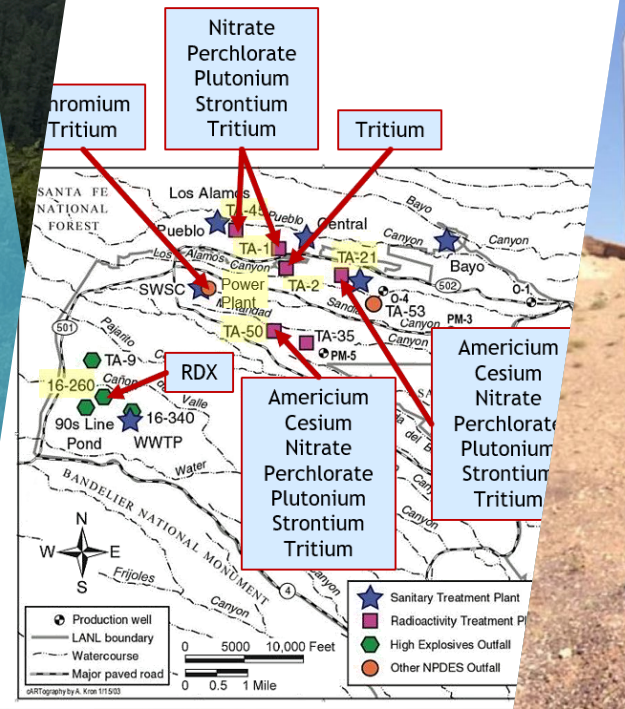
New Mexico Office of Natural Resources Trustee

Radioactive & Hazardous Materials Committee

May 29, 2024

ONRT Mission
Natural Resource Damage Assessment and Restoration (NRDAR)



ONRT Authority

State Law

New Mexico Natural Resources Trustee Act [NMSA 1978, 75-7-1]

Trustee responsibilities include:

(1) act on behalf of the public to protect New Mexico's natural resources by recovering damages for injury to, destruction of or loss of those resources;

(2) investigate injury to, destruction of or loss of natural resources;

(3) determine the amount and cause of injury to, destruction of or loss of natural resources;

(4) determine the liability of any person for injury to, destruction of or loss of natural resources;

(5) assess and collect damages for injury to, destruction of or loss of natural resources, including bringing legal actions and collecting the costs of assessing and collecting the damages;

(6) expend money for the purposes set forth in the Natural Resources Trustee Act

Federal Law

- Comprehensive Environmental Response, Compensation, & Liability Act (CERCLA)
- Clean Water Act
- Oil Pollution Act

Following a Release of Hazardous Substances Responsibility is Shared:

NMED: Remediation

NMED Requires Responsible Party to:

(1) Identify and characterize the release(s); and

(2) Clean up contamination to protect public health and the environment.

ONRT: Restoration

ONRT uses the **NRDAR** Process to Require Responsible Party to:

- Restore injured natural resources to pre-release condition
- When that's not possible in a timely way, to replace or acquire the equivalent.

Natural Resource Damage Assessment and Restoration (NRDAR)

NRDAR is a process that allows ONRT to evaluate natural resource injuries caused by the release of hazardous substances into the environment.

Settlements Since 2000 - $43,341,226

- Gold King Mine Spill
  - US EPA Contractors $2,000,000 (Dec 2022)
  - United States EPA $10,000,000 (June 2022)
  - Kinross Gold: $1,000,000 (Jan 2021)
- Ft Wingate Army Depot/DOD $1,451,069 (March 2022)
- Fronk Oil/Cimarron River: $150,000 (Dec 2020)
- Freeport-McMoRan Groundwater: Chino, Cobre, and Tyrone Mines ($12,794,308)
- Freeport-McMoRan Wildlife and Wildlife Habitat: Chino, Cobre, and Tyrone Mines ($5,500,000)
- AT&SF: Albuquerque's South Valley Tie Treater Facility ($989,417)
- South Valley Superfund Site: Various Parties in Albuquerque's South Valley ($4,857,548)
- Sparton Technology: Albuquerque Facility ($1,000,000)
- SOHIO Western Mining L-Bar: Tailings Facility near Moquino, ($29,830)
- AT&SF: Clovis Rail Yard ($404,456)
- Van Waters & Rogers: Albuquerque's South Valley Facility ($135,000)
- ASARCO (Five Facilities): Blackhawk Mine near Hanover, ($1,029,598)
- Chevron Moly Mine: Questa, ($4,000,000)

Fort Wingate Restoration
$1,451,069

- March 2022 – Co-Trustees settled with the U.S. Army for $1,437,150 for natural resource injuries caused by releases of hazardous substances
  - Navajo Nation
  - Zuni Tribe
  - ONRT
- February 2024 Final Restoration Plan
  - Forest Restoration and Fuelwood Production
  - Bluehead Sucker Habitat Conservation
- Court has approved release of funds

Gold King Mine Restoration
$13 million

- City of Aztec, North Main Wastewater Management Infrastructure ($480,000)
- City of Aztec, Rehabilitation of Raw Water Reservoir 1 ($950,000)
- City of Farmington, Whitewater Wave and Irrigation Diversion Dam at Farmington Gateway Park ($2,000,000)
- City of Farmington, Festival and Farmer's Market Pavilion at Gateway Park - $300,000
- Navajo Nation Department of Fish and Wildlife, Nenahnezad Chapter San Juan River Boat Ramp ($65,575)
- NM Interstate Stream Commission, San Juan River Water Lease Agreement with Jicarilla Nation ($1,803,000)
- New Mexico State Parks Division, Aquatic Invasive Species Station on San Juan River Quality Waters ($205,226)
- San Juan County, Cedar Hill Boat Ramp on the Animas River $160,000 (complete)
- San Juan County, Water and Wastewater Improvements for the Totah Subdivision ($1,000,000) June 2024
- San Juan County, San Juan River Public Boat Ramps and Park Improvements ($681,440)
- San Juan County, San Juan County Extension Service Office Building ($2,300,000)
- San Juan Soil and Water Conservation District, Irrigation Ditch Diversion Project ($1,616,600)
- San Juan Soil and Water Conservation District - San Juan Valley Soil Health Restoration Project - $280,000
- Agricultural Irrigation System Upgrade Project - Tse Daa Kaan (Hogback) Navajo Community. $250,000

THE DAILY TIMES

THURSDAY, JUNE 8, 2023 | DAILY-TIMES.COM — PART OF THE USA TODAY NETWORK

Officials mark opening of boat ramp funded by mine spill lawsuit funds

"A new boat ramp opening in Cedar Hill on the Animas River allows our community and the river boating public to enjoy a larger piece of the river with a safe boat ramp that provides easy access to both the river upstream and downstream going to Aztec," said. "For a small business like mine, this boat ramp provides more options for customers' outdoor recreation and allows us to increase the number of people that can get on the river safely."

Cody Dudgeon, owner of Desert River Guides in Farmington

'A tremendous impact on the people of San Juan County'

Final approval issued for projects awarded mine spill settlement money

"Water is life. The projects funded by settlement money from the EPA will serve to start to heal the wounds left in our community from the Gold King Mine Spill … These investments into improving water quality and recreation opportunities will pay dividends in securing the future of safe water for drinking, agriculture, and quality of life for years to come."

Steve Lanier, San Juan Co Commission Chairman

TUESDAY, JUNE 13, 2023 | DAILY-TIMES.COM

'The new facility will give us endless possibilities'

New building will allow County Extension Office plenty of room to grow

"Our commission absolutely is committed to agriculture as a key part of our economy and a key part of our quality of life here. … (The new Extension Service building) will pay dividends for many years to come and enhance local food production here."

Mike Stark, San Juan County Manager

Leveraging ONRT funds

ABCWUA

- $ 556,000 ONRT
- $8.4 other funds

Farmington Gateway Project

- $300,000 ONRT
- $1.98 m other funds

Water authority gets funds for restoration work

South Valley project should make section of the bosque a better location for wildlife

BY CATHY COOK
JOURNAL STAFF WRITER

Native cottonwoods and invasive kochia weeds grow nearby. Porcupines can be found nosing around, and signs of beavers building homes can be seen along the Rio Grande where the city of Albuquerque's treated wastewater is released into the river.

Now, a project to make the spot more inviting for people and a better habitat for wildlife just landed the remaining funding it needs.

The Albuquerque Bernalillo County Water Utility Authority releases 55 million gallons of water per day into the Rio Grande at the outfall in the South Valley. The water authority plans to make the spot more welcoming, including for endangered species such as the silvery minnow.

