

# STATE OF COLORADO

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## Colorado Water Conservation Board

### Department of Natural Resources

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Denver, Colorado 80203  
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July 30, 2013

Mr. Dick Wolfe  
State Engineer  
Colorado Division of Water Resources  
1313 Sherman St., Room 818  
Denver, CO 80203

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John W. Hickenlooper  
Governor

Mike King  
DNR Executive Director

James Eklund  
CWCB Director

Bob Hurford  
Division Engineer, Water Division 4  
Colorado Division of Water Resources  
P.O. Box 456  
Montrose, CO 81402

Re: Temporary Lease of Water Rights to CWCB for Instream Flow Use from Colorado Water Trust and Western Rivers Conservancy: McKinley Ditch, Water Division 4, Gunnison and Montrose Counties.

Dear Mr. Wolfe and Mr. Hurford:

The Colorado Water Conservation Board ("CWCB") hereby requests approval of a Temporary Lease of Water Right offered by Western Rivers Conservancy ("WRC") and presented to CWCB by the Colorado Water Trust ("CWT") for instream flow ("ISF") use pursuant to C.R.S. 37-83-105. The subject water rights consist of four separate priorities decreed to the McKinley Ditch. WRC currently owns 1.5 shares of the total 8 shares allocated under the McKinley Ditch, or approximately 18.75% of the total amount of water diverted by the ditch ("Leased Water"). This request is for a 10-year period beginning on August 1, 2013 and extending to December 31, 2023. The term of the lease with WRC is for one year, and terminates on October 31, 2013. However, WRC, or its successors or assigns, may offer the Leased Water to CWCB for ISF flow use in subsequent years pursuant to this Temporary Lease of Water Rights for Instream Flow Use. For that reason, CWCB is requesting approval of this proposed lease for the full 10 year lease period provided in the statute. Use of the WRC Shares in subsequent years will not exceed 120 days in any calendar year, and will be for no more than 2 years out of the remaining 9 years approved for this lease. The CWCB, WRC, and CWT acknowledge that the lease may only be implemented starting on the date of approval by the State and Division Engineers.

The McKinley Ditch is decreed for a total of 31 cfs and WRC will lease a total of 5.8125 cfs (18.75%) of the McKinley Ditch water right ("Leased Water Rights") to CWCB for ISF use on the Cimarron River, in amounts not to exceed the ISF decreed rates of the ISF water right described in Section III herein, for a period not to exceed 120 days in a calendar year, and up to 3 years in a 10-year period. See map at **Attachment 1**.

The CWCB has provided a written notice of this request for approval by electronic mail to all parties listed on the Division 4 substitute water supply plan notification list established pursuant to C.R.S. 37-92-308(6).

## I. Summary of Proposal and Statement of Duration

Under a lease agreement among the WRC, CWCB and CWT, upon approval of this request by the State and Division Engineers, WRC will make water available to CWCB for ISF use beginning August 1, 2013. See Lease Agreement at **Attachment 2**. The CWCB will use the water for ISF purposes on the Cimarron River, in a segment extending from the confluence with the Little Cimarron River to the confluence with the Gunnison River. The Leased Water Rights will be used for ISF purposes downstream of the point of historical return flow. Therefore, CWCB proposes to use only the historical consumptive use amounts for ISF use in the Cimarron River. Under this proposal, once the water enters the Gunnison River, both the consumptive use portion and return flow portion of the water will be available for use by others.

Evidence of the proponent's legal right to use the Leased Water Rights is provided as follows: WRC owns the portion of the McKinley Ditch water right to be leased. See decree in Water Court Case No. 4-12CW052 at **Attachment 3**. Rule 6(k) of the Rules Concerning CWCB's Instream Flow and Natural Lake Level Program sets forth procedures for accepting temporary loans and leases of water for ISF use, in accordance with C.R.S. 37-83-105. Provided that the State Engineer has made a determination of no injury pursuant to C.R.S. 37-83-105(2)(a)(III), the CWCB Board has delegated authority to the CWCB Director to accept loans and leases and to take any administrative action necessary to put the water to ISF use. Such acceptance and water use is subject to Board ratification at the next scheduled Board meeting.

Upon approval of this request by the State and Division Engineers, WRC, in coordination with the CWCB and CWT, will make the Leased Water Rights available to CWCB for ISF use in amounts not to exceed the ISF decreed rates of the ISF water right described in Section III herein, and for a period not to exceed 120 days in a calendar year, and up to 3 years in a 10-year period.

## II. Historical Use and Reasonable Estimate of Consumptive Use

The McKinley Ditch water rights that are the subject of this lease are described below, with the portion of the rights available under this lease listed in the column titled "WRC Ownership."

CASE NUMBER	STREAM PRIORITY	AMOUNT (CFS)		ADJUD. DATE	APPROP. DATE
		Total Decreed	WRC Ownership (18.75%)		
CA1319	56	12.17 cfs	2.282 cfs	3-28-1904	9-1-1886
CA1745	125	3.125 cfs	0.5859 cfs	5-8-1913	5-10-1905
CA1745	128	3.125 cfs	0.5859 cfs	5-8-1913	5-10-1906
CA4742	285	12.58 cfs	2.359 cfs	4-21-1941	5-1-1912
<b>TOTAL</b>		<b>31 cfs</b>	<b>5.8128 cfs</b>		

Bishop-Brogden Associates, Inc. (“BBA”) and West Sage Water Consultants (“WSWC”) have prepared a letter report dated July 23, 2013 that summarizes the historical diversions, historical consumptive use (HCU), and return flow patterns attributable to WRC’s pro-rata ownership of the McKinley Ditch water rights. See engineering report at **Attachment 4**.

The McKinley Ditch diverts from the Little Cimarron River, approximately 5 miles above its confluence with the Cimarron River. The majority of the irrigated lands are adjacent to the Little Cimarron River, and return flows accrue to the stream approximately 2.5 miles upstream from the Cimarron River-Little Cimarron River confluence. Diversions under the ditch typically begin in early May and continue into October.

The WRC water rights in the McKinley Ditch were historically used for flood irrigation of approximately 177.6 acres of hay meadows on the former Shepardson property. The HCU for the McKinley Ditch was computed by BBA & WSWC, based on a study period of 1974 through 2010. Average and dry-year consumptive irrigation requirement (CIR) and HCU were determined using the modified Blaney-Criddle methodology in the StateCU program. The computed HCU for both average and dry years is presented in the following table:

	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Avg Year (AF)	0.4	35.2	68.3	67.1	51.5	28.5	6.8	0	0	0	0	0
Dry Year (AF)	0	30.5	36.4	40.3	24.6	4.8	17.4	0	0	0	0	0

A portion of the water diverted by the Leased Water Rights historically accrued to the Cimarron River in the form of ground water return flows. Because the effect of ground water return flows on the Cimarron River is not immediate, total ground water return flows were lagged to the river using the Integrated Decision Support AWAS model. The analysis indicates that approximately 95% of the ground water depletions return to the river within 23 months of diversion. The total net lagged depletion for the Leased Water Rights in average years and dry years is provided in tables 3, 4 and 5 of the engineering report.

### III. Proposed Use

This lease will be operated as a split-season lease. During years in which this lease is exercised, the Leased Water will be used in the early season for irrigation on the historically irrigated lands. Beginning August 1, 2013, irrigation use will be suspended and the Leased Water Rights will remain in the stream to benefit CWCB’s decreed ISF water rights in the Cimarron River. In subsequent years, CWCB will provide notice to the State and Division Engineer of its intent to exercise the lease, and will specify the date on which irrigation will cease and ISF use will begin.

The ISF water right to be benefitted by this lease is listed below:

Case No.	Stream	Segment	Approp Date	Segment Length	Amount
4-84CW398	Cimarron River	Little Cimarron to Gunnison River	5-4-1984	3.7 miles	16 cfs

This ISF water right was decreed to preserve the natural environment to a reasonable degree. The ISF right on the Cimarron River was appropriated to preserve existing populations of rainbow and brown trout. USGS gage data were used to evaluate the flow conditions for the Cimarron River ISF reach. At the USGS gage on the Cimarron River below Squaw Creek, the ISF water right was short on 50 occasions during the irrigation seasons of 2011 and 2012.

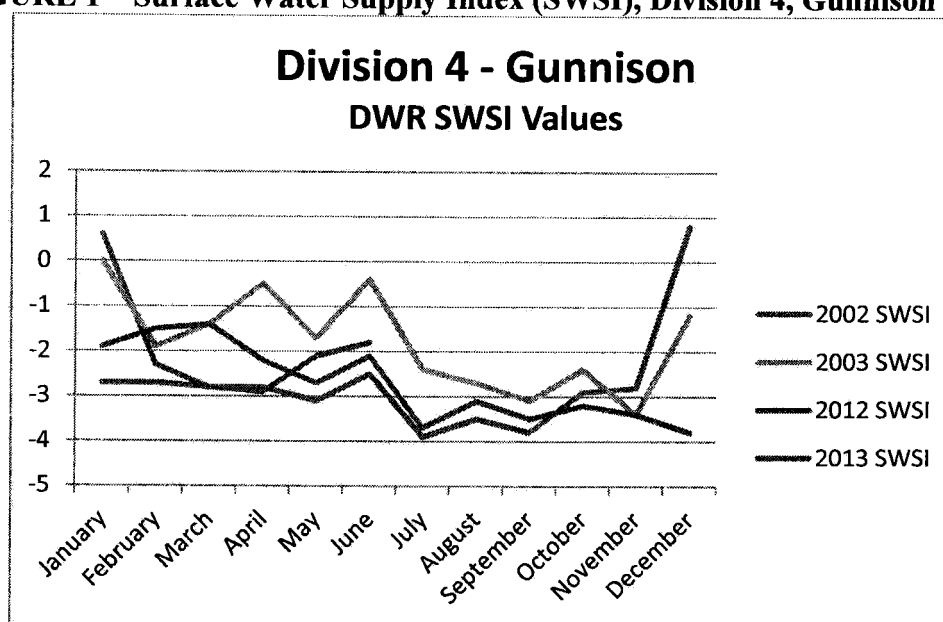
For 2013, this lease seeks to use the historical dry-year (as represented by 2002) net stream depletion to benefit ISF water rights for an approximately 3.7 mile segment of the Cimarron River between the confluence of the Little Cimarron and its confluence with the Gunnison River. The table below reflects the dry-year (2002) net stream depletion available for ISF use in the Cimarron River.

**Monthly Net Depletions Available for ISF Use in a Dry Year**

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
<b>AF</b>	-5.48	-4.35	-3.58	-3.06	-2.65	--	--	--	--	43.88	23.01	17.16
<b>cfs</b>	-0.09	-0.07	-0.06	-0.06	-0.04	--	--	--	--	0.71	0.39	0.28

Due to the expected drought conditions in 2013 (see Figure 1 below), the amount of water claimed for ISF use under this lease during 2013 is based upon dry-year yields for the Leased Water Rights. The diversions used in BBA's analysis to estimate dry-year consumptive use are assumed to be equal to the diversions in 2002, which experienced similar drought conditions, based on the Surface Water Supply Index (Figure 1). If this lease is exercised in subsequent years that are not as dry as 2013, CWT and CWCB may seek approval from the Division of Water Resources to claim net depletions consistent with average year conditions as presented in Tables 1 and 3 of the BBA report.

