

Bureau of Indian Affairs Role in Creating and Using Soil Survey Information

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Historical Perspective - BIA's Role on Indian Lands

- Colonial Times to 1820-As Sovereign Nations
- Indian Removal-1820-1850 BIA (Indian Agents) under the War Department
- Movement to Reservations-1850-1887
- Allotments and Assimilation-1887-1934
- Reorganization and Preservation-1934-1953
- Terminations and Relocations-1953-1968
- Self Determination-1968 to Present

After Self-Determination in 1968- Categories of Involvement/Assistance

- Tribes that rely on BIA to run natural resource programs
- Tribes who took over natural resources programs. (Self – Determination).
- Tribes that self-govern.

BIA Soils Staff

- Soil Scientists-11 located in western US.
- Soil Conservationists-18 throughout the nation.
- Natural Resource Specialists-some are soil scientists.

Location of Soil Scientists

- Most are at the agency level-directly assisting tribes.
- A few soil scientists are at Regional offices-provide assistance to agencies and tribes.
- Two ongoing soil surveys have a staff of 3 soil scientists.

[BIA Soil Scientist's Duties]

- Soil and Range Inventories
- GIS support
- Land Reclamation/Restoration
- Land Use Planning
- Erosion control
- Irrigation and Agriculture
- NEPA compliance
- Education/Training



Inventory Initiative

- Result of the **American Indian Agricultural Resource Management Act (AIARMA)** 1993
- Basis for land use planning and resource allocation
- BIA follows National Cooperative Soil Survey Standards for soil surveys and ecological site descriptions (A few BIA-developed site guides still in use.)



American Indian Agricultural Resource Management Act AIARMA

- United States and tribes have a **government to government** relationship
- U. S. has a **trust responsibility** to protect, conserve and manage Indian agricultural lands
- Indian ag lands are **renewable and manageable** resources vital to the welfare of Indian tribes
- **Integrated resources management plans** will ensure proper management of tribal ag lands

Who conducts range/soil inventories on tribal land?

- BIA or Tribal staff
- NRCS-through cooperative agreement with BIA/Tribes
- Contractors/consulting firms by bid

2006 Range Inventories in Western Region

- Unitah and Ouray-Utah-Ongoing-multi-year-BIA
- Summit Lake, Nevada-10,000 acres-BIA
- Shivwits, Utah-27,500 acres-Contract
- Fort Apache, AZ-80,000 acres-Tribal Staff
- Goshute, Nevada & Utah-109,708 acres-BIA



2006 Inventory Requests

- Great Plains-Pine Ridge, Rosebud, Cheyenne River-1 million acres
 - Navajo-Several Districts-2.5 million ac.
 - Northwest-Colville-100,000 acres
 - Pacific-None
 - Rocky Mountain-Crow, Ft. Peck, Wind River-265,000 acres
 - Southwest-Jicarilla, Laguna-1.1 mil ac
 - Western-300, 000 acres
-

North Kaibab East
Juniper Woodland Site
Map point 636



AUG 16 2003

North Kaibab East
Sandy Loam Upland (calc.) 10-14" precip.
Map point 642-2



AUG 18 2003

Cottonwood West
Sandy Upland 10-14" precip.
Map point O-672 (photo 1 of 2)



AUG 15 2003

Moccasin Mesa
Sandy Upland 13-17" precip.
Map point 200 (photo 2 of 2)
pricklypear holding soil on site



AUG 19 2003

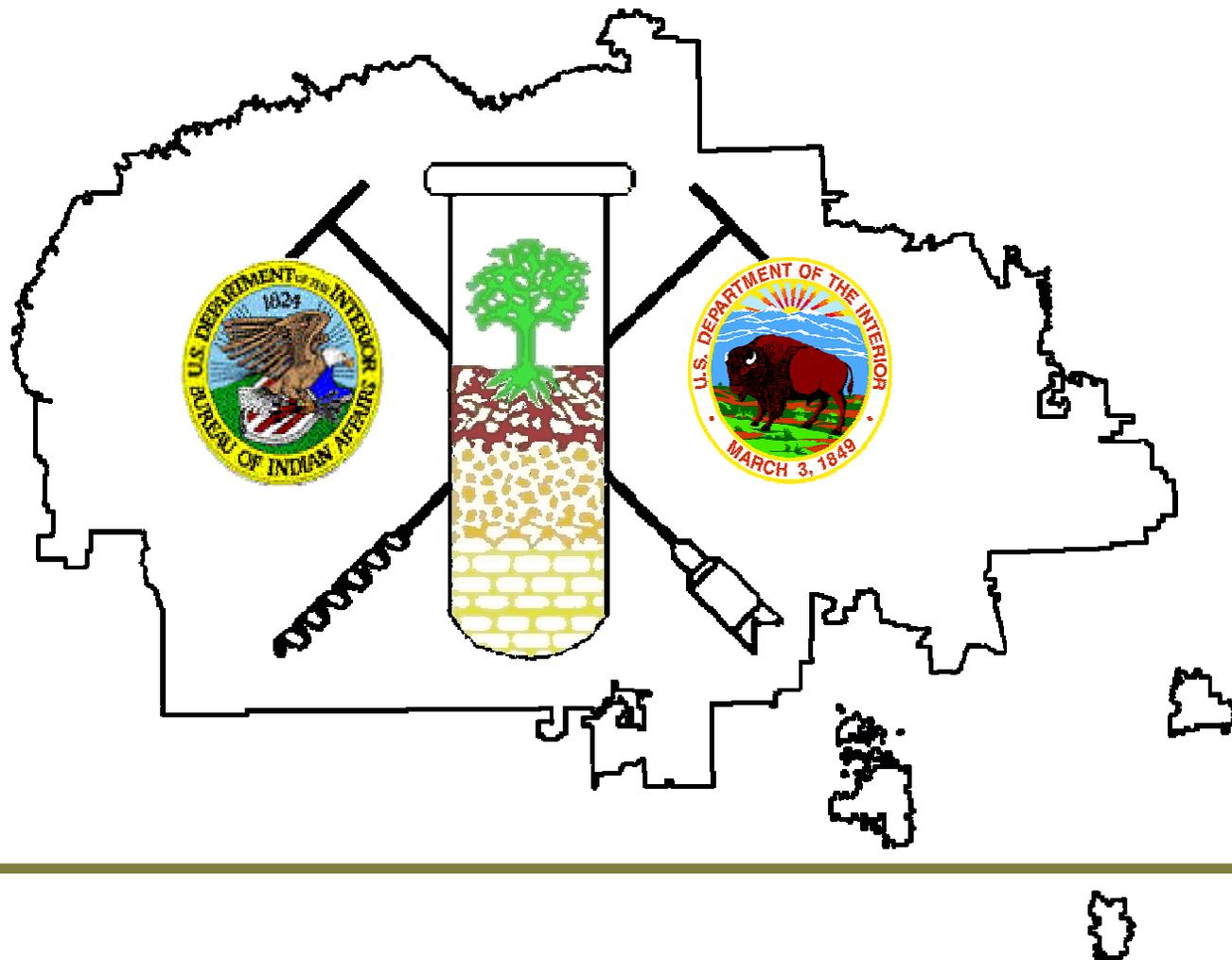
Range Inventory Reports (Summary and Guidelines)

