Needles Field Office Water Source Monitoring Program

Desert Water Sources

Modified Natural and Constructed Water Sources

Big-game “guzzler”

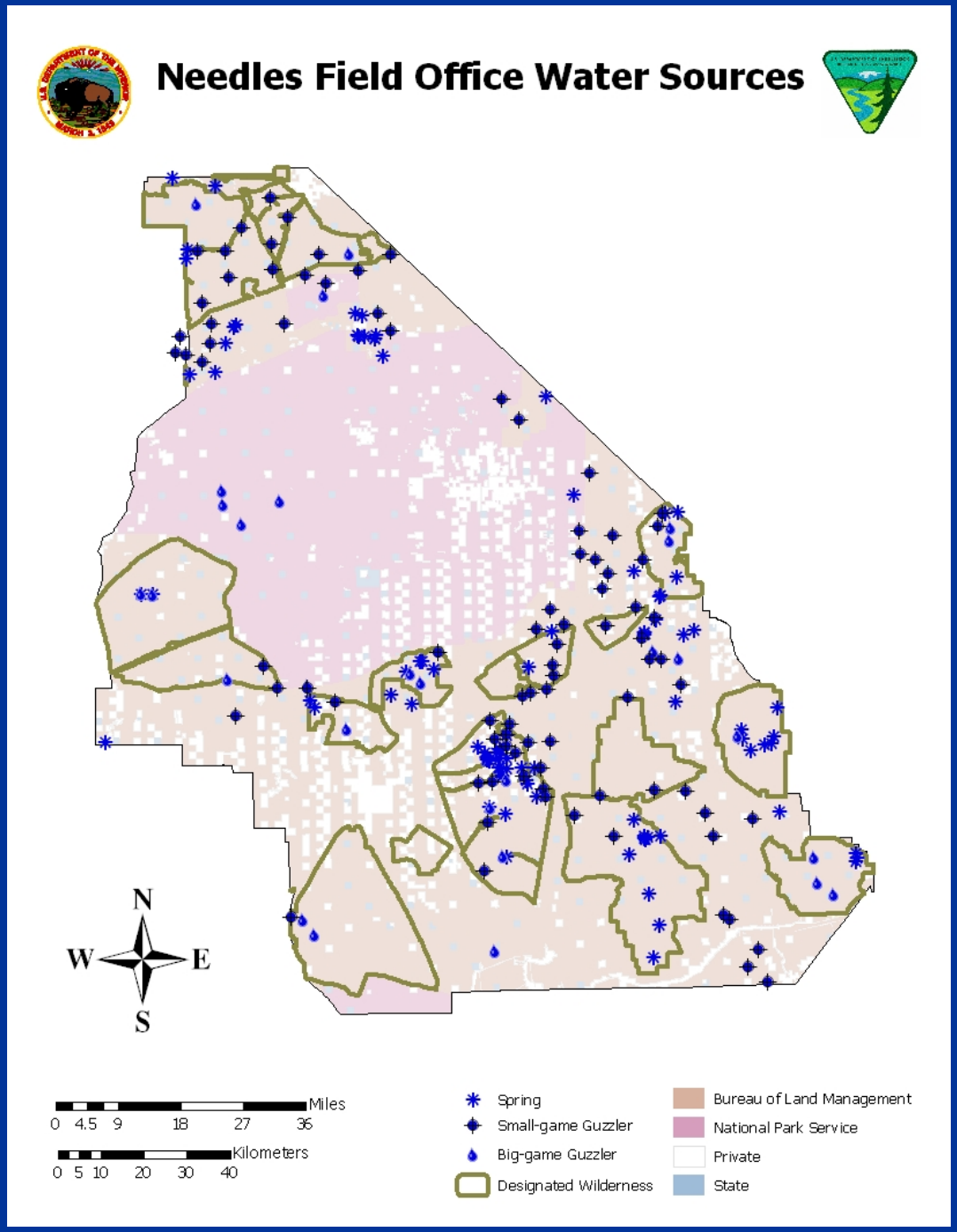
Water Source Monitoring Program Objectives

- Obtain accurate geospatial data
- Mapping access routes
- Inventory and long-term monitoring to aid management decisions
  - Future water source developments
  - Maintenance needs and wildlife issues
  - Invasive and noxious weed control
  - Resource protection

