2020 Lordsburg Playa Dust Storm Mitigation Update

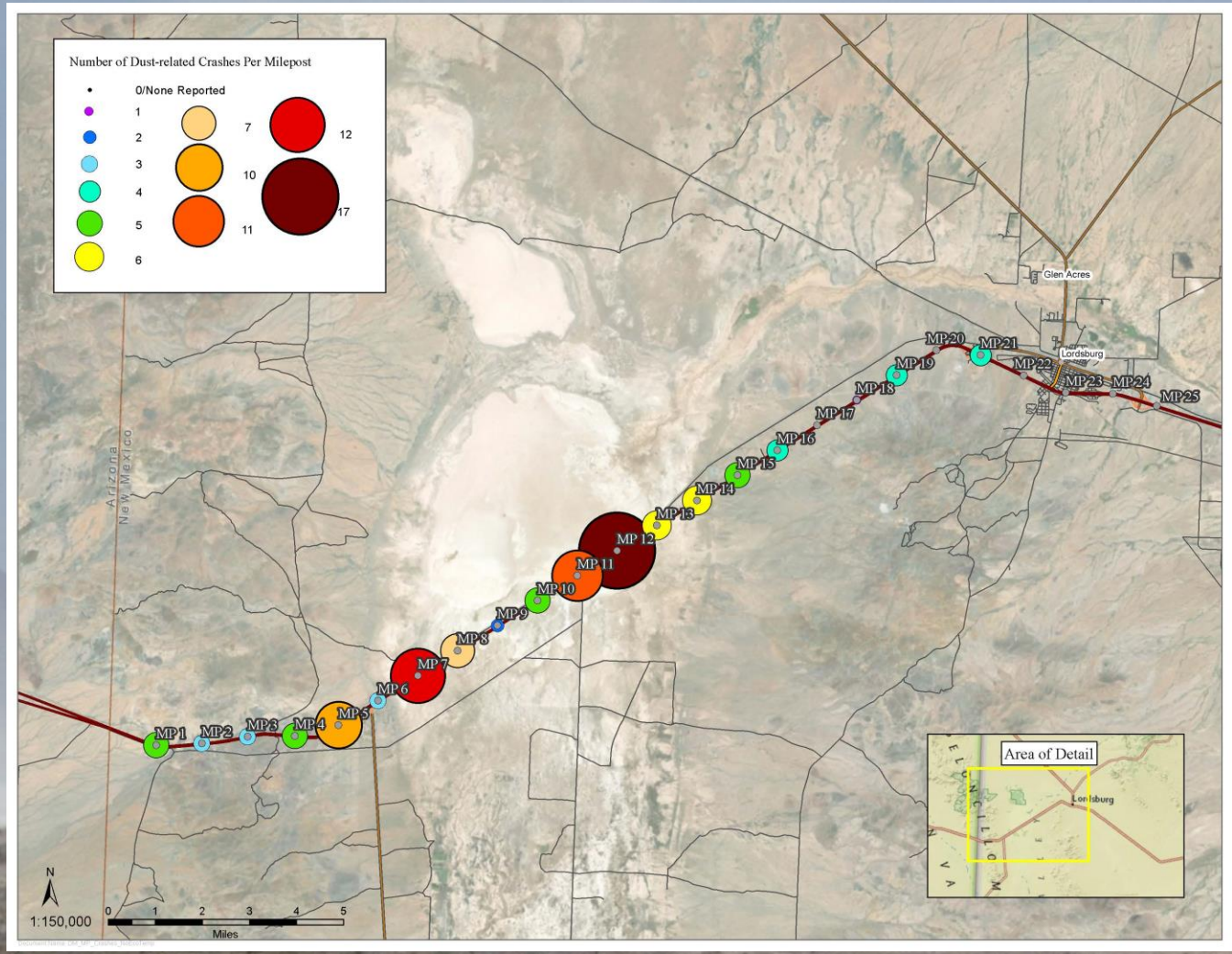
Trent Botkin & Bill Hutchinson

Lordsburg Playa Dust Storms

1965 –Present: Over 40 Dust-related

Highway Deaths

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


Number of Dust-related Crashes Per Milepost
0/None Reported
1
2
3
4
5
6
7
10
11
12
17
Arizona
New Mexico
Glen Acres
Lordsburg
MP 1
MP 2
MP 3
MP 4
MP 5
MP 6
MP 7
MP 8
MP 9
MP 10
MP 11
MP 12
MP 13
MP 14
MP 15
MP 16
MP 17
MP 18
MP 19
MP 20
MP 21
MP 22
MP 23
MP 24
MP 25
Area of Detail
Lordsburg
N
1:150,000
0 1 2 3 4 5
Miles