- By Range Unit
- Total acres and acres usable for grazing
- Topography and Vegetation
- Existing conditions-chaining, erosion
- Dominant soils and ecological sites
- Range condition, utilization
- Total and Recommended AUM's
- Recommended Improvements and Management Guidelines

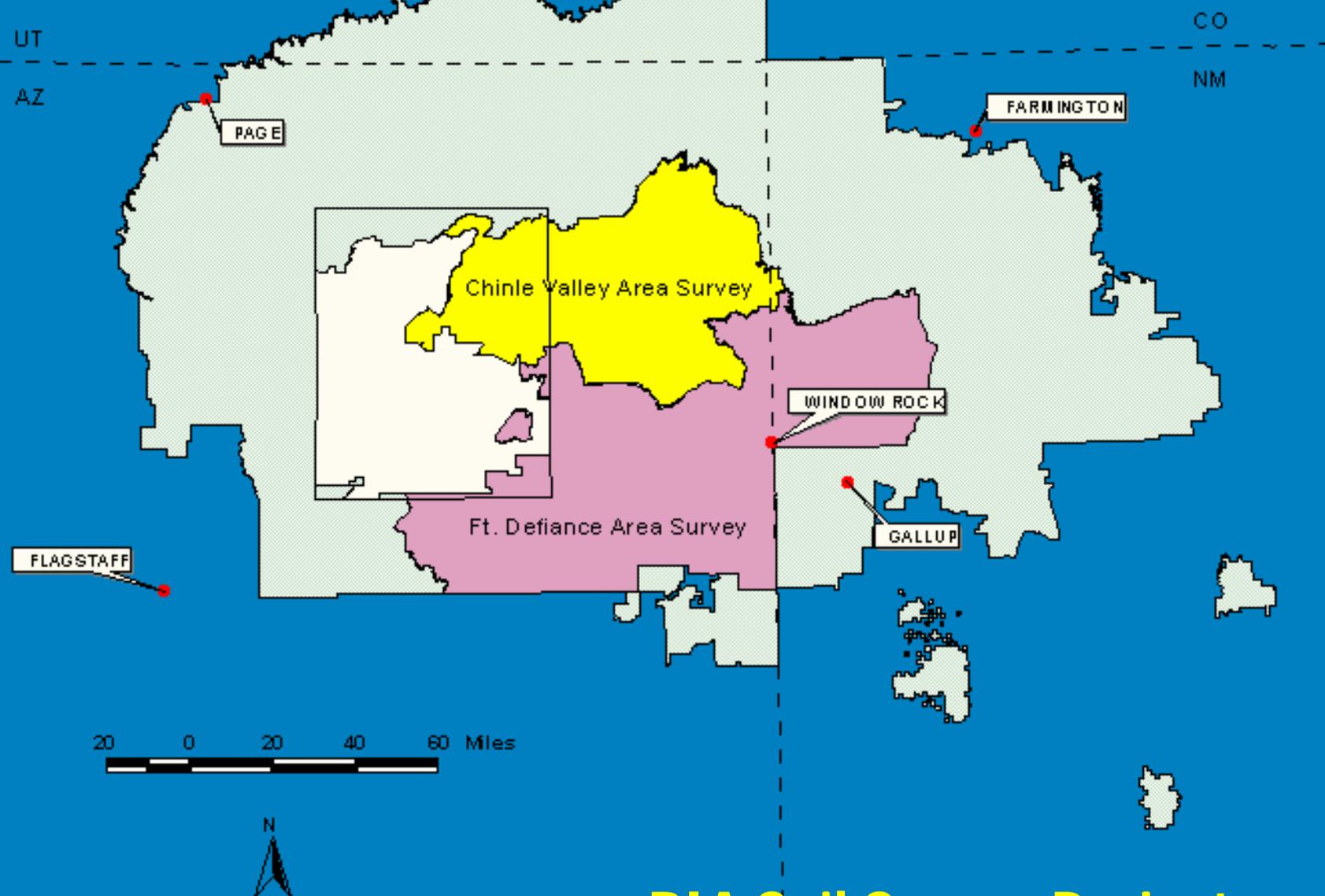
Bureau of Indian Affairs Navajo Region

Land Inventory & Classification Section

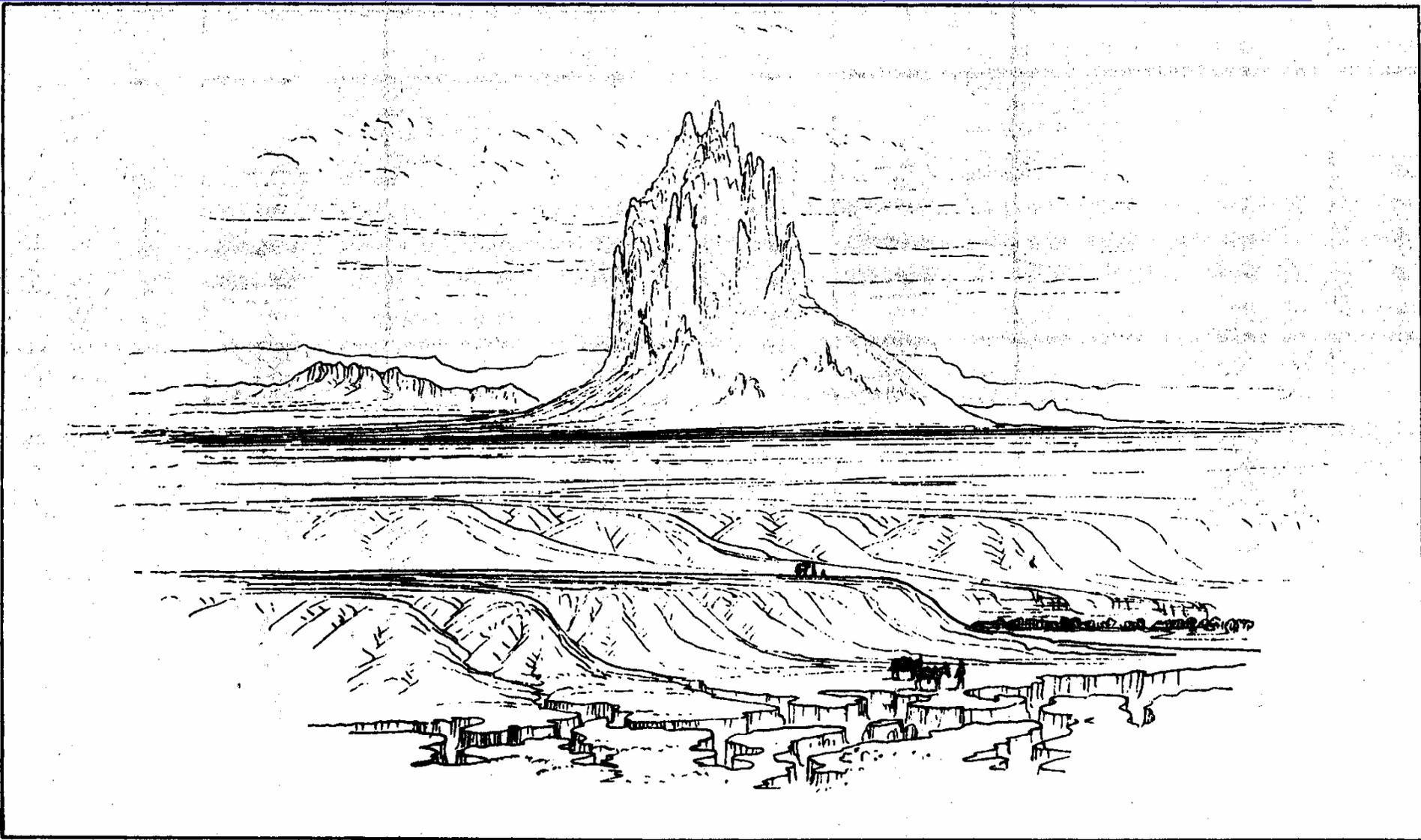
Part of the National Cooperative Soil Survey