**FIGURE 1 – Surface Water Supply Index (SWSI), Division 4, Gunnison River**



The total amount of water claimed for ISF use will not exceed the total amount decreed to the Cimarron River ISF water right. The Leased Water Rights will only be used to supplement the ISF water right in the Cimarron River during the historical irrigation season from May through October. Under this lease proposal, 177.6 acres will be removed from irrigation in years and during such times when the lease is implemented and water is used for the ISF water right. Return flows will be maintained as needed to prevent injury to other water rights. During the irrigation season, return flows will be maintained by leaving the diversion amounts in the river. In years 2 and 3 following implementation of this lease, return flows during the irrigation season will be replaced by reducing the number of irrigated acres (Table 5). During the non-irrigation season, return flow obligations will be replaced any time a water right call is in effect. BBA has identified the Crystal Reservoir power generation right and the CWCB's ISF water right as the only non-irrigation season water rights that could potentially place calls for water. CWT has

contacted Upper Gunnison Water Conservancy District about purchasing augmentation water to replace depletions to a senior winter calling right on the Gunnison River. CWT has also had discussions with CWCB regarding the possibility of a winter instream flow call and the need to provide replacement water under this temporary lease.

None of the leased water will be claimed on the Gunnison River for ISF use, and CWCB will not claim credit for the historical consumptive use associated with the Leased Water Rights downstream from the Cimarron River-Gunnison River confluence. The leased water will be beneficially used under an existing, decreed ISF water right and will be available for other beneficial uses downstream of the Cimarron River ISF reach. As such, this lease will not adversely affect Colorado's compact entitlements.

#### **IV. Terms and Conditions to Prevent Injury**

To prevent injury to other water users from the exercise of this lease agreement, CWCB, CWT, and WRC ("Proponents") propose to operate the lease in accordance with the following terms and conditions:

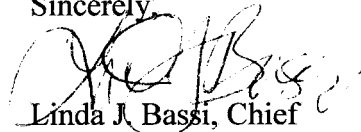
- The amount of water that CWCB will use under the lease in 2013 is limited to the dry-year, monthly, net depletion amount as described above, and will not exceed the decreed flow rate of the Cimarron River ISF water rights.
- During the irrigation season, proponents will maintain historical return flows to the Cimarron River in time, place and amount. During the non-irrigation season, proponents will maintain historical return flows whenever a senior water right call is in effect.
- This lease contemplates a split season use for both irrigation and instream flow use. The Leased Water Rights will no longer be used for irrigation once instream flow use begins during a lease implementation year.
- Proponents shall install and maintain any measuring devices or structures required by the State and Division Engineers to administer this lease.
- Proponents shall submit records and accounting as required by the State and Division Engineers to administer this lease.
- Each year of the lease agreement, prior to commencement of the irrigation season, CWCB shall notify the State and Division Engineers if the Proponents intend to implement the lease in the upcoming season. If this lease is exercised in subsequent years that are not characterized as dry years, CWT and CWCB will seek approval from the State and Division Engineers to claim historical diversions and consumptive use consistent with average year conditions.
- Each year of the lease agreement, prior to commencement of the irrigation season, CWCB shall notify the State and Division Engineers of the date on which the split season irrigation use will terminate and the date on which the instream flow use will begin.
- CWCB shall notify the State and Division Engineers when it begins using the Leased Water Rights for the Cimarron River ISF water right.

## **V. Conclusion**

The CWCB respectfully requests approval of the temporary lease of the McKinley Ditch water rights offered by WRC for ISF use on the Cimarron River. If operated in the manner presented herein, no injury will occur to other water rights.

Thank you for your assistance in this matter. Please let us know if you have any questions or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda J. Bassi".

Linda J. Bassi, Chief  
Stream and Lake Protection Section

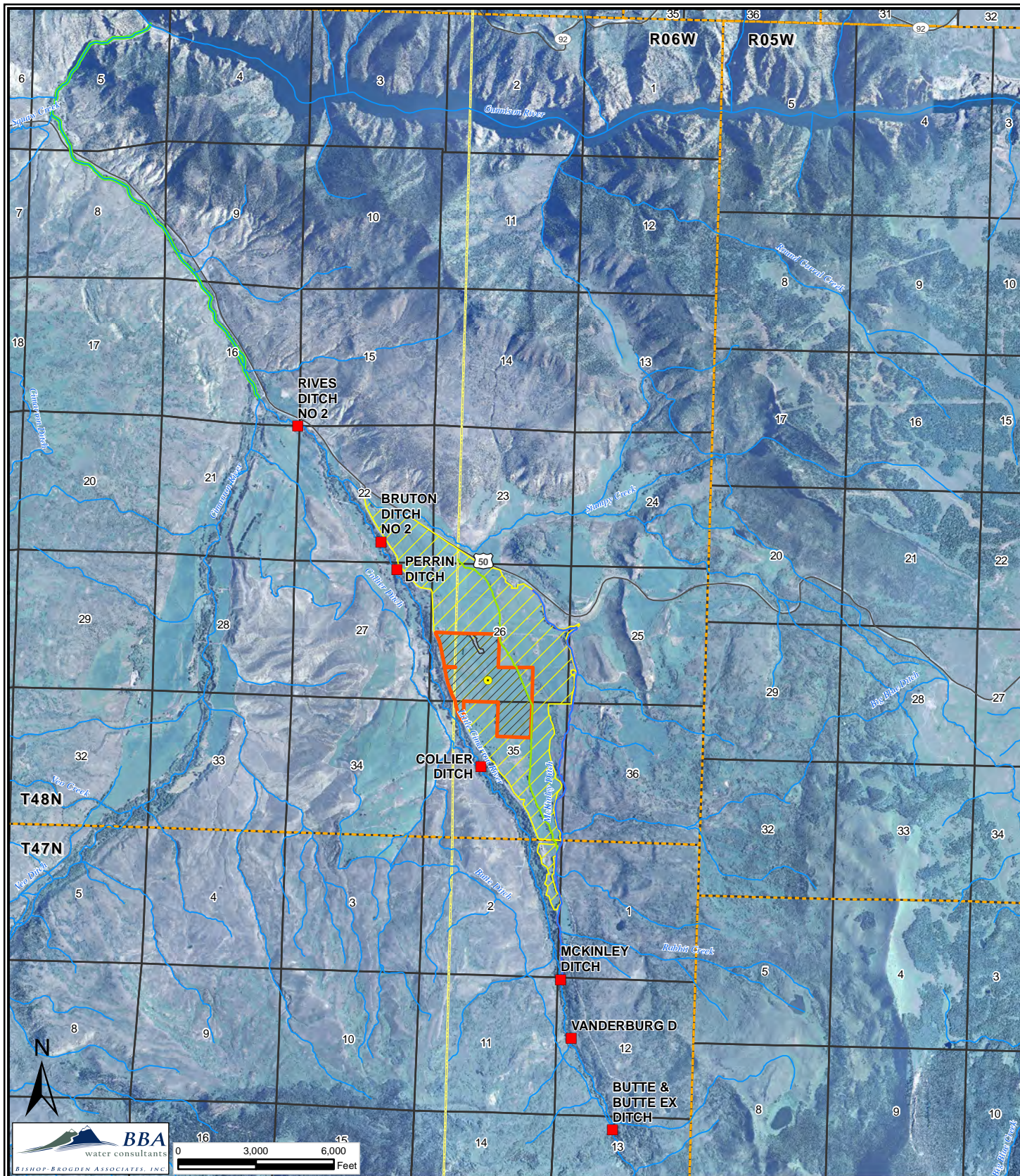
cc: Colorado Water Trust  
Western Rivers Conservancy

Encl: Attachment 1 – Map  
Attachment 2 – Lease Agreement  
Attachment 3 – Decree  
Attachment 4 – BBA Engineering Report  
Attachment 5 – CWT Offer Letter to CWCB  
Attachment 6 – CWCB letter to CWT and WRC

# **ATTACHMENT 1**

## **MAP**



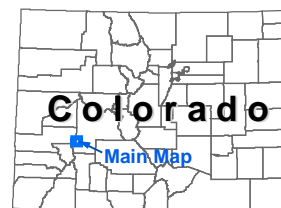


- Legend**
- Diversion Structures
  - Property Centroid
  - McKinley Ditch (East Lateral)
  - McKinley Ditch (West Lateral)
  - ISF Reach Benefitted
  - ▭ Shepardson Property Boundary (Approx.)
  - ▨ Parcel Irrigated Area (Approx.)
  - ▨ Ditch-Wide Irrigated Area
  - ▭ Section Boundary
  - ▭ County Boundary

**Figure 1:**  
**McKinley Ditch Location and**  
**Shepardson Property Irrigated Area**

Date: July 15, 2012  
 Photo Date: July 16, 2009  
 Job No. 0906.01

**Overview Map**





**ATTACHMENT 2**  
**LEASE AGREEMENT**

**WATER LEASE OPTION AGREEMENT:**  
**CWT REQUEST FOR WATER 2013**

This Water Lease Option Agreement ("Option Lease") is entered into by and between COLORADO WATER CONSERVATION BOARD ("CWCB"), an agency of the State of Colorado; the COLORADO WATER TRUST ("CWT"), a Colorado nonprofit corporation; and WESTERN RIVERS CONSERVANCY ("WRC"), an Oregon nonprofit public benefit corporation (collectively, the "Parties").

**RECITALS**

- A. Section 37-92-102(3), C.R.S. (2012) authorizes CWCB to acquire by lease or other contractual agreement such water, water rights, or interests in water as CWCB determines may preserve and improve the natural environment to a reasonable degree.
- B. CWT is a Colorado nonprofit dedicated to protecting and restoring streamflows in Colorado through voluntary, market-based efforts. CWT works within CWCB's instream flow acquisition program to accomplish this mission. This Lease supports that mission.
- C. Section 37-83-105(2) authorizes water rights owners to lease or loan water to CWCB for instream flow use pursuant to a decreed instream flow water right held by CWCB and administrative approval, subject to certain conditions and procedures ("Short Term Lease Program").
- D. Under the Short Term Lease Program, a lease may have a term for up to ten years, but may only be used for instream flows for three of those ten years. For each year the water right is used in the Short Term Lease Program, it may only be used for instream flows up to 120 days in that calendar year.
- E. WRC owns 18.75% of each of the following water rights ("Water Rights"):
  - a. 12.17 cfs of Priority No. 56 in the McKinley Ditch, decreed by the District Court in and for Montrose County in Civil Action No. 1319 on March 28, 1904, with an appropriation date of September 1, 1886.
  - b. 3.125 cfs of Priority No. 125 in the McKinley Ditch, decreed by the District Court in and for Montrose County in Civil Action No. 1745 on May 8, 1913, with an appropriation date of May 10, 1905.

- c. 3.125 cfs of Priority No. 128 in the McKinley Ditch, decreed by the District Court in and for Montrose County in Civil Action No. 1745 on May 8, 1913, with an appropriation date of May 10, 1906.
  - d. 12.58 cfs of Priority No. 285 in the McKinley Ditch, decreed by the District Court in and for Montrose County in Civil Action No. 4742 on April 21, 1941, with an appropriation date of May 1, 1912.
- F. WRC wishes to lease the Water Rights to CWCB for instream flow use on the Cimarron River, pursuant to the procedures and subject to the conditions set forth herein, in Section 37-83-105(2), and in Rule 6(k) of the Rules Concerning the Colorado Instream Flow and Natural Lake Level Program.
- G. WRC has entered into a lease with Ray Wilson ("Tenant") dated March 15, 2013, to provide the Tenant guaranteed use of the Water Rights through July 31, 2013 ("Tenant Lease"). After July 31, WRC desires to lease the Water Rights for instream flow purposes after giving Tenant notice required by the Tenant Lease.
- H. CWCB holds one instream flow water right on the Cimarron River, decreed in Case No. 4-84CW398 for 16 cfs year-round, in the reach of the Cimarron River extending from the confluence of the Little Cimarron River to the confluence of the Gunnison River ("Instream Flow").
- I. Subject to the terms of this Option Lease, CWCB and CWT may exercise the option to lease the Water Rights from WRC for instream flow purposes. CWCB will use the Water Rights to maintain the Instream Flow for a period not to exceed one hundred twenty days in one calendar year.
- J. The Water Rights are not decreed for instream flow use. The use of the Water Rights by CWCB for instream flow purposes will require State and Division Engineer approval and final ratification by CWCB Board of Directors, pursuant to section 37-83-105(2).
- K. The amount of water used by CWCB under this Option Lease will not exceed the amount of water decreed to the Instream Flow.