Water Source
disturbance level and type
invasive species presence

Man-made water source
component parts
maintenance issues
escape ramp

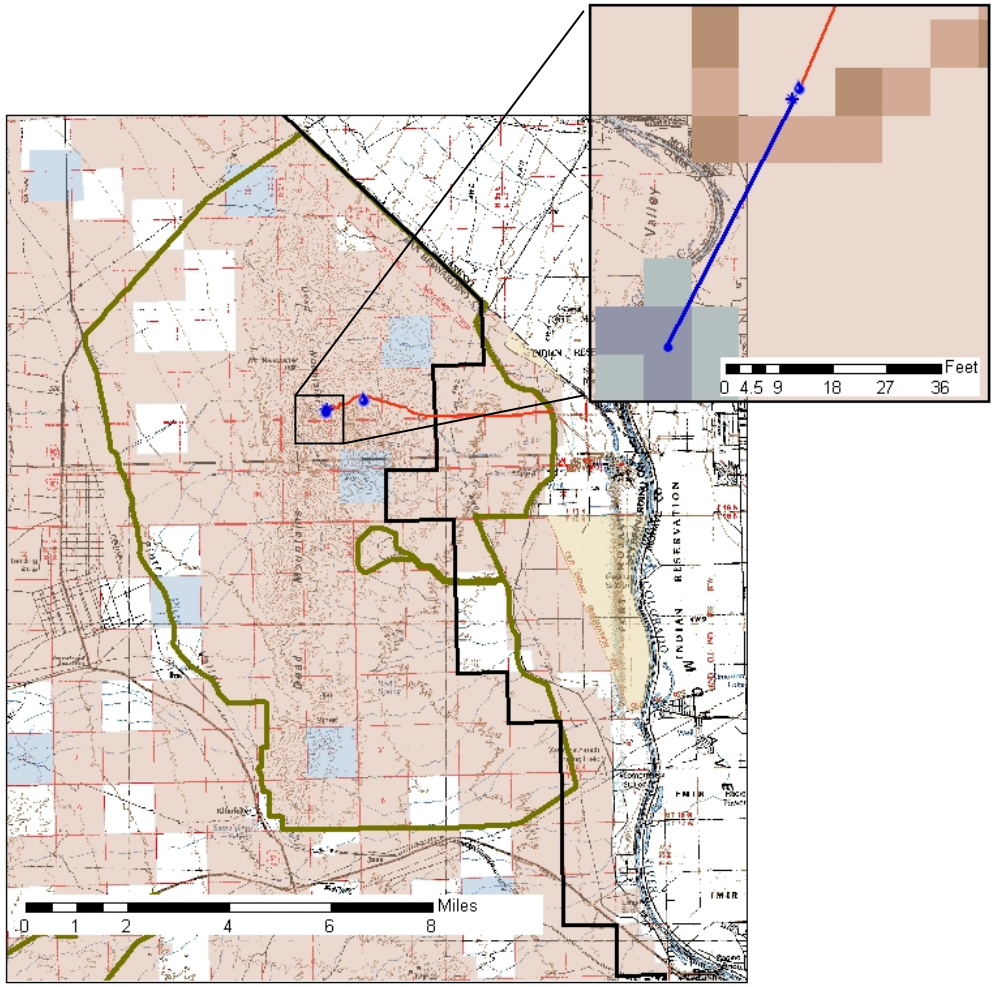
Natural Water Source
spring brook length
average water depth/width
vegetation type and cover
substrate type