The project just secured a $3 million WaterSMART Aquatic Ecosystem Restoration Project grant from the federal Bureau of Reclamation.

COURTESY OF DIANE AGNEW

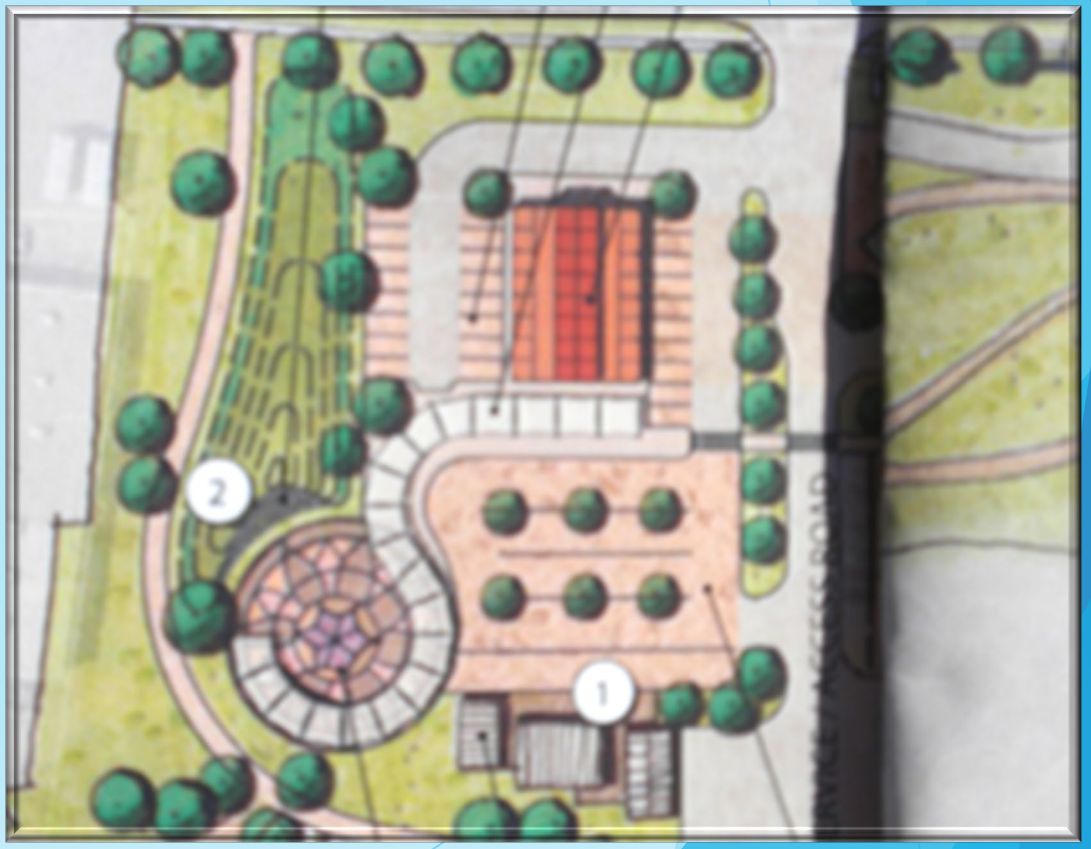
A rendering of the planned outflow restoration project, which would restore habitat in the bosque with overbank flooding.

The total cost for planning, permitting, design and construction is estimated at $7.9 million but could change based on actual costs once building begins.

With the final piece of funding secured, the water authority can put the project out for bids, and construction should start August 2024. The work will likely be completed by spring 2025.

"A lot of the work that we do is invis-

See **RESTORATION** >> **A4**



Current and Potential Natural Resource Damage Assessments

- Current Cases
  - Los Alamos National Laboratory
  - NASA White Sands Test Facility
  - Rio Algom Quivira Mill and Mine Sites

- Potential New Cases

1. Cannon Air Force Base – PFAS (Clovis)
2. Holloman Air Force Base PFAS (Alamogordo)
3. Grants Mineral District - Legacy Uranium Mine and mill sites.

PFAS Cases

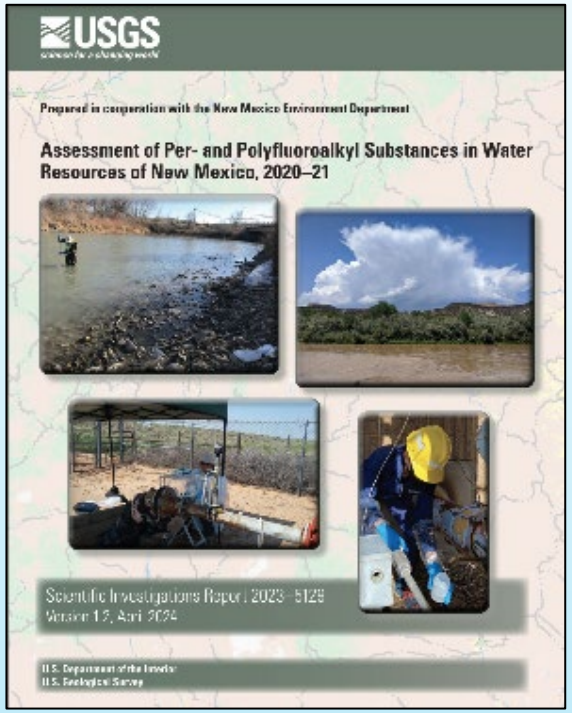
In April 2024, EPA finalized a critical rule to designate **PFOA and PFOS** as hazardous substances under CERCLA

- perfluorooctanoic acid (PFOA)
- Perfluorooctanesulfonic acid (PFOS)

PFAS sites in New Mexico currently under investigation by ONRT

- Cannon AFB
- Holloman AFB
- LANL

PFAS in NM Water
USGS 2024 Assessment



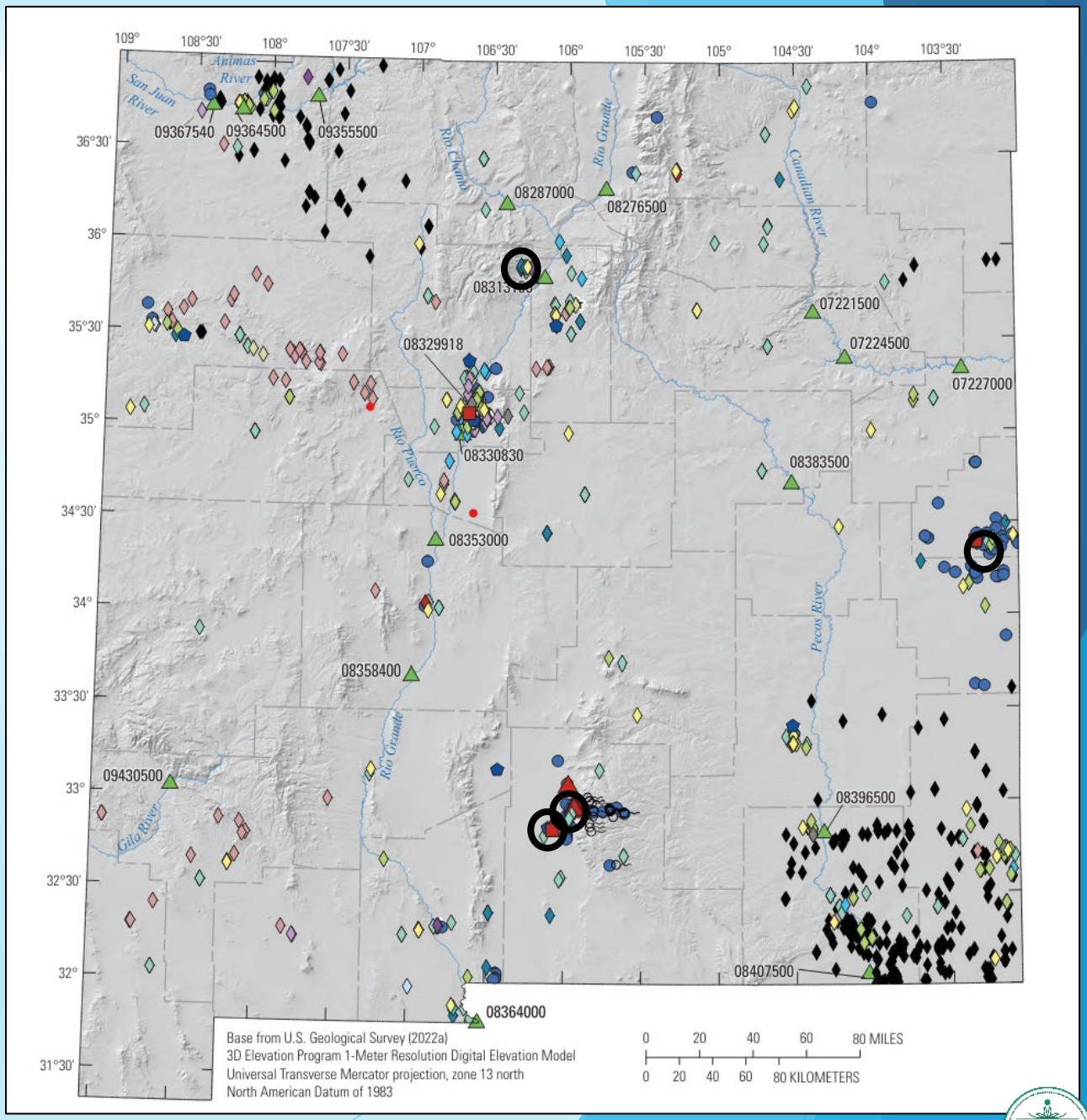
- Paints, coatings, plastics and resins
- Paper mills and products and printing
- Textiles and leather
- Waste management
- Oil and gas