NOW THEREFORE, in consideration of the mutual agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, CWCB, CWT, and WRC agree as follows:



## LEASE OF WATER RIGHTS

### 1. Term.

- a. The term of this Option Lease shall begin upon the execution of the Option Lease by the Parties.
- b. The term of this Option Lease shall end on October 31, 2013.

### 2. Exercise of Option.

- a. The option shall not be exercised prior to July 31, 2013, provided that if the option is exercised on July 31, 2013, Tenant shall have the right to continue using the Water Rights for irrigation through July 31, 2013.
- b. To exercise the option, CWT shall notify CWCB and WRC pursuant to § 17 of this Option Lease. Upon receipt of notification, WRC shall notify Tenant pursuant to the Tenant Lease within 24 hours.
- c. CWT and CWCB shall have exclusive authority to decide how, when, and if the Water Rights will be used in the Short Term Lease Program.
- d. Upon exercise of the Option Lease, CWT will have responsibility for implementation, including reducing diversions at the headgate, measuring bypass flows, and any other operational actions necessary to fulfill the intent of this Option Lease.

### 3. Operations, Accounting and Monitoring.

- a. CWCB shall notify the State and Division Engineers when the Water Right is being used for instream flow under the Option Lease for administrative purposes.
- b. The Parties agree to coordinate record keeping and accounting as reasonably required by the State and Division Engineers to administer use of the Water Rights for instream flow purposes.
- c. The Parties agree to coordinate to install and maintain any measuring devices or structures reasonably required by the State and Division Engineers to administer use of the water right for instream flow purposes.

### 4. CWCB Acceptance of Lease. CWCB's acceptance of the Option Lease of the Water Rights is contingent upon the State and Division Engineers' determination that CWCB's use of the Water Rights in the Short Term



Lease Program will not injure existing water rights of others and will not affect Colorado's compact entitlements. Approval may include terms and conditions to ensure the non-injury standard is met pursuant to section 37-83-105(2)(b)(VI). If any such conditions are not acceptable to CWCB and/or CWT then such party shall have the right to terminate this Option Lease immediately.

5. Cessation of Historic Use. WRC agrees and acknowledges that WRC may not irrigate or lease for irrigation the Water Rights after CWT exercises the Option Lease, unless given written permission by CWT for periods during which the Water Rights are not being used in the Short Term Leasing Program.
6. Protections of Lessor's Water Rights. If this Option Lease is exercised, the Water Rights are protected from diminishment of historical consumptive use and abandonment under this Option Lease by sections 37-83-105(2)(c) and 37-92-103(2)(b)(V).
7. Use of Water Leased. If this Option Lease is exercised, CWCB will use the Water Rights to maintain its Instream Flow to preserve the natural environment to a reasonable degree.
8. Inspections.
  - a. For the term of this Option Lease, WRC grants CWCB or CWT staff and any of their representatives any and all of WRC's access rights to the McKinley Ditch, including but not limited to all facilities related to the Water Rights (e.g., source, headgate, other diversion structures, ditch system, irrigated acreage) upon request at reasonable times, for the purpose of evaluating and implementing the physical operation of the Option Lease and for evaluating the stream and habitat characteristics in the reach of stream that would benefit from the Option Lease.
  - b. If the Option Lease is exercised, WRC grants CWCB or CWT staff and any of their representatives access to the land subject to the Tenant Lease upon request at reasonable times to ensure compliance with the terms of the Option Lease.
9. Indemnification. CWCB and CWT agree to indemnify and hold WRC harmless from any costs, expenses, damages, liens, charges, claims or other liability arising out of their access to and use of the land and infrastructure described in ~~this~~ the foregoing Paragraph 8.
10. No interference. CWCB and CWT agree not to interfere with Tenant's use of the property subject to the Tenant Lease, other than the curtailment of

Tenant's use of the Water Rights pursuant to the terms of this Option Lease.

### **STATE AND DIVISION ENGINEER APPROVAL OF LEASE**

11. Statement to State Engineer. Prior to accepting the Option Lease, CWCB shall compile a statement explaining the Option Lease in sufficient detail for the State Engineer to determine that such Option Lease does not injure existing decreed water rights. WRC and CWT shall use best efforts to assist CWCB in compiling said statement and in obtaining State and Division Engineer approval of the Option Lease as described below.
12. Request for Approval. CWCB, with CWT's and WRC's cooperation, shall file a request for approval of the Option Lease with the State and Division Engineers, which request shall include the following information:
  - a. Evidence of proponent's legal right to use the Water Rights;
  - b. A statement of the duration of the Option Lease;
  - c. A description of the original points of diversion, the return flow pattern, the stream reach, and the time, place, and types of use of the Water Rights;
  - d. A description of the stream reach, and the time, place, and types of use of the Water Rights; and
  - e. A reasonable estimate of the historic consumptive use of the Water Rights.
13. Notice to Substitute Water Supply Plan. CWCB, with CWT's and WRC's cooperation, shall provide written notice of the request for approval of the Lease by first-class mail or electronic mail to all parties on the substitute water supply plan notification list established pursuant to section 37-92-308 (6) for the water division in which the proposed Lease is located, and shall file proof of such notice with the Division Engineer.
14. Compliance. CWCB, with CWT's and WRC's cooperation, shall use its best efforts to comply with all the requirements of section 37-83-105(2), to obtain approval of the Lease, and to address any comments submitted by any party concerning potential injury to that party's water rights, as part of the initial approval process.
15. Denial and/or Termination.



- a. If the request for approval is denied in whole or in part, or if the approval is conditioned in such manner as to prevent this Option Lease from being completely fulfilled, then this Option Lease may be terminated immediately upon written notice by CWT and/or CWCB to WRC.
- b. The Option Lease shall automatically terminate pursuant to § 1(b) of the Option Lease.
- c. WRC may not terminate this Option Lease of its own accord, absent breach by one of the other parties.

16. Miscellaneous Provisions

- a. If this Option Lease is exercised, CWCB shall take such action as is required to make use of the Water Rights for instream flow purposes, including, if necessary, placing a call with the Division Engineer for administration of the Water Rights. CWCB agrees to use the Water Rights for instream flow purposes to the maximum extent possible. CWT shall work with CWCB to provide information concerning implementation and monitoring of this Option Lease.
- b. The Parties will implement this Option Lease in accordance with any terms and conditions imposed by the State and Division Engineers. Provided, however, that except for the obligation to forego diversion of the Water Rights, the obligation to allow CWCB and CWT to allow installation and maintenance of any measuring devices or structures reasonably required by the State and Division Engineers, and any other obligation expressly imposed by this Option Lease, WRC shall not be bound by any obligation imposed as a term and condition on the approval of the use of the Water Rights for instream flow purposes without WRC's prior written consent.
- c. This Option Lease shall be a covenant that runs with the Water Rights and shall be binding upon the Parties hereto, their successors, and assigns.
- d. CWT shall pay the \$100 filing fee required by section 37-83-105(2)(b)(I).
- e. This Option Lease shall not be interpreted to abrogate or supersede that certain Agreement for Purchase and Sale of Water Rights dated January 27, 2012, between CWT and WRC, as the same has been or may be amended from time to time.

17. Notice. Any notices required or permitted hereunder shall be sent to the addresses or email addresses set forth below, as may be changed from time to time by proper notice.

If to CWT:

Colorado Water Trust  
1420 Ogden Street, Suite A2  
Denver, CO 80218  
Attn: Amy Beatie, [abeatie@coloradowatertrust.org](mailto:abeatie@coloradowatertrust.org)  
Attn: Zach Smith, [zsmith@coloradowatertrust.org](mailto:zsmith@coloradowatertrust.org)

If to CWCB:

Colorado Water Conservation Board  
Stream and Lake Protection Section  
1313 Sherman Street, Room 721  
Denver, CO 80203  
Attn: Linda Bassi, [linda.bassi@state.co.us](mailto:linda.bassi@state.co.us)

If to WRC:

Western Rivers Conservancy  
71 SW Oak St., Suite 100  
Portland, OR 97204  
Attn: Sue Doroff ([sdoroff@westernrivers.org](mailto:sdoroff@westernrivers.org))  
Attn: Dieter Erdmann ([derdmann@westernrivers.org](mailto:derdmann@westernrivers.org))  
cc: Marcus Lock ([mlock@lawoftherockies.com](mailto:mlock@lawoftherockies.com))  
cc: Kendall Burgemeister  
([kburgemeister@lawoftherockies.com](mailto:kburgemeister@lawoftherockies.com))

18. Limited Representations By WRC.

- a. WRC represents and warrants that it has full power and authority to execute this Option Lease, lease the Water Rights, and perform its obligations hereunder.
- b. WRC represents and warrants that the Water Rights have been used in compliance with decreed terms, to the extent WRC has owned the Water Rights.

19. Costs.

- a. Each Party shall bear its own legal costs.



- b. CWT shall pay the engineering costs associated using the Water Rights in the Short Term Lease Program.
- c. CWT shall pay the costs of installing and maintaining the infrastructure and/or measuring devices required by the State and Division Engineer to administer the Water Rights for instream flow purposes.
- d. CWT shall pay any costs related to any terms and conditions imposed by the State and Division Engineers.

20. Enforcement of this Option Lease.

- a. Pursuant to section 37-92-102(3), the terms of this Option Lease shall be enforceable by each party as a water matter in the Water Court in and for Water Division Four; provided, however, that before commencing any action for enforcement of this Option Lease, the party alleging violation shall notify the other Parties in writing of the alleged violation and the Parties shall make a good faith effort to resolve their differences through informal consultation.
- b. Specific performance of this Option Lease shall be the exclusive remedy for the failure of either party to comply with any provision of this Option Lease.

21. Non-Precedential. Nothing in this Option Lease is precedential for any future transactions.

22. Counterparts/Facsimile Signatures. This Option Lease may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Facsimile signatures shall be binding as originals.

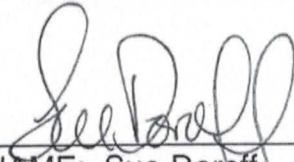
23. Governing Law. This Option Lease shall be construed under and be governed by the laws of the State of Colorado.

24. Severability. This Option Lease shall be deemed severable. The invalidity of any part of this Option Lease shall not affect the validity of the remainder of this Option Lease. In this regard, if any portion of this Option Lease is determined to be invalid, the court having jurisdiction over this Option Lease shall be entitled, with the assistance of the Parties, to substitute an alternative provision that is consistent with the intent of the Option Lease for any invalid portion.

25. Effective Date. The effective date of this Option Lease shall be the date it is executed by all parties.

IN WITNESS HEREOF, CWCB, CWT, and Lessor have executed this Option Lease.