Locations of Survey Areas



BIA Soil Survey Projects



Sketched in the fall of 1874, this depiction of Shiprock, entitled "The Needles," is by William H. Holmes from the Hayden Survey (1875).



Copy of SSURGOv2_2000 : Database (Access 2000 file format)

Open Design New

Objects

- Tables
- Queries
- Forms
- Reports
- Pages
- Macros
- Modules
- Groups
- Favorites

Create query in Design view

Create query by using wizard

Bobs coecoclass Query

Bobs Ecology

Bobs horizon

FSA-CRP -

Input - Inte

Input - Map

Report - Co

Report - Component Crop Yields -

Report - Component Crop Yields -

Report - Component Legend

Soil Reports (Template Version: 1.28)

Soil Survey Area Name

Mohave County Area, Arizona, Northeastern Part, and Part of Coconino County

Map Unit Symbol	Map Unit Name
1	BADLAND
2	BARX FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES
3	BARX LOAM, 1 TO 4 PERCENT SLOPES
4	BEGAY FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES
5	BEGAY FINE SANDY LOAM, 3 TO 12 PERCENT SLOPES
6	BIDONIA-BOND-ROCK OUTCROP COMPLEX, 1 TO 25 PERCENT SLOPES
7	BOND-BIDONIA COMPLEX, 1 TO 7 PERCENT SLOPES
8	BRINKERHOFF-GRIETA COMPLEX, 0 TO 5 PERCENT SLOPES
9	CAMPANILE CLAY, 1 TO 6 PERCENT SLOPES

Select All Clear Selections Selection Help

Report Name

MANU - Legend by Symbol

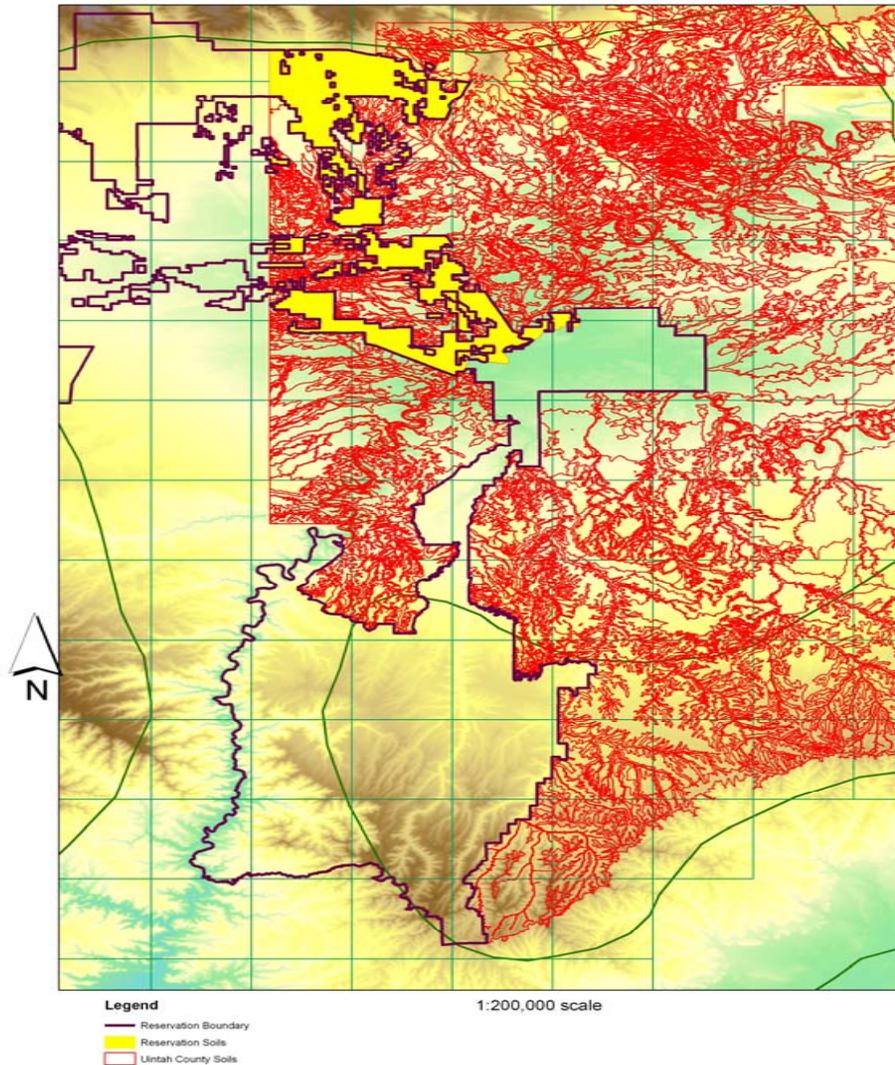
Generate Report Exit System Reports

SSURGO Access database from website



ArcGIS-Soil Layers

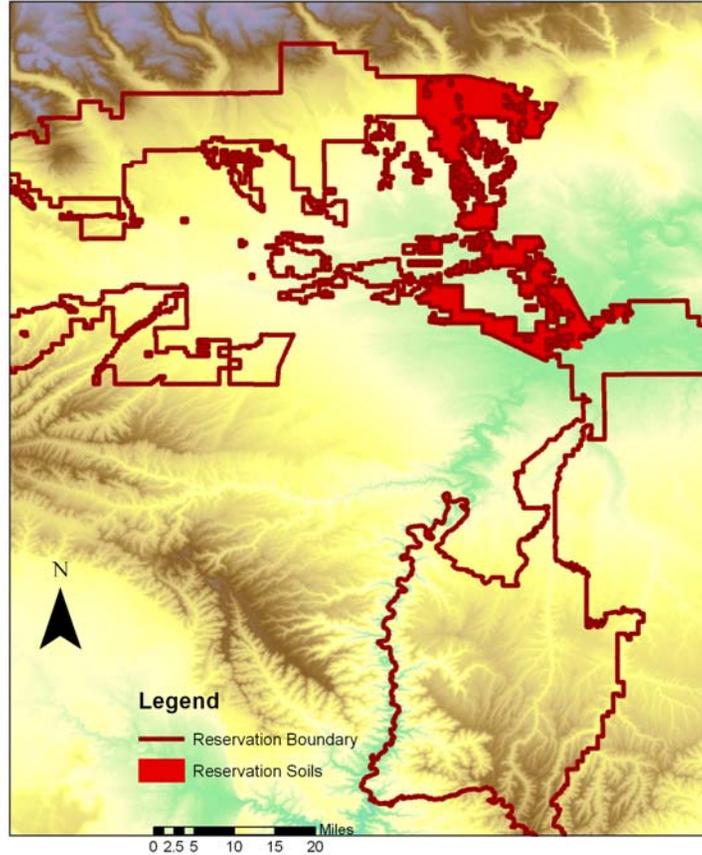
Uintah and Ouray Reservation
Uintah County Soil Survey