Needles Field Office's current water source inventory

- 91 Springs
- 88 Small-game guzzlers
- 28 Big-game guzzlers

Eagle Feather Big-game Guzzler



N
W E
S

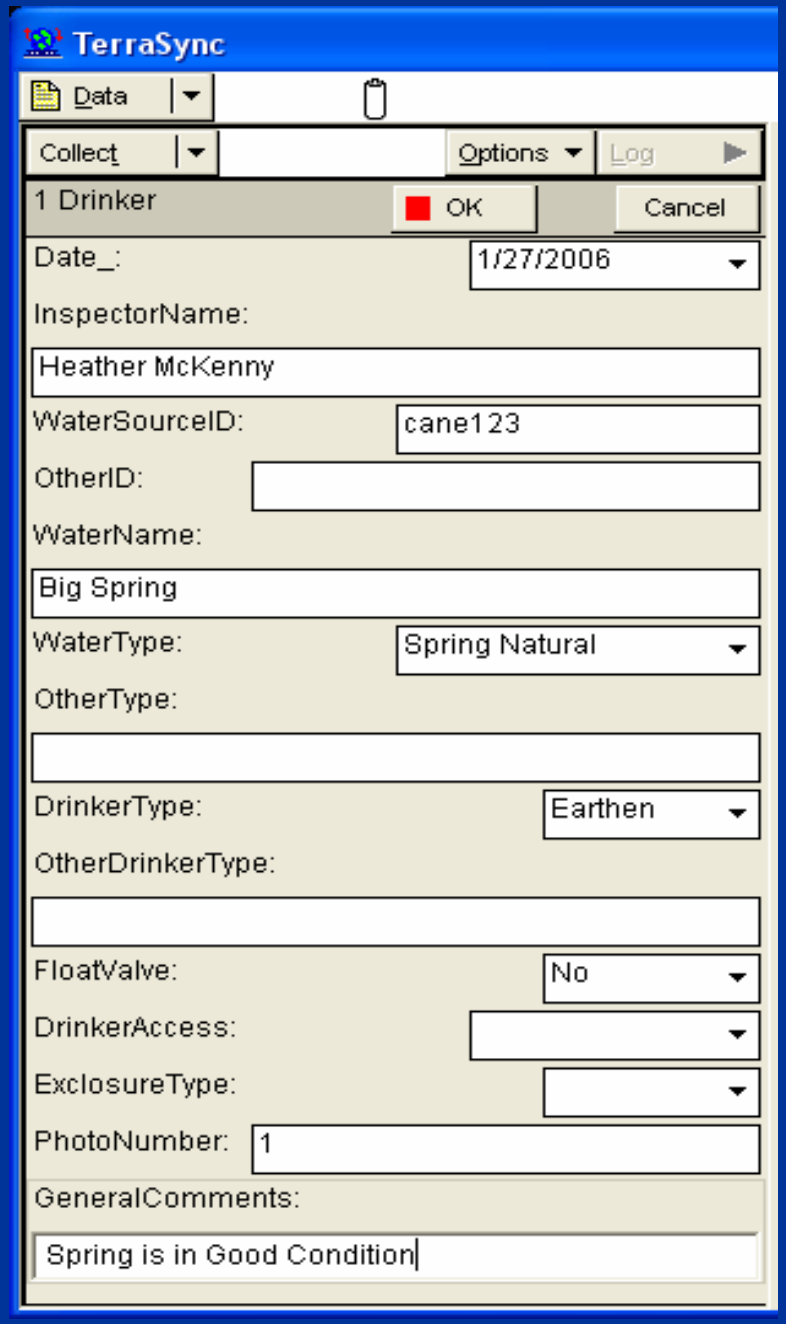
Drinker
Collection
Storage
Delivery
Access Route
Needles Field Office Boundry

