Buckman Direct Diversion Project

A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

MEMORANDUM

Date: May 28, 2013

To: Buckman Direct Diversion Board

Via: Nick Schiavo, Interim Water Division and Public Utility Director NSA

Via: Rick Carpenter, Water Resources and Conservation Group Manager RC

From: Dale Lyons, Water Resource Coordinator DL

Subject: Request for approval of $15,000 in BDD funds to cost-share a USGS watershed wildfire risk analysis of Middle Rio Grande tributary watersheds, as part of the Nature Conservancy's Rio and Forest Water Fund initiative. These funds are available in the BDD's professional services budget.

BACKGROUND

Beginning in 2002, soon after the Cerro Grande Fire, the City of Santa Fe partnered with the Santa Fe National Forest, Espanola District of the U.S. Forest Service (USFS) to conduct extensive forest-fuel reduction efforts in the Santa Fe Municipal Watershed as a way to mitigate the risk of wildfire to the City's critical Santa Fe River water supply. Once initial forest treatments were completed in 2008, culminating in the thinning of over 5,500 acres, the City and its partners, including the USFS and The Nature Conservancy, recognized the need to maintain treated areas as well as address wildfire risk posed by the yet untreated wilderness portion of the municipal watershed. In 2009, the City and its partners completed the 20-year Santa Fe Municipal Watershed Plan, which provides the technical and financial framework to guide ongoing work and protect the City's surface water supply.

By connecting downstream water users (City water customers) with upstream land managers, the Santa Fe Municipal Watershed Investment Program now provides an ongoing funding source to protect the City's Santa Fe River water source from wildfire through forest thinning. Having pioneered "Water Fund" programs in other countries, The Nature Conservancy's New Mexico chapter played an important role in developing

the City's program and securing water utility customer financial support for ongoing forest thinning, which is cost-shared between the City and the USFS.

Recently, use of Rio Grande water has been curtailed by water quality impacts resulting from Jemez Mountain wildfires (e.g. the 2011 Las Conchas fire) which have sent ash and debris into the river. The BDD's inability to divert San Juan-Chama Project water for municipal supply during these periods has meant greater reliance on non-renewable groundwater sources for both the County and City. In an effort to replicate the Santa Fe Watershed Investment Program's success in the Middle Rio Grande Basin, The Nature Conservancy has begun to engage municipal water utilities and agricultural interests whom are reliant on the Rio Grande in a multi-agency, multi-jurisdiction planning process.

Recognizing the BDD Board's interest in protecting the use of San Juan Chama Project water, Laura McCarthy, The Nature Conservancy's Director of Conservation Programs recently met with County Commissioner Holian and City Councilor Calvert to discuss the BDD Board's participation in a "Rio and Forest Advisory Board", which will lead efforts to conduct Rio Grande watershed risk and economic assessments as well oversee program development. The first Advisory Board meeting was convened in Albuquerque on April 19th, 2013, and the list of attendees and a brief program description are attached to this memo.

In order to prioritize large-scale forest thinning efforts to protect Rio Grande water quality, an important first step in the process is to identify Middle Rio Grande tributary watersheds that are most vulnerable to high-severity wildfire and post-fire flooding using a model developed by the USGS Water Science Center. The first phase of this analysis is focused on the Sandia Mountains and will be paid for by Bernalillo County ($45,000) with cooperator funds from USGS ($15,000). The second phase of the analysis will focus on the Sangre de Cristo and Jemez Mountains, and will cost $110,000 to pay for the USGS' model. To date, the Nature Conservancy has received commitments of $30,000 from ABCWUA and $40,000 from the USFS, Santa Fe National Forest. It is anticipated that other program stakeholders (BLM, BIA, LANL and Los Alamos County) may also contribute funding. The Nature Conservancy has also requested that the Buckman Direct Diversion Board contribute $15,000 to help pay for the USGS' modeling effort.