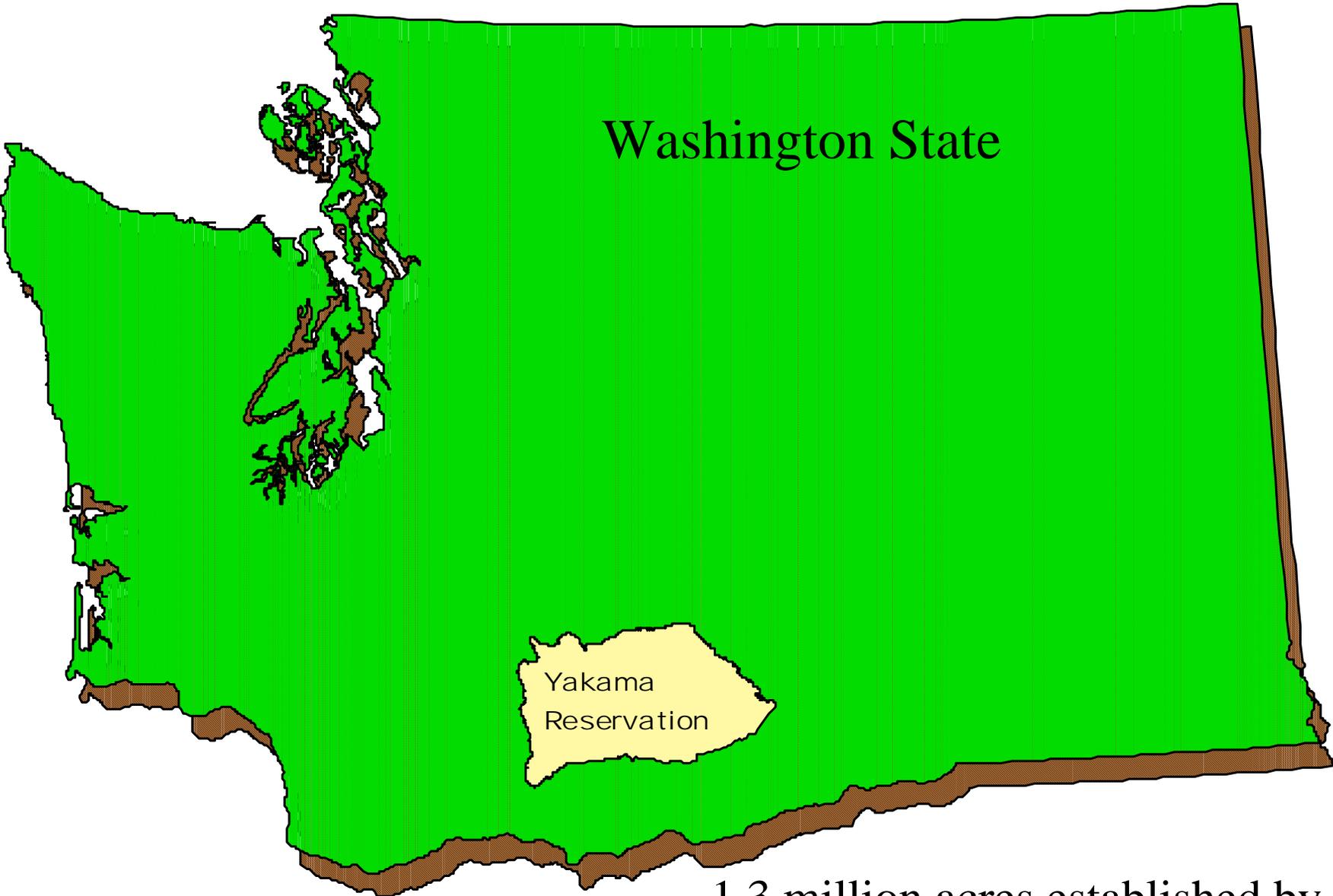


ArcGIS

Reservation Soils (Clipped)

Uintah and Ouray Reservation
Soils Clipped to the Reservation Boundary



A map of Washington State, colored in bright green. The state's outline is shown in brown. The text "Washington State" is centered in the upper half of the map. In the lower right quadrant, a yellow-shaded area represents the Yakama Reservation, with the text "Yakama Reservation" centered within it.

Washington State

Yakama
Reservation

1.3 million acres established by
the Treaty of June 9th, 1855.

Yakama Reservation contains:
Commercial Forest
Designated Watershed Protection Areas
Primitive Area



Columbia River flowed through Yakima area resulting in extensive gravel deposits.



Yakama Nation
Valley Floor

Wapato Irrigation Project = 141,000 acres
Irrigation from Deep Wells = 3,200 acres approximate
Sub-irrigated pasture and hayland = 8,000 acres

