



Acequia Infrastructure and Disaster Recovery

Presentation to the Water and Natural Resources Legislative Interim
Committee by Paula Garcia, New Mexico Acequia Association

July 10, 2023

Presentation Outline:

NM Acequia Association

Paula Garcia, Executive Director

- Overview of Acequia Infrastructure and Disaster Recovery
- Policy Recommendations

Interstate Stream Commission

Jonathan Martinez, Acequia Bureau Chief

- Overview of ISC Acequia Bureau, Capital Outlay, and Acequia and Community Ditch Infrastructure Fund (ACDIF)
- Role of ISC in Disaster Recovery, Assessments for Long-Term Recovery

NM Department of Transportation

John Romero, Director of Highway Operations

- Emergency Debris Removal, Process for Acequias
- Interagency Coordination

USDA Natural Resource Conservation Service (NRCS)

Kenneth Branch, Assistant State Conservationist

Kenneth Alcon, State Resource Conservationist

- Emergency Watershed Program (EWP) for Acequias



Definitions and Acronyms

ACDIF - Acequia and Community Ditch Infrastructure Fund at the Interstate Stream Commission.

ISC - Interstate Stream Commission

NMDOT – NM Department of Transportation

USDA – United States Department of Agriculture

NRCS – Natural Resources Conservation Services, Agency within USDA

IWCF – Irrigation Works Construction Fund, intended for irrigation projects, funds support operation of OSE and ISC

EWP – Emergency Watershed Program, a disaster program of the NRCS

DHSEM – Department of Homeland Security and Emergency Management

HPCC – Hermit's Peak Calf Canyon

FEMA – Federal Emergency Management Agency

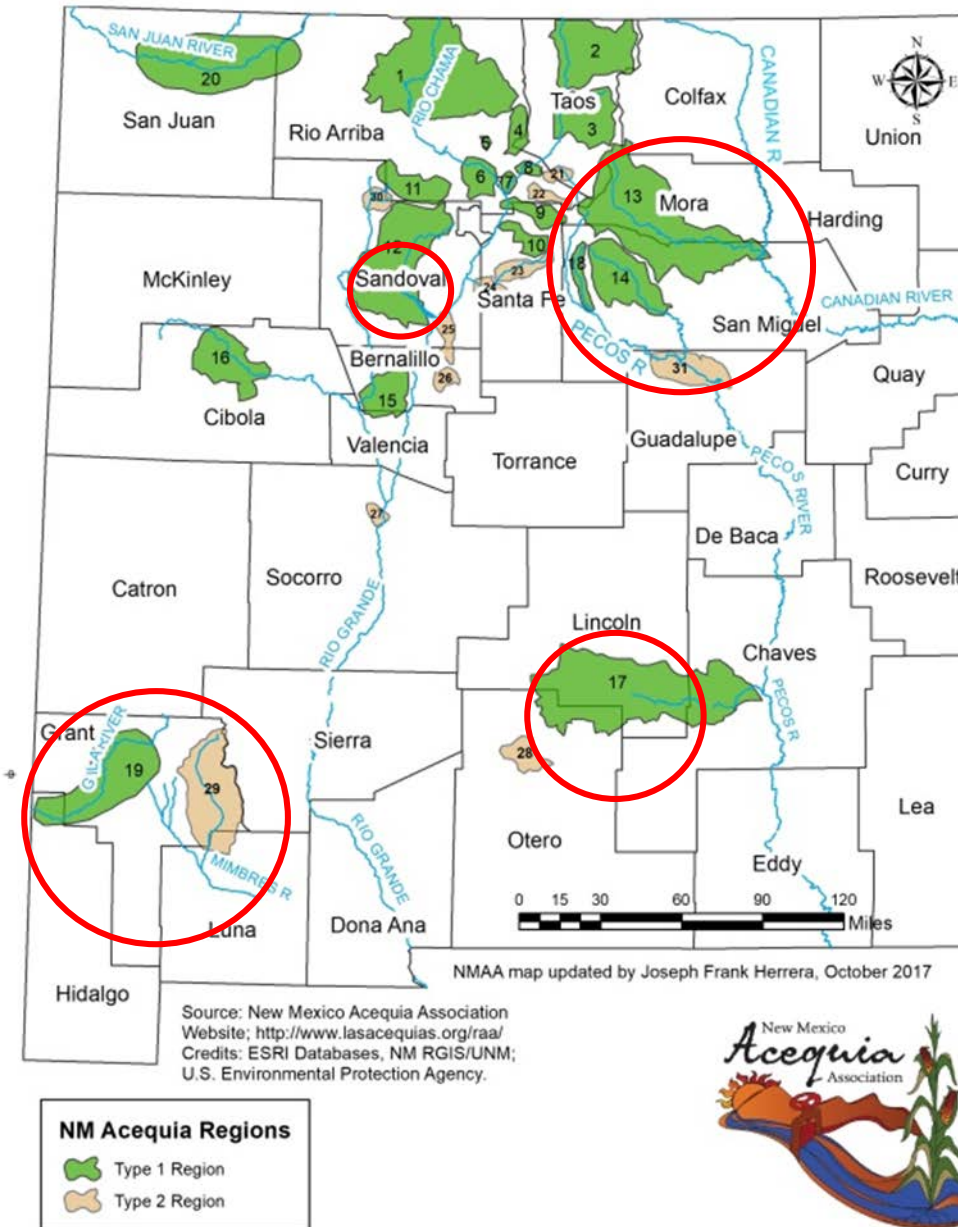
PA – Public Assistance Program through FEMA

