



# 2020 Lordsburg Playa Dust Storm Mitigation Update

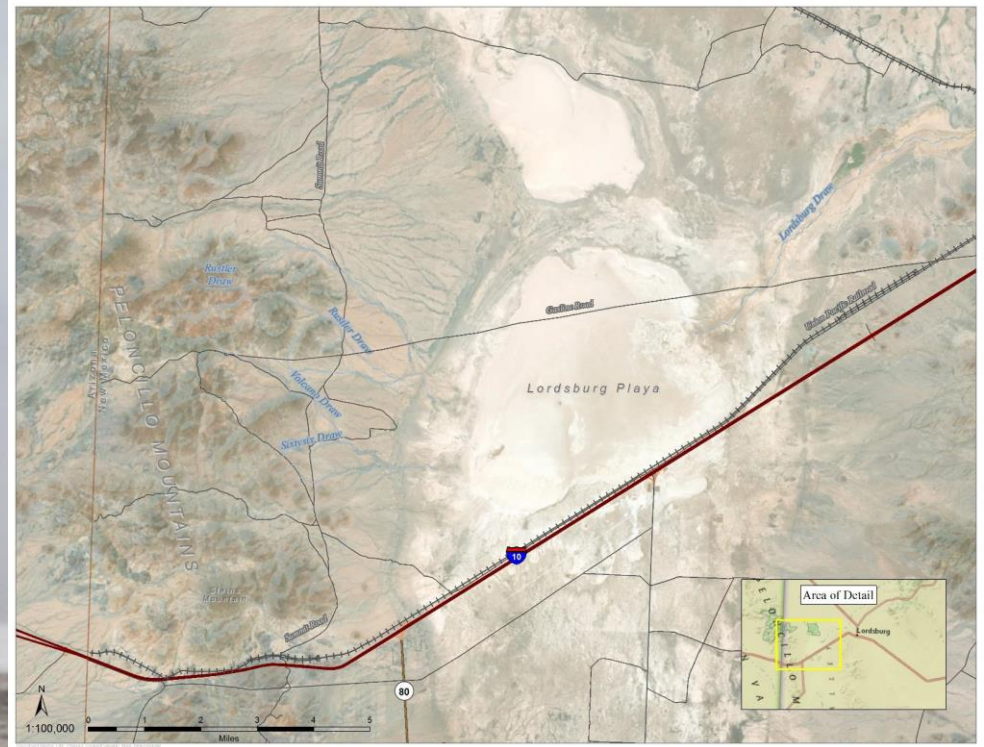
Trent Botkin & Bill Hutchinson