Wapato Irrigation Project estimated 2004 farm gate crop value = 161,598,700



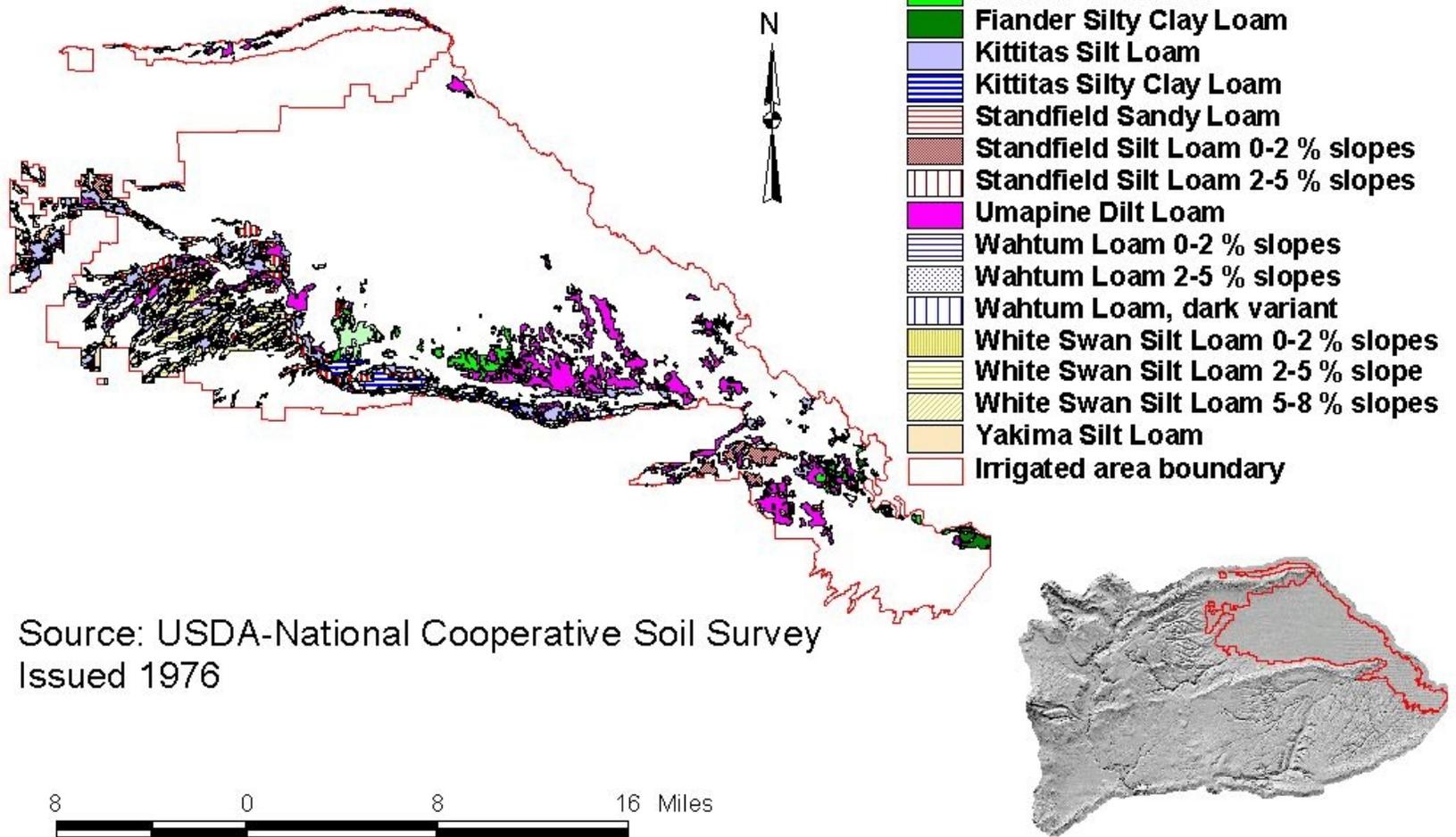


Apples	Grapes	Peppers
Apricots	Hopps	Plums
Asparagus	Huckleberry	Potatoes
Beans	Mint	Prunes
Broccoli	Melons	Pumpkins
Cabbage	Nectarines	Rhubarb
Cantaloupe	Okra	Squash
Char	Onions	Strawberries
Cherries	Peaches	Tomatoes
Corn	Pears	Watermelons
Cucumbers	Peas	Zucchini
Eggplant	Peonies	

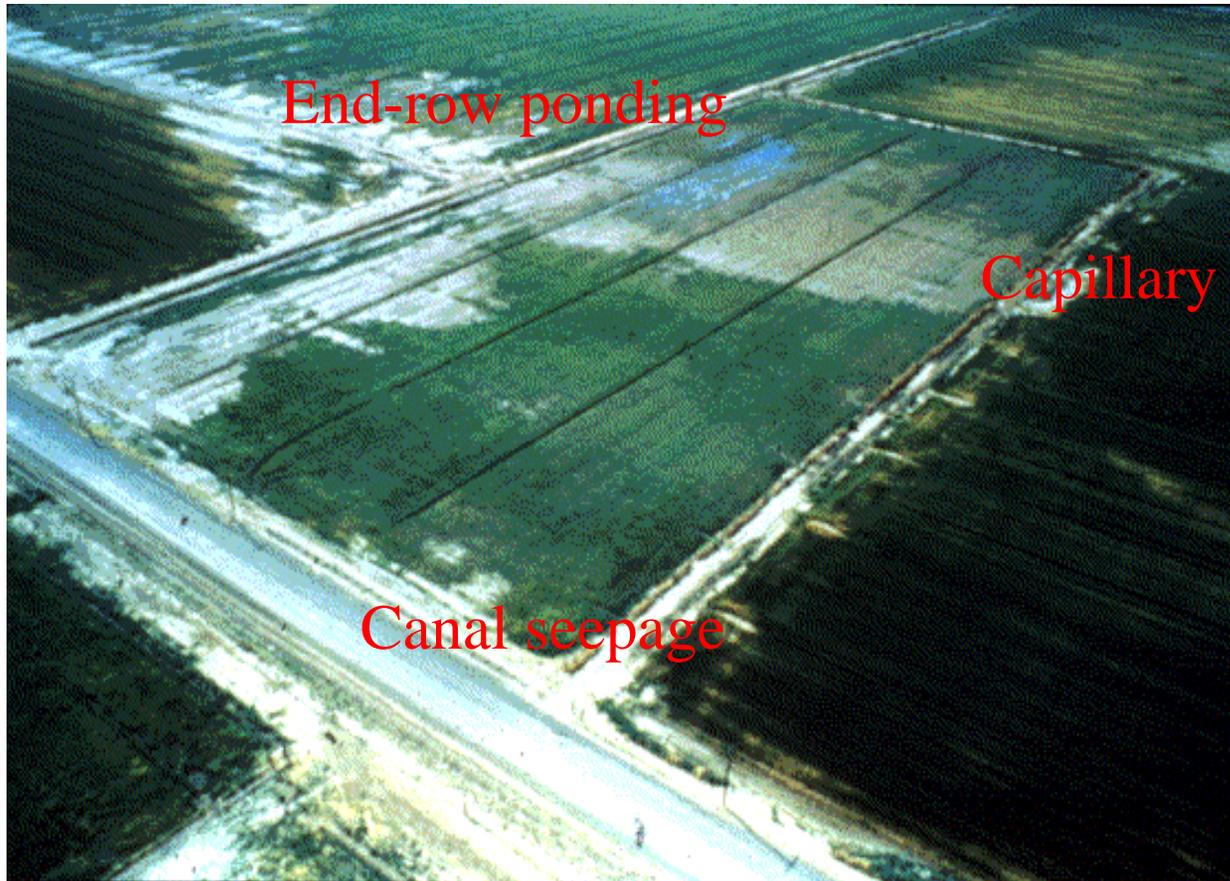


Saline, Sodic, or Saline-Sodic Map Units of the Yakama Nation Irrigated Area

46,503 acres of delineated salt affected soils



Irrigation induced high water table and/or poor water management seriously reduce crop production



Without Sufficient Profile Drainage
Salt Conditions Persist
Even with Good Quality Irrigation Water