RECOMMENDATION

Staff recommends that the BDD Board contribute $15,000 to help pay for the USGS watershed analysis, as part of the Rio and Forest Program. Staff has confirmed that there are sufficient funds in the BDD's current professional services budget.

Rio and Forest Advisory Board
April 2013

Robert Apodaca
Motiva Corporation
306 Plaza Consuelo
Albuquerque, NM 87004
rapodaca@motivacorp.com

Janie Chermak
Department of Economics, Chair
The University of New Mexico
MSC05 3060, 1UNM
Albuquerque, NM 87131
jchermak@unm.edu

Dale Dekker
Dekker/Perich/Sabatini
7601 Jefferson St. NE, #100
Albuquerque, NM 87109
daled@dpsdesign.org

Tony Delfin
State Forester
New Mexico Department of Minerals,
Energy and Natural Resources
1220 South Saint Francis Drive
Santa Fe, NM 87505
tdelfin@state.nm.us

Deborah Foley
Chief, Civil Works
US Army Corps of Engineers
4101 Jefferson Plaza NW
Albuquerque, NM 87109
Deborah.A.Foley@usace.army.mil

Maria Garcia
Forest Supervisor
Santa Fe National Forest
11 Forest Lane
Santa Fe, NM 87508
mgarcia@fs.fed.us;

Maggie Hart Stebbins
Commissioner, Bernalillo County
One Civic Plaza NW
Albuquerque, NM 87102
mhstebbins@bernco.gov

Rolf Schmidt-Peterson
Middle Rio Grande Basin Manager
Interstate Stream Commission
P.O. Box 25102
Santa Fe, NM 87504-5102
rolf.schmidt@state.nm.us

Jerry Lovato
Executive Engineer
Albuquerque Metropolitan Arroyo Flood Control
Authority
2600 Prospect Avenue NE
Albuquerque, NM 87107
jlovato@amafca.org

Dale Lyons
City of Santa Fe, Water Division
801 West San Mateo Road
Santa Fe, NM 87505
dwlyons@santafenm.gov

Dan McGregor
Hydrologist
Bernalillo County
2400 Broadway NE, Building N
Albuquerque, NM 87102
dmccgregor@bernco.gov

Amy Miller
PNM Resources
Alvarado Square, #MS0410
Albuquerque, NM 87158
mcmill@swcp.com

Susan Millsap
Ecosystem Staff Officer
Cibola National Forest
2113 Osuna Road NE, Suite A
Albuquerque, NM 87113-1001
ssmillsap@fs.fed.us

Robert Parmenter
Chief Scientist
Valles Caldera National Preserve
P.O. Box 359
Jemez Springs, NM 87025
bparmenter@vallescaldera.gov

Michael Pecos
Dean of Students, Santa Fe Indian School
Former Lt. Governor, Cochiti Pueblo
PO Box 1546
Pena Blanca, NM 87041

John Romero
Assistant Commissioner
State Land Office
P.O. Box 1148
Santa Fe, NM 87504
jromero@slo.state.nm.us

Brent Racher
Racher Restoration
P.O. Box 98
Corona, NM 88318
racher@resource-management.us

Richard Rose
Director, Water Resource Allocation Program
Office of the State Engineer
P.O. Box 25102
Santa Fe, NM 87504

Gilbert Sandoval
New Mexico Acequia Association
805 Early Street
Santa Fe, NM 87505
waldonm1937@yahoo.com

Dan Shaw
Co-Director
Bosque Environmental Management Program
4000 Learning Road, NW
Albuquerque, NM 87120
dan.shaw@bosqueschool.org

Terry Sullivan
The Nature Conservancy
212 East Marcy Street, Suite 200
Santa Fe, NM 87501
tsullivan@tnc.org

Bruce Thomson
Regents Professor of Civil Engineering
Department of Civil Engineering, MCC01-1070
The University of New Mexico
Albuquerque, NM 87131
bthomson@unm.edu

Carrie Weitz
New Mexico Ultrapure Water Engineer
Intel
4100 Sara Road, RR5-465
Rio Rancho, NM 87124

