



# ECONOMIC AND FISCAL EFFECTS OF THE RUBY MOUNTAIN SPRINGS OPERATIONS (RMSO) IN CHAFFEE COUNTY

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# INTRODUCTION

- BBC is probably the oldest continuously operated economic research & consulting firm in the Rocky Mountain Region (founded in Denver in 1970)
- I am a BBC Managing Director, leading the water and natural resource economics practice (29 years at BBC)
- I am also a Chaffee County resident, though I spend time in Denver as well

# WHAT IS OUR ROLE HERE?

- BBC was retained by BTB in December 2020 to:
  - Analyze the benefits and costs of the RMSO to Chaffee County in parallel with the County's study by HE
  - Review and evaluate the HE report
  - Provide our findings to the County

# EXECUTIVE SUMMARY OF OUR FINDINGS

- We appreciate the work that the County and HE have put into evaluating this permit renewal
- There are **many areas where our findings are consistent** with those of HE
- There are **a few areas where we differ, but those differences are important**

# EXECUTIVE SUMMARY, CONT'D

Chaffee County 1041 Regulations, 3-303(1)(k)(vi):

*“The benefits accruing to the County and its citizens from the Project outweigh the losses and any natural, agricultural or recreational resources within the County or the losses of opportunities to develop such resources.”*

- We will show that **the County will be better off by renewing the RMSO permit** than it would be if it does not

# KEY AREAS OF AGREEMENT

- The RMSO has made at least \$8.5M in local expenditures since 2010 – HE, page II-6
  - We count over \$11M including all “local” drivers and 2010-2012 driver wages not included in HE report (see Appendix Tables 3 and 4)
- The RMSO has provided about \$600K in funding to local non-profits, with emphasis on BV and Salida schools – HE, page II-7
  - along with an ongoing funding stream from NWNA endowments
- *“These expenditures resulted in employment opportunities, raised personal income, and increased sales for goods and services in Chaffee County.”* – HE page II-7

# AREAS OF AGREEMENT, CONT'D

Regarding the RMSO's effects on tourism and recreation in Chaffee County:

- *"The Nwana presence has impacted fishing in a positive way"*  
– HE page VIII-6
- *"the rafting community is generally supportive of Nwana operations"*  
– HE page VIII-6
- *"The impacts of Nwana facilities on recreation and tourism have been minor but positive."* – HE page VIII-6
- *"the facilities are not a blight on tourism and most people do not even know the facilities pump water out of the Arkansas River."*  
– HE page VIII-5, citing Trout Unlimited

# AREAS OF AGREEMENT, CONT'D

Other effects of the RMSO on Chaffee County:

- [NWNNA'S payments to UAWCD] *"allow UAWCD to play a larger role in its mission to provide water resources to meet present and future demands in its service area ..."* – HE page IV-2
- *"It is not possible to connect water pumped from the Arkansas River to plastic bottles in the Chaffee County Landfill"* – HE page VI-6  
(Discussed further on next slide)
- *"NWNNA was described [by CCEDC and CMSBDC] as "a good partner to the County and an asset to the community."* – HE page VII-5



# WHAT ABOUT CHAFFEE LANDFILL AND RECYCLING ISSUES?

- Disposal of recyclable materials into the landfill and the low rate of recycling in Chaffee County are legitimate concerns
- Ending the RMSO permit would not help with that issue. Bottled water sales are limited by demand – not by supply
- But BTB has resources which can continue to assist in efforts such as:
  - Promoting public awareness and encouraging recycling through social marketing programs
  - Contributing to Chaffee infrastructure improvements to make it easier for residents and visitors to recycle

# WHERE WE DISAGREE

HE argues we should ignore the past benefits of the RMSO to Chaffee County and focus on HE's forecasts based on just two years of data  
– HE page 1-2

- All forecasts are wrong!
- This time, we have the benefit of experience to tell us what kind of corporate citizen the RMSO will be
- Some of the RMSO's past contributions – including the school support endowments, the fishing easements and the conservation easement – will continue to provide benefits to Chaffee County for many years to come

# WHERE WE DISAGREE, CONT'D

Despite noting that Chaffee's towns and UAWCD have more than enough water for the next 10 years (and well beyond for UAWCD), HE tries to argue there is an **opportunity cost** to the RMSO's water use

What is an Opportunity Cost?