Wilderness Boundry

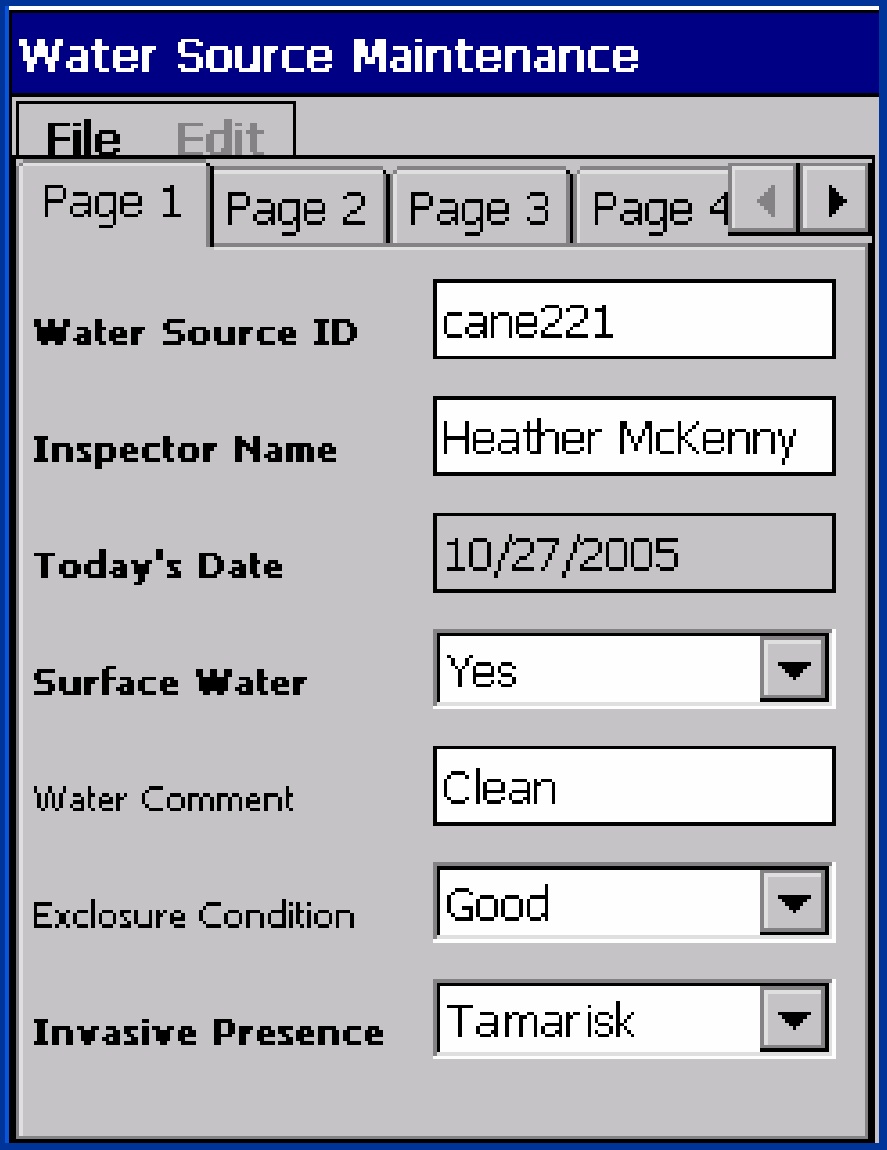
Land Ownership

Bureau of Land Management
Indian Land
Private
State

Water Source Data Dictionary



Water Source Maintenance Application



Field Forms

Water Sources Monitoring Form

Access Route
Water Source ID:_____**Other ID:**_____**Survey date:**_____
Water name:_____
Inspector's name:_____
Access description:
Travel mode:_____driven _____hiked _____other
General comments:_____

Drinker
Water source type:____adit____big-game guzzler_____cattle trough _____small-game guzzler
_____spring modified_____spring natural _____tenaja modified _____tenaja natural
_____other
Other water source type:_____
Drinker type:__concrete_____earthen_____fiberglass_____metal_____rock___other
Other drinker type:_____ **Float valve:**___yes____no____unknown
Drinker access:_____above ground_____below ground
Surface water present:_____yes____no ____unknown
Surface water comments:_____
Exclosure type:_____electric _____metal pipe_____wire___wooden_____other__none
Exclosure condition:_____good_____fair____poor___non-functional

Invasive Exotic Species
Invasive presence:___arrundo_____puncture vine_____tamarisk_____tree-of-heaven
_____none__other_____unknown
Other invasive:_____**Level of invasion:** ____high___medium_____low
Estimated number of tamarisk stems:_____ >2 inches____ ?2inches
Last maintenance date:_____**Maintenance done:**_____
Maintenance needed:_____
Area conditions:_____
Photo number:_____**General comments:**_____

Storage
Storage mechanism:_____concrete tank _____concrete well_____dirt reservoir
fiberglass tank metal pipe metal tank PVC pipe other
Other storage:_____
Storage location:_____above ground_____below ground_____partially buried
Number of storage units:_____**Total storage capacity:**_____**Current volume:**_____
Storage condition:_____good___fair____poor_____non-functional_____unknown
Storage comments:_____
Last maintenance date:_____ **Maintenance done:**_____
Maintenance needed:_____
Photo number:_____**General comments:**_____

Delivery
Delivery mechanism:_____catchment_____gravity-fed_____pump_____hauled_____other
Other delivery:_____
Delivery type:_____black poly pipe_concrete canal _____generator pump
_____metal pipe_____PVC pipe_____solar pump_____wind pump_____other
Other delivery type:_____ **Last maintenance date:**_____
Maintenance done:_____
Maintenance needed:_____
Photo number:_____**General comments:**_____

Collection
Collection facility:____concrete apron_concrete dam_____earthen dam___fiberglass dam
_____metal apron_____plastic apron_____other
Other collection:_____ **Last maintenance date:**_____
Maintenance done:_____
Maintenance needed:
Photo number: _____ **General comments:**_____