USACE – US Army Corp of Engineers

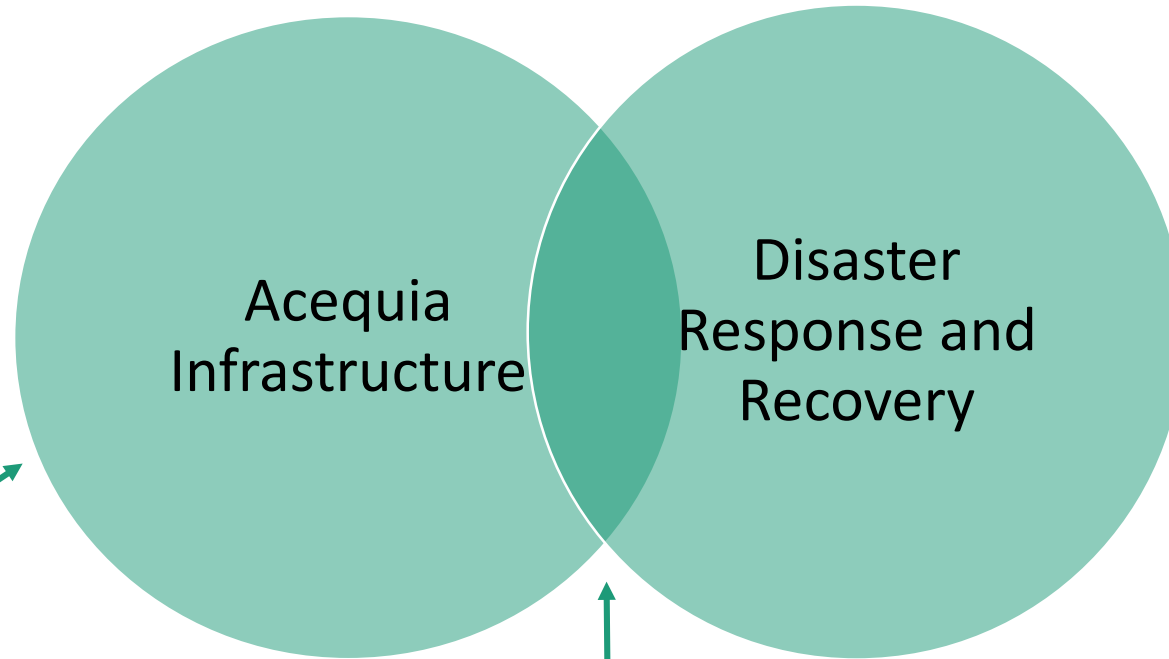
Congreso de las Acequias
Regional Acequia Associations

~700 Acequias in New Mexico

- Rio Grande and Tributaries
- San Juan River
- Rio Chama
- Nambe/Pojoaque/Tesuque
- Pecos River (Gallinas)**
- Pecos River
- Canadian (Mora)**
- Rio Pueblo/Rio Embudo
- Jemez River
- Rio San Jose
- Hondo River**
- Gila River**
- Mimbres River**