*"The true cost of something is what you give up to get it. This includes not only the money spent in buying (or doing) the something, but also the economic benefits (UTILITY) that you did without because you bought (or did) that particular something and thus can no longer buy (or do) something else."*

- "Economics A-Z Terms" - *The Economist Magazine*.  
<https://www.economist.com/economics-a-to-z/o#node-21529616>

# WHERE WE DISAGREE, CONT'D

Chaffee County is **not giving up anything** by allowing the RMSO to continue withdrawing water **for at least the next 10 years**

- HE acknowledges there is enough water available to meet Chaffee County needs for at least the next 10 years and *“probably much longer”* – HE page IX-14
- *“there is sufficient margin [from UAWCD’s supplies] to meet Chaffee County’s projected demands through 2030 and probably through 2050”*  
-- HE page IX-13

At this time– and for well beyond the next 10 years – **there is no opportunity cost to Chaffee County from the RMSO’s water use**

**HE’s reported \$1.3 million “cost” is fundamentally wrong**

# WHERE WE DISAGREE, CONT'D

This important error in the HE analysis is further illustrated by the **inconsistency of HE's evaluation of RMSO's land and water resources**. HE correctly recognized that **scarcity determines opportunity cost** in evaluating BTB's **land resources**:

- “For example, as many as 30 or more homes could be build on these lands, bringing construction jobs and income and later sales tax and property tax to local governments” – HE page VIII-2
- “**Assuming land was available**, that growth could also occur elsewhere in Chaffee County, **so there might be no loss of benefits.**”  
– HE page VIII-2

Bottom line: **Neither the RMSO's land use or water use is “crowding out” other development, so there is no opportunity cost from either use at this time**

An aerial photograph of a mountainous landscape. In the foreground, a dirt road winds through a dry, grassy field. A small yellow building is visible on the left. A river flows through the middle ground, surrounded by dense green trees. In the background, a large, rounded mountain peak is covered in sparse vegetation. Further back, a range of mountains is visible under a clear blue sky.

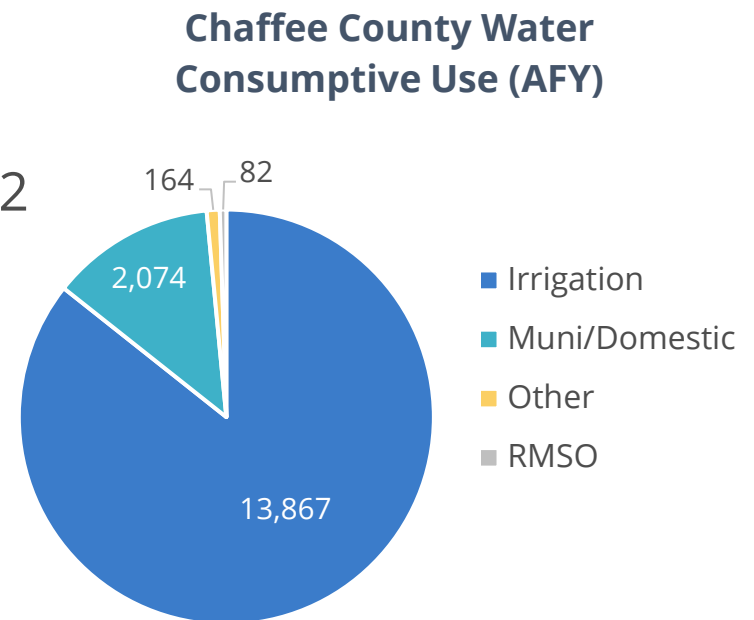
PUTTING THE RMSO'S  
WATER USE IN PERSPECTIVE

# HOW MUCH WATER DOES THE RMSO REALLY USE?

Since 2009, the RMSO has used an average of 115 acre-feet/year

With the development of on-demand pumping, RMSO's use has dropped to 82 acre-feet/year (2015 through 2020)

Chaffee County consumes almost 16,200 acre-feet/year\*, RMSO's use is about 0.5 percent of the total



\*The HE report mistakenly reports agricultural water use in Chaffee County as 123,000 AF (page IX-7 and IX-11). The Colorado Water Plan, National Agricultural Statistics Service and USGS all report 10,000 to 15,000 irrigated acres and less than 14,000 AF of annual consumptive use.