Burned Area
Emergency Response-
BAER Teams

Mule Dry Canyon Rehabilitation Project, 2 Years After Fire



Meadow Restoration





Erosion on the Forest Road System

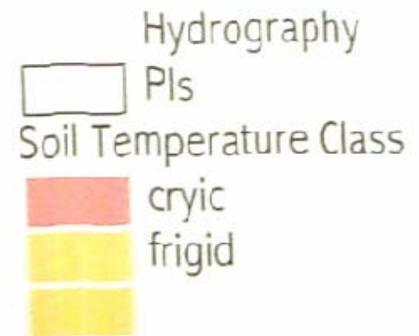
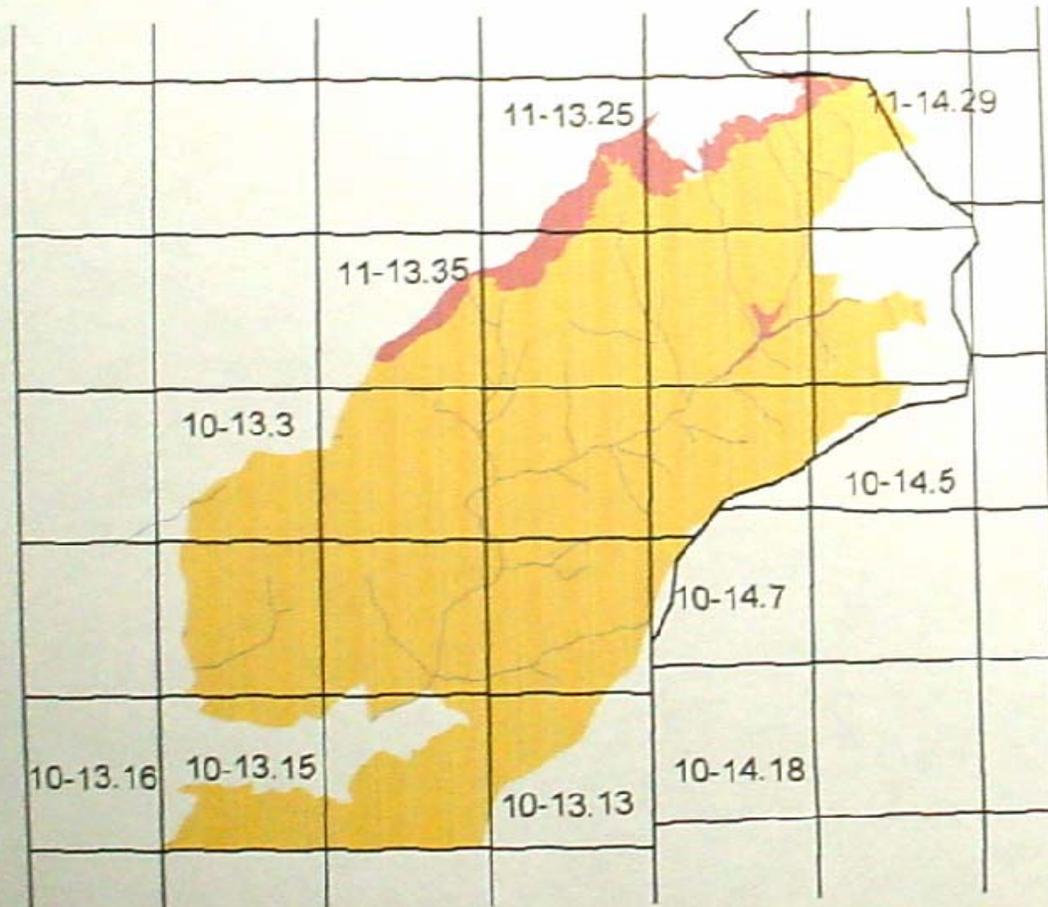
Other soil related
Threats to productivity:

- Soil Compaction
- Soil Displacement
- Fire (Soil Alteration)
- Wind throw

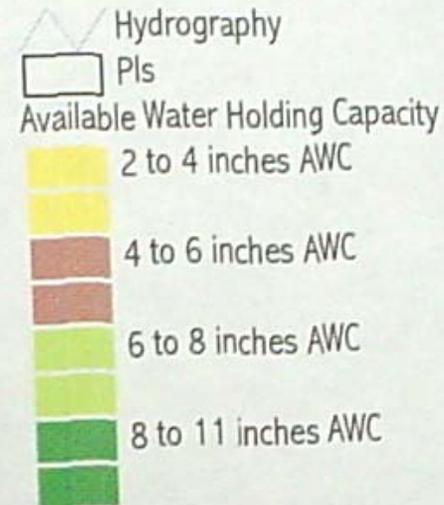
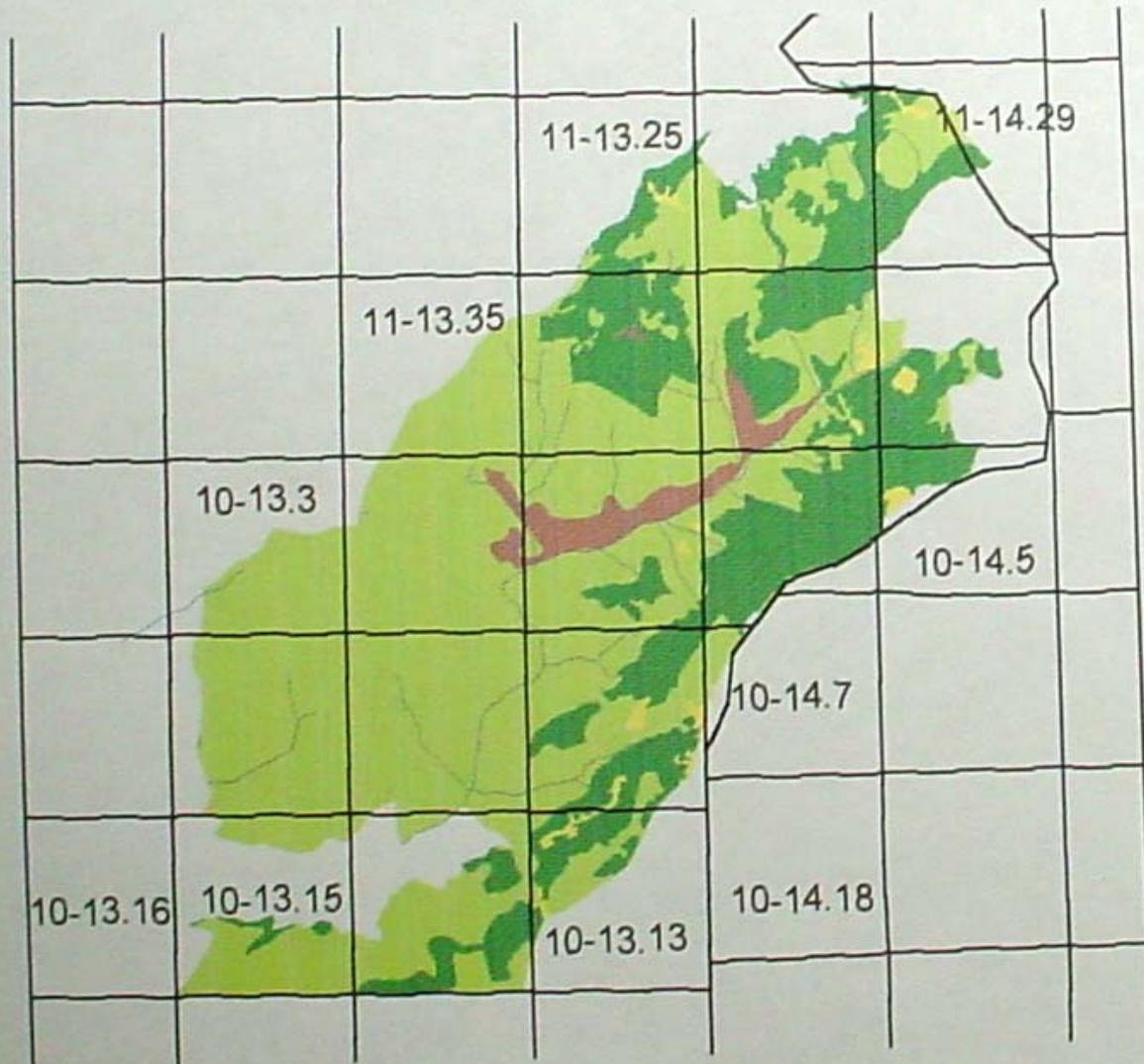
Soil Survey and the Yakama Nation Feral Horse Program