Plan, Design, Construct
Timeframe: 2-3 years



Debris Removal, Repairs, and Mitigation
Timeframe: Expedited, depends

- Interstate Stream Commission
- Acequia and Community Ditch Infrastructure Fund (ACDIF)
 - Capital Outlay
 - Special Appropriations

- Federal Programs
- Army Corp of Engineers
 - NRCS Conservation Programs

Acequia Disaster Recovery

- Mapping and technical assistance
- Interagency Coordination

- Debris Removal by NMDOT
- Damage Assessments by ISC
- Repairs by FEMA PA or NRCS EWP
- Mitigation may be covered depending on the situation

FEMA Public Assistance and DHSEM Disaster Assistance:
Public entities
Reimbursement basis

NMDOT Debris Removal:
Does work for local government and gets reimbursed by FEMA

USDA NRCS Emergency Watershed Program (EWP), to protect life and property, acequias are eligible for EWP

Completed Acequia Infrastructure Projects



Acequia del Alto del Norte, Mora County.
Price: \$160,000 (pre-Covid, pre-inflation)

Design: NRCS

Construction:

- EQIP 50%
- ISC 45%
- Local cost share 5%



Acequia Martinez y Medio
Price: ~\$220,000 (pre-Covid)

Engineering Design: RCPP

Construction:

RCPP \$100,000

ISC 90-10 Approx. \$90,000

Local Share Approx. \$10,000

Capital Outlay \$20,000

Acequia Infrastructure Challenges

Recent Progress

More Work To Do...

- Acequias vary greatly in **capacity and project readiness**. Most need assistance with governance, financial compliance, and planning.
- **Agency capacity** is limited for the extent of need. Currently, ISC administers over 250 CO projects.
- **Funding** for acequia infrastructure continues to be uncertain. The ACDIF depends on the IWCF, the principle of which is depleting.

- The **ACDIF** was established by the State Legislature for FY22 and the ISC has completed a full year of projects in FY23. Amended to remove local cost share.
- ISC recently established an **Acequia Bureau** and is adding an additional two staff for a total of five staff.
- The **NMAA completes 30-50 ICIPs** per year, partners with COGs.
- NMAA assists over 100 acequias per year with governance and financial compliance.

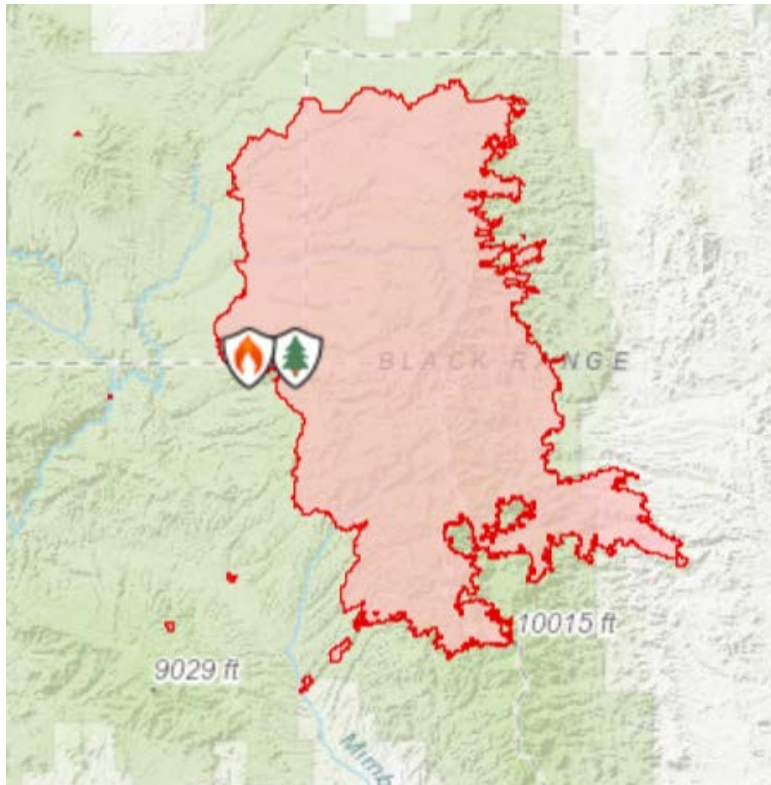
- **Stabilize the IWCF** (Irrigation Works Construction Fund) to ensure recurring funding for the ACDIF. Increase appropriation incrementally from \$2.5 million to \$5 million over the next few years.
- Continue to build capacity for the **ISC Acequia Bureau**.
- Support the role of **NMAA and COGs** with resources for infrastructure planning.