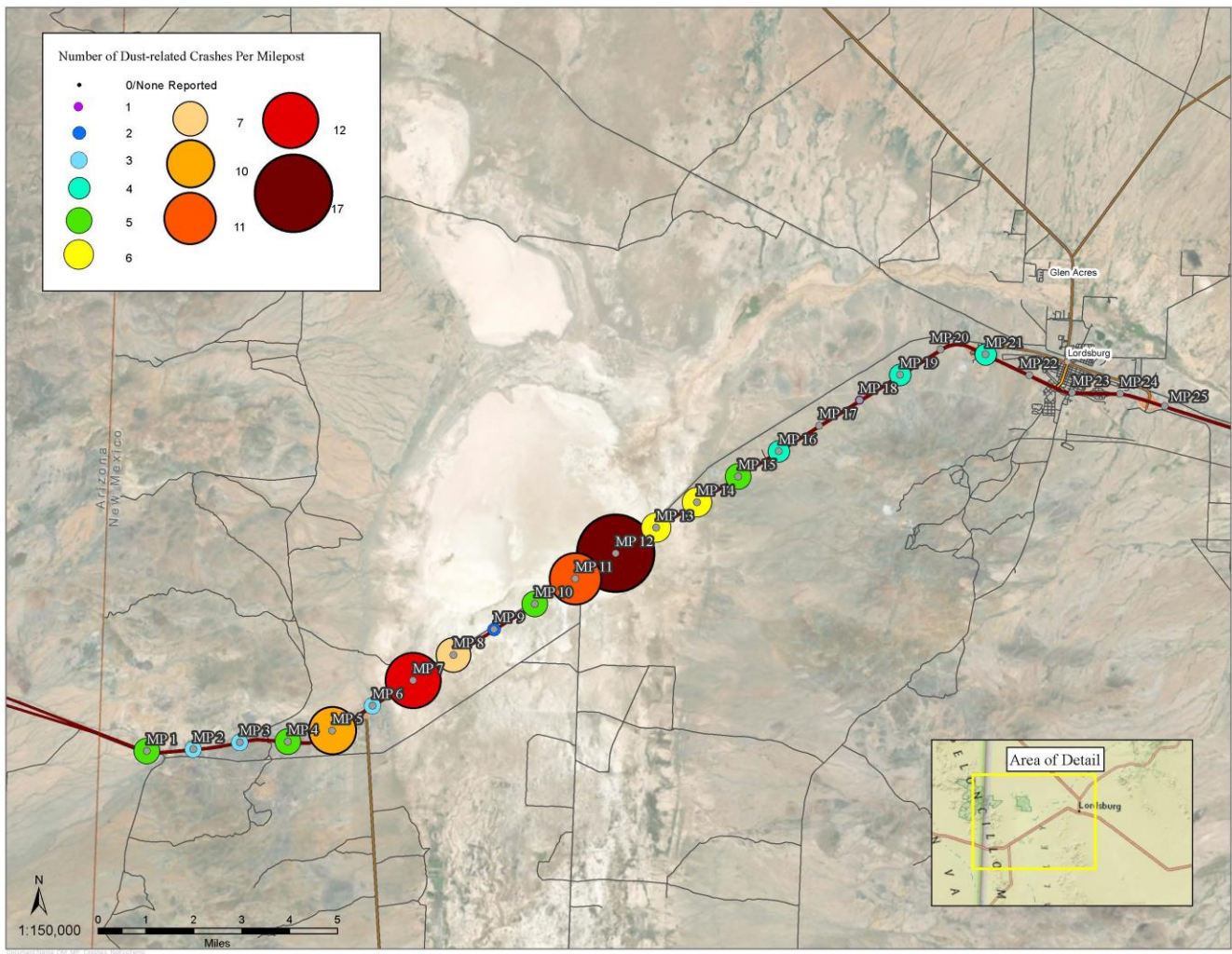
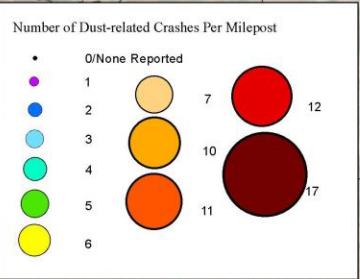
# Lordsburg Playa Dust Storms