NMDOT Environmental Bureau Dust Mitigation Projects

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

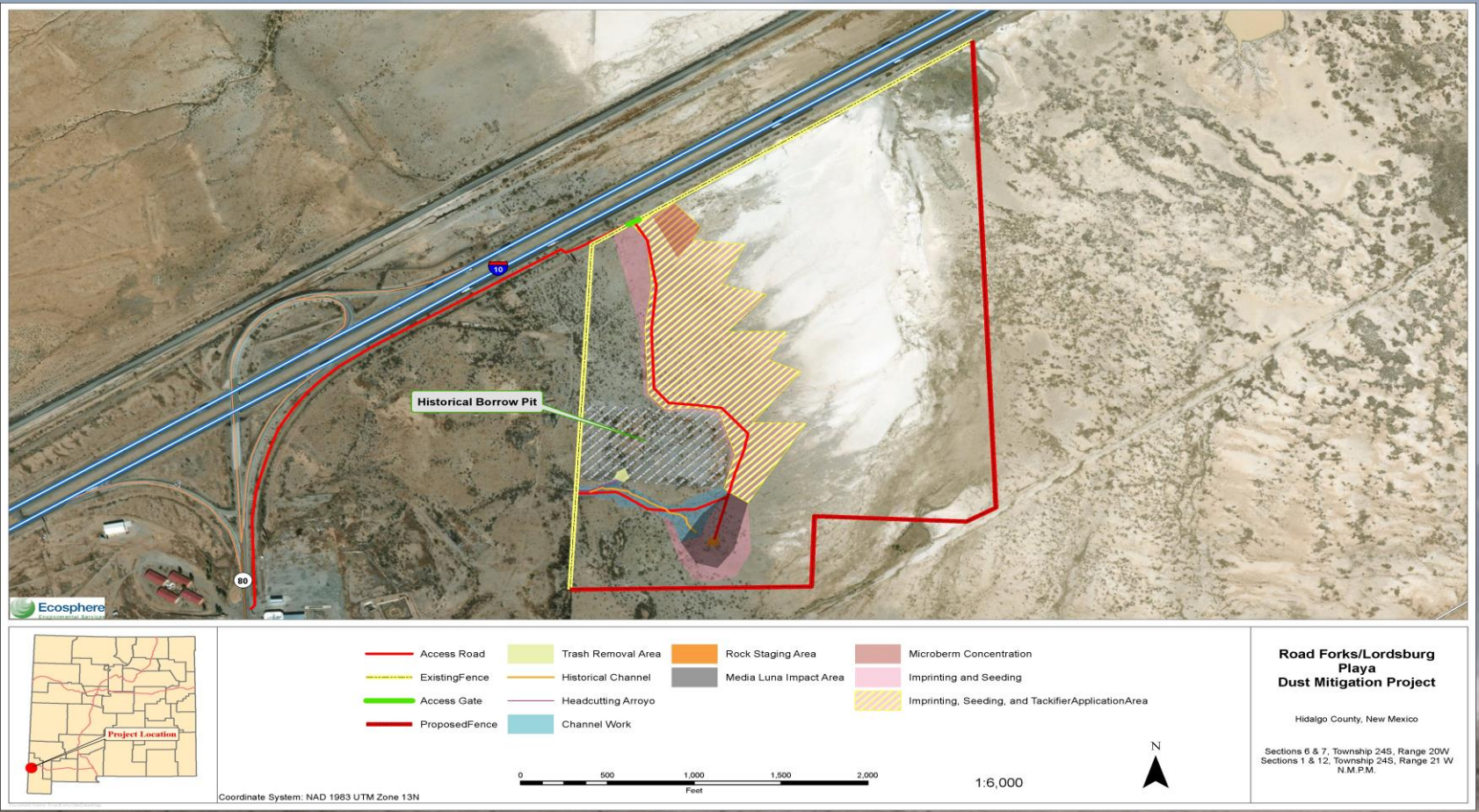
$185K FHWA/NMDOT Research Bureau: NMSU Dust Monitoring