2022 was a catastrophic year for wildfires....

Black Fire

325,136 Acres

24 Damaged Acequias



Cerro Pelado Fire

45,605 Acres

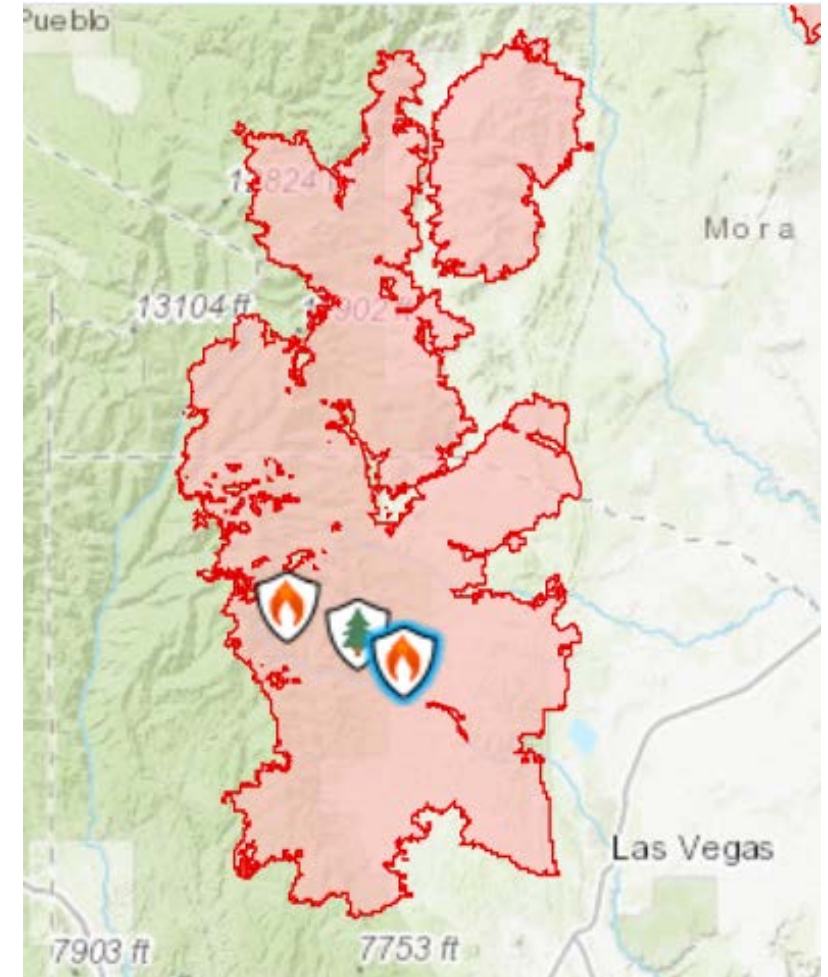
1 damaged Acequia



Hermits Peak Calf Canyon Fire

341,735 Acres

45+ Damaged Acequias





Flash flooding (not related to fires) also affected communities throughout the state.

Several acequias in Dixon in Rio Arriba County were seriously damaged by flash flooding in July 2022. We had reports of flooding in Santa Fe, Sierra, and Cibola counties.

Governor Lujan Grisham declared a State of Emergency in these counties which made state disaster funds available for local governments, including acequias, to do repairs.



Impacts on Acequias from Flooding

Realignment of and damage to river channel causing diversion structures could be disconnected from the river.

Debris flows may damaged structures, such as diversions, headgates, dividers, sluices, crossings, etc.

Heavy flooding may **damage structures** by dislodging them or washing them away, by damaging fences, and by causing erosion.

Debris flows, ash, and sediment can **clog acequia waterways** and can deposit on farmlands.