WESTERN RIVERS CONSERVANCY

By:   
NAME: Sue Doroff  
TITLE: President

Date: 7/23/13

COLORADO WATER CONSERVATION BOARD

By: \_\_\_\_\_  
James Eklund  
Director

Date: \_\_\_\_\_

COLORADO WATER TRUST

By: \_\_\_\_\_  
Amy Beatie  
Executive Director

Date: \_\_\_\_\_

25. Effective Date. The effective date of this Option Lease shall be the date it is executed by all parties.

IN WITNESS HEREOF, CWCB, CWT, and Lessor have executed this Option Lease.

WESTERN RIVERS CONSERVANCY      COLORADO WATER CONSERVATION  
BOARD

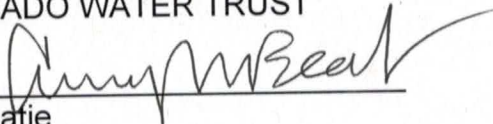
By: \_\_\_\_\_  
NAME: Sue Doroff  
TITLE: President

By: \_\_\_\_\_  
James Eklund  
Director

Date: \_\_\_\_\_

Date: \_\_\_\_\_

COLORADO WATER TRUST

By:   
Amy Beatie  
Executive Director

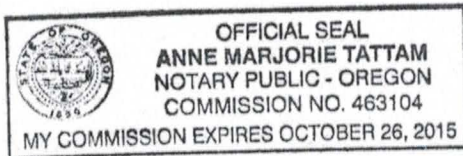
Date: 7/24/2013

NOTARIZATION

STATE OF Oregon )  
 ) ss.  
COUNTY OF Multnomah )

The foregoing instrument was acknowledged before me on this 23 day of  
July, 2013, by Sue Doroff as  
President of WESTERN RIVERS CONSERVANCY.

Witness my hand and official seal.



ATC

Notary Public

My commission expires:

October 26, 2015

NOTARIZATION

STATE OF COLORADO )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

The foregoing instrument was acknowledged before me on this \_\_\_\_ day of  
\_\_\_\_\_, 2013, by \_\_\_\_\_ as  
\_\_\_\_\_ of COLORADO WATER CONSERVATION BOARD.

Witness my hand and official seal.

\_\_\_\_\_

Notary Public

My commission expires:

\_\_\_\_\_

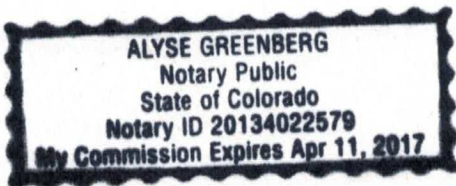


NOTARIZATION

STATE OF COLORADO   )  
  ) ss.  
COUNTY OF DENVER   )

The foregoing instrument was acknowledged before me on this 24 day of July, 2013, by Amy Beatie as Executive Director of COLORADO WATER TRUST.

Witness my hand and official seal.



Alyse Greenberg  
Notary Public

My commission expires:

4-11-17

**ATTACHMENT 3  
DECREE IN  
CASE NO. 4-12CW052**

DISTRICT COURT, WATER DIVISION NO. 4, COLORADO  1200 North Grand Ave. Bin A Montrose, CO 81401-3146	<b>FILED Document</b> <b>CO Montrose County District Court 7th JD</b> <b>Filing Date: Feb 15 2013 01:22PM MST</b> <b>Filing ID: 49562474</b> <b>Review Clerk: Darleen Cappannokeep</b>  <p style="text-align: center;">▲ COURT USE ONLY ▲</p>
CONCERNING THE APPLICATION FOR WATER RIGHTS OF August Nicolas Family Partnership, LLLP, a Colorado limited liability limited partnership; Larry A. Collins and Lula May Collins; Wayne Maurer and Charles Maurer; R & G Butte Rock Ranch, LLC, a Colorado limited liability company; William R. Sanders and Janice L. Sanders; Lee R. Hawk and Janice M. Hawk; and Western Rivers Conservancy, an Oregon nonprofit public benefit corporation  IN GUNNISON AND MONTROSE COUNTIES	
	Case Number: 12CW52  Division:  Courtroom:
FINDINGS OF FACT, CONCLUSIONS OF LAW, RULING OF THE REFEREE, AND DECREE	

This matter comes before the Referee upon the Application for a Change of Water Rights (the "Application") of the above –captioned applicants (the "Applicants"). The Referee, having made such investigations as are necessary to determine whether the statements in the Application are true, and having become fully advised with respect to the subject matter of the Application, hereby makes the following findings of fact, conclusions of law, and ruling.

#### FINDINGS OF FACT

- 1) Name, Mailing Address, and Telephone Number of Applicants.

August Nicolas Family Partnership, LLLP 556 6530 Road Montrose, CO 81401 Phone: 970-249-4357	Lee R. Hawk and Janice M. Hawk P.O. Box 126 Cimarron, CO 81220 Phone: 970-249-4115
---	---

Larry A. Collins and Lula May Collins 640 County Road 24 P.O. Box 298 Cimarron, CO 81220 Phone: 970-252-9465	R & G Butte Rock Ranch, LLC c/o Mike Richard P.O. Box 182 Cimarron, CO 81220 Phone: 956-763-6912
Wayne Maurer P.O. Box 649 Olathe, CO 81425 Phone: 970-275-0385	Western Rivers Conservancy 71 SW Oak St., Suite 100 Portland, OR 97204 Phone: 503-241-0151
Charles Maurer P.O. Box 1117 Grand Junction, CO 81502 Phone: 970-254-0156	William R. Sanders and Janice L. Sanders 67632 Landfill Road Montrose, CO 81401 Phone: 970-275-1260

2) The Application was filed on May 31, 2012, and referred to the Water Referee on August 3, 2012.

3) Notice of the Application was published in the Resume of all applications filed in the District Court in and for Water Division No. 4 during the month of May, 2012. Pursuant to the Court's Orders dated June 1, 2012, the resume notice of the Application was published in the Crested Butte News on June 8, 2012, and in the Montrose Daily Press on June 5, 2012. Proofs of publication were filed with this Court on July 6, 2012, and July 9, 2012, respectively.

4) The deadline for filing statements of opposition has passed. No statements of opposition were filed. No parties intervened in the case.

5) The Division Engineer filed its consultation report (the "Consultation Report") with this Court on October 4, 2012, and an amended consultation report (the "Amended Report") on January 3, 2013. The findings of the Consultation Report and the Amended Report have been given due consideration.

6) MontroseBank, a Colorado corporation, was previously an owner of a portion of the Water Rights (as defined below) that are the subject of the Application, and was originally an Applicant in this case. However, while the Application was pending before the Court, Western Rivers Conservancy acquired MontroseBank's portion of the Water Rights. By Order of the Court dated October 25, 2012, Western Rivers Conservancy was substituted as the real party in interest of the portion of the Water Rights formerly owned by MontroseBank, and MontroseBank was dismissed from the case.

7) Except as expressly stated to the contrary herein, the facts alleged in the Application are true.

8) Decreed water rights for which change is sought: All water rights decreed to the McKinley Ditch (the "Water Rights").

a) Case Number, Court, and Date of Original and All Relevant Subsequent Decrees:

i) Civil Action No. 1319, District Court, Montrose County, March 28, 1904



- ii) Civil Action No. 1745, District Court, Montrose County, May 8, 1913
- iii) Civil Action No. 4742, District Court, Montrose County, April 21, 1941.
- iv) Case No. 05CW132, District Court, Water Division 4, May 30, 2008

b) Legal description of structure as described in most recent decree (05CW132): A point in the NW1/4NW1/4NW1/4, Section 12, Township 47 North, Range 6 West, N.M.P.M., 58 feet from the north section line and 220 feet from the west section line (easting 282861, northing 4247959, Zone 13, NAD 83).

c) Decreed source of water: Little Cimarron River, tributary to the Cimarron River, tributary to the Gunnison River

d) Priorities, appropriation dates, total amount decreed, and amount Applicants intend to change:

McKinley Ditch (all amounts are absolute and are in cfs)			
Priority	Appropriation Date	Total Amount Decreed	Amount Applicants Intend to Change
56	September 1, 1886	12.17	12.17
125	May 10, 1905	3.125	3.125
128	May 10, 1906	3.125	3.125
285	May 1, 1912	12.58	12.58
Total:		31.00	31.00

e) Decreed use: Irrigation

9) Description of proposed change: The Applicants seek to change the decreed place of use of the Water Rights to the extent necessary to conform the decreed place of use to the historical place of use of the Water Rights.

a) Decreed Place of Use.

i) The Water Rights are cumulatively decreed for the irrigation of approximately 950 acres. *See* Decree, Civil Action No. 4742, District Court, Montrose County (the “CA-4742 Decree”).

ii) The CA-4742 Decree found that the Water Rights were decreed to irrigate the following acreages:

Priority:	56	125 and 128	285
Acres:	467	200	Complete irrigation of 280 acres and supplemental irrigation of 670 acres

iii) The CA-4742 Decree appears to be in error. Priority Numbers 125 and 128 were decreed for the irrigation of 240 acres, not 200 acres. The Decree of the District Court, Montrose County, entered in Civil Action No. 1745 (the “CA-1745 Decree”), confirmed priority numbers 125 and 128 for 3.125 each (6.25 cfs together). The Findings of the Referee in Civil

Action No. 1745 found that 240 acres of land were irrigated by priority numbers 125 and 128, and that one cubic foot per second of time of water is sufficient to irrigate 38.4 acres of land. Accordingly, the Referee found that the McKinley Ditch was entitled to priority number 125 in the amount of 3.125 cfs, and priority number 128 in the amount of 3.125 cfs. 6.25 cfs multiplied by 38.4 acres per cfs equals 240 acres.

iv) Consequently, the correct allocation of acres amongst the various McKinley Ditch priorities is as follows:

Priority:	56	125	128	285
Acres:	467	120	120	Complete irrigation of 240 acres and supplemental irrigation of 710 acres

b) Historical Use.

i) The Water Rights have historically been used to collectively irrigate approximately 950 acres of land underlying the McKinley Ditch.

ii) Historically, by mutual agreement, the owners of the Water Rights have shared the water that is diverted through the McKinley Ditch, with each owner being entitled to a certain percentage of the entire quantity diverted, regardless of which of the individual Water Rights happened to be in priority and regardless of the quantity of water being diverted through the McKinley Ditch at any given time.

iii) In 1948, the owners of the Water Rights at that time memorialized the above-described mutual agreement by entering into that certain written agreement dated June 17, 1948, recorded June 19, 1948 in Montrose County at Book 330, Page 232, and recorded July 27, 1948 in Gunnison County at Book 271 Page 447 (the "1948 Agreement"), confirming the historical operation of the McKinley Ditch as described in the preceding paragraph and allocating the Water Rights pro rata amongst the owners of the Water Rights at that time. The Applicants are the successors in interest to the parties to the 1948 Agreement.

iv) Because of this arrangement, owners of land that was not originally irrigated by priority number 56 were able to irrigate at least a portion of their lands using water diverted under priority number 56. Similarly, owners of land that was not originally irrigated by priority numbers 125 and 128 were able to irrigate at least a portion of their lands using water diverted under these priorities.

c) Applicants seek a change in the decreed place of use of the Water Rights to expressly allow the use of the Water Rights in conformity with the 1948 Agreement. That is, Applicants seek confirmation of the right to use their respective pro rata portion of each individual Water Rights on their respective properties lying underneath the McKinley Ditch. In other words, the change of place of use requested in this case will not result in a change in the decreed place of use of the McKinley Ditch as a whole. However, it will result in a change in the decreed place of use of the individual priorities.

d) Applicants are not seeking to change the beneficial use (irrigation) or the amount or timing of diversions.

e) The Applicants' respective ownership of the right to use the Water Rights is currently as follows:

	Shares	Percentage of Total
Wayne & Charles Maurer	2	25.00%
R & G Butte Rock Ranch	2	25.00%
Larry A. Collins and Lula May Collins	1	12.50%
August Nicolas Family Partnership	1	12.50%
Lee R. Hawk and Janice M. Hawk	1/8	1.56%
William R. Sanders and Janice L. Sanders	3/8	4.69%
Western Rivers Conservancy	1 1/2	18.75%
TOTAL:	8	100.00%

f) Limitation to prevent expansion of use. In order to prevent the change of water rights requested herein from causing an expansion of use of the Water Rights, the total area irrigated by the McKinley Ditch must be limited to approximately 950 acres, and the total area irrigated by each priority must be limited to those acreages specified in paragraph 9(a)(iv), above. The Applicants have agreed to allocate the decreed acreage pro-rata according to their respective ownership interests, as shown in the following table:

Owner	Acres irrigated by each McKinley Ditch Priority				Total acres irrigated
	Priority 56	Priority 125	Priority 128	Priority 285*	
Wayne & Charles Maurer	116.75	30	30	60	236.75
R&G Butte Rock Ranch	116.75	30	30	60	236.75
Larry A. Collins and Lula May Collins	58.375	15	15	30	118.375
August Nicolas Family Partnership	58.375	15	15	30	118.375
Lee R. Hawk and Janice M. Hawk	7.2852	1.872	1.872	3.744	14.7732
William R. Sanders and Janice L. Sanders	21.9023	5.628	5.628	11.256	44.4143
Western Rivers Conservancy	87.5625	22.5	22.5	45	177.5625
TOTAL	467	120	120	240	947

\*In accordance with the CA-4742 Decree, amounts in this column represent the number of acres that can be irrigated entirely by priority number 285. Priority number 285 may also be used for supplemental irrigation of the acres that are irrigated by priority numbers 56, 125, and 128.

## CONCLUSIONS OF LAW

- 10) The foregoing findings of fact are hereby incorporated into and made a part of these conclusions of law, as if fully set forth herein at this point.
- 11) Timely and adequate notice of this Application was given in the manner required by law. This Court has jurisdiction over the subject matter of this proceeding and over all who have standing to appear as parties, whether they have appeared or not.
- 12) “A change of water right...shall be approved if such change...will not injuriously affect the owner of or persons entitled to use water under a vested water right or a decreed conditional water right...If it is determined that the proposed change...as presented in the application and the proposed ruling or decree would cause such injurious effect, the referee or the water judge, as the case may be, shall afford the applicant or any person opposed to the application an opportunity to propose terms or conditions that would prevent such injurious effect.” C.R.S. § 37-92-305(3)(a).
- 13) The terms and conditions contained in this Ruling are sufficient to prevent the change of water rights requested in this case from causing injury to vested water rights and decreed conditional water rights.

## RULING

### IT IS HEREBY RULED AND ORDERED:

- 14) The foregoing findings of fact and conclusions of law are hereby incorporated into and made a part of this Ruling, as if fully set forth herein at this point.
- 15) Subject to the terms and conditions contained herein, the change of water rights requested by the Applicants is hereby APPROVED. Applicants, and their successors interest, shall be allowed to use the Water Rights to irrigate the land owned by Applicants that lies underneath the McKinley Ditch, as shown on the attached Exhibit A.
- 16) Applicants, and their successors in interest, shall not use the Water Rights to irrigate more acres than the amounts shown in paragraph 9(f), above.
- 17) When there is a valid call for water from downstream of the McKinley Ditch headgate, diversions at the McKinley Ditch shall be limited to the aggregate decreed flow rate of the McKinley Ditch water rights that remain in priority.
- 18) Nothing in this Ruling shall be interpreted to prohibit the Applicants from using water diverted through the McKinley Ditch to irrigate acreage in addition to the acreages specified in paragraph 9(f), above, at such times that there is no valid call for water from downstream of the McKinley Ditch headgate.
- 19) This ruling shall be filed with the Water Clerk and a copy shall be filed with the State Engineer and Division Engineer, Water Division No. 4.


Dated this 17<sup>th</sup> day of January, 2013.

  
S. Gregg Stanway, Water Referee

DECREE

No protest was filed in this matter. The foregoing ruling is confirmed and approved, and is made the judgment and decree of this Court.

DONE this 14<sup>th</sup> day of Feb., 2013.



J. Steven Patrick  
Water Judge



# **ATTACHMENT 4**

## **ENGINEERING REPORT**



*BISHOP-BROGDEN ASSOCIATES, INC.*

Christopher J. Sanchez  
Jeffrey A. Clark  
Michael A. Sayler  
Daniel O. Niemela  
Charles E. Stanzione  

---

Jonathan D. George

July 26, 2013

Amy W. Beatie, Esq.  
Executive Director  
Colorado Water Trust  
1430 Larimer St., Suite 300  
Denver, CO 80202

Re: Preliminary Engineering Report Supporting the Temporary Lease of McKinley Ditch  
Water for Instream Flow Purposes

Dear Amy:

This letter report summarizes an engineering analysis supporting the temporary lease of McKinley Ditch water rights by the Colorado Water Conservation Board (CWCB) for instream flow (ISF) benefits, authorized by 37-83-105 C.R.S. This report provides an analysis of the historical consumptive use and irrigation return flows under the McKinley Ditch for the subject shares and presents opinions regarding the use of these shares for instream flow purposes.

### **Overview**

The Colorado Water Trust (CWT) has proposed a temporary lease of a portion of the McKinley Ditch water rights owned by Western Rivers Conservancy for instream flow purposes. The McKinley Ditch diverts from the Little Cimarron River, a tributary of the Gunnison River, in District 62 of Division 4. The subject shares described in this report were historically used on the Shepardson Property, located on the border of Gunnison and Montrose Counties. The Shepardson Property historically received 1.5 of the total 8 shares in the McKinley Ditch. The CWT proposes to lease the water associated with the use of Shepardson Shares for instream flow use on the Cimarron River in cooperation with the CWCB.

This analysis summarizes the approximate historical average and dry year deliveries, consumptive use (HCU) and irrigation return flows from the temporary partial cessation of irrigation for the 2013 irrigation season. The leased water rights will remain in irrigation through July, and will be used for instream flow uses from August through October. The analysis will determine the projected change in streamflow during and after the irrigation season from the temporary lease.

### Water Rights to be Leased

The McKinley Ditch diverts water from the east side of the Little Cimarron River, tributary to the Cimarron River and the Gunnison River, in District 62 of Water Division 4. The McKinley Ditch irrigates lands to the east of the Little Cimarron in Montrose and Gunnison Counties as shown on Figure 1. The McKinley Ditch has various decreed water rights totaling 31.0 cfs, with absolute appropriation dates ranging from 1886 to 1912, as summarized below.

#### McKinley Ditch Water Rights

Case No.	Stream Priority	Amount (cfs)	Appropriation Date	Adjudication Type	Adjudication Date	Acreage (acres)
CA1319	56	12.17	9/1/1886	Original	3/28/1904	467
CA1745	125	3.125	5/10/1905	Suppl.	5/8/1913	240
	128	3.125	5/10/1906	Suppl.	5/8/1913	
CA4742	285	12.58	5/1/1912	Suppl.	4/21/1941	Complete irrigation of 240 acres and supplemental irrigation of irrigated acreage under other priorities
Total		31				947

Although these decrees indicate that certain lands are to be irrigated by certain priorities, all priorities under the McKinley Ditch have historically been shared equally on all lands, as per a mutual operating agreement. This agreement and the shared use of all priorities was monumented in Division 4 Case No. 12CW052, changing the location of the place of use of the priorities without expanding the irrigated acreage under the ditch.

The only senior water right downstream on the Little Cimarron River that could call out all of the McKinley Ditch priorities is the Rives Ditch No. 2, located on the Little Cimarron River below the confluence with Stumpy Creek and above the confluence with the Cimarron River. Luke Reschke, the District 62 Water Commissioner indicated that the Rives Ditch No. 2 water right is small (0.61 cfs), and is always satisfied by return flows from either Stumpy Creek or the Little Cimarron. The diversion structures on the Little Cimarron River are shown in Figure 1. There have historically been no winter-time calls on the Little Cimarron or Gunnison River.

### Historical Consumptive Use Analysis

The historical consumptive use (HCU) of the water rights available for the short-term lease is the pro-rata portion of the ditch-wide HCU determined using the Modified Blaney-Criddle method in the State CU model. This methodology is the same as used to determine the HCU in Case No. 12CW052. The model assumptions and data used in the analysis for the short-term lease include:

- The study period used for the HCU analysis was 1974 through 2010.

- According to the diversion records maintained on CDSS, the total average annual diversions to the McKinley Ditch were approximately 4,661 acre-feet during the study period. When limited to the decreed flow rates, when in priority, the average annual in-priority diversions are reduced to approximately 4,541 acre-feet, as confirmed in 12CW052.
- Due to the relatively short distance of the ditch, a value of 10% was used to account for ditch loss in the historical consumptive use analysis.
- 947 acres was irrigated under the ditch, as confirmed by interviews with irrigators and review of aerial photographs from 1976 through 2009. The pro-rata portion of irrigated acreage on the Shepardson Property is 177.6 acres.
- The approximate elevation of the centroid of the irrigated lands under the McKinley Ditch was determined to be 7,440 feet above sea level and the latitude was determined to be 38.38°N.
- The National Oceanic and Atmospheric Administration (NOAA) Cimarron weather station (ID: 1609) was used for climate data.
- The crop was determined to be pasture grass from information available on the CDSS and conversations with the irrigators. The average annual CIR calculated in the StateCU analysis using the elevation adjustment was 1.51 acre-feet per acre.
- The maximum irrigation efficiency used for the model was 55%, as all of the lands under the McKinley Ditch are flood-irrigated.
- Soil moisture capacity was determined through an analysis of the underlying soils in the area. The available water capacity used in the model is 0.12 feet/feet.

#### *Methodology of Diversion Analysis and Water Balance*

Based on the 1948 agreement among the ditch-owners that was approved in Case No. 12CW052, all water rights are applied to all lands under the ditch. The diversion analysis ensured the senior water right was diverted first and the senior lands were satisfied, yet still allowed irrigation of the more junior lands, when in priority, according to the 1948 agreement. Water was allocated only to those acreages corresponding to the decreed acreages under each priority, and never allocated to acreages that were out of priority. At times, the McKinley Ditch diverted water in excess of the CIR on the lands under the ditch. To ensure return flows were apportioned to all water rights, when this occurred, the extra water diverted was divided up on a pro-rata basis of irrigated area tied to each water right in priority.

#### *Summary of Historical Consumptive Use*

During the study period, the McKinley Ditch diverted approximately 4,541 acre-feet per year on average from the river headgate to be delivered to the 947 acres irrigated under the ditch. After applying the 10% ditch loss, the average farm headgate deliveries equal 4,087 acre-feet. The Modified Blaney-Criddle analysis shows an average crop irrigation requirement of 1,430 acre-feet per year. Accounting for the water holding capacity of the soil and the water available to the crops, the total consumptive use under the McKinley Ditch was determined. The average annual

historical consumptive use for all lands irrigated under the ditch was approximately 1,378 acre-feet per year.

To calculate the historical consumptive use attributable to the Shepardson Property, a pro-rata approach was used according to the water rights ownership in the ditch-wide 1948 agreement. Based on the agreement, 1.5 shares of 8, or 18.75%, have been historically diverted and used on the Shepardson property throughout the study period. The Shepardson pro-rata irrigated acreage under the ditch totaled 177.6 acres. The pro-rata average annual farm headgate deliveries to the Shepardson Property totaled 766 acre-feet per year. The average annual pro-rata consumptive use was 258 acre-feet per year, as summarized in Table 1. The dry-year consumptive use was 154 acre-feet, as summarized in Table 2. The dry year HCU is based upon the 2002 diversions and HCU analysis, as 2002 was a very dry year in the area.