Assessment of Proper Functioning Condition
Riparian/Wetland Type:_____lentic_____lotic___unknown_____not applicable
Riparian/Wetland Functional Rating:_____Proper Functioning Condition
_____Functional-At-Risk_____Nonfunctional_____Unknown
Trend for Functional-At-Risk:_____upward_____down_____not apparent
Contributing factors within the control of management:_____yes____no_____unknown
If yes, what are those factors:_____augmented flow_____channelization_____flow regulation
_____mining activities_____road encroachment____upstream channel conditions
_____other(specify)

Field Office Specific
Tortoise accessible:_____yes____no_____unknown_____
Tortoise access detail:_____
Escape ramp condition:_____good___fair____poor___none

If you have driven into wilderness to monitor this water source, you must rake out the last 100 feet of vehicle tracks. Removing evidence of vehicle tracks reduces the chance of unlawful incursions into wilderness areas.

Mail a copy to: BLM Wildlife Biologist, 101 W Spike's Rd., Needles, CA 92363

monitoredsources1 - ArcMap - ArcInfo

File Edit View Insert Selection Tools Window Help

Spatial Analyst | Layer: Davis Dam (drg100k)

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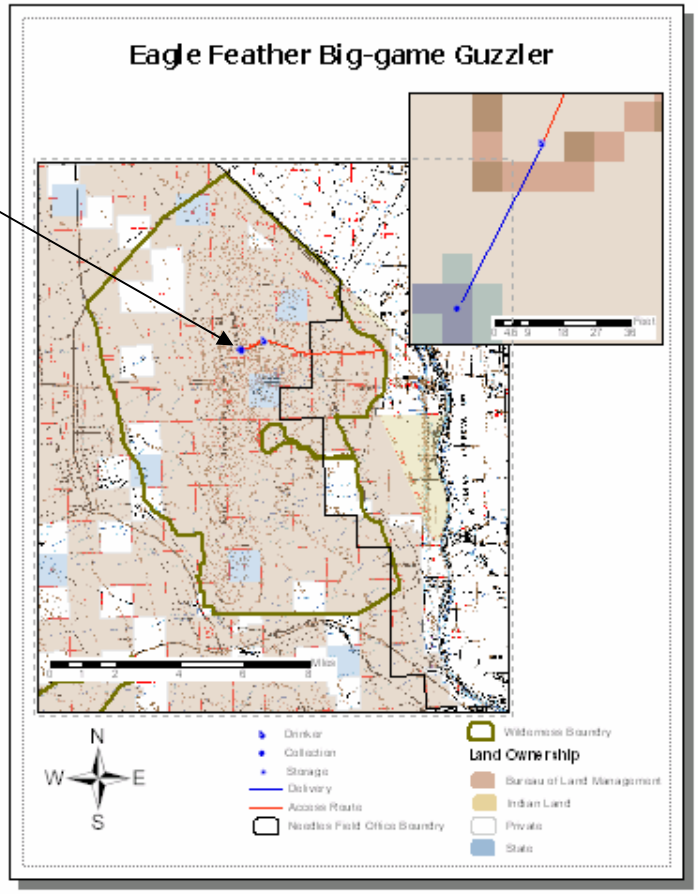
Identify Results

Layers: Drinker

- Drinker
  - hmckenny

Location: (706134.330223 3876916.060774)

Field	Value
OBJECTID	17
Shape	Point
Easting	706178.276
Northing	3876965.593
Date_	1/20/2006
InspectorName	hmckenny
WaterSourceID	cane0116
OtherID	<null>
WaterName	eagle feather
WaterType	Big Game Guzzler
OtherType	<null>
DrinkerType	Metal
OtherDrinkerType	plastic
FloatValve	No
DrinkerAccess	Above Ground
ExclosureType	None
PhotoNumber	<null>
GeneralComments	plant matter collecting in drinker
GPS_Date	1/20/2006
GPS_Time	1:44:36 PM
Point_ID	1