Katherine Yuhas
Water Conservation Officer
Albuquerque Bernalillo County Water Utility Authority
P.O. Box 568
Albuquerque, NM 87103-0568
kyuhas@abcwua.org

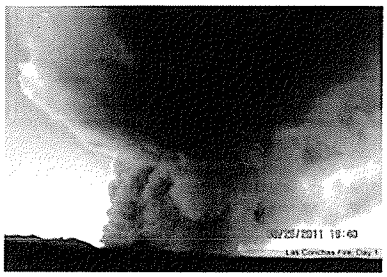
INVITED

Mark Gunn
Chief, Hydrologic Data Section
U.S. Geologic Survey, Water Science Center
5338 Montgomery NE #400
Albuquerque, NM 87109
mgunn@usgs.gov

Derrick Lente
Chairman
Middle Rio Grande Conservancy District

WATER SECURITY FOR ALBUQUERQUE, THE MIDDLE RIO GRANDE AND FORESTED WATERSHEDS

Clean water in the Jemez River.



Las Conchas Fire on the first day, June 26, 2011.

High-severity burn in Bland Canyon on August 7, 2011.

Flood markings in Bland Canyon after thunderstorms on August 21-22.

Debris reached Cochiti Lake.

The Rio Grande and its tributaries supply water to Albuquerque, Santa Fe, Pueblos and other communities – water for nearly half of New Mexico's population and an essential ingredient for economic growth. Yet the security of water in the Middle Rio Grande is increasingly threatened by frequent high-severity wildfires and subsequent post-fire flooding that causes extensive soil erosion and debris flows that degrade water quality.

The Las Conchas Fire of 2011 shown at left illustrates the problem: nearly 45% of the 156,000 acres fire burned at high severity. Thunderstorms over the high-severity burn areas resulted in massive debris flows in Peralta, Bland and Santa Clara Canyons. Water withdrawals were halted for municipal use by Albuquerque and Santa Fe, and tons of debris was deposited in Cochiti Lake, closing the area to recreation and dumping excessive sediment in the reservoir.

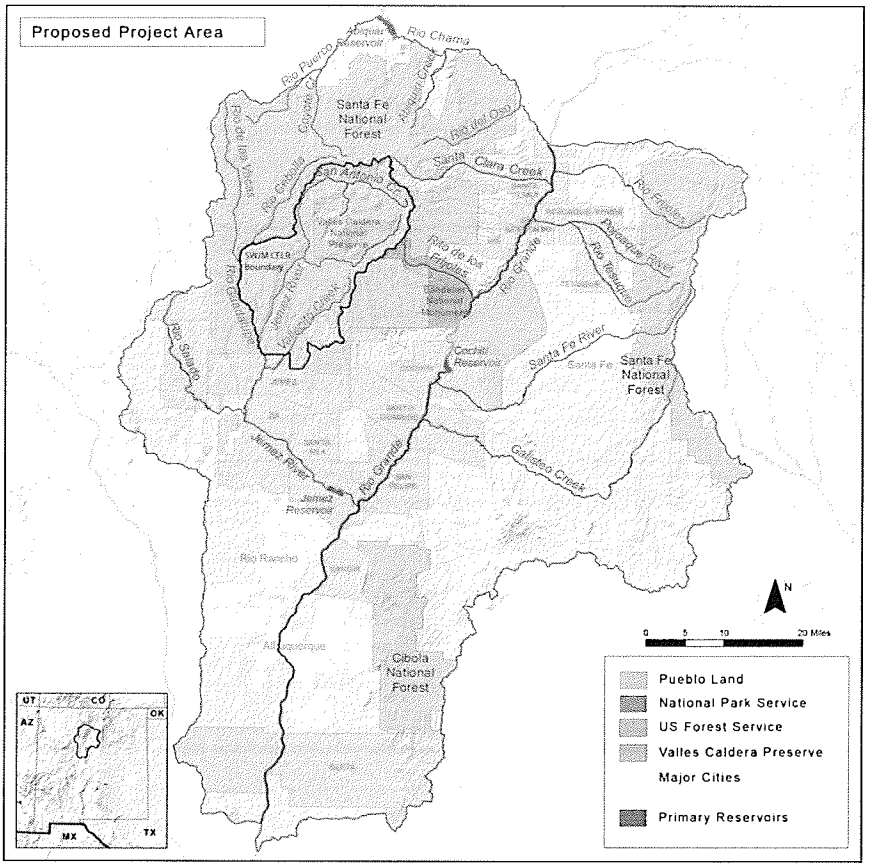
Restoration of overgrown forests that act as fuel for wildfires is a sound strategy to reduce the risk of high-intensity wildfire, and such treatments are already underway at a small scale. However, the 2011 Las Conchas Fire demonstrated that the pace and scale of these treatments is insufficient to prevent high-severity wildfire and post-fire flooding and to provide water security for Albuquerque and other communities.