### **Return Flow Analysis**

The return flows were determined in the StateCU model and are equal to the water that is applied to the fields but not consumed by the crop or held in the soil moisture reservoir. The return flows from the property were classified as either surface runoff, which reached the stream within a few days after the diversion, or deep percolation (ground water return flow) which migrated back to the stream over a delayed period of time after the diversion occurred. The classification of return flow between surface runoff and ground water return flow was determined based upon an analysis of the topography, and soil and geologic conditions in the area, visits to the property during the irrigation season, interviews with the irrigator of the parcel, and past experience classifying return flows.

#### *Quantification and Location of Return Flows*

The return flows were assumed to be 60 percent surface return flows and 40 percent ground water return flows, based on the close proximity of the property to the river and the soil and geologic conditions on the property. The total McKinley Ditch surface return flows average 1,627 acre-feet per year. The ground water return flows (or deep percolation) average 1,085 acre-feet per year.

To determine the surface and ground water return flows attributable to the Shepardson Property, the pro-rata amount was used. Therefore, the surface return flows attributable to the Shepardson Property during the study period average 305 acre-feet per year. The ground water return flows (or deep percolation) during the study period average 203 acre-feet per year.

The return flows occur to the Little Cimarron River upstream of the Perrin Ditch headgate. The full farm headgate delivery of the Shepardson Shares were absent from the river until this point. The Perrin Ditch was the most upstream headgate that benefits from return flows from the property.

#### *Lagging of Return Flows*

The ground water return flows attributable to the Shepardson Property were lagged using a Glover analysis for an alluvial aquifer using the IDS AWAS program. Aquifer parameters were developed for the centroid of the irrigated area on the property in order to lag the deep percolation return flows. The transmissivity used in the Glover analysis was based on well completion reports



available in the area and hydraulic conductivities for the soils in the area. The transmissivity was assumed to be 35,000 gallons per day per foot. The specific yield of the aquifer was assumed to be 0.2, based on soil data available in the area. The distance to the river and the width of the alluvium were calculated based on the centroid of the Shepardson property.

The ground water return flows for the Shepardson Property were lagged using a distance to the river of 1,950 feet and a width of the aquifer of 3,600 feet. The width of the alluvial aquifer was determined from the soil conditions and geological properties in the area. The centroid used to lag the return flows on the Shepardson Property is shown in Figure 1. Despite the proximity to the river, the lower transmissivity of the alluvial materials attenuates the return flows to the river resulting in return flows accruing to the river over a period of approximately three years. The ground water return flows attributable to the partial season temporary lease of the McKinley Ditch water rights from the Shepardson Property are discussed below.

### **Groundwater Conditions**

From the review of the unpublished Ridgeway Area Soil Survey, some of the soils underlying the McKinley Ditch lands have the potential for a high water table during portions of the irrigation season. The Mudcap and Slicktop soils that underlie most of the McKinley Ditch lands may have a high water table at times. Discussions with Dave Dearstyne, the Soil Survey Project Leader with the NRCS in the Montrose Soil Survey Project Office, clarified that the high water table was influenced predominately by irrigation practices during the irrigation season.

The irrigator stated that the soil tends to drain water quickly, and that he has a hard time keeping the soil wet during irrigation season. In terms of the historical consumptive use, the McKinley Ditch as a whole is often water long; therefore water supplied to the pasture grass was typically adequate to provide the full CIR. In addition, under the HCU analysis, the water available to the crop is limited to that available from irrigation water applied either in that month or as carryover from excess water applied in the previous month. This demonstrates that the consumptive use shown in the analysis is the historical consumptive use of the applied irrigation water and not attributable to sub-irrigation from other sources.

### **Instream Flow Use**

The CWCB currently owns and maintains ISF water rights on several segments of the Cimarron River. The ISF right that will benefit from this temporary lease is the segment on the Cimarron River from the confluence with the Little Cimarron River down to the Gunnison River. A summary of information regarding this ISF right is shown in the table below:

	Upstream Terminus of Reach	Downstream Terminus of Reach	ISF Right	Case No.
Cimarron River	Confluence with Little Cimarron	Gunnison River	16 cfs	84CW398

For 2013 operations, the CWT proposes to use the Shepardson shares for continued irrigation from the beginning of the irrigation season (typically in late April or early May) through July 31<sup>st</sup>.

Starting August 1<sup>st</sup>, irrigation using the Shepardson shares will cease and the share water will be used for ISF benefits for the remaining of the irrigation season.

To demonstrate the projected changes in streamflow from the proposed operation of the partial year temporary lease, the results of the analyses for the average and dry year are shown in Tables 3 and 4, respectively. Beginning August 1<sup>st</sup> the water that will be left in the Little Cimarron River will equal the water historically delivered at the farm headgate (row 5). The total water to be left in the river is shown in row 10. The water that will continue to be diverted at the McKinley Ditch will maintain ditch loss (row 4). The ditch loss will continue to be diverted at the McKinley Ditch headgate to ensure that the other ditch users will not assume a greater ditch loss burden than occurred under historical operations. The partial cessation of irrigation of these rights will result in an increase in flow in the ISF reach in an amount equal to the consumptive use plus deep percolation, less lagged deep percolation (row 13).

The increase in flows from the deep percolation being left in the river in October will be more than enough to replace the remaining non-irrigation season return flows. The only downstream water rights during the non-irrigation season that could be impacted by the small decrease in flows (less than 0.13 cfs on average) are the CWCB's minimum instream flow reach and the Crystal Reservoir power generation water right. The decrease in flows is less than 1% on average of the CWCB's minimum instream flow. The actual monthly percentages of the minimum instream flow are shown in row 14 on Tables 3 and 4. In addition, the increase in late season irrigation flows exceeds the decrease in November through March flows to Crystal Reservoir.

The lagged return flows are left in the river in advance of their previous timing, allowing for additional water to be available to Crystal Reservoir and the CWCB's minimum instream flow during the late irrigation season. The lagging of the irrigation return flows continues for two years after the temporary lease. The following seasons' irrigation deliveries to the parcel may need to be reduced to ensure the remaining lagged return flows are replaced to a downstream call. Based on the analysis shown in Table 5, the Year 2 irrigated acreage on the Shepardson Property in a dry year would need to be reduced by 11 acres, and the Year 3 irrigated acreage on the parcel reduced by 1 acre if a downstream call made replacement of return flows the following irrigation seasons necessary.

### **Terms and Conditions**

The following terms and conditions for use of the McKinley Ditch water rights for temporary lease for instream flow uses should include the following to ensure no injury to other water rights.

1. Diversions of the Shepardson pro-rata share of the McKinley Ditch will be limited to periods when the McKinley Ditch water rights are in priority and water is physically available at the headgate. Furthermore, diversions under the McKinley Ditch water rights will be limited to the May through October irrigation season.
2. The total diversions under the Shepardson portion of the McKinley Ditch water rights will be limited to the dry-year or average year diversions as shown in Tables 3 and 4 depending on the type of year. The historical ditch loss will continue to be diverted at the McKinley Ditch, and the remaining historical diversions attributable to the water rights will remain in the Little Cimarron River.

3. Historical return flow obligations during the irrigation season that occur during the term of the lease will be satisfied by leaving the return flows in the stream.
4. Historically, the only call downstream of the return flow location during the irrigation season has been the Gunnison Tunnel and S Canal, which called in 2002 and 2003, but has not called in 2013. If a call were to be placed in the two years following the lease period, return flows may be replaced through releases from Blue Mesa reservoir (for calls below the confluence of the Cimarron and Gunnison Rivers) or dry-up of additional acreages as shown in Table 5 (for calls on the Little Cimarron and Cimarron Rivers).
5. Historically, there has not been a winter call on the Little Cimarron River. If necessary, historical return flow obligations during the non-irrigation season will be replaced to a downstream calling right. The only downstream water right on the Cimarron or Little Cimarron Rivers that could be impacted in the non-irrigation season is the CWCB's minimum instream flow water right, which benefits from this lease during the irrigation season.
6. In the event of a non-irrigation season call from water rights downstream of the confluence of the Cimarron and Gunnison Rivers, the non-irrigation season ground water return flow obligations may be replaced with water from the Blue Mesa Reservoir on the Gunnison River.
7. The Shepardson Property will be dried up and not irrigated after August 1<sup>st</sup>, 2013, for the remainder of the 2013 irrigation season, except by sources other than the water rights to be changed described in this report.

### Non-Injury

If the terms and conditions and other operational items discussed above are adhered to, it is our opinion that there will not be injury to other water users based on the partial season temporary lease of the McKinley Ditch shares for instream flow purposes.

This report includes our preliminary opinions regarding the partial year temporary lease of the McKinley Ditch shares. We may supplement these opinions as more information becomes available. Please feel free to give us a call if you have any questions or wish to discuss this information further.

Very truly yours,



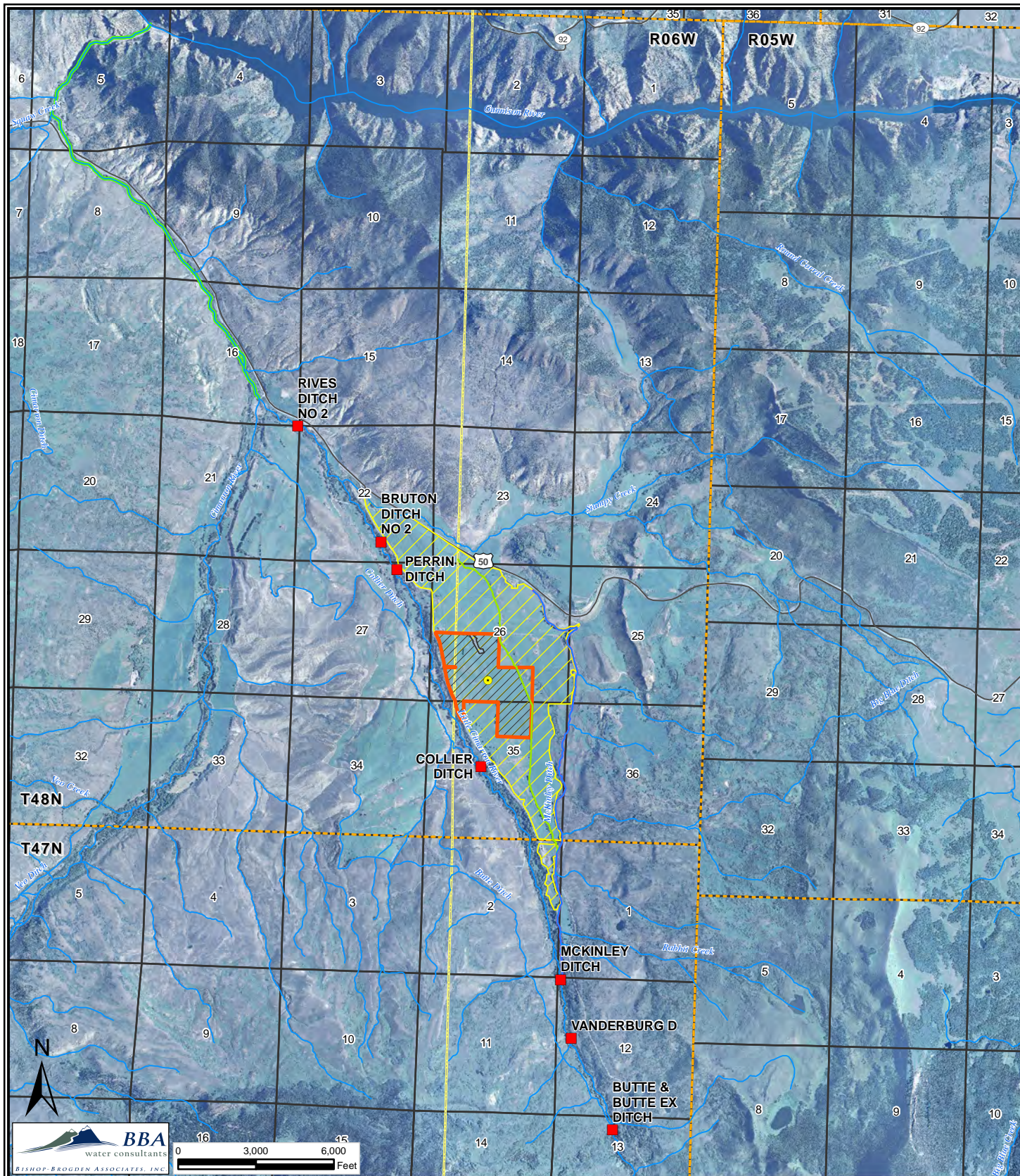
Laurel E. Stadjuhar, P.E.  
Principal - Water Resources Engineer  
West Sage Water Consultants



Jeffrey A. Clark  
Principal - Hydrologist  
Bishop-Broden Associates, Inc.