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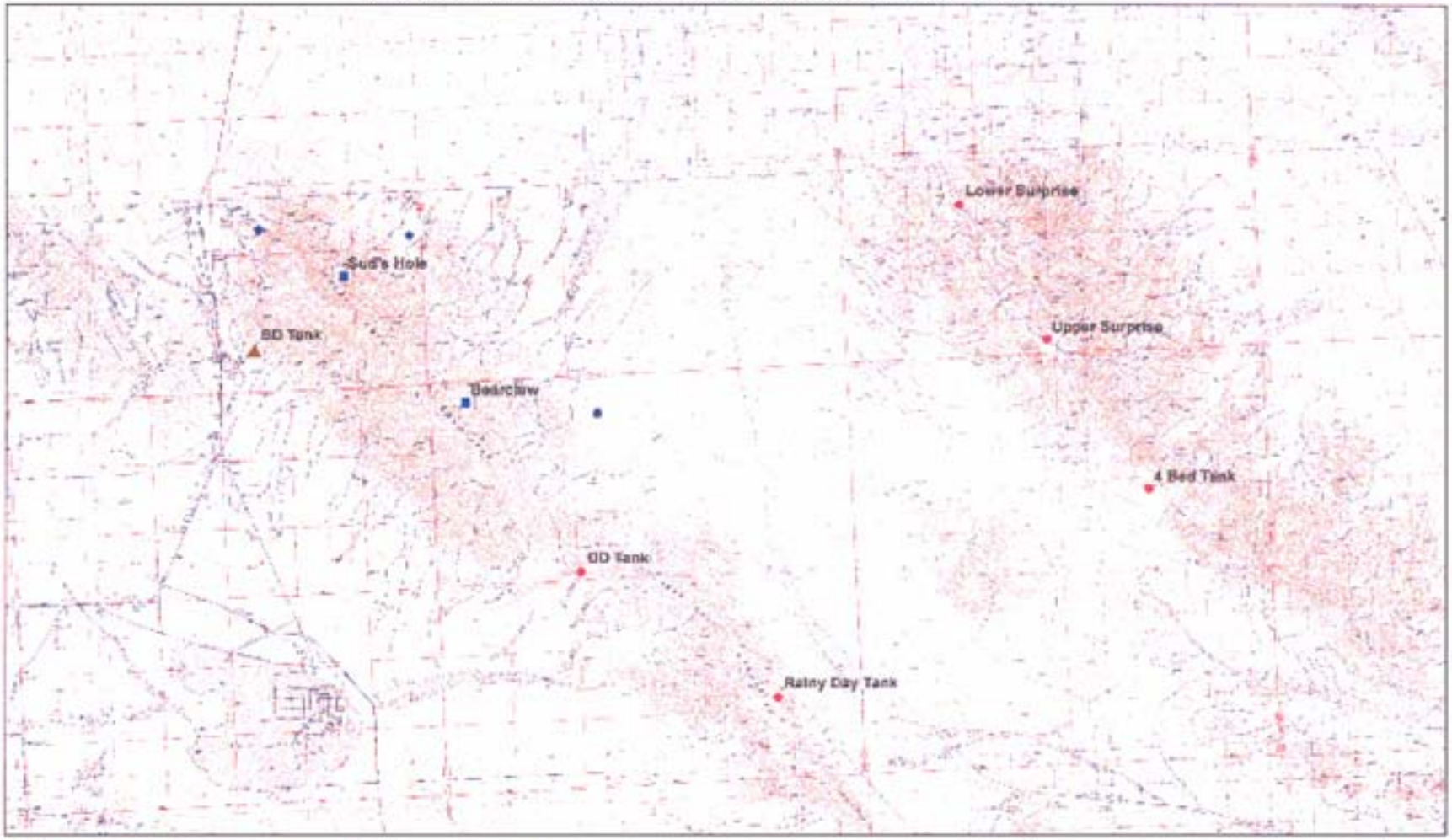
Sighting of Future Water Source Developments

Existing, Proposed and Anticipated Water Sources for Sheephole and Calumets Mountains



Riparian Area Protection: burro and cattle exlosures

Maintenance and Repair

Monitoring for Invasive/Noxious Weeds

Other Benefits: Cleanup

Other Benefits: Wilderness Monitoring

How water source monitoring has helped Needles Field Office reach its management objectives

- Obtain accurate geospatial data
  - overflights
- Mapping access routes
  - wilderness management
- Inventory and long-term monitoring to aid management decisions
  - invasive treatment
  - rangeland health
  - sheep habitat modeling

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- Larry Morgan, Needles Field Office Manager
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- Teresa Dawson, CDD ECO
- Dr. Don Sada, Desert Research Institute

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