1965 – Present: Over 40 Dust-related

Highway Deaths

2012 – Present: 21 Deaths  
39 Closures of I-10  
120 Dust Events





# NMDOT Environmental Bureau Dust Mitigation Projects

**\$1.5 Million FHWA Highway Safety Improvement Program: Dust Mitigation Actions**

**\$185K FHWA/NMDOT Research Bureau: NMSU Dust Monitoring**

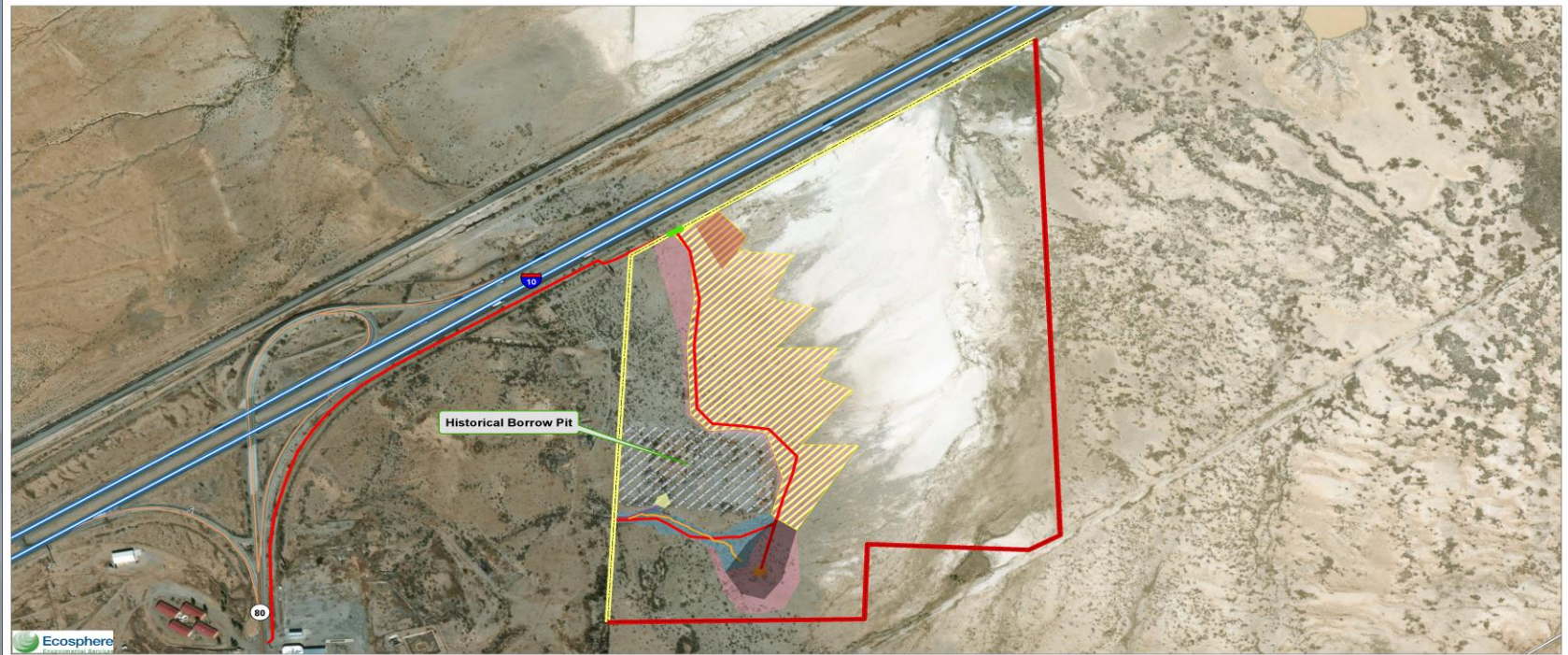
**\$248,000 FHWA/NMDOT Funding: Seed Development for Restoration**

# I-10 MP 6 – Road Forks Playa

- Site of Multiple Crash Fatalities
- Sediment Accumulation in small dry lake (playa)
- Opportunity to reduce the amount of available dust near the roadway



# Road Forks Dust Mitigation Area Final Design



- |                |                    |   |                         |
|----------------|--------------------|---|-------------------------|
| Access Road    | Trash Removal Area | Rock Staging Area                                   | Microborm Concentration |
| Existing Fence | Historical Channel | Media Luna Impact Area                              | Imprinting and Seeding  |
| Access Gate    | Headcutting Arroyo | Imprinting, Seeding, and Tackifier Application Area |                         |
| Proposed Fence | Channel Work       |   |                         |

## Road Forks/Lordsburg Playa Dust Mitigation Project

Hidalgo County, New Mexico

Sections 6 & 7, Township 24S, Range 20W  
 Sections 1 & 12, Township 24S, Range 21 W  
 N.M.P.M.