LES/JAC/jeb  
Enclosures  
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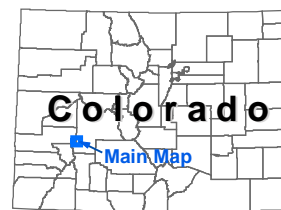
#### Legend

- Diversion Structures
- Property Centroid
- McKinley Ditch (East Lateral)
- McKinley Ditch (West Lateral)
- ISF Reach Benefitted
- ▭ Shepardson Property Boundary (Approx.)
- ▨ Parcel Irrigated Area (Approx.)
- ▨ Ditch-Wide Irrigated Area
- ▭ Section Boundary
- ▭ County Boundary

**Figure 1:**  
**McKinley Ditch Location and**  
**Shepardson Property Irrigated Area**

Date: July 15, 2012  
Photo Date: July 16, 2009  
Job No. 0906.01

#### Overview Map





**Table 1**  
**Colorado Water Trust**  
**McKinley Ditch Shepardson Shares Temporary Lease Program**  
**Average Year Historical Consumptive Use Analysis of Shepardson Shares (1974-2010)**  
(all values in ac-ft)

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
(1)	Total Avg. Historical Diversions	1.6	103.7	238.6	208.3	143.7	99.8	54.6	1.3	0.0	0.0	0.0	0.0	851.5
(2)	Ditch Loss (10%)	0.2	10.4	23.9	20.8	14.4	10.0	5.5	0.1	0.0	0.0	0.0	0.0	85.2
(3)	Farm Headgate Delivery	1.4	93.3	214.7	187.5	129.3	89.8	49.1	1.2	0.0	0.0	0.0	0.0	766.4
(4)	Depletion	0.4	35.2	68.3	67.1	51.5	28.5	6.8	0.0	0.0	0.0	0.0	0.0	257.8
(5)	Surface Return Flow	0.6	34.9	87.9	72.2	46.7	36.8	25.4	0.7	0.0	0.0	0.0	0.0	305.1
(6)	Deep Percolation	0.4	23.3	58.6	48.2	31.1	24.5	16.9	0.5	0.0	0.0	0.0	0.0	203.4

Notes:

- (1) Equal to the 1974 - 2010 average river headgate diversions (based upon CDSS database, limited to in-priority diversions) multiplied by 18.75%. The Western Rivers Conservancy owns 1.5 of 8 shares in the McKinley Ditch.
- (2) Ditch loss is assumed to equal 10% of the total ditch diversion.
- (3) Farm headgate delivery equal to (1) - (2).
- (4) Average historical consumptive use (HCU) is based upon a modified Blaney-Criddle analysis completed using the StateCU
- (5) Equal to (3) - (4) multiplied by 60% (surface return flow assumed to equal 60% of total return flow).
- (6) Equal to (3) - (4) multiplied by 40% (ground water return flow assumed to equal 40% of total return flow).

**Table 2**  
**Colorado Water Trust**  
**McKinley Ditch Shepardson Shares Temporary Lease Program**  
**Dry Year Historical Consumptive Use Analysis of Shepardson Shares (2002)**  
(all values in ac-ft)

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
(1)	Total Avg. Historical Diversions	0.0	140.3	128.3	82.4	82.7	66.1	35.1	0.0	0.0	0.0	0.0	0.0	535.1
(2)	Ditch Loss (10%)	0.0	14.0	12.8	8.2	8.3	6.6	3.5	0.0	0.0	0.0	0.0	0.0	53.5
(3)	Farm Headgate Delivery	0.0	126.3	115.5	74.2	74.5	59.5	31.6	0.0	0.0	0.0	0.0	0.0	481.5
(4)	Depletion	0.0	30.5	36.4	40.3	24.6	4.8	17.4	0.0	0.0	0.0	0.0	0.0	153.9
(5)	Surface Return Flow	0.0	57.4	47.4	20.4	29.9	32.8	8.5	0.0	0.0	0.0	0.0	0.0	196.6
(6)	Deep Percolation	0.0	38.3	31.6	13.6	20.0	21.9	5.7	0.0	0.0	0.0	0.0	0.0	131.0

Notes:

- (1) Equal to the 2002 river headgate diversions (based upon CDSS database, limited to in-priority diversions) multiplied by 18.75%. The Western Rivers Conservancy owns 1.5 of 8 shares in the McKinley Ditch.
- (2) Ditch loss is assumed to equal 10% of the total ditch diversion.
- (3) Farm headgate delivery equal to (1) - (2).
- (4) Average historical consumptive use (HCU) is based upon a modified Blaney-Criddle analysis completed using the StateCU Model.
- (5) Equal to (3) - (4) multiplied by 60% (surface return flow assumed to equal 60% of total return flow).
- (6) Equal to (3) - (4) multiplied by 40% (ground water return flow assumed to equal 40% of total return flow).

**Table 3**  
**Colorado Water Trust**  
**McKinley Ditch Temporary Lease Program for Shepardson Shares**  
**Average Year Operations for Split-Season Lease**  
(all values in ac-ft)

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
(1)	McKinley Ditch Diversion Available for Irrigation	1.6	103.7	238.6	208.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	552.1
(2)	McKinley Ditch Diversion Available for ISF	0.0	0.0	0.0	0.0	143.7	99.8	54.6	1.3	0.0	0.0	0.0	0.0	299.4
(3)	Total Diversions	1.6	103.7	238.6	208.3	143.7	99.8	54.6	1.3	0.0	0.0	0.0	0.0	851.5
(4)	Ditch Loss (10%)	0.2	10.4	23.9	20.8	14.4	10.0	5.5	0.1	0.0	0.0	0.0	0.0	85.2
(5)	Farm Headgate Delivery	1.4	93.3	214.7	187.5	129.3	89.8	49.1	1.2	0.0	0.0	0.0	0.0	766.4
(6)	Depletion	0.4	35.2	68.3	67.1	51.5	28.5	6.8	0.0	0.0	0.0	0.0	0.0	257.8
(7)	Surface Return Flow	0.6	34.9	87.9	72.2	46.7	36.8	25.4	0.7	0.0	0.0	0.0	0.0	305.1
(8)	Deep Percolation	0.4	23.3	58.6	48.2	31.1	24.5	16.9	0.5	0.0	0.0	0.0	0.0	203.4
Lagged Deep Percolation														
(9)	Lagged Deep Percolation					1.0	5.4	8.1	8.5	6.9	5.7	4.8	4.2	44.5
2013 Temporary Lease Operation														
(10)	Water Left in River	-	-	-	-	129.3	89.8	49.1	1.2	0.0	0.0	0.0	0.0	269.4
(11)	Diversion at McKinley Ditch	-	-	-	-	14.4	10.0	5.5	0.1	0.0	0.0	0.0	0.0	29.9
(12)	Total	-	-	-	-	143.7	99.8	54.6	1.3	0.0	0.0	0.0	0.0	299.4
	Total (cfs)	-	-	-	-	2.3	1.7	0.9	0.0	0.0	0.0	0.0	0.0	
(13)	Net Depletion	-	-	-	-	81.63	47.65	15.67	-8.06	-6.94	-5.65	-4.80	-4.15	115.4
	Net Depletion (cfs)	-	-	-	-	1.33	0.80	0.25	-0.14	-0.11	-0.09	-0.09	-0.07	
(14)	% of CWCB 16 cfs ISF water right								0.85%	0.71%	0.57%	0.54%	0.42%	

**Notes:**

- (1) Equal to the 1974 - 2010 average river headgate diversions (based upon CDSS database) multiplied by 18.75% from April to July. The Western Rivers Conservancy owns 1.5 of 8 shares in the McKinley Ditch.
- (2) Equal to the 1974 - 2010 average river headgate diversions (based upon CDSS database) multiplied by 18.75% from August to March. The Western Rivers Conservancy owns 1.5 of 8 shares in the McKinley Ditch. owns 1.5 of 8 shares in the McKinley Ditch.
- (3) Total diversions equal to (1) + (2).
- (4) Ditch loss is assumed to equal 10% of the total ditch diversion.
- (5) Farm headgate delivery equal to (3) - (4).
- (6) Average historical consumptive use (HCU) is based upon a modified Blaney-Criddle analysis completed using the StateCU Model.
- (7) Equal to (5) - (6) multiplied by 60% (surface return flow assumed to equal 60% of total return flow).
- (8) Equal to (5) - (6) multiplied by 40% groundwater return flow assumed to equal 40% of total return flow).
- (9) Lagged ground equal the deep percolation values (8) lagged according to the Glover analysis. (Glover parameters: X = 1,950 feet, W = 3,600 feet, T = 35,000 gpd/ft, S = 0.2)
- (10) Water left in the Little Cimarron River equal to the farm headgate delivery (5).
- (11) Diversion at McKinley Ditch equal to the historical ditch loss (4).
- (12) Equal to (10) + (11).
- (13) Net depletion equals increase in streamflow compared to historical operations in CWCB instream flow reach (5) - (7) - (9).
- (14) Net depletion percent of CWCB instream flow water right (13) / 16cfs.