- Federal agency location with known or suspected PFAS detections (U.S. Environmental Protection Agency [EPA], 2022)
- Calls reporting Aqueous Film Forming Foam usage (EPA, 2022)

- Groundwater well
- Spring
- Surface-water diversion
- 08358400 Surface water sampling location and identifier

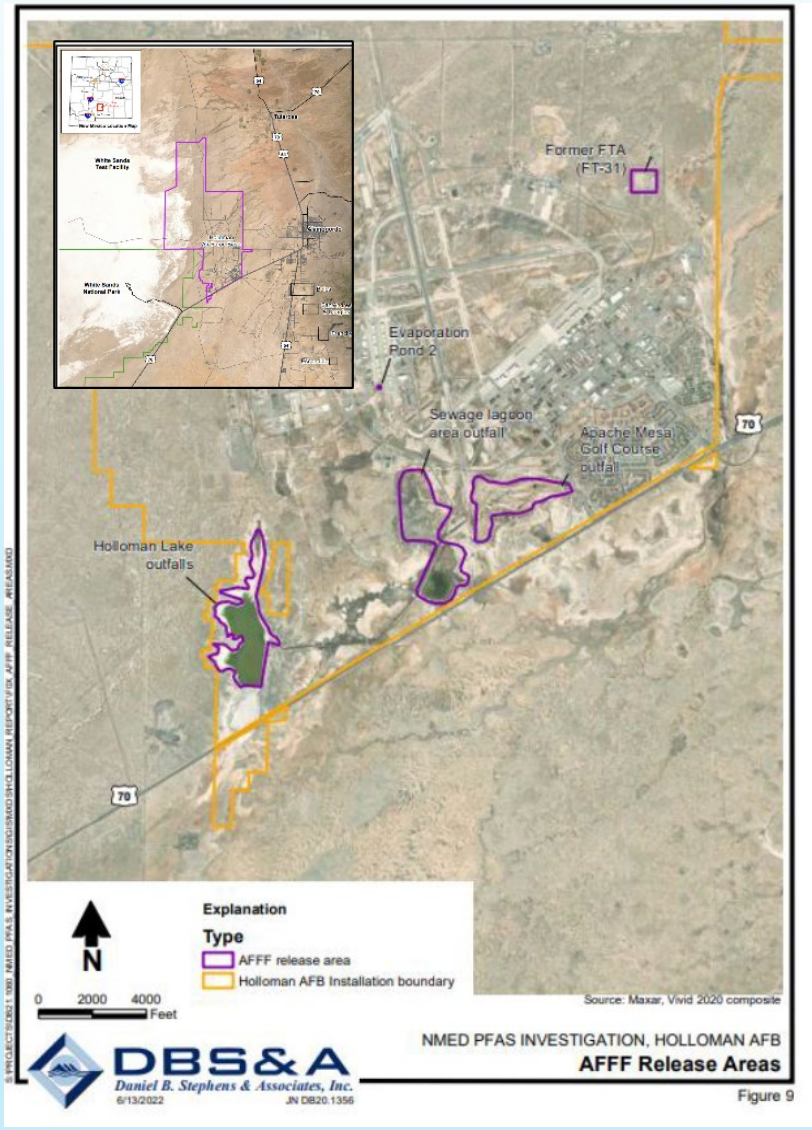
Facilities that may use PFAS (EPA, 2022)

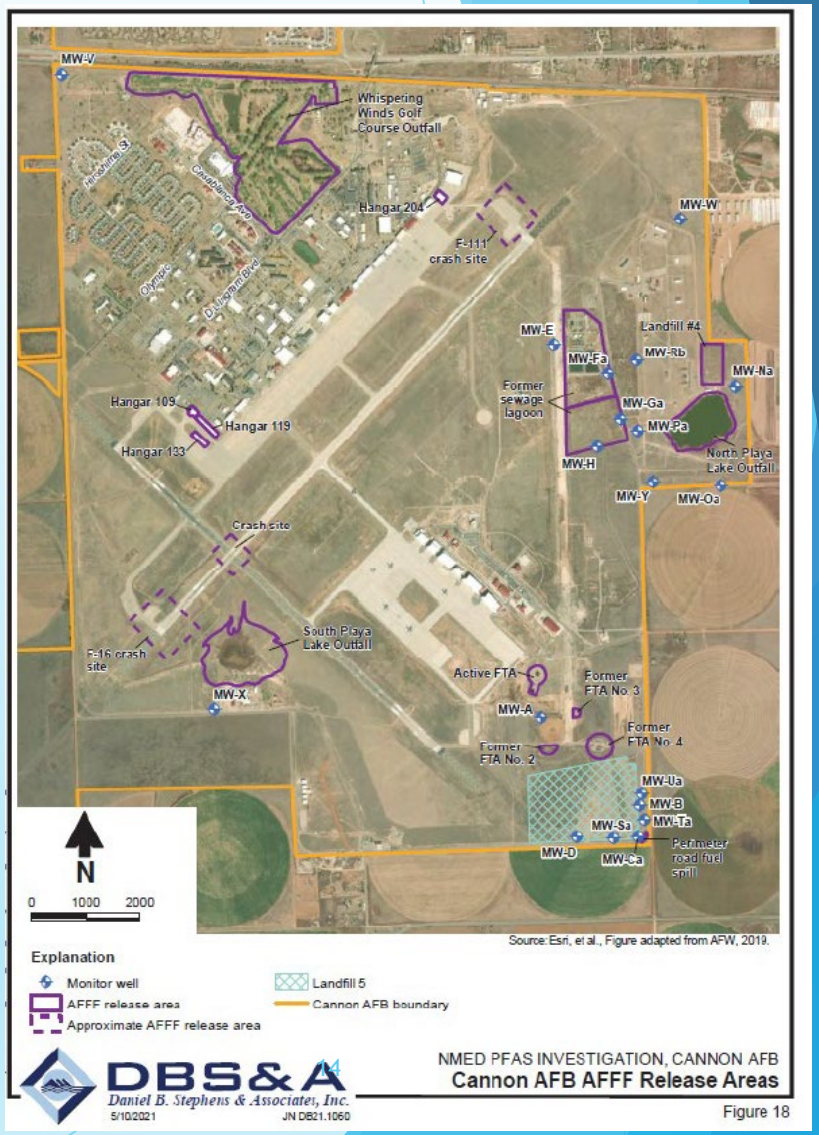
- Airports
- Cement manufacturing
- Chemical and cleaning product manufacturing
- Consumer products
- Electronics industry
- Furniture and carpet
- Glass products
- Metal coating and machinery manufacturing
- Mining and refining
- National defense



