

CITY COUNCIL REPORT
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TO: Councilmember Evans

FROM: Erin Young, R.G., Water Resources Manager
Brad Hill, R.G., Utilities Director

CC: Jeff Meilbeck, Josh Copley, Jerene Watson, Leadership Team

SUBJECT: STATUS OF RED GAP RANCH

At the February 24, 2015 City Council Meeting, Councilmember Evans inquired about the status of water at Red Gap Ranch, specifically referencing the environmental impacts of pumping and its effects on springs and streams and water quality. There are three pieces to this report: 1) the status of three Red Gap Ranch environmental assessments (Biological & Cultural Surveys of the Red Gap Ranch property and a Groundwater Pumping Impact assessment,) 2) Arizona Department of Water Resources Designation of Adequate Water Supply, and 3) water quality.

Red Gap Ranch Environmental Assessments

The Bureau of Reclamation determined that the Red Gap Ranch project, as well as the proposed transmission pipeline to bring water from the project area to the City, is a major federal action requiring the disclosure of effects under the National Environmental Policy Act (NEPA). Therefore, the Utilities Division is conducting three (3) studies as the initial elements of an Environmental Impact Statement (EIS) for Red Gap Ranch. Utilities was successful in securing a \$300,000 grant from the U.S. Bureau of Reclamation (USBR) Rural Water Supply Program to conduct these studies. City Council accepted the grant on September 18, 2012.

Biological & Cultural Assessments

In February, 2014, WestLand Resources, Inc. (WestLand) completed a Biological Resources Evaluation and Cultural Resources Assessment at the City's 7,500 acres of property at Red Gap Ranch (Project Area). Both the Biological Resources Evaluation and the Cultural Assessment studies were designed to support the preparation of an Environmental Impact Statement (EIS) for the proposed development of the water supply for use by the City. Presently, it is anticipated that the development of the project infrastructure will involve some

federal permitting and oversight. The National Environmental Policy Act (NEPA) requires review and public disclosure of the potential effects of major federal actions prior to the issuance of permits or the provision of funding for construction activities.

The Biological Evaluation considered the entire 7,500 acre Red Gap Ranch Project Area. The objectives of this evaluation were to determine the potential for occurrence within the Project Area of plants, wildlife, or natural habitats protected or considered sensitive by federal or state law, and to determine the potential effects of the construction of the Project on these existing biological resources within the Project Area. The evaluation included species provided federal protections under the Endangered Species Act, Forest Service sensitive and management indicator species, and wildlife considered of special concern by the Arizona Game and Fish Department and the State of Arizona. Results from this study indicate that construction of the infrastructure required to develop the water supply from Red Gap Ranch would have little, if any, adverse impact to any sensitive species or habitat that could occur on the property or to any species that uses the Project Area as a corridor for movement.

For the Cultural Assessment, a pedestrian survey examined nearly 570 acres of the City's Red Gap Ranch property in order to document the existing cultural resources and identify potential effects to these resources as a result of the construction of the project. The cultural study focused on those areas of proposed ground-disturbing impacts for the development of the project, including the existing wells and unpaved roads. WestLand found 38 sites and 161 isolated occurrences representing human use and occupation of the landscape from circa 9000 B.C. to the historical present (A.D. 1963). These include Route 66, the Red Gap Ranch complex, artifact scatters, trash dumps, and temporary habitations. One site, Route 66, is listed on the National Register of Historic Places (NRHP), and WestLand recommended that an additional 22 sites are potentially eligible for listing. When the City moves forward with federal permitting and NEPA review of the project, those potentially eligible sites that cannot be avoided by ground-disturbing project activities should be addressed in a federal or state-approved Historic Properties Treatment Plan and/or monitoring plan. WestLand recommends that the City contract development of such a plan to identify potential mitigation actions, which may involve additional site documentation, treatment, or monitoring during project construction. Based on our current design for project infrastructure and the results of the survey, the City anticipates at least some potential mitigation action may be necessary at about a half dozen locations during the federally permitted or funded project construction.