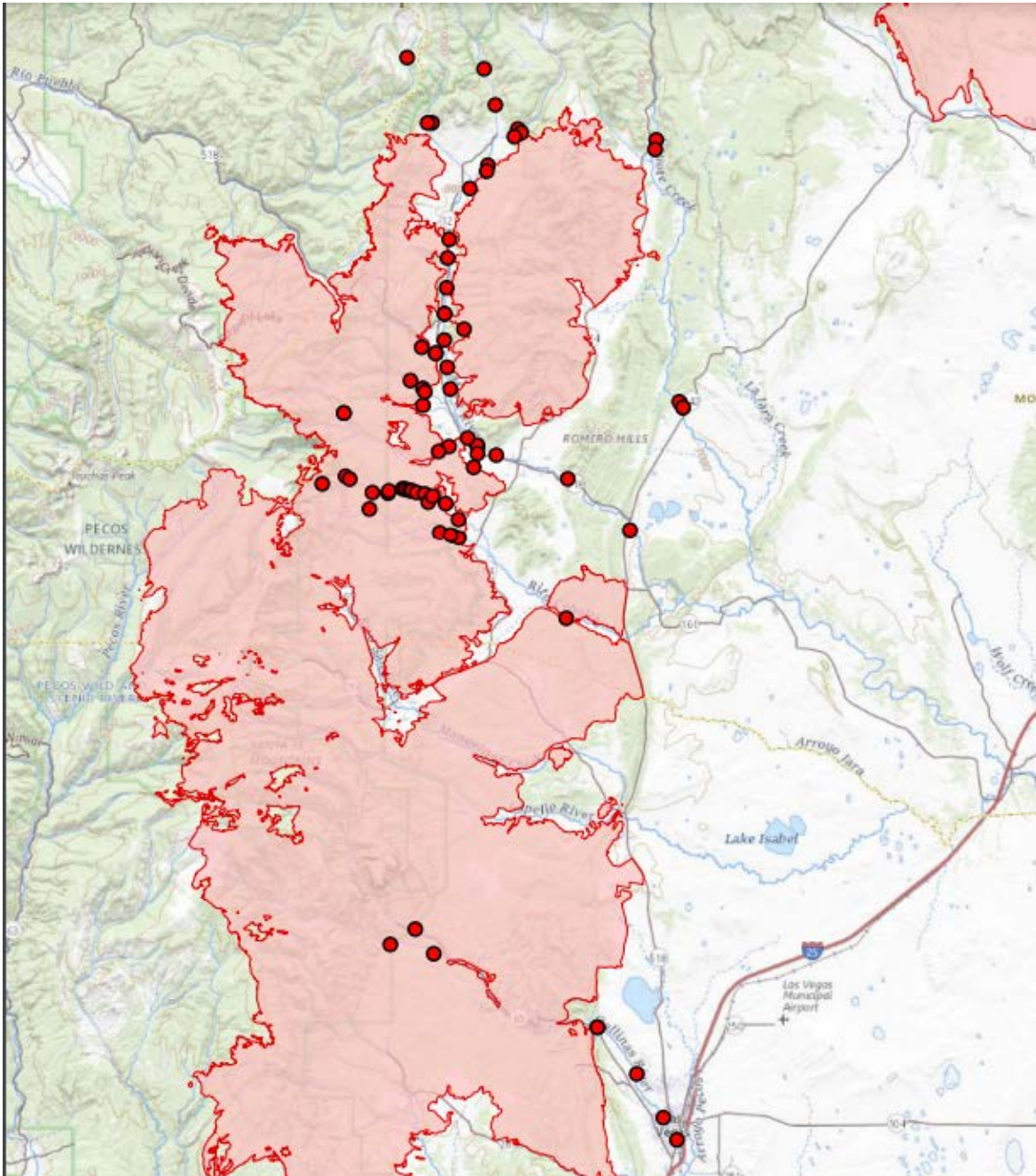


Above: Flooding from the Black Fire and impacts to the Grijalva Ditch Diversion in Grant County

Burn Scar Flooding, Acequia del Lado Sombrillo



Flooding from the HPCC burn scar in Gascon, Mora County destroyed the diversion structure and changed the flow of the river. The acequia waterway was clogged with silt and debris from burned forest on the side slopes.