1:6,000



Coordinate System: NAD 1983 UTM Zone 13N

# Road Forks Dust Mitigation Area

Sept. 2018: Keylining, Imprinting, Tackifier, Fence



# Road Forks Dust Mitigation Area February 2019 (5 months after Implementation)



**Revegetation Area**



**Channel Restoration  
Area**



**Crust Re-Establishment  
From Grazing Exclusion**



# Road Forks Dust Mitigation Area

## Revegetation and Soil Stabilization Success January 2019 (16 months after Implementation)



**Revegetation Area**

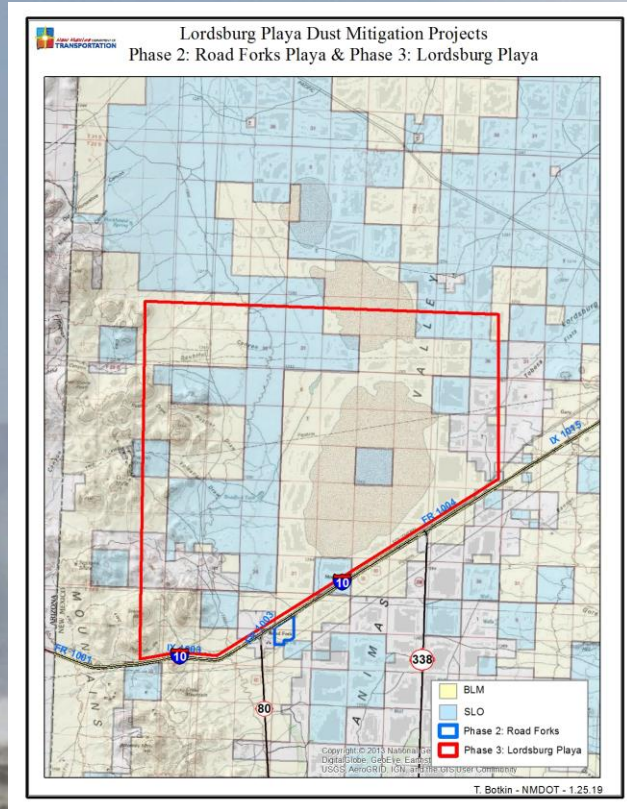


**Channel Restoration  
Area**



**Crust Re-Establishment  
From Grazing Exclusion**

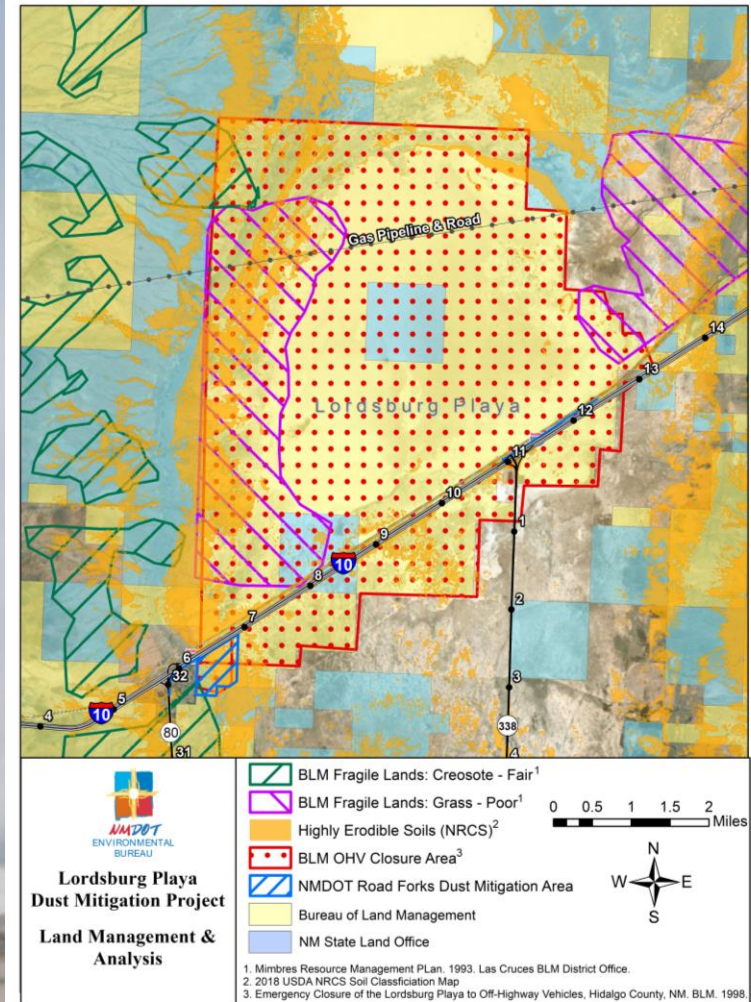