**Table 4**  
**Colorado Water Trust**  
**McKinley Ditch Temporary Lease Program for Shepardson Shares**  
**Dry Year Operations for Split-Season Lease**  
(all values in ac-ft)

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
(1)	McKinley Ditch Diversion Available for Irrigation	0.0	140.3	128.3	82.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	351.1
(2)	McKinley Ditch Diversion Available for ISF	0.0	0.0	0.0	0.0	82.7	66.1	35.1	0.0	0.0	0.0	0.0	0.0	184.0
(3)	Total Diversions	0.0	140.3	128.3	82.4	82.7	66.1	35.1	0.0	0.0	0.0	0.0	0.0	535.1
(4)	Ditch Loss (10%)	0.0	14.0	12.8	8.2	8.3	6.6	3.5	0.0	0.0	0.0	0.0	0.0	53.5
(5)	Farm Headgate Delivery	0.0	126.3	115.5	74.2	74.5	59.5	31.6	0.0	0.0	0.0	0.0	0.0	481.5
(6)	Depletion	0.0	30.5	36.4	40.3	24.6	4.8	17.4	0.0	0.0	0.0	0.0	0.0	153.9
(7)	Surface Return Flow	0.0	57.4	47.4	20.4	29.9	32.8	8.5	0.0	0.0	0.0	0.0	0.0	196.6
(8)	Deep Percolation	0.0	38.3	31.6	13.6	20.0	21.9	5.7	0.0	0.0	0.0	0.0	0.0	131.0
Lagged Deep Percolation														
(9)	Lagged Deep Percolation					0.6	3.7	5.9	5.5	4.4	3.6	3.1	2.7	29.4
2013 Temporary Lease Operation														
(10)	Water Left in River	-	-	-	-	74.5	59.5	31.6	0.0	0.0	0.0	0.0	0.0	165.6
(11)	Diversion at McKinley Ditch	-	-	-	-	8.3	6.6	3.5	0.0	0.0	0.0	0.0	0.0	18.4
(12)	Total	-	-	-	-	82.7	66.1	35.1	0.0	0.0	0.0	0.0	0.0	184.0
	Total (cfs)	-	-	-	-	1.3	1.1	0.6	0.0	0.0	0.0	0.0	0.0	
(13)	Net Depletion	-	-	-	-	43.88	23.01	17.16	-5.48	-4.35	-3.58	-3.06	-2.65	64.9
	Net Depletion (cfs)	-	-	-	-	0.71	0.39	0.28	-0.09	-0.07	-0.06	-0.06	-0.04	
(14)	% of CWCB 16 cfs ISF water right								0.58%	0.44%	0.36%	0.34%	0.27%	

**Notes:**

- (1) Equal to the 2002 river headgate diversions (based upon CDSS database) multiplied by 18.75% from April to July.  
The Western Rivers Conservancy owns 1.5 of 8 shares in the McKinley Ditch. owns 1.5 of 8 shares in the McKinley Ditch.
- (2) Equal to the 2002 river headgate diversions (based upon CDSS database) multiplied by 18.75% from August to March.  
The Western Rivers Conservancy owns 1.5 of 8 shares in the McKinley Ditch. owns 1.5 of 8 shares in the McKinley Ditch.
- (3) Total diversions equal to (1) + (2).
- (4) Ditch loss is assumed to equal 10% of the total ditch diversion.
- (5) Farm headgate delivery equal to (3) - (4).
- (6) Average historical consumptive use (HCU) is based upon a modified Blaney-Criddle analysis completed using the StateCU Model.
- (7) Equal to (5) - (6) multiplied by 60% (surface return flow assumed to equal 60% of total return flow).
- (8) Equal to (5) - (6) multiplied by 40% groundwater return flow assumed to equal 40% of total return flow).
- (9) Lagged ground equal the deep percolation values (8) lagged according to the Glover analysis.  
(Glover parameters: X = 1,950 feet, W = 3,600 feet, T = 35,000 gpd/ft, S = 0.2)
- (10) Water left in the Little Cimarron River equal to the farm headgate delivery (5).
- (11) Diversion at McKinley Ditch equal to the historical ditch loss (4).
- (12) Equal to (10) + (11).
- (13) Net depletion equals increase in streamflow compared to historical operations in CWCB instream flow reach (5) - (7) - (9).
- (14) Net depletion percent of CWCB instream flow water right (13) / 16cfs.



**Table 5**  
**Colorado Water Trust**  
**McKinley Ditch Temporary Lease Program for Shepardson Shares**  
**Lagged Deep Percolation**  
(all values in ac-ft unless otherwise noted)

<i>Month</i>	<i>Average Year Deep Percolation</i>	<i>Average Year Lagged Deep Percolation</i>	<i>Cumulative Percent of Average Lagged Deep Percolation</i>	<i>Average Year Lagged Deep Percolation</i>	<i>Cumulative Percent of Average Lagged Deep Percolation</i>	<i>Dry Year Deep Percolation</i>	<i>Dry Year Lagged Deep Percolation</i>	<i>Cumulative Percent of Dry Year Lagged Deep Percolation</i>	<i>Dry Year Lagged Deep Percolation</i>	<i>Cumulative Percent of Dry Year Lagged Deep Percolation</i>
Aug-13	31.1	1.0	1%	1.1	1%	20	0.6	1%	0.7	1%
Sep-13	24.5	5.4	9%	5.7	9%	21.9	3.7	9%	3.8	10%
Oct-13	16.9	8.1	20%	8.5	21%	5.7	5.9	22%	6.2	23%
Nov-13	0.5	8.5	31%	9.0	33%	0	5.5	33%	5.8	35%
Dec-13	0	6.9	41%	7.3	43%	0	4.4	42%	4.6	44%
Jan-14	0	5.7	49%	5.9	51%	0	3.6	50%	3.8	52%
Feb-14	0	4.8	55%	5.0	58%	0	3.1	56%	3.2	59%
Mar-14	0	4.2	61%	4.4	64%	0	2.7	62%	2.8	65%
Apr-14	0	3.6	66%	3.8	69%	0	2.3	67%	2.4	70%
May-14	0	3.2	70%	3.3	74%	0	2.0	71%	2.1	74%
Jun-14	0	2.8	74%	2.9	78%	0	1.8	74%	1.8	78%
Jul-14	0	2.4	77%	2.5	81%	0	1.5	78%	1.6	82%
Aug-14	0	2.1	80%	2.2	84%	0	1.3	81%	1.4	85%
Sep-14	0	1.8	83%	1.9	87%	0	1.2	83%	1.2	87%
Oct-14	0	1.6	85%	1.7	89%	0	1.0	85%	1.1	89%
Nov-14	0	1.4	87%	1.5	91%	0	0.9	87%	0.9	91%
Dec-14	0	1.2	88%	1.3	93%	0	0.8	89%	0.8	93%
Jan-15	0	1.1	90%	1.1	95%	0	0.7	90%	0.7	95%
Feb-15	0	0.9	91%	1.0	96%	0	0.6	91%	0.6	96%
Mar-15	0	0.8	92%	0.9	97%	0	0.5	92%	0.5	97%
Apr-15	0	0.7	93%	0.7	98%	0	0.5	93%	0.5	98%
May-15	0	0.6	94%	0.7	99%	0	0.4	94%	0.4	99%
Jun-15	0	0.5	95%	0.6	100%	0	0.3	95%	0.4	100%

<b>Year 1 Summary</b>		<i>Total Lagged Ave Year Deep Perc</i>	<i>Dry-up Needed to cover Lagged Deep Perc (acres)</i>				<i>Total Lagged Dry Year Deep Perc</i>	<i>Dry-up Needed to cover Lagged Deep Perc (acres)</i>
Irrigation Season Total (Aug-Oct)		15.2	-				10.7	-
Non-Irrigation Season Total (Nov-Mar)		31.6					20.1	
<b>Year 2 Summary</b>		<i>Total Lagged Ave Year Deep Perc</i>	<i>Dry-up Needed to cover Lagged Deep Perc (acres)</i>				<i>Total Lagged Dry Year Deep Perc</i>	<i>Dry-up Needed to cover Lagged Deep Perc (acres)</i>
Irrigation Season Total (Apr-Oct)		18.3	17				11.7	11
Non-Irrigation Season Total (Nov-Mar)		5.7					3.6	
<b>Year 3 Summary</b>		<i>Total Lagged Ave Year Deep Perc</i>	<i>Dry-up Needed to cover Lagged Deep Perc (acres)</i>				<i>Total Lagged Dry Year Deep Perc</i>	<i>Dry-up Needed to cover Lagged Deep Perc (acres)</i>
Irrigation Season Total (Apr-Jun)		2.0	1				1.3	1
Non-Irrigation Season Total (Nov-Mar)		-					-	

Note:

The lagged deep percolation obligations are wrapped into 23 months, as the lagging as reached 95% by that time, to limit future obligations to the following 2 years.

The acreage needed to be dried up equals the total year 2 or year 3 lagged deep percolation divided by the total average historical consumptive use (258 acre-feet) multiplied by the total historically irrigated acreage (177.6 acres).

Lagging based on the following aquifer parameters: T = 35,000 gpd/ft; X = 1,950 ft; W = 3,600 ft; S = 0.20.

**ATTACHMENT 5**  
**CWT OFFER LETTER TO CWCB**



COLORADO WATER TRUST

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July 29, 2013

James Eklund, Director  
Colorado Water Conservation Board  
1313 Sherman Street, Room 721  
Denver, Colorado 80203

Dear Mr. Eklund,

As you know, the Colorado Water Trust ("CWT") is a non-profit organization that acquires water rights from willing parties in order to place those water rights in Colorado's Instream Flow Program. CWT is pleased to offer to the Colorado Water Conservation Board ("CWCB") a Temporary Loan of a water right pursuant to C.R.S. 37-83-105. This water right is decreed to the McKinley Ditch, which diverts from the Little Cimarron River, a tributary to the Cimarron River and the Gunnison River, in Montrose County. CWT has worked with CWCB staff on this project, and believes this Temporary Loan will benefit the CWCB's instream flow water right on the Cimarron River. CWT is requesting CWCB staff initiate the process described in ISF Rule 6k. for reviewing and approving Temporary Loans of Water to the Board.

CWT has entered into a lease agreement with Western Rivers Conservancy to use in the Instream Flow Program 18.75% of the water diverted by the McKinley Ditch, up to approximately 5.81 cfs. This Temporary Loan will bolster the existing junior instream flow right held by CWCB on the Cimarron River between the confluence of the Little Cimarron River and the confluence with the Gunnison River, and will help preserve the natural environment in a second year of record low flows. Once CWCB has completed its use for instream flows in the Cimarron River, the leased water will remain in the Gunnison River for subsequent consumptive use by downstream water rights.

We look forward to working with the CWCB to complete this transaction as well as other short-term leases to sustain instream flows in this extremely dry year.

Sincerely,

Amy W. Beatie  
Executive Director

Enclosures (4): Agreement, Offer Summary, Map, Check for \$100 for Division Engineer's filing fee

**ATTACHMENT 6**  
**CWCB LETTER TO CWT AND WRC**

# STATE OF COLORADO

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## Colorado Water Conservation Board

### Department of Natural Resources

1313 Sherman Street, Room 721  
Denver, Colorado 80203  
Phone: (303) 866-3441  
Fax: (303) 866-4474  
[www.cwcb.state.co.us](http://www.cwcb.state.co.us)



July 29, 2013

Amy W. Beatie, Executive Director  
Colorado Water Trust  
1420 Ogden Street, Suite A2  
Denver, CO 80218

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John W. Hickenlooper  
Governor

Mike King  
DNR Executive Director

James Eklund  
CWCB Director

Western Rivers Conservancy  
71 SW Oak Street, Suite 100  
Portland, OR 97204  
Attn: Sue Doroff

RE: Temporary Lease Offer on the Cimarron River (Water Division 4)

Dear Ms. Beatie and Ms. Doroff:

The CWCB staff has reviewed the July 29, 2013 offer from the Colorado Water Trust and Western Rivers Conservancy of a temporary lease of water rights associated with the McKinley Ditch for instream flow use on the Cimarron River in Water Division 4. Based upon that review, we believe that the proposed lease would benefit the CWCB's instream flow water right on the Cimarron River. I have directed the CWCB staff to coordinate with the Colorado Water Trust on preparing and submitting the necessary documentation to the State and Division Engineers to obtain approval of the lease, and on providing the statutorily required public notice of the proposed lease. Thank you for working with the CWCB to protect Colorado's streams.

Sincerely,

A handwritten signature in black ink, appearing to read "James Eklund", written over a horizontal line.

James Eklund, Director  
Colorado Water Conservation Board