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

I-10 MP 6 – Road Forks Playa

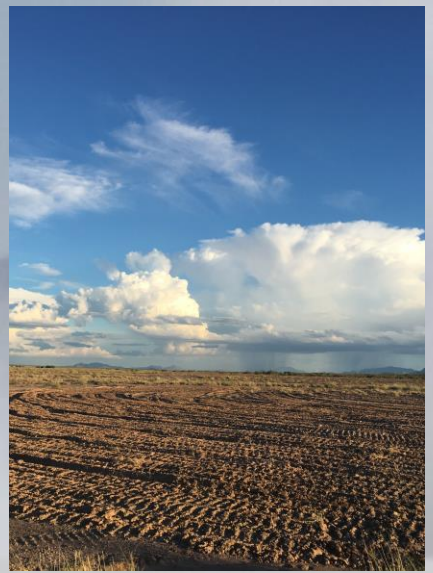
- Site of Multiple Crash Fatalities
- Sediment Accumulation in small dry lake (playa)
- Opportunity to reduce the amount of available dust near the roadway

Road Forks Dust Mitigation Area Final Design



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

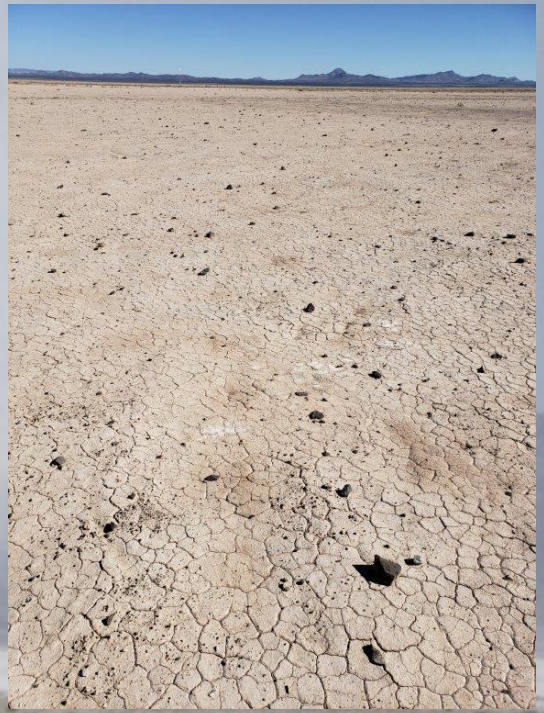
Crust Re-Establishment From Grazing Exclusion

