



Southern Nevada Agency Partnership



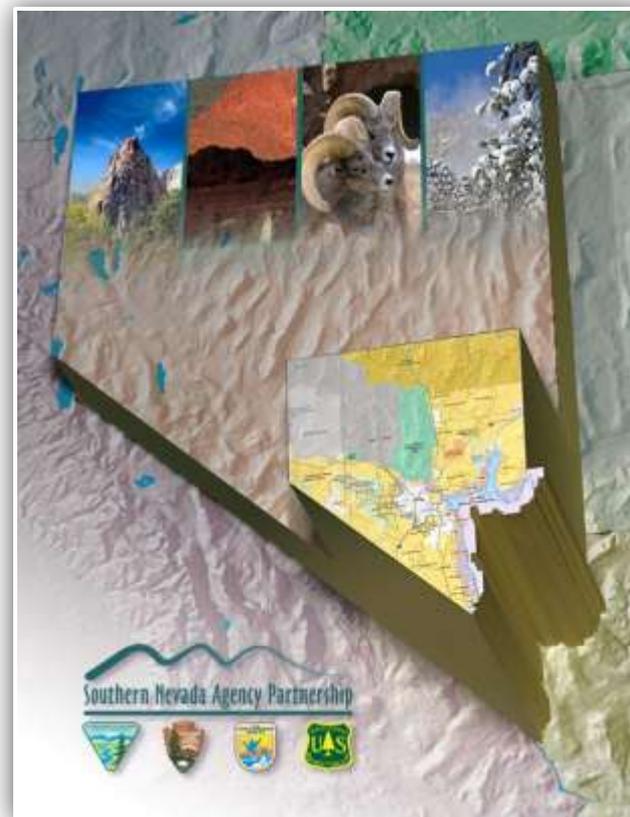
Southern Nevada Agency Partnership & Southern Nevada Restoration Team

Disturbance Inventory & Restoration Tracking
(DIRT) Geospatial Database,
Shared Server Approach

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- **Introduction**
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Why we need a geospatial database

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In recent decades, public land in southern Nevada experienced OHV and other anthropogenic “disturbances” at unprecedented rates, overwhelming current resource damage mitigation strategies.



Disturbance Inventory & Restoration Tracking (DIRT) Geospatial Database

- **Seamless and Standard Data Across Southern Nevada Public Land**
 - **DOI**
 - Bureau of Land Management (BLM)
 - Fish & Wildlife Service (FWS)
 - National Park Service (NPS)
 - **USDA**
 - US Forest Service (USFS)
- **ArcServer Cloud Connection – (@MDEP)**
 - User friendly display
 - Access to online resources
- **Minimal Maintenance**
 - Data upload via email
 - Quarterly Updated DIRT GDB
 - Automated SNAP & SNRT Performance Metric Reports
 - Simple and effective QA/QC



2003 – SNPLMA Round 4 approved

2005 – SNPLMA Round 4 available in August to begin development of the Disturbance Assessment & Restoration Tracking (DART) Database

2006 – UNLV begins DART Database & Protocol development

2010 – UNLV released from contract

- NPS begins developing Interagency Restoration Database (IRD)
- USGS begins developing IRD Protocol in cooperation with the NPS & Alice Newton