Hermits Peak/Calf Canyon

Acequias mapped and inventoried	75
FEMA RPA Applications	43
NMDOT Debris Removal MOA	28
NMDOT Completed	14
NRCS EWP Applications	52



Debris Removal by NMDOT

Acequia Madre de Holman

BEFORE

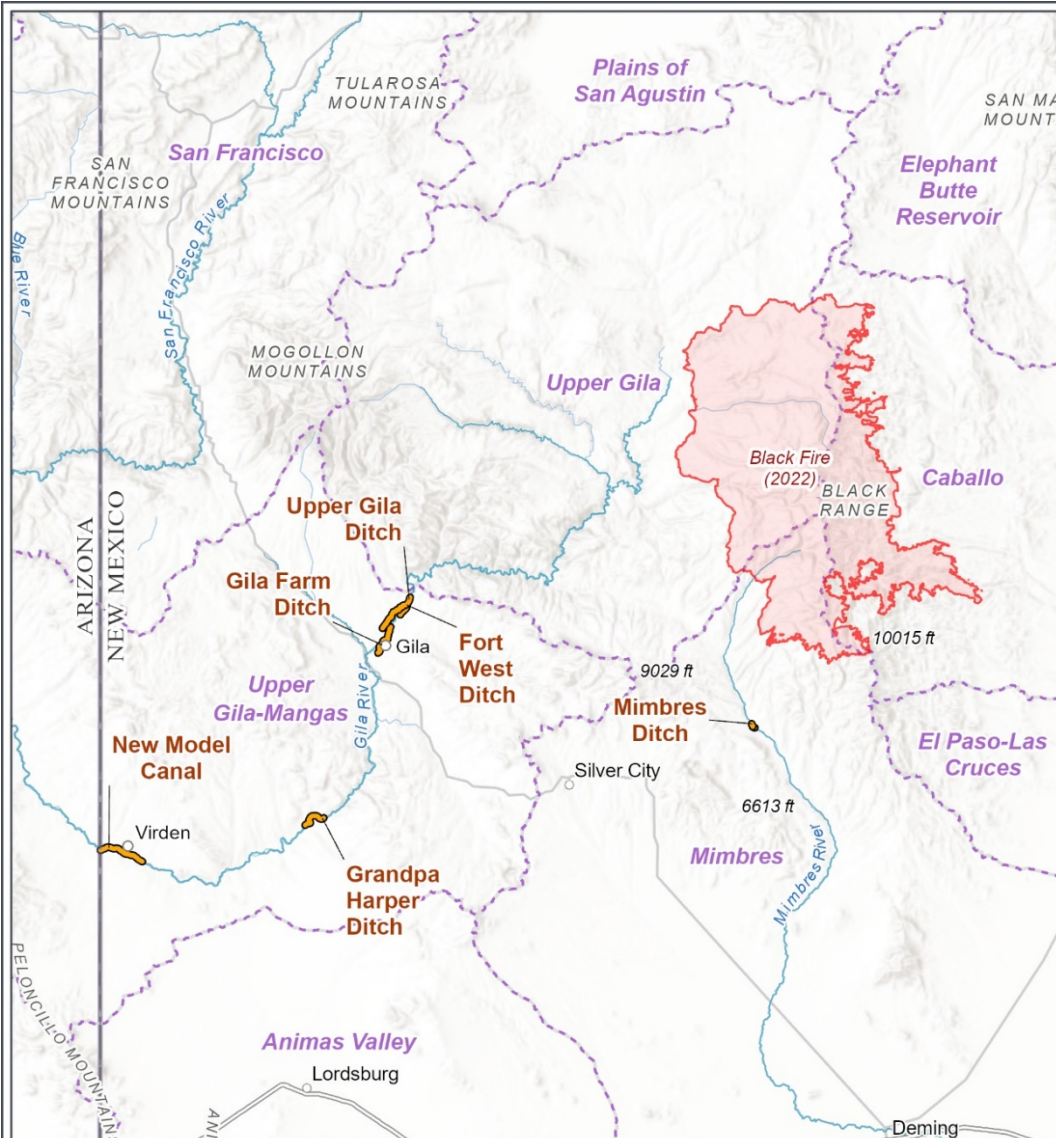


AFTER



Black Fire

Acequias Mapped and Inventoried	20
NMDOT Debris Removal	10
ISC Damage Assessments	10
DHSEM DAP Applications	15
EWP	0