Groundwater Pumping Impact Assessment

Southwest Ground-water Consultants, Inc., was hired by the City in 2013 to conduct the groundwater impact assessment. They are scheduled to finish their analysis by October 1, 2015. The primary tool to be utilized is the U.S.

Geological Survey's Northern Arizona Regional Groundwater Flow Model. Southwest Ground-Water Consultants is updating and modifying the model to better predict groundwater level changes and surface water interaction in and around Red Gap Ranch.

The City and its consultant are collaboratively working with the Coconino Plateau Water Advisory Committee's Technical Advisory Committee (TAC). The TAC consists of representatives from the U.S. Fish & Wildlife, U.S. Geological Survey, U.S. Bureau of Reclamation, Navajo Nation, Hopi Tribe, Northern Arizona University, Coconino County, National Park Service, Coconino National Resource Conservation District, City of Flagstaff, among others.

One of the primary objectives of the groundwater modeling effort is to simulate historical and current groundwater and surface water conditions in the vicinity of Red Gap Ranch, East Clear Creek, Chevelon Creek, Little Colorado River, and eastward to Holbrook. The model will then be used to predict hydrologic conditions in the region over the next 100-years due to proposed pumping by the City, Navajo Nation, Winslow and Arizona Public Service, among others. The focus of this effort will be on what impacts, if any, could occur to the water flowing within East Clear Creek and Chevelon Creek that support endangered species. This analysis will be required as part of an overall Environmental Impact Statement.

Arizona Department of Water Resources (ADWR) Designation of Adequate Water Supply – How much water is available?

City Council authorized staff in 2009 to apply for a modification of its existing Adequate Water Supply Designation to include Red Gap Ranch. At that time the City hired the hydrologic consulting firm, AMEC Foster Wheeler (formerly AMEC Earth and Environmental, Inc.; AMEC Environment & Infrastructure, Inc.), to conduct its first groundwater modeling effort at Red Gap Ranch to evaluate groundwater physical availability. That study showed pumping by the City of 16,500 acre-feet/year at Red Gap Ranch and the Navajo Nation of 13,066 acre-feet/year near Leupp over the next 100 years would result in limited water level declines of approximately one foot/year at Red Gap Ranch (similar to the decline we have now in our Local and Woody Mountain Well Fields). The results also predicted that over 1,000 feet of groundwater beneath Red Gap Ranch would be remaining after 100 years. ADWR hydrologists reviewed the analysis and subsequently granted the City its Designation of Adequate Water Supply for Red Gap Ranch on January 7, 2011. In negotiations with the Navajo Nation over pumping at Red Gap Ranch, the City and the Navajo signed a Stipulation in June 2011 that limits pumping to 8,000 acre-feet/year. For comparison, in 2014 the City delivered to residents 8,347 acre-feet.

Quality hydrologic data is imperative to be successful with any evaluation of groundwater conditions today and into the future. The U.S. Geological Survey

and the City of Flagstaff have been partnering in a long-term hydrologic monitoring effort of the C-Aquifer. On July 3, 2012 City Council authorized Utilities to contribute \$10,000 per year, for three years, to support the U.S. Geological Survey monitoring project that collects groundwater data from Flagstaff to east of Winslow. Staff anticipates coming back to City Council to renew this funding for another three years in FY16.

Water Quality

In general terms, water quality data illustrate that groundwater at Red Gap Ranch is higher in total dissolved solids (TDS) than groundwater in Flagstaff. TDS is regulated by ADEQ as a secondary standard for aesthetics. The higher its concentration, the more salty the water tastes. The TDS of groundwater at Red Gap Ranch is similar in concentration to Colorado River water within the Central Arizona Project canal. Water quality data is being used to determine what treatment may be required in order to integrate groundwater from Red Gap Ranch with existing local water supplies here in Flagstaff. Further water quality data can be provided should Council request.