**OTHER ECONOMIC BENEFITS  
FROM THE RMSO**



# BTB IS THE TYPE OF BUSINESS THE CENTRAL COLORADO ENTERPRISE ZONE IS LOOKING FOR

## **Northern Chaffee County, including the RMSO facilities are in the Central Colorado Enterprise Zone**

The RMSO is exactly the type of business targeted by the Zone Administrator for local economic development\*

- Much greater than average wages help raise per capita income
- Year round employment
- Primary jobs
- Increased non-residential property valuation

# BTB'S CONSERVATION EASEMENTS WILL OFFER LASTING VALUE TO THE COUNTY AND STATE

## **CPW is expected to approve conservation easements on the RMSO properties in 2021 (124 acres)**

- Research by the Trust for Public Lands established that the 1.41 million Colorado acres placed in conservation easements through 2008 had produced \$3.52 billion in public benefits\*
- On average, each acre returns about \$2,500 in benefits from ecosystem services such as recreation, wildlife habitat, etc.\*
- Applying these averages to the RMSO conservation easement, the easement will produce a minimum of \$310,000 in economic benefits
- Given the RMSO properties' location near mouth of Browns Canyon and their important habitat, their economic value is probably much greater than average

\*A Return on Investment: The Economic Value of Colorado's Conservation Easements. The Trust for Public Lands, 2010.

# BOTTOM LINE: WHAT RENEWING THE RMSO PERMIT DOES FOR CHAFFEE CO.

- Supports 6 to 10 direct, high-paying local\* jobs
- Maintains about \$275,000 per year in non-payroll spending with local contractors and vendors
- Provides at least \$20,000 per year in property taxes
- Supports local schools and non-profit organizations with tens of thousands of dollars per year
- **Increases annual Chaffee County economic output by more than \$1 million per year with minimal costs to the County**

\*As defined in the RMSO permit.

# BENEFIT – COST COMPARISONS: BBC AND HARVEY ECONOMICS

Benefits			Costs		
	BBC	Harvey Economics		BBC	Harvey Economics
<u>Direct Benefits</u>			<u>Direct Costs</u>		
Employment	6 to 10	4	Routine Public Services*	\$25,000	Not Reported
Earnings	\$542,290	\$390,131			
Output	\$907,713	\$764,049	Specialized Services to Manage Permit	\$6,114	Not Reported
<u>Total Benefits</u>			<u>Opportunity Costs</u>		
Employment	14	10	Land	\$0	\$0
Earnings	\$986,051	\$709,379	Water	<u>\$0</u>	<u>\$1,312,000</u>
Output	\$1,286,904	\$1,083,226			
Value-Added*	\$697,730	\$587,300	Total Cost	\$31,114	\$1,312,000

Notes:

\*Estimated based on BTB share of total county employment and \$35 million County budget in 2020.

BBC direct benefits include all local drivers (as defined in permit), Include BV-resident facility manager (approximate wage) and other local expenditures based on 2011-2020 annual averages. Benefits do not include future benefits from conservation easement.

Total benefit estimates use multipliers provided by Harvey Economics.

# CONCLUSION

- The RMSO has small but positive effects on Chaffee County recreation and tourism
- Based on either BBC's or HE's analysis, **the RMSO produces between \$1.1 million and \$1.3 million** in annual Chaffee County economic output
- With **no actual opportunity cost** to RMSO's short-term water leases, **the cost of the RMSO operation** to Chaffee County is **around \$30,000 per year** – which is **offset** by property taxes and direct reimbursement of County costs
- There is a **clear net economic benefit** from RMSO. The economic **benefits and costs of RMSO are not “roughly similar”** as stated at the end of the HE report

# APPENDICES

- RMSO reimbursement of direct County costs
- RMSO charitable giving in Chaffee County
- RMSO local spending in Chaffee County
- RMSO local drivers and wages
- RMSO property taxes
- Chaffee County average wages

# APPENDIX TABLE 1 – RMSO REIMBURSEMENT OF CHAFFEE COUNTY COSTS

<b>Year</b>	<b>Costs Reimbursed</b>	<b>Ending Fund Balance</b>
2010	\$13,934	\$174,720
2011	\$1,524	\$173,431
2012	\$2,656	\$171,204
2013	\$8,154	\$163,324
2014	\$1,511	\$162,046
2015	\$6,261	\$156,109
2016	\$1,156	\$156,158
2017	\$0	\$158,364
2018	\$0	\$162,483
2019	\$0	\$167,543
2020	\$32,058	\$137,374
Totals	\$67,254	
Average	\$6,114	

Source: NWNA Annual Reports to Chaffee County.