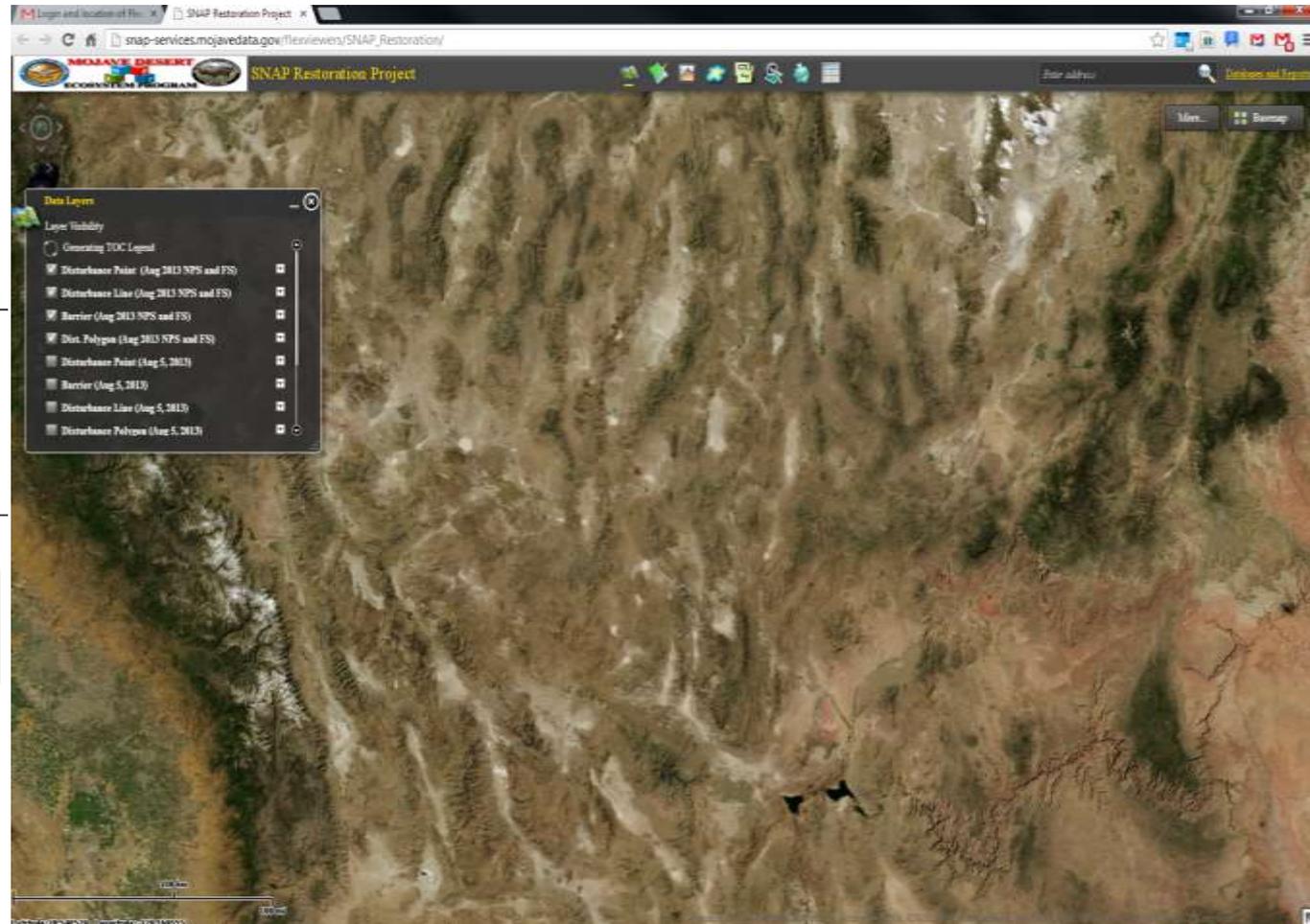
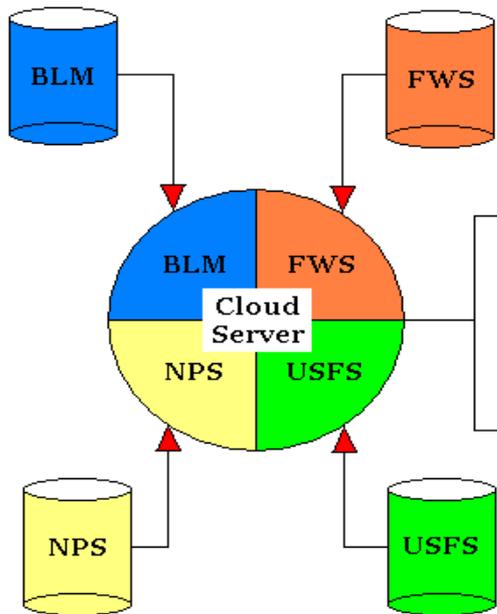
2011 – NPS completes IRD

