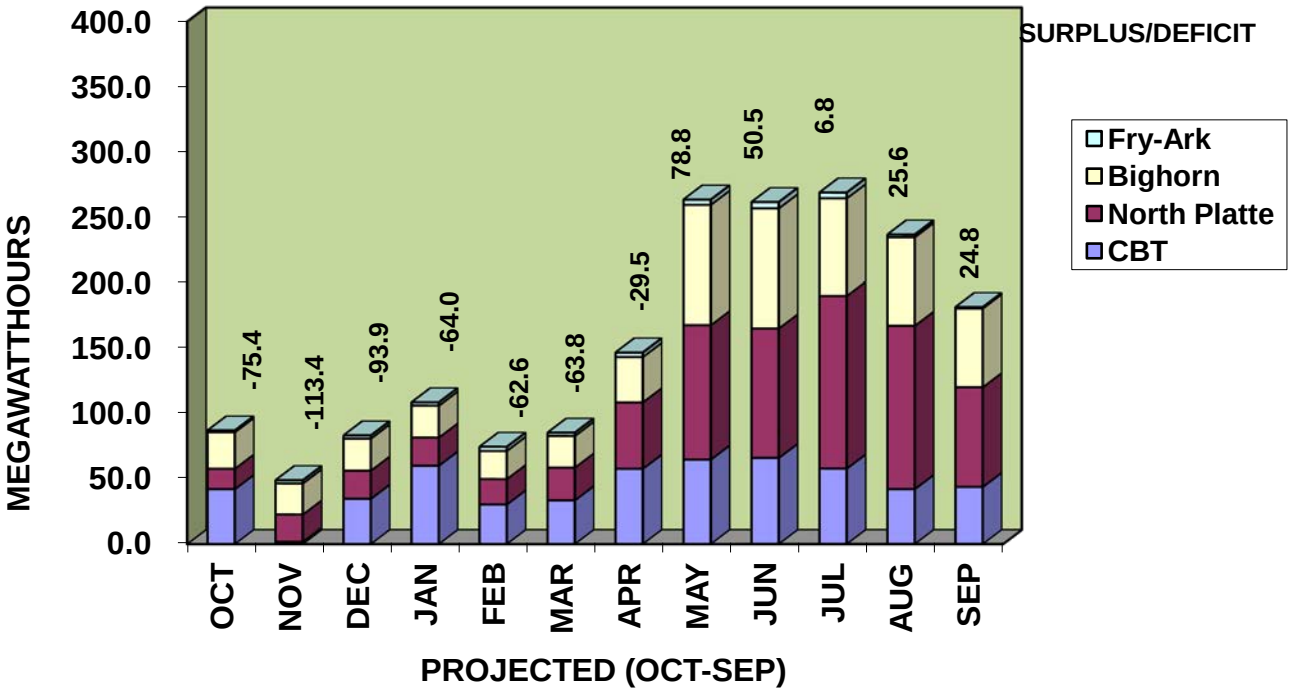


Exhibit 4A

PROJECTED LAP GROSS GENERATION LESS PUMPING
WATER YEAR 2013
FOR MOST PROBABLE INFLOW

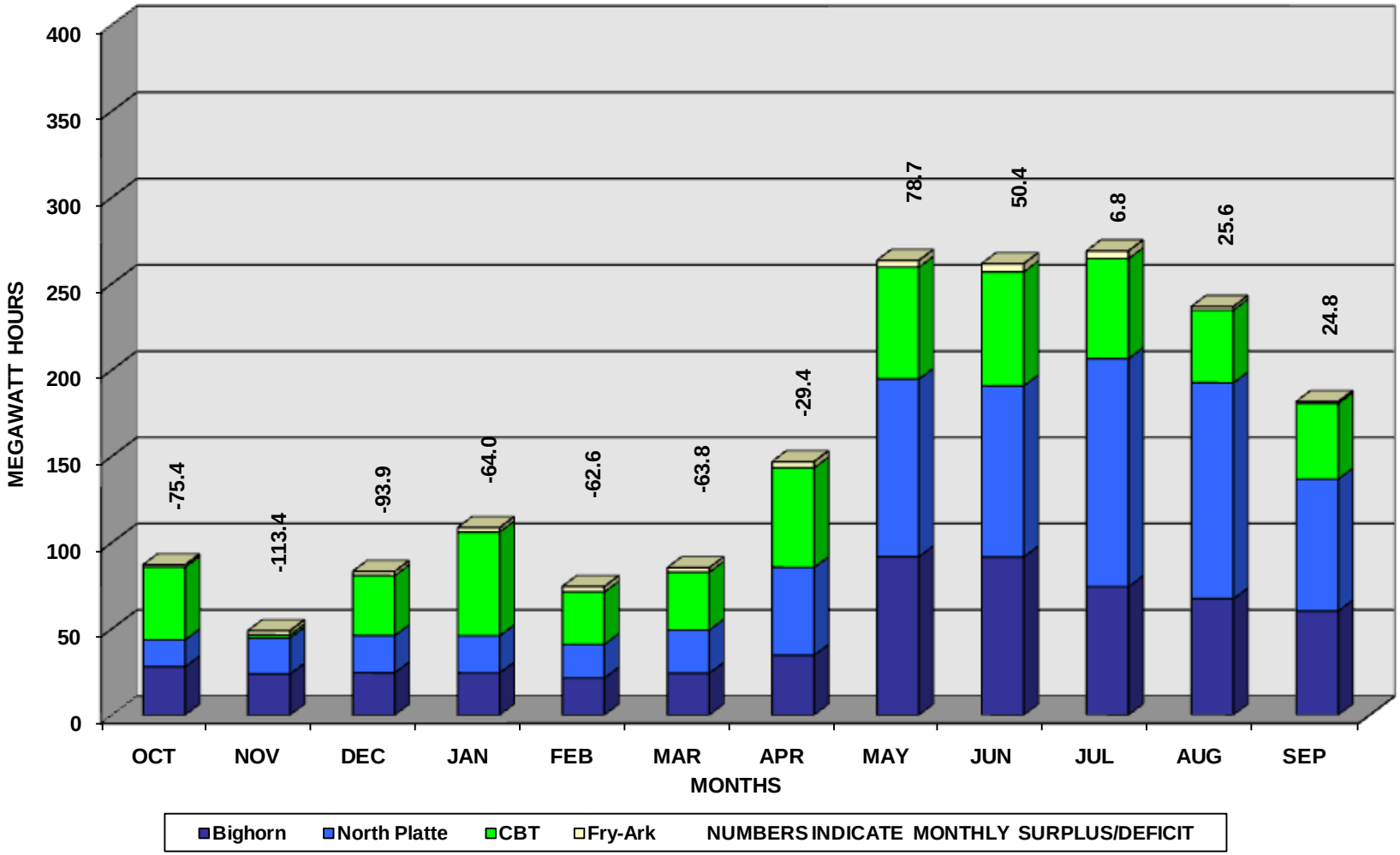


Exhibit 4B