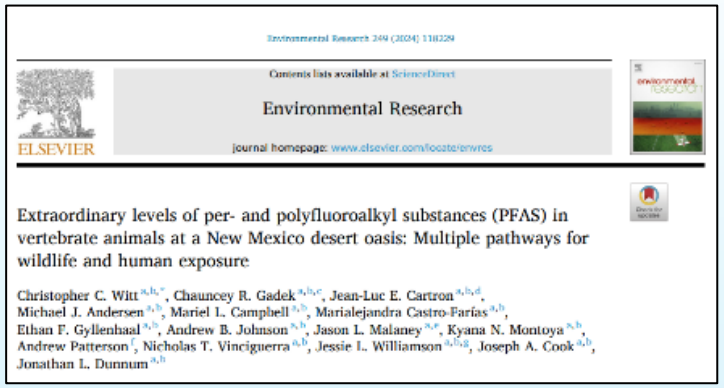
PFAS Assessments –Releases at Cannon AFB and Holloman AFB

- PFOS
- PFOA
- PFHxS
- PFBS
- PFBA
- Perfluoropentanesulfonic acid (PFPeS)
- Perfluoropentanoic acid (PFPeA)
- PFHxA
- Perfluoroheptanesulfonic acid (PFHpS)
- Perfluoroheptanoic acid (PFHpA)
- PFNA
- PFDA
- Perfluoroundecanoic acid (PFUnA)
- Perfluorododecanoic acid (PFDoA)
- Perfluorotridecanoic acid (PFTrDA)
- Perfluorotetradecanoic acid (PFTeDA)
- 4:2 Fluorotelomer (4:2 FTS)
- 6:2 Fluorotelomer (6:2 FTS)
- 8:2 Fluorotelomer (8:2 FTS)
- Perfluorooctanesulfonamide (PFOSA)
- N-Ethyl perfluorooctanesulfonamidoacetic acid (NETFOSAA)
- N-Methyl perfluorooctanesulfonamidoacetic acid (NMEFOSAA)





PFAS Holloman AFB - Holloman Lake



Environmental Research 249 (2024) 118229

Contents lists available at ScienceDirect

Environmental Research

journal homepage: www.elsevier.com/locate/envres

Extraordinary levels of per- and polyfluoroalkyl substances (PFAS) in vertebrate animals at a New Mexico desert oasis: Multiple pathways for wildlife and human exposure

Christopher C. Witt [a,b,*], Chauncey R. Gadek [a,b,c], Jean-Luc E. Cartron [a,b,d], Michael J. Andersen [a,b], Mariel L. Campbell [a,b], Marialejandra Castro-Farías [a,b], Ethan F. Gyllenhaal [a,b], Andrew B. Johnson [a,b], Jason L. Malaney [a,e], Kyana N. Montoya [a,b], Andrew Patterson [f], Nicholas T. Vinciguerra [a,b], Jessie L. Williamson [a,b,g], Joseph A. Cook [a,b], Jonathan L. Dunnum [a,b]

- Holloman Lake is an ecologically important water source in the Tularosa Basin
- Exposure to high concentrations of PFAS in surface water has resulted in elevated tissue concentrations in wildlife, which has been measured in:
  - Bird muscle, liver
  - Mammal liver, blood
  - Plants

Phase 1 PFAS Investigation Report
Holloman Air Force Base and Surrounding Area
Otero County, New Mexico

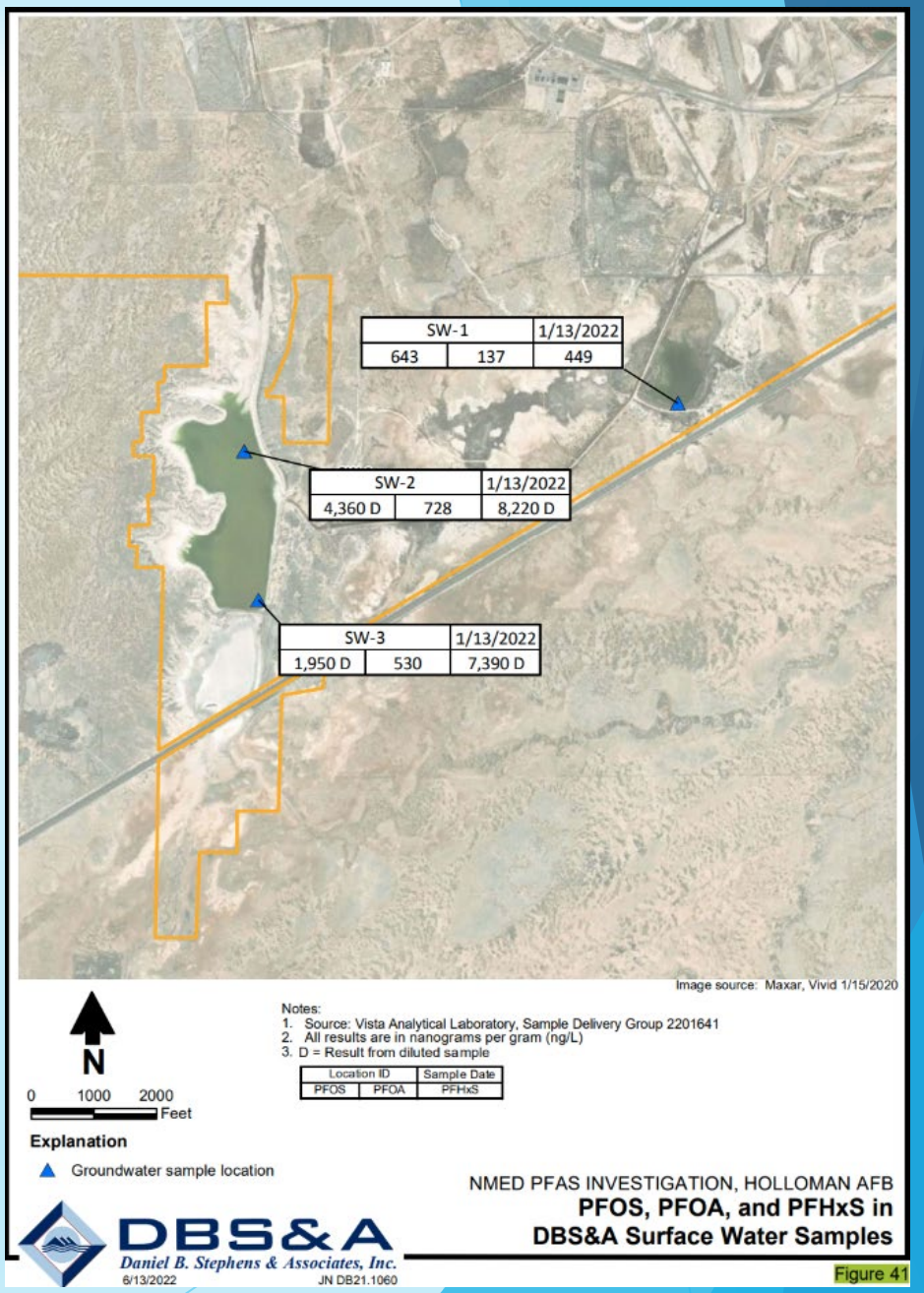
Prepared for
New Mexico Environment Department
Hazardous Waste Bureau
Santa Fe, New Mexico

Prepared by
DBS&A

June 30, 2022

Phase 2 Investigation Report
NMED PFAS Investigation
Holloman Air Force Base and
Surrounding Area

"Holloman Lake is the largest and most ecologically significant water source in the Tularosa Basin (16,800 km2)"



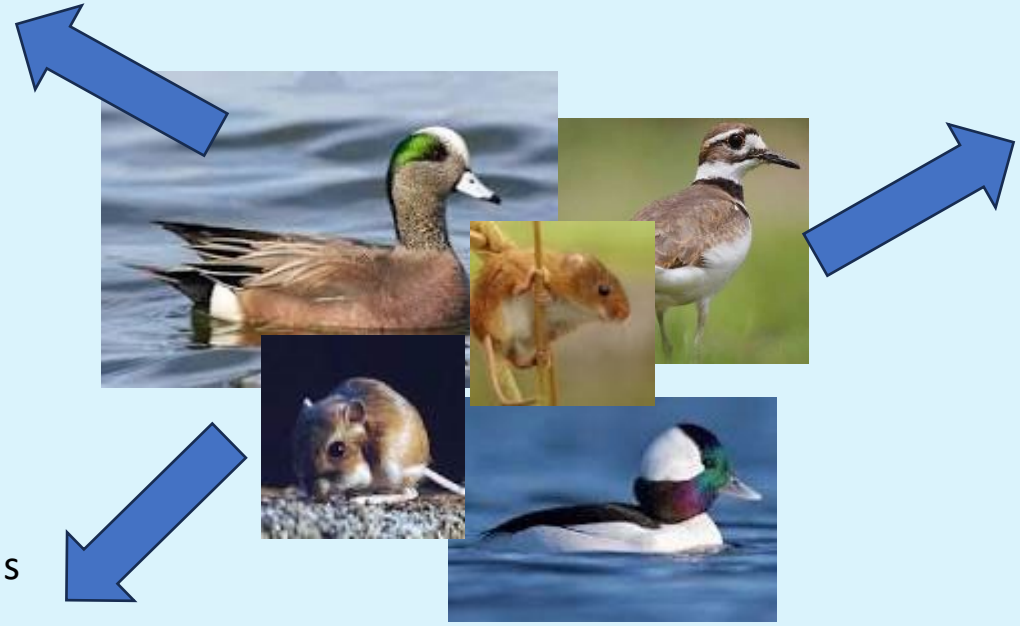
PFAS Biological injury - Holloman Lake

An injury to a biological resource has resulted from the discharge of oil or release of a hazardous substance if concentration of the substance is sufficient to …