# Phase 3: Lordsburg Playa



- Over 16 Square Miles of Playa Floor
- Eroding playa surface & watershed
- Land managed by BLM & SLO
- Surface Disturbance Analysis

# Land Management Assessment

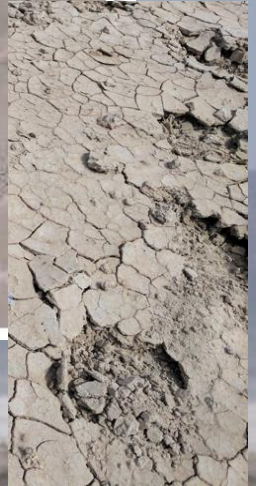
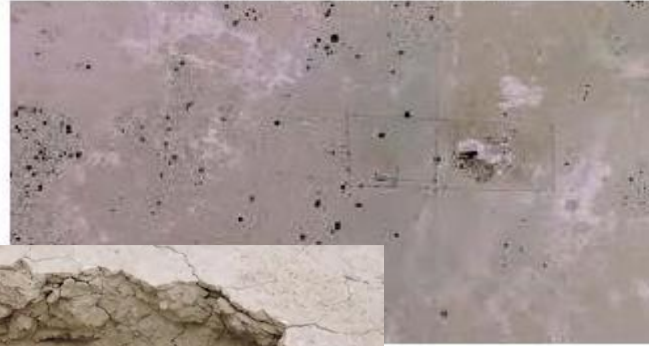
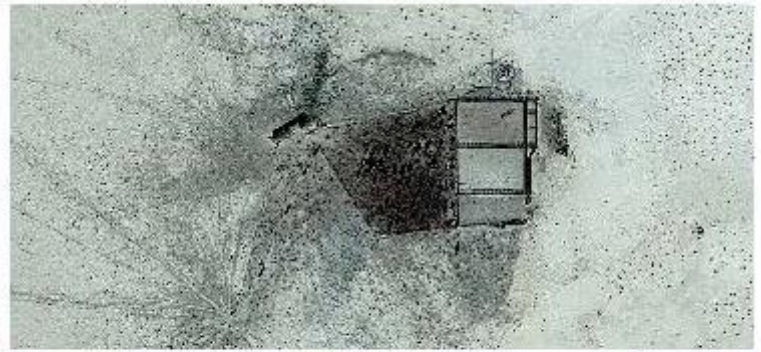
- 1993 BLM Resource Management Plan identifies playa shoreline as fragile soils with poor grass and all grazing allotments in unsatisfactory conditions
- 1998 Off-Highway Vehicle Closure Area due to recreational vehicle use causing dust responsible for 4 fatalities
- 2018 NRCS Soil Survey
- 2020 NMDOT Surface Disturbance Analysis