- USGS released IRD Protocol, development lead by Lesley A. DeFalco

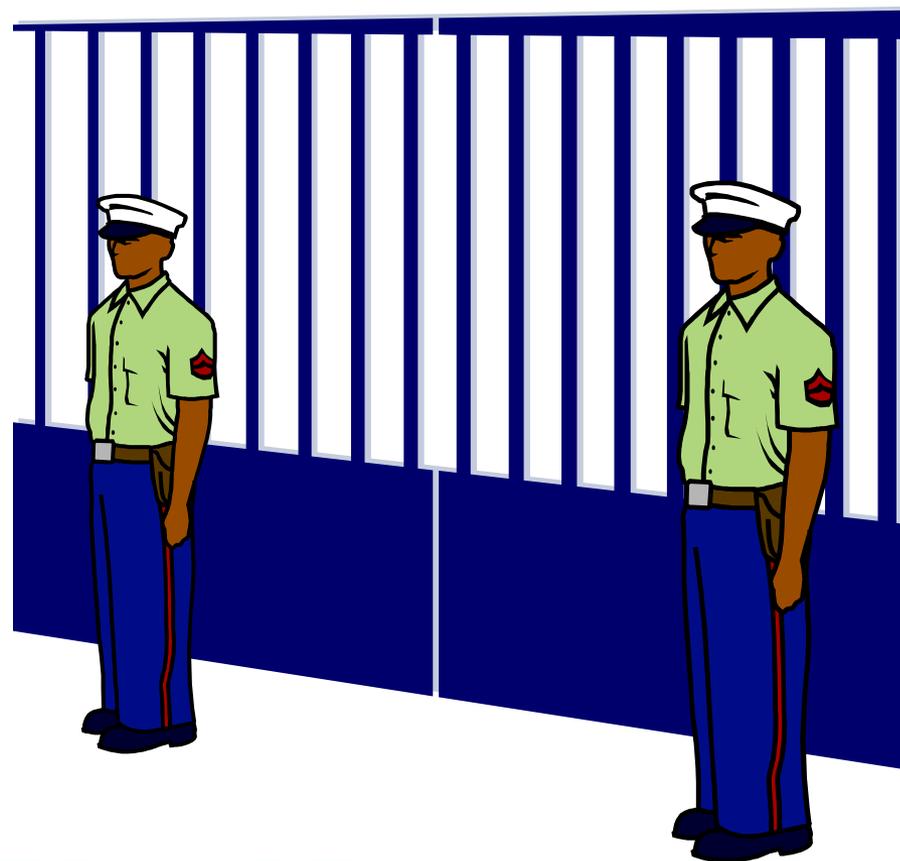
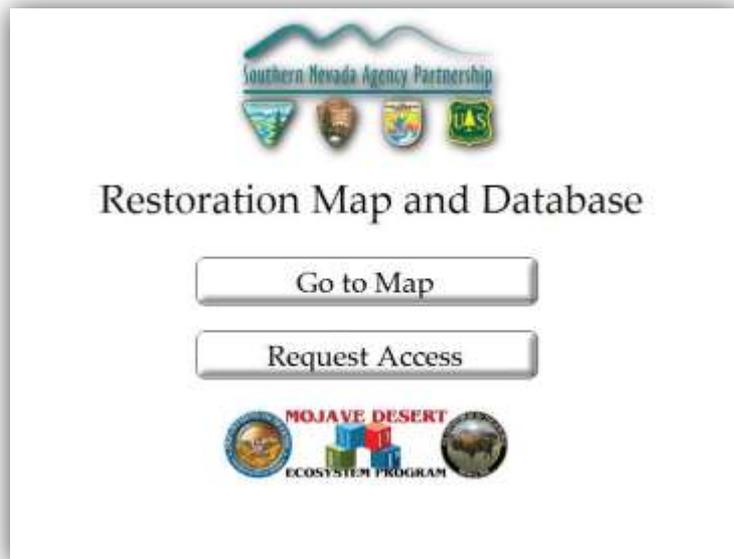
2013 – Disturbance Inventory & Restoration Tracking (DIRT) Database released in March

- DIRT Protocol completed
- DIRT Flexmap Service & Cloud Storage Launched
- DIRT modified to be compatible with NISIMS S1 Tool Bar
- Legacy restoration data loaded to DIRT Database

