

## **1,100 acres enrolled in retirement program**

Written by Wauneta Breeze  
Thursday, 16 June 2011 21:18 -

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*NRD board hears report on water balance*

**By Russ Pankonin**

**The Imperial Republican**

Around 1,045 acres in areas of high stream flow depletion will be permanently retired in the Upper Republican Natural Resources District (URNRD).

A majority of the acres being retired rest near the main stem of the Republican River in Dundy County.

The URNRD joined forces with the Natural Resource and Conservation Service (NRCS) this spring to create a retirement program targeting high-depletion factor acres.

The program was funded by an Agriculture Water Enhancement Program (AWEP) grant to the Natural Resource and Conservation Service and occupation taxes collected by the URNRD.

The AWEP grant totalled about \$1 million this year, with approval for an additional \$3.48 million over the following four years. That amount could change significantly depending on federal budgeting.

This year, the URNRD budgeted \$1.75 million in occupation taxes to make \$2.75 million available for the program.

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The URNRD had about \$7 million in occupation taxes before spending \$5 million on land for an augmentation program set to begin next year.

During the URNRD's regular meeting last week, Nadine Bishop, a conservationist with NRCS, briefed the board on the application process.

She said they received 42 applications, which included 37 retirement applications and five for irrigation management and efficiency projects.

Those applications represented about 3,000 acres. She said they rated the applications, based on the water-saving benefit gained from retiring the respective acres and the amount of money available.

The NRD and NRCS devised a formula that accounted for the percentage of stream flow depletion and the price of corn to arrive at a per-acre payment to the irrigator for permanently retiring the ground.

The higher the stream flow depletion, the higher the payment.

Bishop said 110 acres in high depletion areas could not be considered because it did not meet AWEF guidelines.

The URNRD board voted last week to cover the loss of AWEF funds with occupation tax money to insure those acres got retired.

URNRD Manager Jasper Fanning said the move was necessary to keep from losing 500-600 high-depletion acres owned by the same owners as the affected 100 acres.

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Board President Terry Martin said it would have been “a shame” to loose the 500-600 acres of high-depletion land for those 100 acres.

Fanning said it increased the cost to the district by about \$65,600 but resulted in keeping those other acres in the retirement program.

He added the NRD was still about \$200,000 under the \$1.75 million budgeted for the retirement program this year.

### **Water balance study**

Engineers with Brown and Caldwell and H2Options Engineering, LLC were present to present preliminary findings of a water balance study conducted in the Republican River Basin.

The study was a joint effort of the four NRDs in the basin.

Last week's reported focused solely on the URNRD.

Engineer Matt Lindburg said the study looked at all water uses in the district, not just irrigation.

The study looked at the various land uses, the consumption of precipitation by the various land uses and the supplemental water provided by irrigation.

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The bulk of the study looked at a period from 1955-2005.

Lindburg said the average precipitation for that period is 19 inches.

He said the balance of water in a basin is measured by including all of the inflows, such as precipitation, surface flows and subsurface inflows, less outflows and changes in groundwater and surface water storage.

Outflows include consumption by dryland and irrigated land water uses, surface water and groundwater outflows.

They showed the URNRD has an annual amount of inflow totalling 2.9 million acre-feet (AF) of water. (An acre-foot of water will cover one acre of land with water 12 inches deep.)

Of this, 2.7 million AF comes in the form of precipitation.

Outflows in the district total 3.12 million AF, represented by 2.9 million AF in consumption.

Lindburg noted that of the 2.9 million AF of consumption, only about 13 percent is consumption from irrigation.

Consumption of precipitation by crops and native vegetation represent 87 percent of the consumptive use.

This includes 51 percent by range, pasture and grass; 19 percent by dryland crops and 13 percent by irrigated crops.

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The remainder is accounted for in wetlands, open water and riparian use.

Negative changes in groundwater and surface water total -351,000 AF, leaving a difference of 121,000 AF.

Fanning said this week the study provides good information for the board.

The study also showed the groundwater declines in the district.

Fanning said the district recognizes it's had groundwater declines over the past 30 years. However, the water balance study doesn't show how much impact these declines have had on stream flows or what steps to implement to offset it.