Road Forks Dust Mitigation Area

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

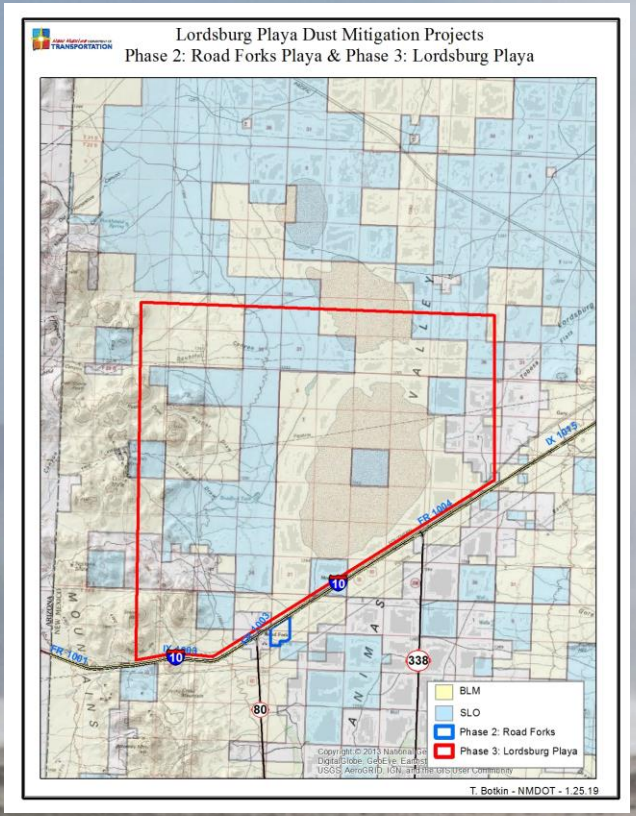
Revegetation Area

Channel Restoration Area



Crust Re-Establishment From Grazing Exclusion

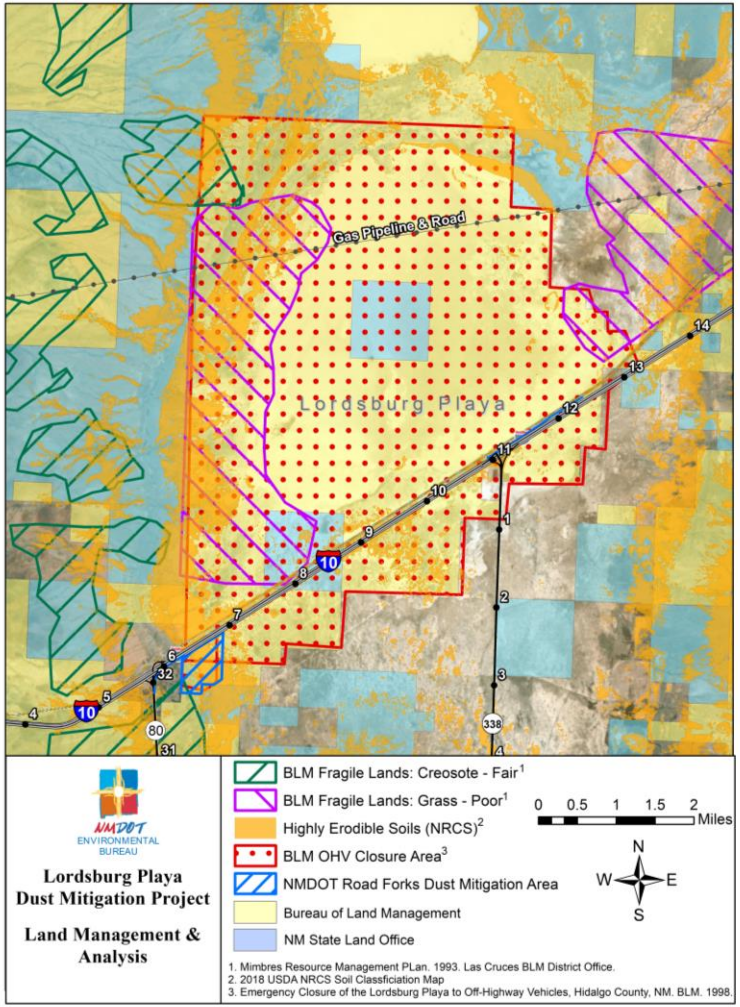
Phase 3: Lordsburg Playa



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