Piscoe Budworm Logging Unit Soils Temperature Class



Piscoe Budworm Logging Unit Soils by Available Water Holding Capacity



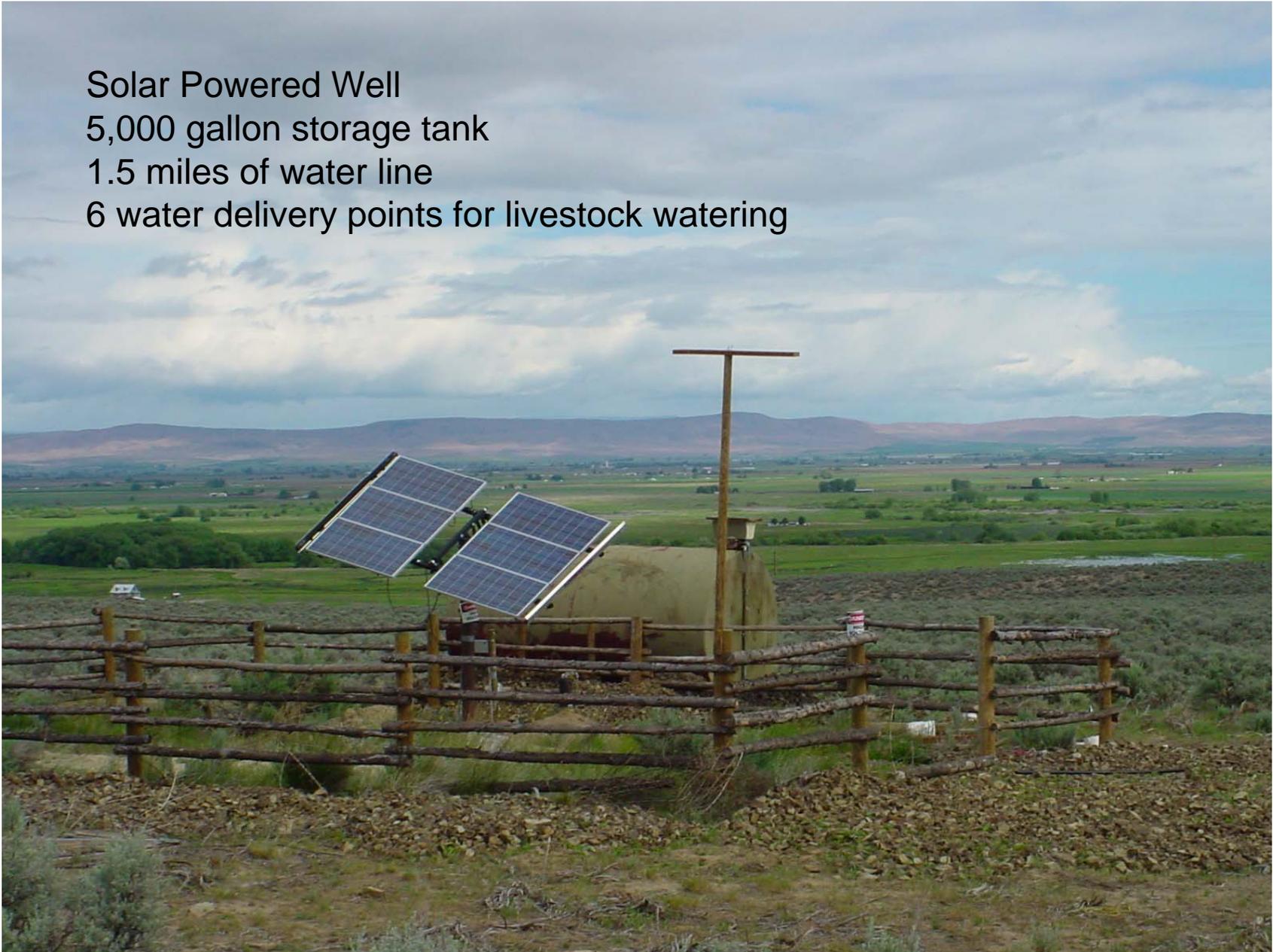
Interpretation Summaries for Timber Sales and Burn Areas

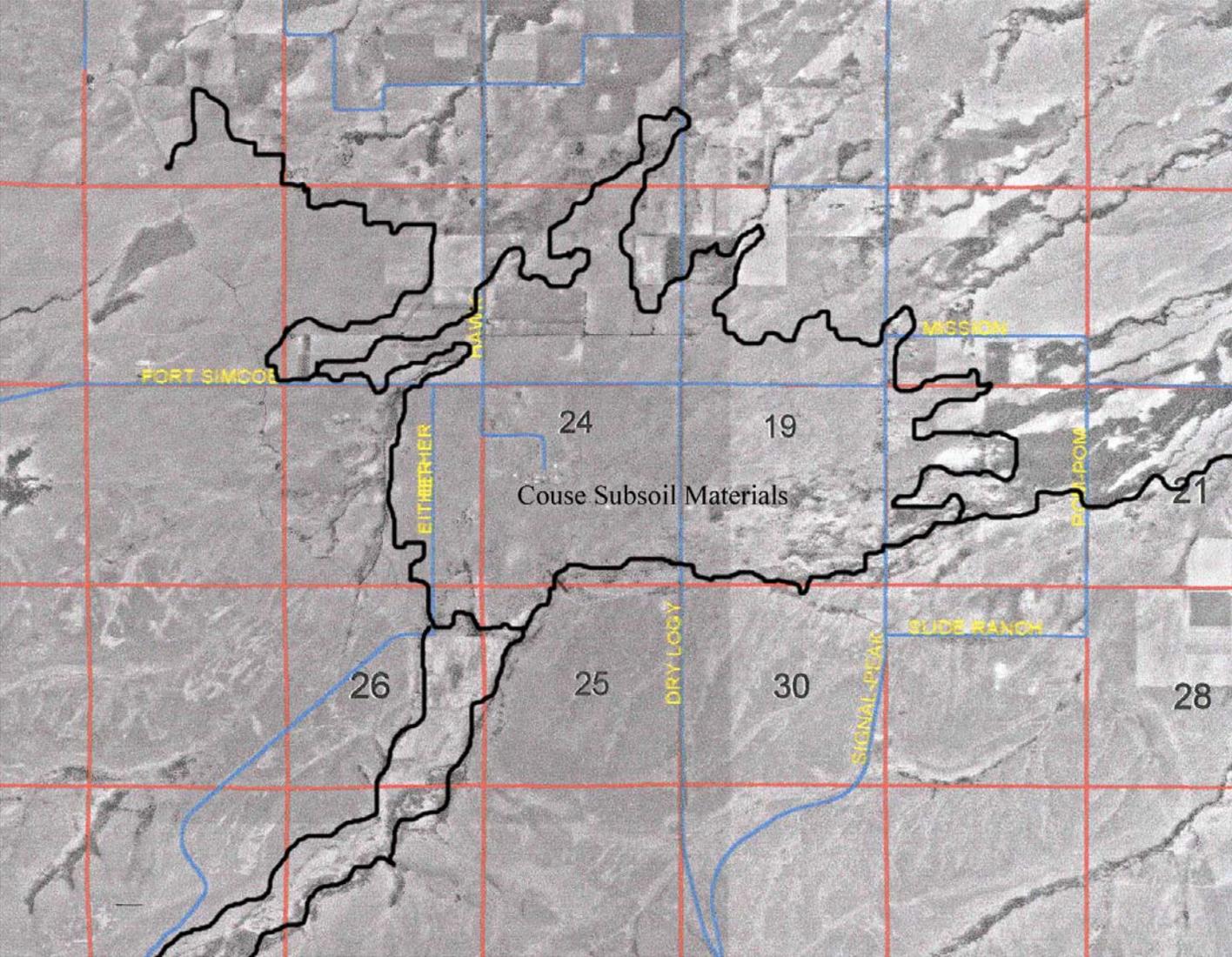
- **Map Unit, % Slope**
- **Soil Depth(inches)**
- **Equipment Limitations;**
- **Soil Compaction; Soil Puddling**
- **Fire Erosion Hazard; Soil Displacement**
- **Seedling Mortality; Windthrow Hazard**
- **Management recommendations**