PROJECTED LAP GROSS GENERATION LESS PUMPING
WATER YEAR 2013
FOR REASONABLE MINIMUM INFLOW

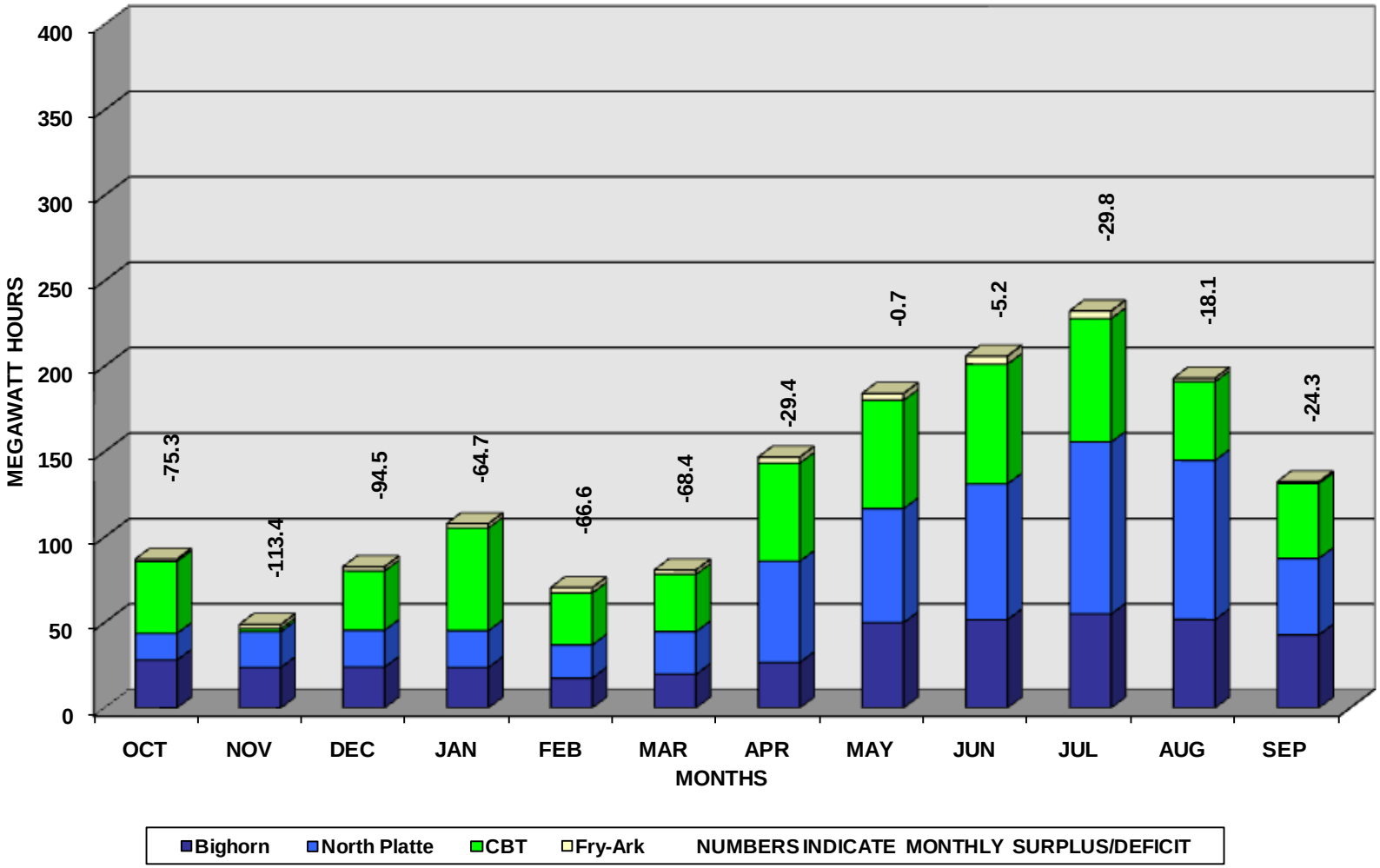


Exhibit 4C

PROJECTED LAP GROSS GENERATION LESS PUMPING
WATER YEAR 2013
FOR REASONABLE MAXIMUM INFLOW