Edible portions of organisms are unsafe for human consumption

"…Exceed action or tolerance levels established under section 402 of the Food, Drug and Cosmetic Act, 21 U.S.C. 342, in edible portions of organisms"

[43 CFR § 11.62(f)(1)(ii)]



Reduced reproduction; adverse effects to other biota via their diet

"…Cause the biological resource or its offspring to have undergone at least one of the following adverse changes in viability: death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction), or physical deformations"
[43 CFR § 11.62(f)(1)(ii)]

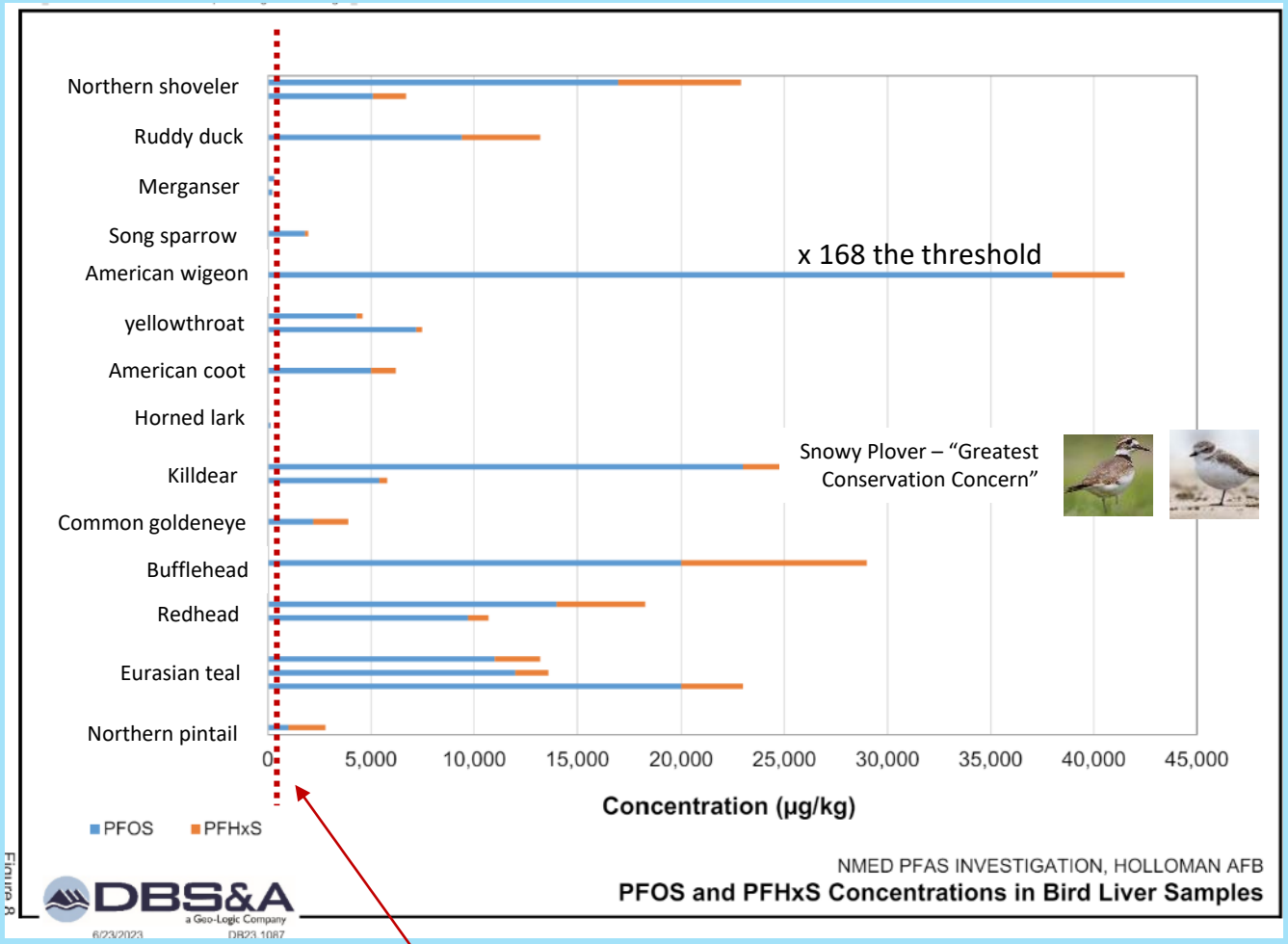
Advisories

"…Exceed levels for which an appropriate state health agency has issued directives to limit or ban consumption of such organism"
[43 CFR § 11.62(f)(1)(iii)]

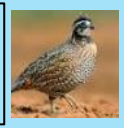
Surface water injury:

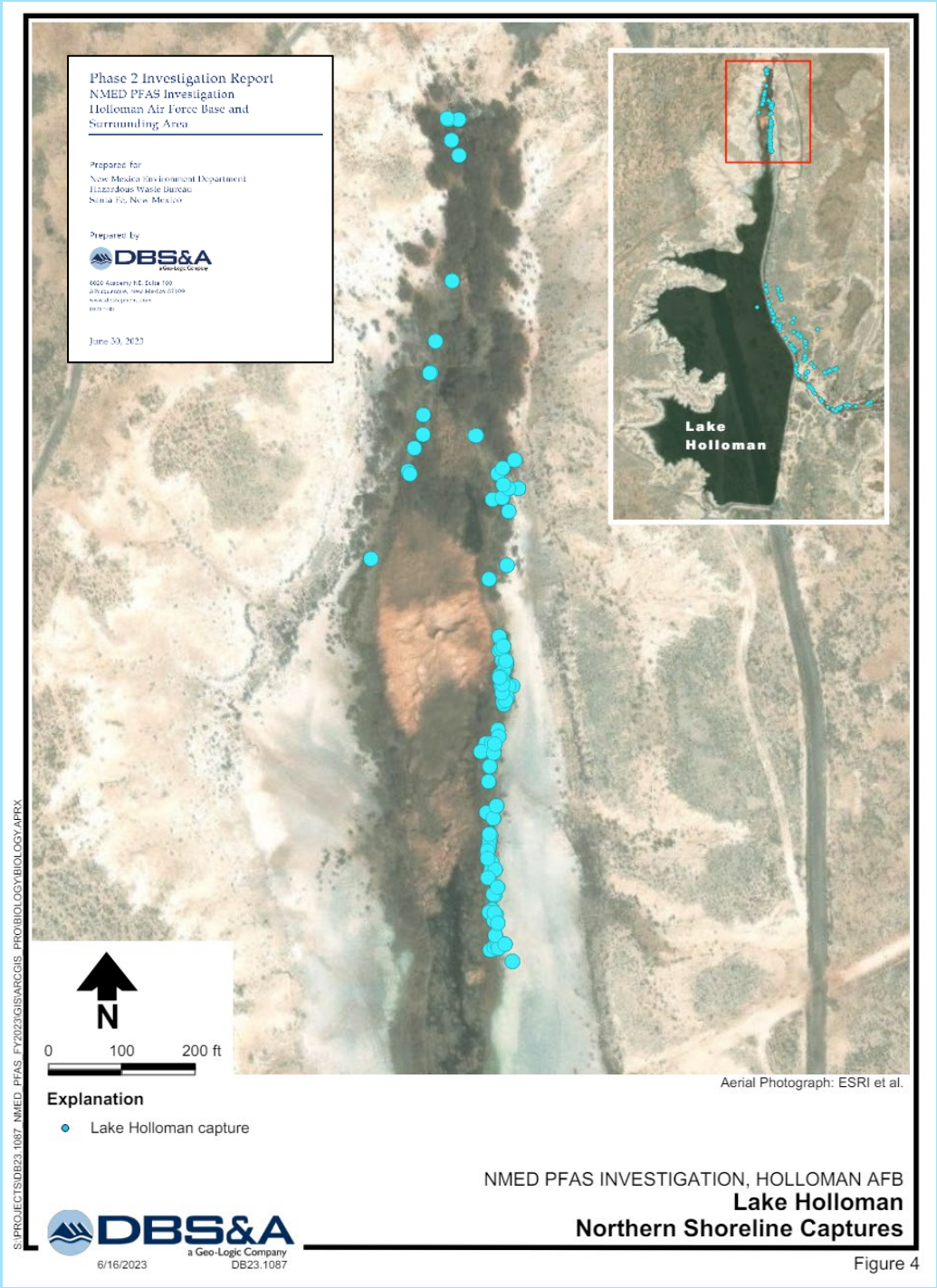
Concentrations and duration of substances sufficient to have caused injury as defined in paragraphs (c), (d), (e), or (f) of this section to ground water, air, geologic, or biological resources, when exposed to surface water, suspended sediments, or bed, bank, or shoreline sediments" [43 CFR § 11.62(b)(1)(v)]