Adams View New 80 Home Addition, HUD Grant



Solar Powered Well
5,000 gallon storage tank
1.5 miles of water line
6 water delivery points for livestock watering





Toppenish Creek Alluvial Fan

Soil Interpretations in ArcGIS

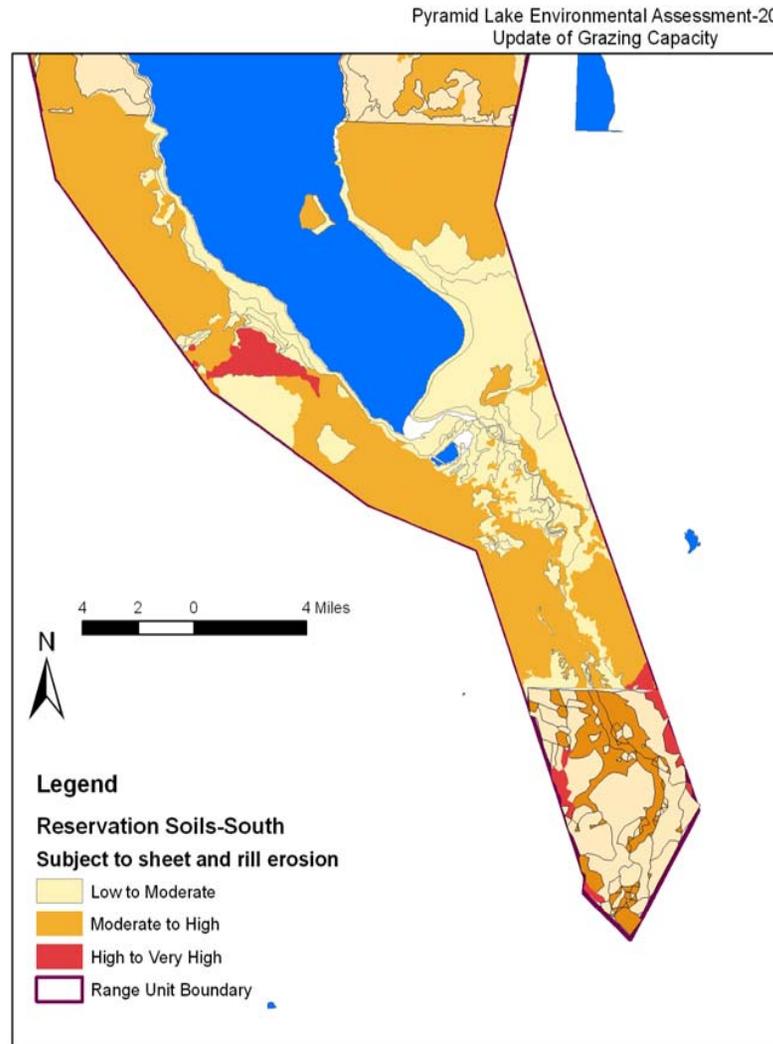


Figure 17. Potential Water Erosion Hazards-Pyramid Lake South

Use of Soil Information for NEPA and Endangered Species Compliance

Pyramid Lake Environmental Assessment-2006
Update of Grazing Capacity

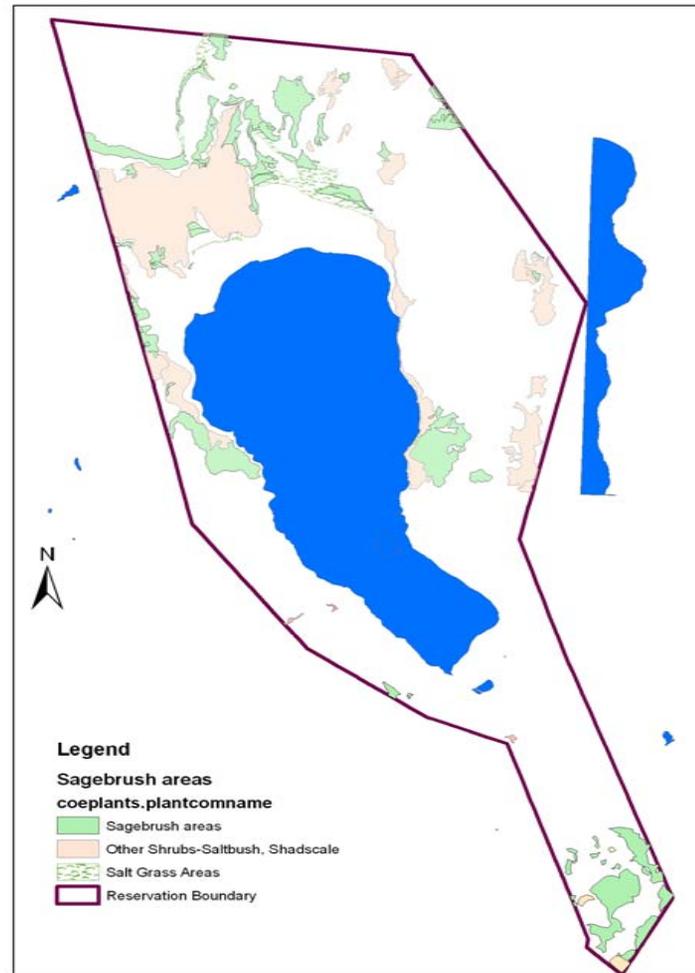


Figure 19-Sagebrush and Salt Grass Habitat for Endangered and Sensitive Species

Carson Wandering Skipper and Greater Sage Grouse

Education/Soils Training to Tribal and BIA staff



Soil Presentation to Hopi Tribe, March 2006