# APPENDIX TABLE 2 – RMSO CHARITABLE GIVING IN CHAFFEE COUNTY

Year	Endowment Funded		Other		Other Organizations	Total	Bottles of Water	Estimated Water Dollar Value*
	BVCEAF	SOSS	BVCEAF	SOSS				
2010	\$12,500	\$12,500	\$28,300	\$21,500	\$9,975	\$84,775	1,454	\$499
2011	\$12,317	\$12,654	\$4,875	\$3,350	\$24,876	\$58,072	10,034	\$3,445
2012	\$12,030	\$13,272	\$280	\$6,886	\$10,308	\$42,776	11,400	\$3,914
2013	\$12,979	\$15,932	\$1,300	\$1,000	\$11,825	\$43,036	21,984	\$7,548
2014	\$13,534	\$16,570	\$1,000	\$1,000	\$12,450	\$44,554	11,860	\$4,072
2015	\$14,344	\$17,399	\$1,000	\$1,000	\$14,400	\$48,143	15,876	\$5,451
2016	\$13,971	\$16,768	\$1,000	\$1,000	\$12,450	\$45,189	11,856	\$4,070
2017	\$13,148	\$15,603	\$0	\$0	\$11,150	\$39,901	18,292	\$6,280
2018	\$13,808	\$16,208	\$0	\$0	\$9,500	\$39,516	10,592	\$3,636
2019**	\$14,081	\$0	\$0	\$0	\$21,100	\$35,181	3,840	\$1,318
<u>2020**</u>	<u>\$14,081</u>	<u>\$16,168</u>	<u>\$0</u>	<u>\$0</u>	<u>\$62,900</u>	<u>\$93,149</u>	<u>14,400</u>	<u>\$4,944</u>
Totals	\$146,793	\$153,074	\$37,755	\$35,736	\$200,934	\$574,292	131,588	\$45,177
Averages	\$13,345	\$13,916	\$3,432	\$3,249	\$18,267	\$52,208	11,963	\$4,107

Notes: \*Value per bottle of \$0.34 based on 2019 Annual Report.

\*\*Only water provided to Chaffee County entities included in table.

Source: NWNA Annual Reports to Chaffee County.



# APPENDIX TABLE 3 – RMSO LOCAL SPENDING IN CHAFFEE COUNTY, EXCLUDING PAYROLL

Year	Local Spending						Local Shares				
	Construction, Materials/Equip.	Professional Services	Local Operations	Total Excluding Utilities/Water	Utilities	UAWCD	Grand Total	Construction, Materials/Equip.	Professional Services	Total Excluding Utilities/Water	Total With Utilities/Water
2010	\$3,049,984	\$286,818	\$49,920	\$3,386,722	\$8,200		\$3,394,922	76%	20%	62%	62%
2011	\$62,322	\$108,616	\$71,250	\$242,188	\$30,190		\$272,378	55%	17%	30%	32%
2012	\$152,865	\$95,451	\$17,934	\$266,250	\$29,843		\$296,093	46%	28%	39%	41%
2013	\$7,499	\$106,794	\$11,465	\$125,758	\$27,453		\$153,211	10%	38%	34%	39%
2014	\$13,685	\$91,744	\$9,673	\$115,102	\$35,294	\$135,000	\$285,396	38%	42%	43%	66%
2015	\$8,941	\$144,077	\$7,331	\$160,349	\$29,099	\$150,000	\$339,448	15%	52%	46%	65%
2016	\$5,013	\$73,208	\$8,099	\$86,320	\$29,596	\$151,538	\$267,454	24%	32%	34%	61%
2017	\$21,278	\$62,861	\$10,033	\$94,172	\$26,381	\$156,276	\$276,829	53%	28%	34%	61%
2018	\$50,500	\$30,100	\$10,000	\$90,600	\$27,000	\$166,910	\$284,510	70%	13%	29%	56%
2019	\$40,227	\$37,100	\$9,800	\$87,127	\$29,900	\$152,174	\$269,201	37%	15%	24%	49%
2020	<u>\$12,000</u>	<u>\$71,300</u>	<u>\$31,700</u>	<u>\$115,000</u>	<u>\$20,200</u>	<u>\$152,174</u>	<u>\$287,374</u>	<u>21%</u>	<u>17%</u>	<u>23%</u>	<u>42%</u>
Totals	\$3,424,314	\$1,108,069	\$237,205	\$4,769,588	\$293,156	\$1,064,072	\$6,126,816	70%	25%	49%	56%
Avg. '10-20	\$311,301	\$100,734	\$21,564	\$433,599	\$26,651	\$152,010	\$556,983	70%	25%	49%	56%
Avg. '11-20	\$37,433	\$82,125	\$18,729	\$138,287	\$28,496	\$152,010	\$273,189	41%	27%	33%	49%