PFAS Holloman Lake
Bird Liver Tissue Threshold Exceedances

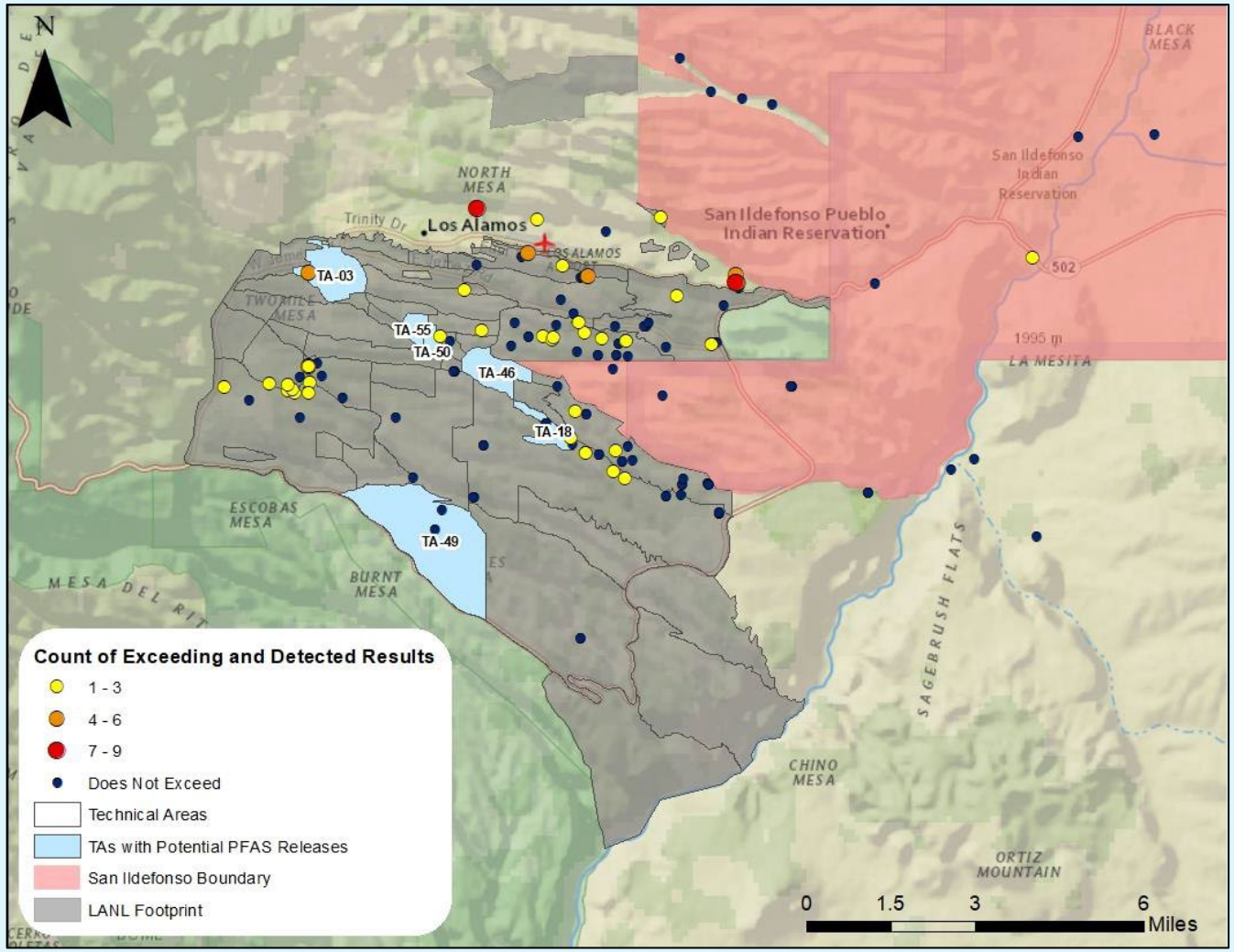


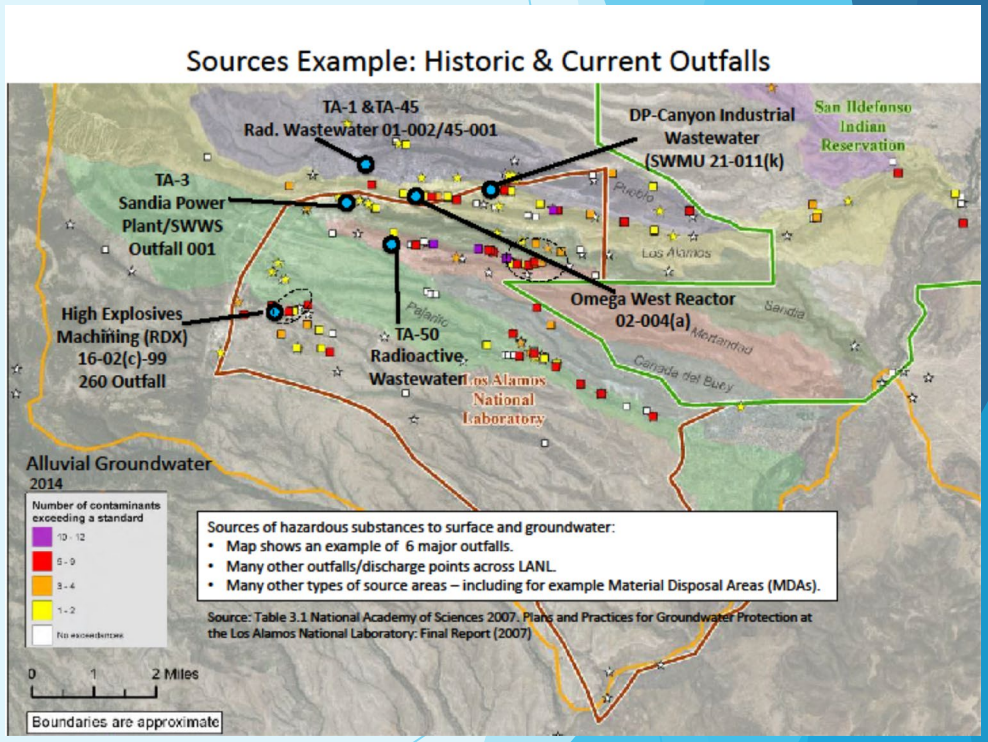
PFOS liver tissue threshold - reduced reproduction
226 - 325 ug/kg (Dennis et al, 2021)
600 ug/kg (Newsted et al., 2005)



