2012 ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES
TO MEET THE REQUIREMENTS OF THE INTEGRATED MANAGEMENT PLAN FOR THOSE PORTIONS OF THE TRI-BASIN NATURAL RESOURCES DISTRICT LOCATED WITHIN THE REPUBLICAN RIVER BASIN

I. INTRODUCTION

This report is intended to satisfy the Department of Natural Resources (Department) tracking and reporting requirements as described in the Monitoring and Studies Section of the integrated management plan (IMP) for those portions of the Tri-Basin Natural Resources District (TBNRD) located with the Republican River Basin. This is the first report to be filed following the adoption of the IMP in June 2012. The IMP requires that the Department track and report on the following items on an annual basis: a) any surface water permits issued; b) any dam safety permits issued; c) any groundwater transfer permits issued; d) reports of water diverted, and when available stored by surface water users; and e) the associated offsets for any new permits issued. This report covers activities which occurred between January 1, 2012, and December 31, 2012. Data from stream gages within the district will also be provided with this report along with calculations of streamflow depletions using the Republican River Compact Administration (RRCA) model.

The information contained in this report will assist in measuring the success of the IMP in meeting its goals and objectives.

II. ACTIVITIES TO BE REPORTED ANNUALLY

A. Summary

Items reported annually include permits that are issued by the Department and the amount of water diverted by surface water users. When a surface water or groundwater permit is reviewed, the Department assesses the potential for the permitted action to increase, decrease, or not affect water use. Existing surface water users have the right to divert water in accordance with their permit. The Department field office uses water use reports to verify that surface water users are following the conditions of their permits. During calendar year 2012 the Department issued no new permits in the Republican River Basin portion of the TBNRD and 115 acre-feet (af) of water were reported as diverted from natural flow for irrigation purposes. Details on diverted natural flow surface water are found in table 1.

B. Surface water permits

There were no new surface water permits issued for the Republican River portion of the TBNRD during the reporting period.

C. Dam Safety Permits

There were no dam safety permits issued for the Republican River portion of the TBNRD during the reporting period.

D. Groundwater Transfer Permits

There were no groundwater transfer permits involving the Department in the Republican River portion of the TBNRD during the reporting period.

E. Water Diverted and Stored by Surface Water Users

In 2012, 115 acre-feet of water was diverted from natural flow for irrigation purposes. Table 1 shows more detail on the surface water diversions in the Republican River Basin portion of TBNRD.

Table 1. 2012 Surface water diversions in the Republican River Basin portion of TBNRD

Appropriation Number	Acres	Diversion (af)	Diversion (inches)
A-9467	84.6	65.20	9.25
A-9872	39.9	34.38	10.34
A-2753	73.9	15.20	2.47
Total Diversion		114.78	22.06

The amount of water stored by surface water users was not measured in 2012; however, evaporation from small reservoirs (capacity to store 15 to 200 af) is estimated on an annual basis, to comply with the RRCA. Net evaporation is calculated by multiplying the average annual surface area of each small reservoir by the net evaporation measured the at the nearest United States Bureau of Reclamation reservoir climate and evaporation station. The average annual surface area of each small reservoir is estimated by delineating the features using the most recent Farm Service Agency aerial imagery.

F. Associated Offsets

Since no new permits were issued in 2012, no offsets were necessary.

G. Estimated Depletions

Since there were no new permits or offsets in 2012, there is no information to include on estimated depletions from permitted new or expanded water use or accretions from associated offsets.

III. STREAM GAGE DATA

The data for stream gages located on Muddy Creek at the Furnas-Gosper County line, Muddy Creek at Arapahoe, Turkey Creek at the Furnas-Gosper County line, and Turkey Creek at Edison from September 1, 2005, through June 25, 2013, can be found in Appendix 1. Note the data from October 1, 2010, through June 25, 2013, is considered provisional and may be subject to change upon further review.

IV. STREAMFLOW DEPLETION CALCULATIONS

This section of the report includes information on the calculated depletions to streamflow due to groundwater pumping within the TBNRD and the imported water credit. These calculations were done using historic TBNRD pump data, mound, and recharge data as inputs to the RRCA groundwater model. The calculations will be summarized into a rolling three-year average to assess the progress toward achieving a hydrologically balanced condition. Figure 2 shows 1) modeled annual values of streamflow depletion and mound accretions for calendar years 1981 through 2012, 2) trend lines for the pre-2009 modeled annual depletion and accretion data, and 3) projected trendline values for 2013 through 2020. The trendlines shown in this report are the same as those contained in figure 1 of the June 4, 2012, IMP. In accordance with the IMP this data will be used to assess the TBNRD's progress to meet the Goal A Objective 1 of the IMP.