Disturbance Inventory & Restoration Tracking (DIRT) Geospatial Database



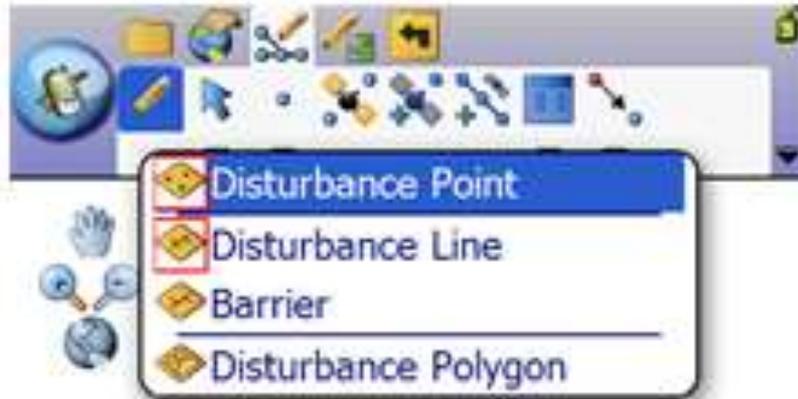
- **SNAP Partner Access**
 - 2 user accounts per agency
 - Additional accounts for contractors, volunteer groups, etc.
- **Other Users Access**
 - Read Only
 - No access to linked resources



Disturbance Examples

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Disturbance POINT

Agency	NPS
Region	<Null>
Location	<Null>
	BC - Boulder City
	CB - Callville Bay
	CC - Cottonwood Cove
Observer	EB - Echo Bay
Date	GB - Gold Butte
	KT - Katherine
	LS - Lakeshore
	OB - Overton Beach
	PA - Parashant
	PF - Pearce Ferry

Tabs

General Detail Detail 2



Step 1 – Disturbance Assessment

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$$\frac{(\text{Undist-Disturb})}{\text{Crust damage}} + \frac{(\quad)}{\text{Plant damage}} + \frac{(\quad)}{\text{Type}} + \frac{(\quad)}{\text{Depth}} + \frac{(\quad)}{\text{Width}} = \frac{\quad}{\text{Overall Index}}$$



Disturbance LINE

General Detail Detail 2

Type <Null>

Depth <Null>

Width <Null>

Use

Soil Crust

Undisturbed <Null>

Disturbed <Null>

Plant Canopy Damage <Null>

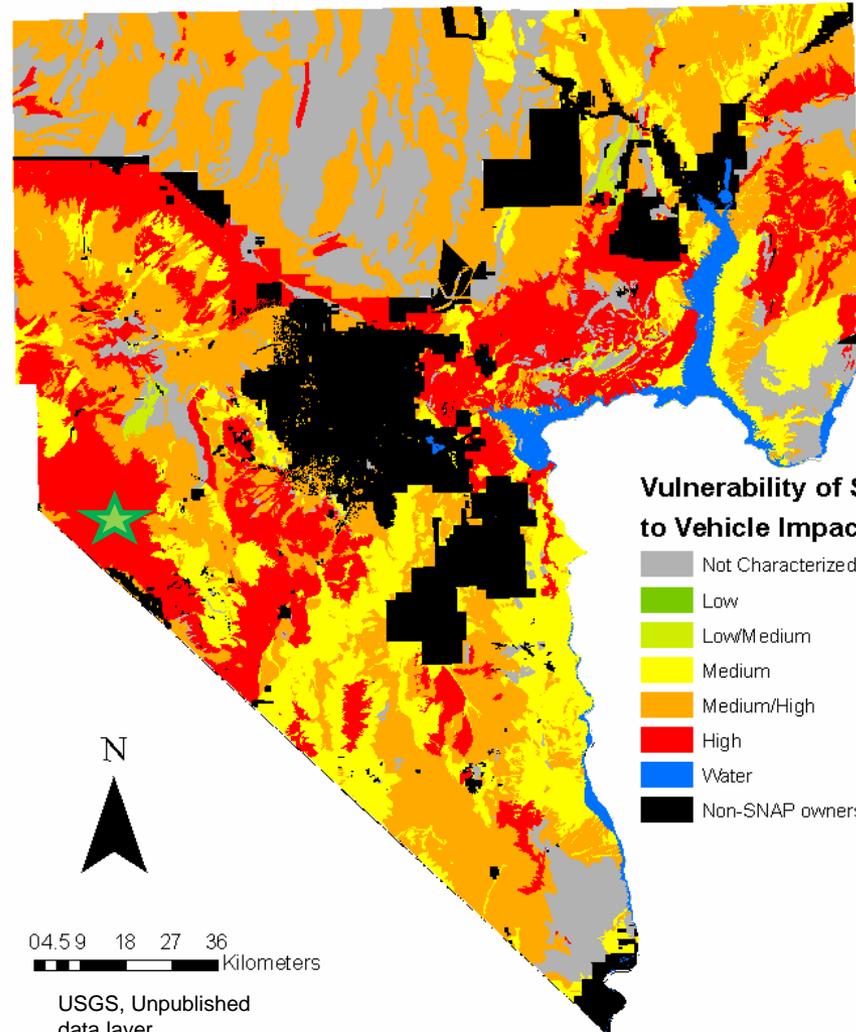
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Step 2 – Determine Site Vulnerability

