

A.1.10 Memorandums on NPNRD  
and SPNRD Ground Water Only  
Retirements

# Memo

**Adaptive Resources, Inc.**

To: John Berge, General Manager NPNRD, Rod L. Horn, General Manager SPNRD, and Platte Basin Water Project Coalition

From: Thad Kuntz, P.G.

CC:

Date: 12/3/2018

Re: Robust Review Project: NPNRD and SPNRD Ground Water Only Retirements

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**Introduction**

Adaptive Resources, Inc. (ARI) has compiled the retirements included in the baseline model run of the Western Water Use Management Modeling (WWUMM) for the Robust Review Project Analysis (RRPA). This memo summarizes information on permanent and temporary retirements incorporated in the land use datasets. The permanent retirements encompass those implemented by either the North Platte Natural Resources District (NPNRD) or South Platte Natural Resources District (SPNRD). The temporary retirements include those implemented through the CREP, CRP, and EQUIP federal programs within NPNRD.

**Retired Ground Water Only Lands**

The land use dataset created for the WWUMM incorporated ground water only lands that were either temporarily or permanently retired within NPNRD or SPNRD. In the land use dataset, irrigated land use retirements are simulated by removing the irrigated land encompassed by the retirement from the irrigated land use dataset. These lands are added to the dryland land use dataset where they are attributed with information such as crop type using the same process as other non-irrigated lands. For more information on how the WWUMM land use was created, refer to the SPNRD's website of Western Water Use Management Modeling Information ([Link](#)), Western Water Use Management Model Irrigated and Dryland Assessment by Leonard Rice Engineers, May 2012 ([Link](#)) and the Western Water Use Management Modeling Land Use Dataset Update through 2013, Memorandum to the Western Water Use Management Modeling Joint Board by Thad Kuntz P.G. and Heath Kuntz, April 2016 ([Link](#)).

The RRPA utilized the WWUMM ground water model as the initial model to construct the baseline model run which also simulates the irrigated land use retirements. Additionally, the commingled and surface water only retirements are also included in the WWUMM land use dataset, however, these retirements are not being analyzed in this phase of the RRPA.

Table 1 provides the annual and cumulative retired ground water only land information within NPNRD. Table 2 provides the cumulative permanent and temporary retired ground water only land information within NPNRD. Table 3 provides the annual and cumulative retired ground water only land information within SPNRD. In SPNRD, only permanent retirements have been completed. Map 1 and 2 show the locations of the retired ground water only lands within NPNRD and SPNRD, respectively.



# Memo

*Table 1: Annual and Cumulative Retired Ground Water Only Lands within NPNRD (Acres)*

Year	Annual Retired Acres	Cumulative Retired Acres
2002	42.5	42.5
2003	116.4	158.9
2004	61.6	220.4
2005	155.6	376.1
2006	872.2	1248.2
2007	479.1	1727.3
2008	238.6	1966.0
2009	-163.2	1802.8
2010	439.6	2242.4
2011	458.3	2700.7
2012	192.1	2892.8
2013	249.0	3141.9

*Table 2: Cumulative Permanent and Temporary Retired Ground Water Only Lands within NPNRD (Acres)*

Year	Permanent Acres	Temporary Acres	Total Acres
2002	0.0	42.5	42.5
2003	116.4	42.5	158.9
2004	116.4	104.1	220.4
2005	116.4	259.7	376.1
2006	611.5	636.8	1248.2
2007	949.7	777.6	1727.3
2008	1187.8	778.2	1966.0
2009	1216.5	586.2	1802.8
2010	1227.5	1014.9	2242.4
2011	1258.5	1442.2	2700.7
2012	1309.7	1583.2	2892.8
2013	1426.0	1715.8	3141.9

*Table 3: Annual and Cumulative Retired Ground Water Only Lands within SPNRD (Acres)*

Year	Annual Retired Acres	Cumulative Retired Acres
2007	585.1	585.1
2008	328.8	913.9
2009	138.9	1052.8
2010	176.1	1228.9
2011	59.6	1288.4
2012	99.0	1387.4
2013	0.0	1387.4



Map 1: Retired Ground Water Only Lands within NPNRD