NEW MEXICO POST-FIRE ACEQUIA SUPPORT

Exhibit 1 - Black Fire Area and Project Locations Overview

- Surveyed Acequia
- Major Stream/ River
- Fire Perimeter (2017 - 2022)
- Watershed Boundary (HUC-8)

New Mexico
NAD 1983 UTM Zone 13N
33.0609°N 108.3283°W

0 7.5 15 Miles
0 7.5 15 Kilometers

1:1,000,000

Base Map: Esri ArcGIS Online, accessed October 2022
Updated: 10/18/2022
Project No. 75322
Layout: overviewMap
Aprx.
75322_newMexicoPostFireAcequiaSupport

SWCA
ENVIRONMENTAL CONSULTANTS



USDA NRCS

Emergency Watershed Program (EWP)

Some of the purposes of EWP:

- Remove debris from stream channels, road culverts and bridges;
- reshape and protect eroded streambanks;
- correct damaged or destroyed drainage facilities;
- establish vegetative cover on critically eroding lands;
- repair levees and structures

How it works:

Local sponsor is required, usually a SWCD or a County
25% local cost share match is required
(except for HPCC where 100% is covered)

Acequias are eligible for EWP.

- Over 50 acequias have requested EWP in HPCC. NMACD conducting assessments.
- The program is not yet available to Black Fire acequias because the local sponsors cannot afford cost share.

State funds needed to leverage EWP for Black Fire Recovery!



Disaster Recovery Challenges

Recent Progress

More Work To Do...

- **Reimbursement structure.** FEMA and DHSEM work on a reimbursement basis. This can be prohibitive for acequias.
- **Cost share.** FEMA (75/12.5/12.5), DHSEM (75/25) and EWP (75/25) have a cost share requirement (except for the HPCC disaster for which FEMA pays 100%). Local EWP sponsors cannot afford the 25% cost share.
- **Technical assistance/Communications.** Acequias need significant technical assistance and disaster agencies need up to date maps and contact lists.
- **Cascading events.** Disaster programs should cover ongoing flood events.

- The **ACDIF** was amended to add “disaster recovery” to the purpose of the fund and to encourage cost share arrangements.
- **NMDOT** worked with FEMA and DHSEM to conduct debris removal for acequias and get reimbursed.
- **NRCS EWP** rules allow acequias impacted in 2022 disasters to participate. This can be for debris removal or repairs. Several sponsors are in place statewide.
- NMAA and partner, High Water Mark, developed a map and contact list and provided assistance navigating FEMA and DHSEM.

- Meet **25% cost share requirement** with state funds. FEMA, DHSEM, EWP.
- Formalize the **acequia disaster support** based on lessons learned from the NMDOT debris removal work recently.
- Ensure resources are mobilized for acequia technical assistance, mapping, and communications.

Summary of Policy Recommendations

Acequia Infrastructure

- Stabilize the **Irrigation Works Construction Fund (IWCF)** as the revenue source for the Acequia and Community Ditch Infrastructure Fund (ACDIF).
- Continue to develop capacity with the new **Acequia Bureau** and the implementation of the ACDIF.
- Support increased **technical assistance** for infrastructure planning, governance, and financial compliance.

Acequia Disaster Recovery

- **Meet cost share requirements** for federal and state disaster programs with state funds. The ACDIF is structured to allow use of funds for cost share requirements. Special appropriations can be made as needed to the ISC for ACDIF so that the base budget for statewide projects is not diverted too much for disaster work.
 - This is urgently needed now for the EWP program in SW New Mexico for acequias impacted by the Black Fire. Sponsors are needed for acequias in Grant and Luna counties.
- **Institutionalize the debris removal approach** used by NMDOT to mobilize rapidly to remove flood debris. Options could be for NMDOT to continue, to set up similar process with DHSEM, or to engage local SWCDs to work with local contractors. An interagency group should form and develop a specific policy recommendation.
- **Increase support for technical assistance to acequias.** Disasters are resource intensive and expertise is needed to develop maps, inventories, and contact lists as well as to navigate the disaster process. Train local acequia leaders to be liaisons with disaster agencies.