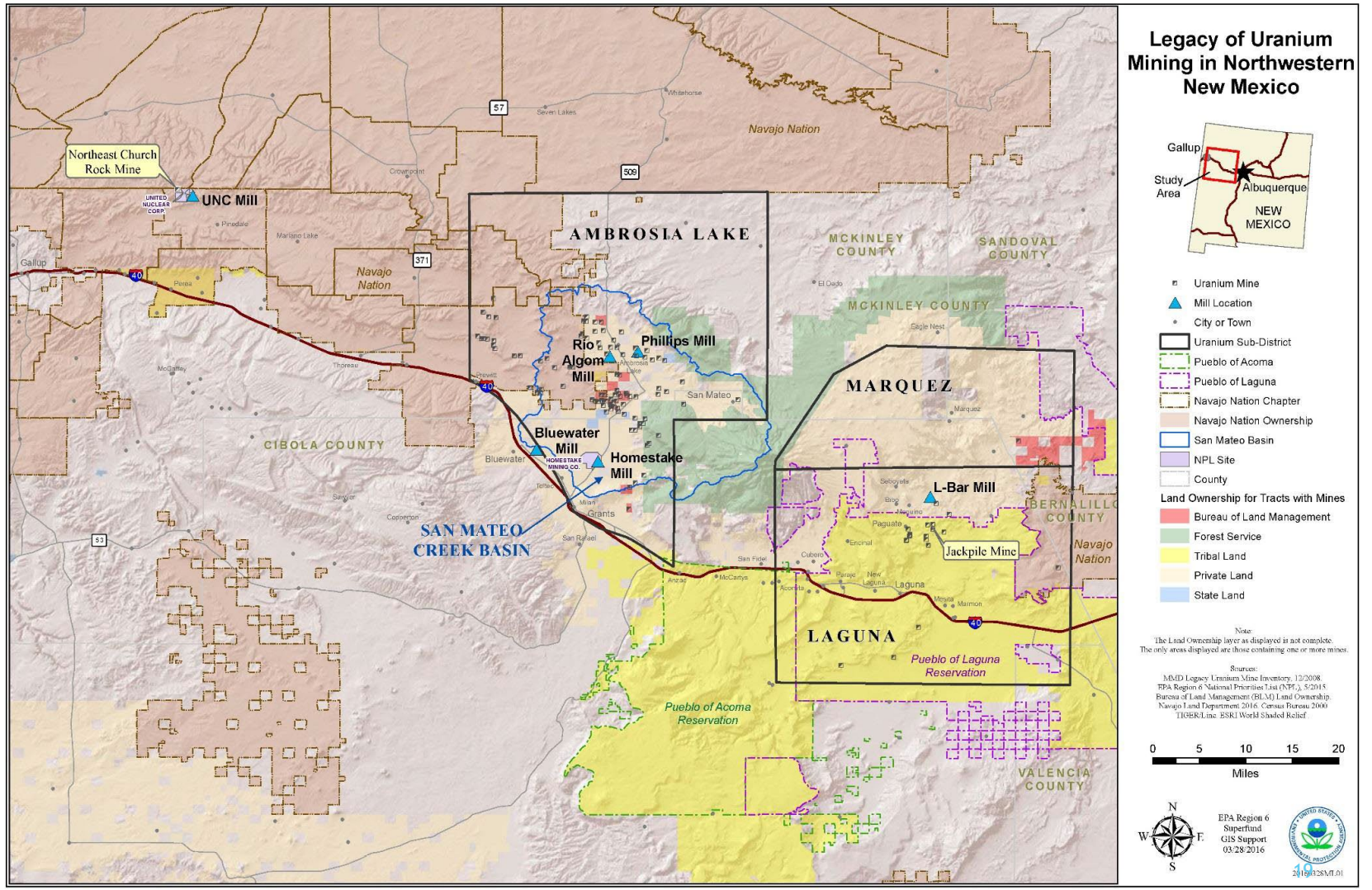


PFAS - LANL


N
NORTH MESA
Los Alamos
Trinity Dr
LOS ALAMOS
TWOMILE MESA
TA-03
TA-55
TA-50
TA-46
TA-18
TA-49
ESCOBAS MESA
MESA DEL RIT
BURNT MESA
San Ildefonso Pueblo Indian Reservation
San Ildefonso Indian Reservation
502
1995 m
LA MESITA
BLACK MESA
SAGEBRUSH FLATS
CHINO MESA
ORTIZ MOUNTAIN
Count of Exceeding and Detected Results
1 - 3
4 - 6
7 - 9
Does Not Exceed
Technical Areas
TAs with Potential PFAS Releases
San Ildefonso Boundary
LANL Footprint
0 1.5 3 6
Miles

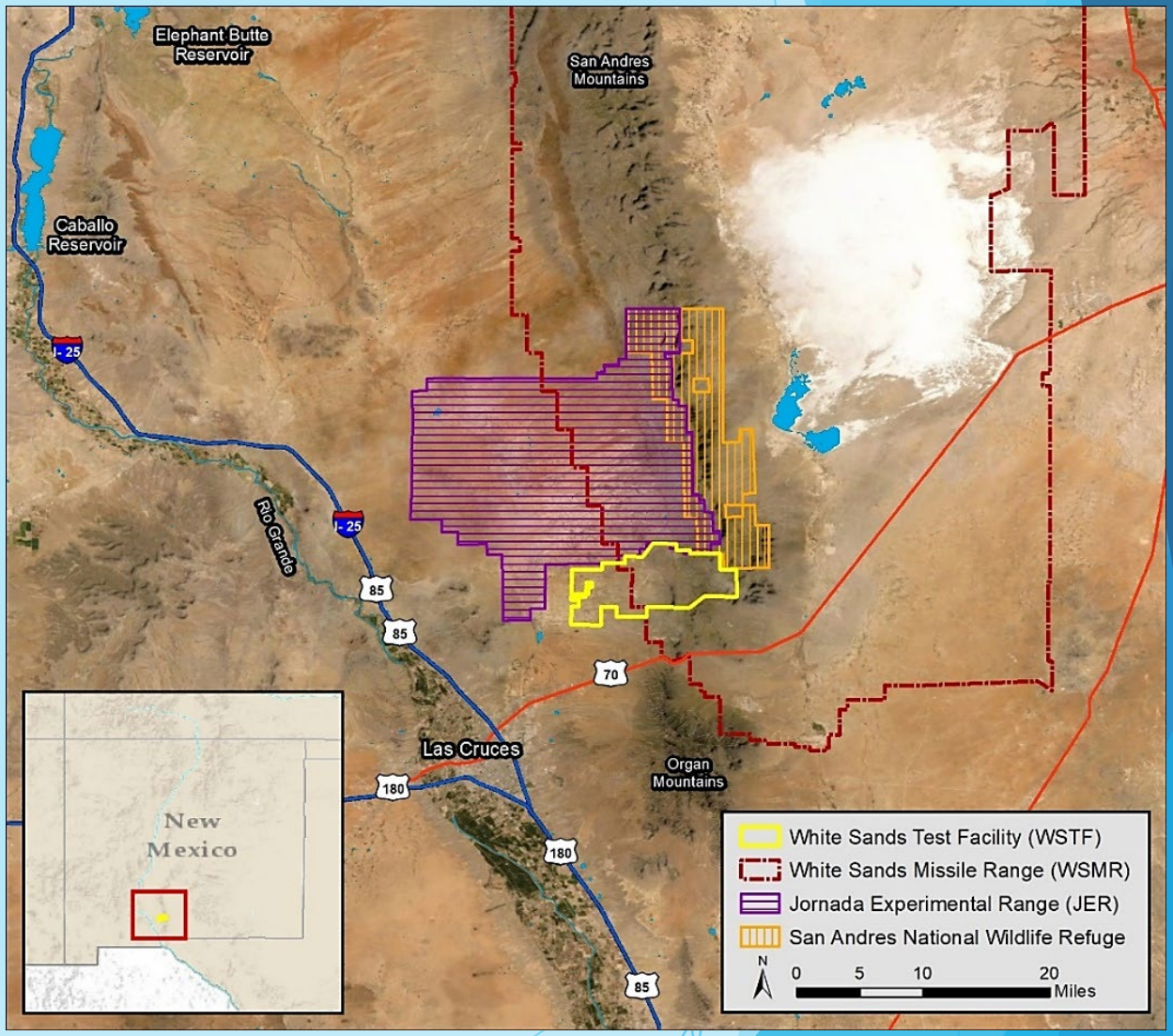

Sources Example: Historic & Current Outfalls
TA-1 &TA-45
Rad. Wastewater 01-002/45-001
DP-Canyon Industrial
Wastewater
(SWMU 21-011(k)
San Ildefonso
Indian
Reservation
TA-3
Sandia Power
Plant/SWWS
Outfall 001
Omega West Reactor
02-004(a)
High Explosives
Machining (RDX)
16-02(c)-99
260 Outfall
TA-50
Radioactive
Wastewater
Los Alamos
National
Laboratory
Alluvial Groundwater
2014
Number of contaminants exceeding a standard
10 - 12
8 - 9
3 - 4
1 - 2
No exceedances
Sources of hazardous substances to surface and groundwater:
• Map shows an example of 6 major outfalls.
• Many other outfalls/discharge points across LANL.
• Many other types of source areas – including for example Material Disposal Areas (MDAs).
Source: Table 3.1 National Academy of Sciences 2007. Plans and Practices for Groundwater Protection at the Los Alamos National Laboratory: Final Report (2007)
0 1 2 Miles
Boundaries are approximate