Proactive steps on a large scale are needed to protect the Middle Rio Grande and forested watershed –an area with roughly 700,000 acres of fire-prone ponderosa pine and mixed conifer forest that needs at least 300,000 acres of treatment over the next 10 years to reduce fire risks. The Nature Conservancy started a planning process with support from Lowe's Charitable and Educational Foundation to establish a water fund to help pay for activities that would mitigate the intensity of wildfire, such as thinning overgrown forests, as well as stream restoration and flood mitigation to protect the water supply. Similar funds have been established in Santa Fe and Denver and are generating revenue for treatments that reduce the risk of high-severity wildfire, create jobs, and protect forested water sources for communities.

The Nature Conservancy is convening a "Rio and Forest Advisory Board" to accomplish watershed studies, economic assessments and water fund planning through 2013 (see study details on reverse). The plan will identify forest and watershed areas at highest risk of damaging fire and post-fire flooding, determine the full extent of treatment needed, quantify if increases in water yield are possible as result of large-scale restoration treatments, and summarize the full economic costs of wildfire and savings if wildfire and flooding are avoided. The Advisory Board will also develop cost estimates for treatments and establish a water fund to pay for the actions needed to achieve water security in the forested mountains and Middle Rio Grande.

The Nature Conservancy – January 2013

For more information contact: Laura McCarthy, lmccarthy@tnc.org, 505-946-2024

The next steps are to organize an Advisory Board and undertake a few targeted, short-duration studies to inform a comprehensive planning effort. This work is expected to take 12-24 months and the first activities on-the-ground are expected in summer 2014. Following is a brief description of the specific steps and studies and a time period for each:

1. Convene an Advisory Board with diverse representation of local, state, federal and tribal interests in April 2013 and continue for 12-18 months.
2. Identify the watersheds that are most vulnerable to high-severity wildfire and post-fire flooding using a model developed by the USGS Water Science Center (September 2013 to December 2013); this will be followed by a determination of strategic restoration treatments needed to improve forest and watershed resiliency and an estimate of the costs of completing all the treatments within 15-20 years. Complete by October 2014.
3. Estimate water yield increases that may result from the forest management treatments. Complete by December 2013.
4. Assess wildfire risk to native fish populations and riparian areas in conjunction with New Mexico Department of Game and Fish. Complete by July 2013.
5. Assess the full economic costs of the Las Conchas wildfire, including the costs that will be avoided with investment in forest and watershed restoration, in conjunction with University of New Mexico, Economics Department. Complete by June 2013.
6. Survey municipal water users and agricultural users to determine their understanding of the threats to water security and willingness to pay for restoration treatments of at-risk forests, in conjunction with University of New Mexico, Economics Department. Complete by August 2013.
7. Develop a comprehensive water security and green infrastructure program for the Middle Rio Grande and forested watersheds over the next 10 years. This planning will to be completed by December 2014 and based on the above studies, it will include:
    a. Restoration treatment plan for forests and riparian areas,
    b. Cost estimates and capital needs, and
    c. Water fund structure and governance.