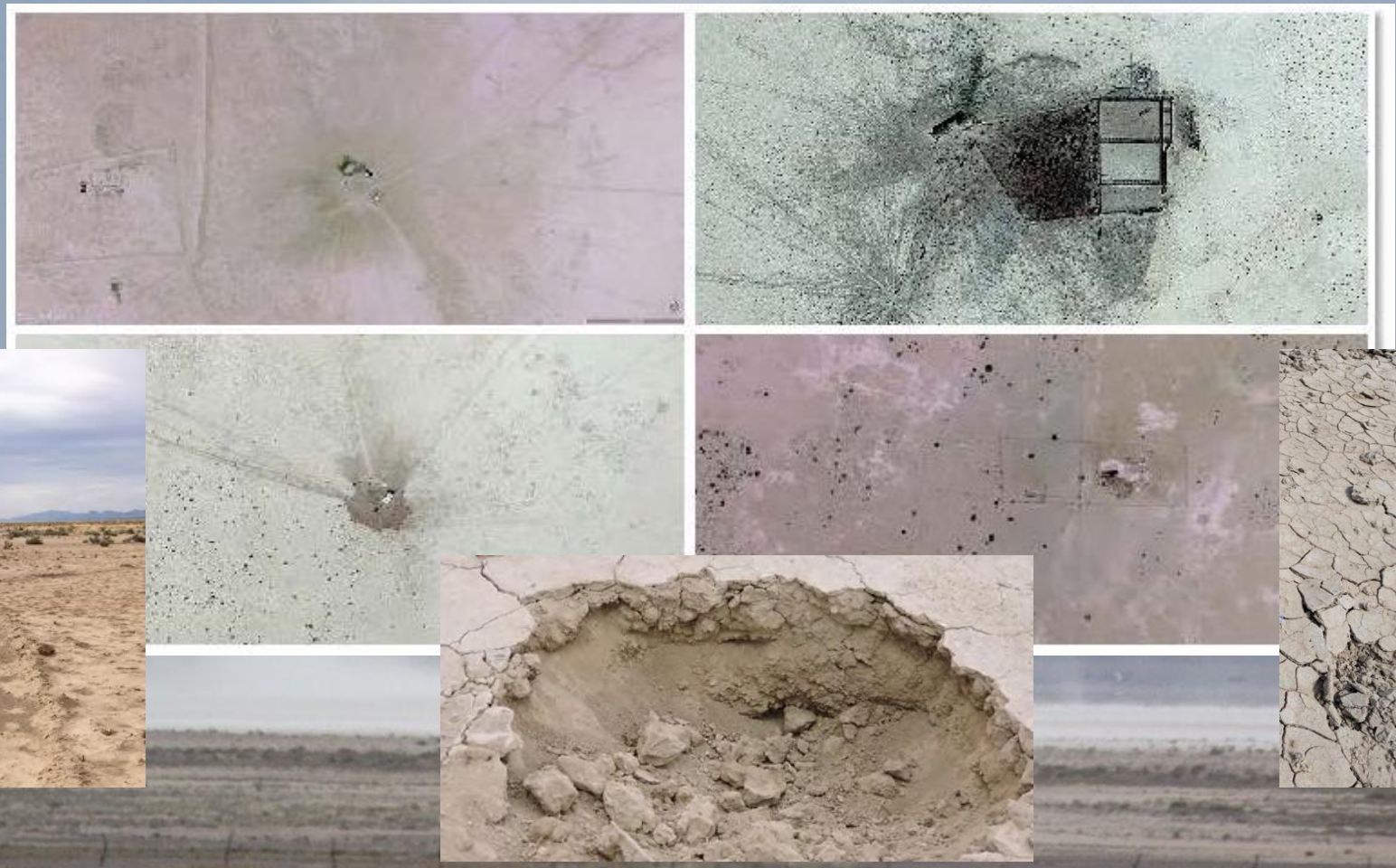
Land Management Assessment

- 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

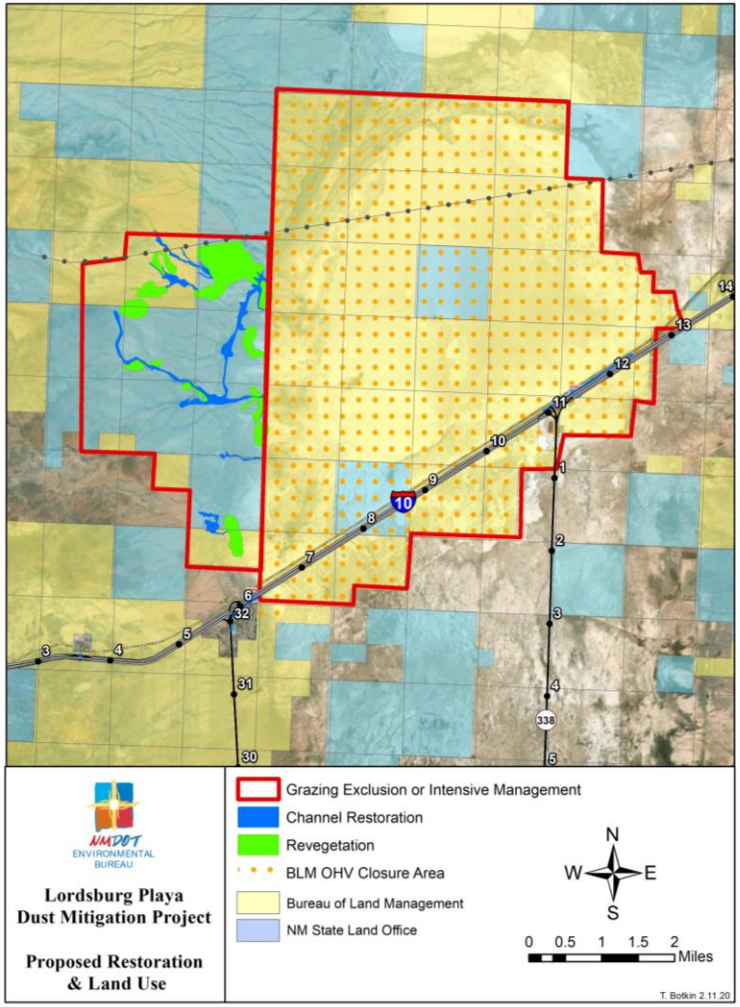
Current livestock use destabilizing playa surface crust, increasing the amount of available dust

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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