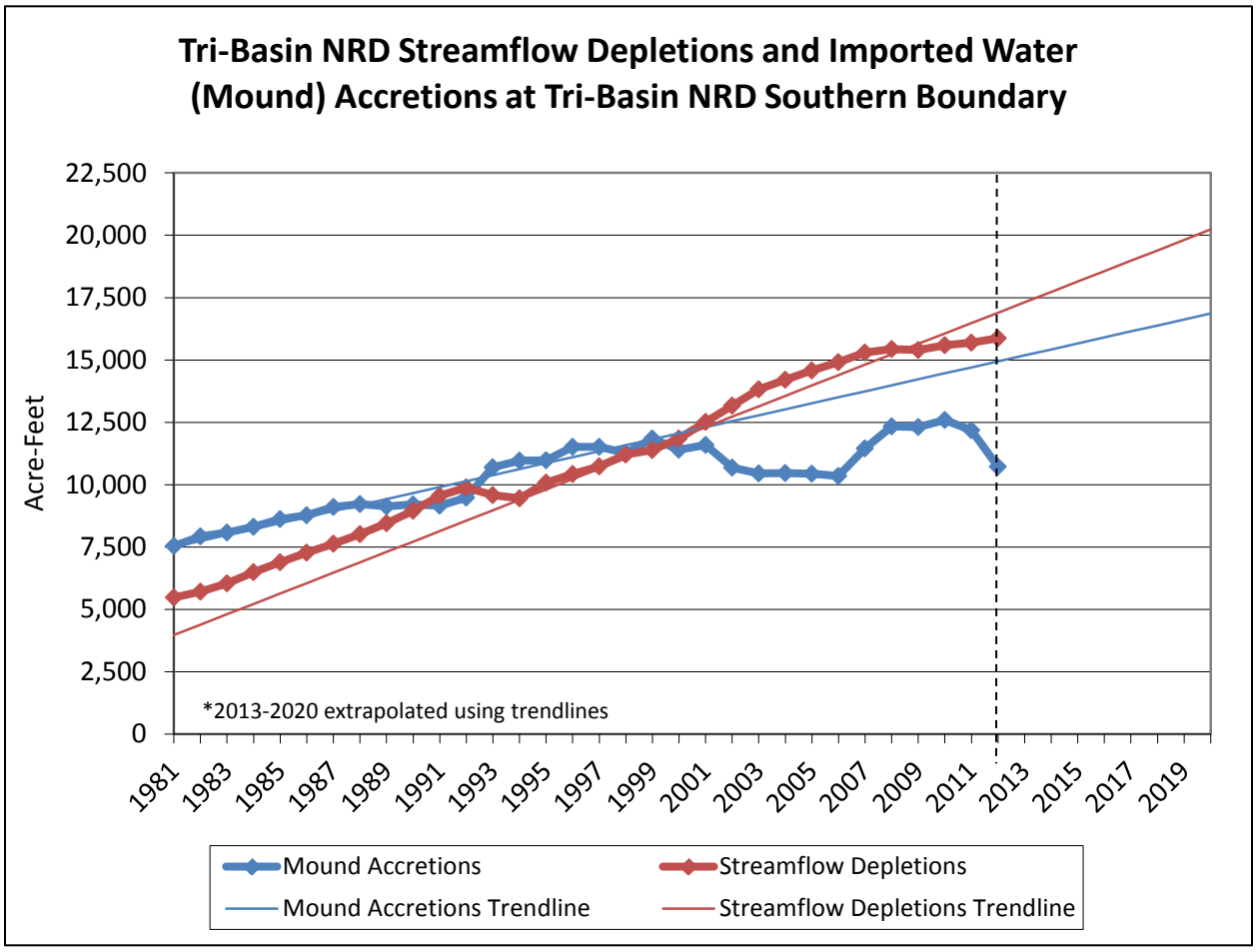

Figure 2. Streamflow depletions and mound accretions data and trendlines

APPENDIX 1

Pages A1-1 through A1-59

Stream gage data from 9/1/2005 through 9/30/2010

and provisional data from 10/1/2010 through 6/25/2013 for

Muddy Creek at Furnas-Gosper County Line

Muddy Creek at Arapahoe

Turkey Creek at Furnas-Gosper County Line

Turkey Creek at Edison

July 17, 2013