Source: NWA Annual Reports to Chaffee County.

# APPENDIX TABLE 4 – RMSO LOCAL DRIVERS AND WAGES IN CHAFFEE COUNTY

Year	<u>Drivers</u>		<u>Trips</u>		<u>Local Shares</u>		<u>Local</u>	<u>Annual per</u>	<u>Estimated</u>
	Local	Non-local	Local	Non-local	Drivers	Trips	Driver Wages	FTE Driver	Wage per Hour
2010*	5	5	74	45	50%	62%	\$21,133	\$4,227	\$35.70
2011*	7	5	1,243	849	58%	59%	\$354,981	\$50,712	\$35.70
2012*	10	8	2,113	1,419	56%	60%	\$603,439	\$60,344	\$35.70
2013	9	10	2,096	1,380	47%	60%	\$546,000	\$60,667	\$32.56
2014	17	16	1,712	1,541	52%	53%	\$514,023	\$30,237	\$37.53
2015	8	7	1,952	1,039	53%	65%	\$525,000	\$65,625	\$33.62
2016	9	4	2,089	1,066	69%	66%	\$518,058	\$57,562	\$31.00
2017	13	12	1,910	601	52%	76%	\$468,514	\$36,040	\$30.66
2018	11	15	1,599	1,671	42%	49%	\$417,557	\$37,960	\$32.64
2019	5	8	1,444	1,663	38%	46%	\$482,031	\$96,406	\$41.73
2020	5	7	1,080	1,691	42%	39%	\$493,296	\$98,659	\$57.09
Totals	99	97	17,312	12,965	51%	57%	\$4,944,033		
Averages (2011-2020)	9	9	1,724	1,292	51%	57%	\$492,290	\$52,371	\$36.82

Note: \*2010-2012 wages estimated based on average wage per local driver trip from 2014-2020.

Source: Nwana Annual Reports to Chaffee County.

# APPENDIX TABLE 5 – RMSO PROPERTY TAXES

<b>Year</b>	<b>Annual Property Tax Revenue</b>	<b>Tax Revenue Increment vs. 2011</b>
2010	\$2,592	
2011	\$4,770	
2012	\$40,000	\$35,230
2013	\$43,654	\$38,884
2014	\$45,513	\$40,743
2015	\$35,823	\$31,053
2016	\$33,550	\$28,780
2017	\$29,743	\$24,973
2018	\$30,985	\$26,215
2019	\$25,931	\$21,161
2020	\$20,000	\$15,230
Totals	\$305,199	\$262,269
2012-2020		
Averages	\$33,911	\$29,141
<i>Time period</i>	<i>2012-2020</i>	<i>2012-2020</i>

The tax revenue increment vs. 2011 shows the increase in RMSO property tax payments relative to the previous use of the properties.

Sources: NRNA Annual Reports to Chaffee County, and Chaffee County Assessor website.

# APPENDIX TABLE 6 – CHAFFEE COUNTY AVERAGE WAGES

Year	Earnings (\$000s)	Jobs	Average per Job
2010	\$302,754	10,484	\$28,878
2011	\$308,041	10,664	\$28,886
2012	\$324,054	10,907	\$29,711
2013	\$348,109	11,126	\$31,288
2014	\$379,172	11,485	\$33,015
2015	\$405,062	11,972	\$33,834
2016	\$437,583	12,462	\$35,113
2017	\$469,110	12,921	\$36,306
2018	\$516,539	13,332	\$38,744
2019	\$540,583	13,620	\$39,690
Average			
2011-2019	\$414,250	12,054	\$34,365

Source: Bureau of Economic Analysis, Regional Economic Information System