Grants Mining District – uranium mines and mills

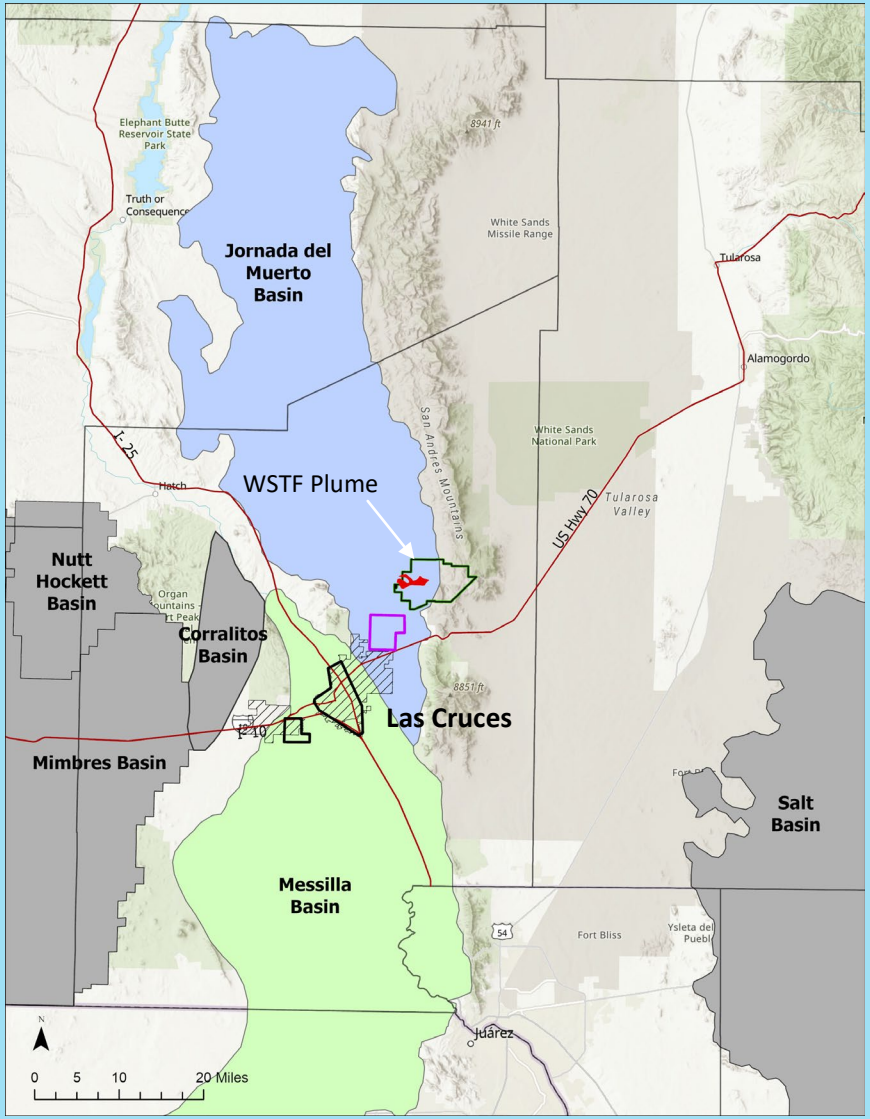


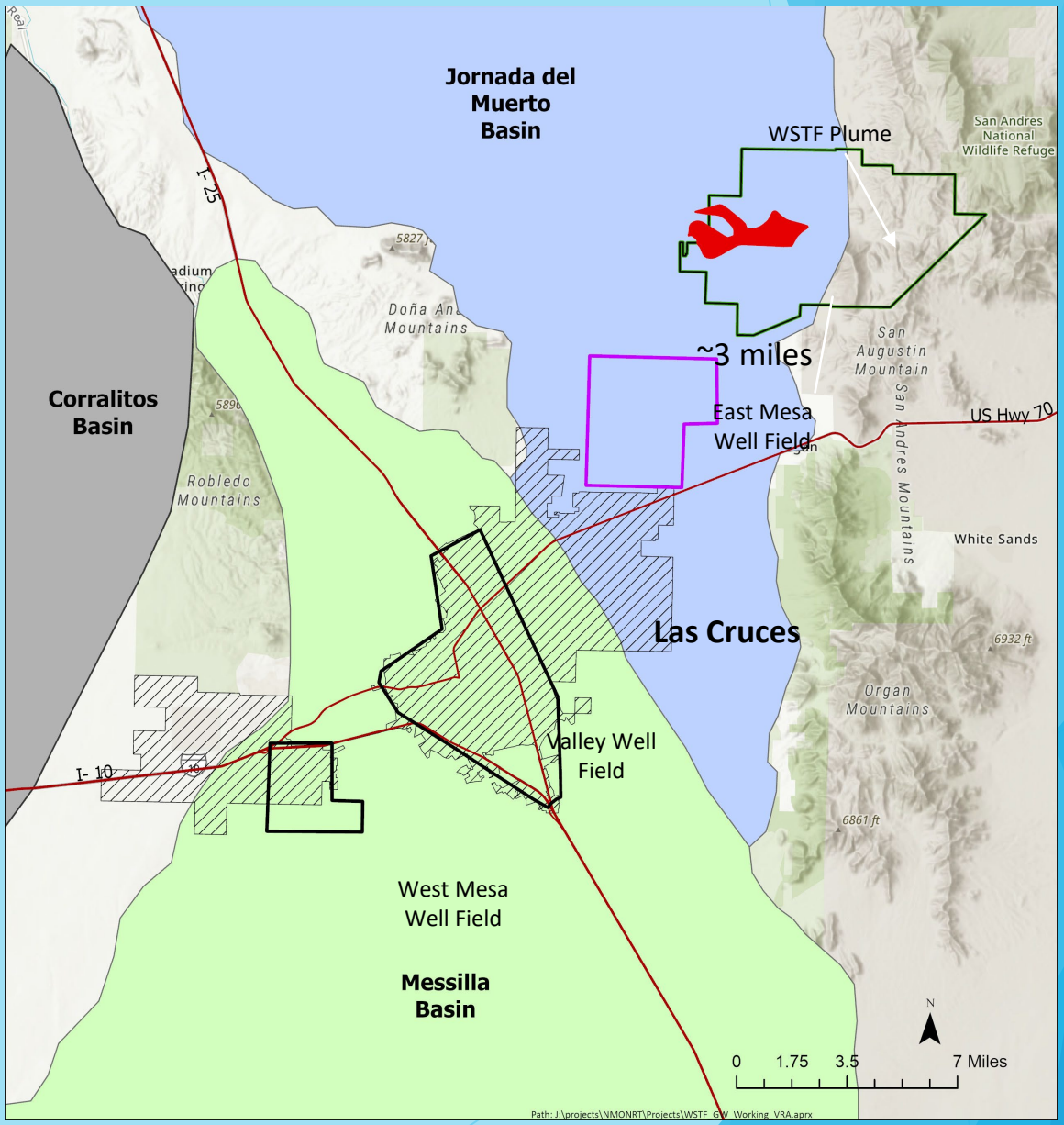
White Sands Test Facility

- Injuries:
  - groundwater contaminated with trichloroethylene, perchloroethylene, n-nitrosodimethylamine
- PRP: NASA and DOD
- Co-Trustees
  - DOI
  - US Dept of Agriculture
  - NASA/DOD
- Status: ONRT conducting the assessment
  - Preassessment Screen completed in 2016
  - Damage Assessment Plan developed in 2019
  - Assessment activities ongoing
  - Potential settlement discussions with NASA and DOD



Location of WSTF Groundwater Contaminant Plume





WSTF Current Status/Next Steps

- NASA, DOD, & DOJ accept ONRT's invitation to participate in good-faith settlement discussions

  or

- ONRT issues a formal demand and files a natural resources damages claim

Questions?

Maggie Hart Stebbins, Trustee
maggie.hartstebbins@onrt.nm.gov
505-231-7542

Kate Girard, Executive Director
kate.girard@onrt.nm.gov
505-313-1837