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Site Vulnerability = HIGH



Step 3 – Prioritizing Restoration

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- I. Prioritize restoration based on the site vulnerability of a disturbance:
 1. High
 2. Medium/ High
 3. Medium
 4. Low/ Medium
 5. Low

- II. Within each site vulnerability categories, rank disturbances based on severity index:
 - Ranges between 0 and 24

Example Priority List:

- High site vulnerability –
 1. BLM-20131119-150802 , Severity index = 21
 2. BLM-20130509-094623, Severity index = 19
 3. BLM-20130721-115146, Severity index = 14
- Medium/ High site vulnerability –
 4. BLM-20130505-124752, Severity index = 24
 5. BLM-20130414-060523, Severity index = 13

Step 4 – Restoration Prescription

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- A. Disturbance was created recently and infrequently used **choose 1 or 1'**
- B. Disturbance was created recently and used frequently..... **choose 2 or 2'**
 - 2. Disturbance occurs on low or low/medium vulnerability.....**Hand raking**
 - 2'. Disturbance occurs on medium to high vulnerability substrate.....**c or d**
 - c. Damage severity is low (Index = 0 – 7).....**Hand raking**
 - d. Damage severity is medium to high (Index = 8 – 22).....**iii or iv**
 - iii. Accessibility to & visibility of site are low...**Hand raking/Vertical mulch**
 - iv. Accessibility to & visibility of site are medium or high....**Hand raking/Vertical mulch/Barrier**
- C. Disturbance was not created recently and used infrequently.....**choose 3 or 3'**
- D. Disturbance was not created recently but used frequently in the past.....**choose 4 or 4'**

4) Document restoration action: Restoration Documentation Form (ArcPad)

5) Measure and evaluate treatment effectiveness: Restoration Effectiveness Monitoring Form

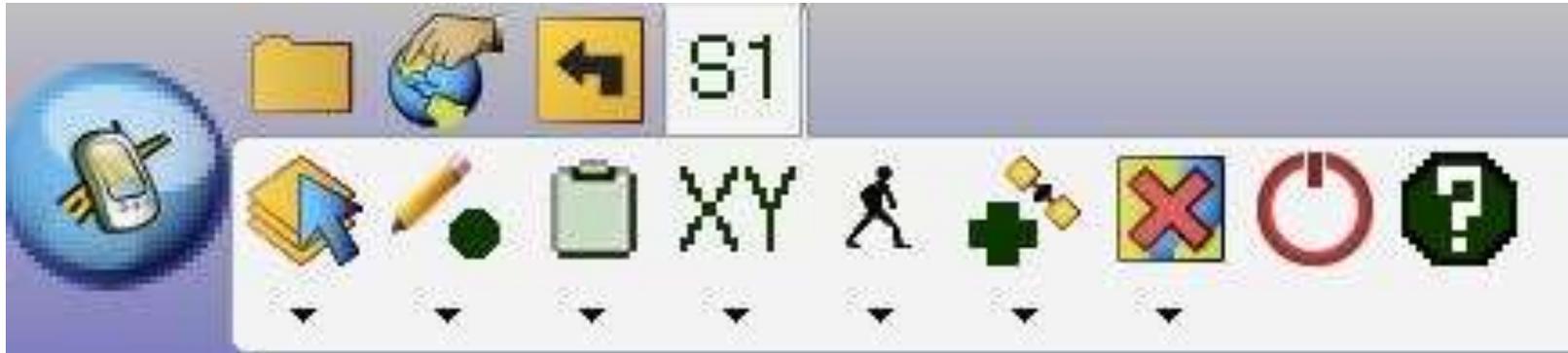


Flexmap Resources

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Online Resources

- Current DIRT GDB
- Current DIRT GDB Protocol
- How to instructions
- SNAP & SNRT summaries
- Basemap data layers



- NISIMS compatibility testing
- QA/QC Protocol development

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YOU ARE HERE

QUESTIONS?