## Breached Berm Causing Grassland Erosion and Depositing Sediment on Playa



# Cattle Disturbance on Playa Surface



# Surface Disturbance Analysis Conclusions

## Watershed

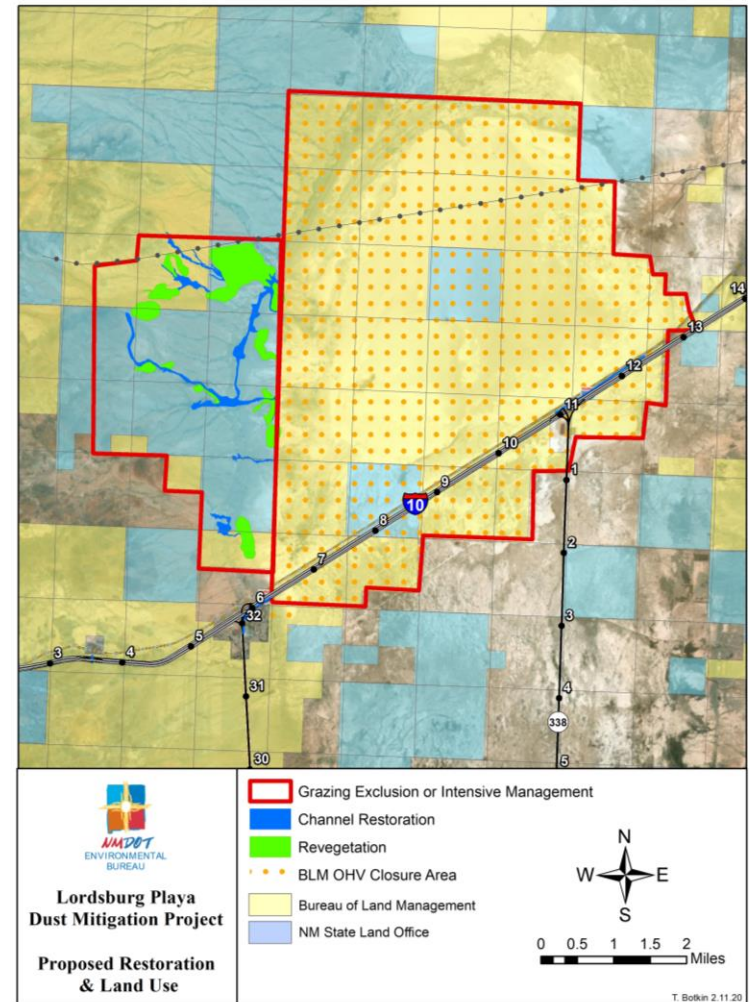
Historic and modern ranching practices are increasing amount of sediment deposited on playa through erosion of soil & channels, breached tanks & berms, and restricting vegetation recovery

## Playa Surface

Current livestock use destabilizing playa surface crust, increasing the amount of available dust

# Proposed Restoration & Land Use To Reduce Dust Storm Intensity and Improve Roadway Visibility

- Restoration of channels and revegetation of grasslands
- Grazing Exclusion or Intensive Management on Restoration Project & OHV Closure Area (24,000 acres/38 sq. mi)



# Re-nomination of BLM Designation : Area of Critical Environmental Concern (ACEC)\*

**Relevance:** Natural Hazard (unstable soils); a hazard caused by human action may meet the relevance criteria if it is determined through the RMP process that it has become part of a natural process.

**Importance:**

- a) Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare.
- b) Poses a significant threat to human life and safety or to property.

**\*ACEC Designation would allow for special management conditions**



# Project Collaboration

**BLM: Stakeholder and contributor**

**NM DPS: Provide first-hand experience and crash data**

**Landowners/Lessees: Provide long-term knowledge of range conditions**

**Consultants: Stream Dynamics, Site Southwest, Ecosphere**

**NMDOT: District 1 (Deming), Research Bureau, & Management Support**

**State Land Office: Stakeholder and contributor**

**NRCS: Soil Survey**

**NMSU: State Climatologist Dr. Dubois conducting intensive dust storm analysis using NMDOT Research Bureau funding**

**USDA-Jornada Experimental Range: Establishing a research station on the playa as part of the National Wind Erosion Research Network**

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