



AFFECTED ENVIRONMENT 3

This chapter contains a description of the existing physical, biological, and socioeconomic characteristics of the resource area significantly affected by the proposed plan and alternatives described in Chapter 2. This description of the affected environment serves as a baseline for analyzing and determining the effects on resources from the proposed plan and various alternatives. These resource descriptions are discussed only in as much detail as needed to explain the effects of implementation. Where impacts would be slight or nonexistent, the descriptions are brief. Much of the information presented in this chapter is summarized from the DMRA Management Situation Analysis (MSA), incorporated here by reference. The MSA is available for review in the Vernal District Office or the Utah State Office.

AIR RESOURCES

The present air quality of DMRA is good. The air quality in the resource area is classified as an "attainment area", meaning the area meets the National Ambient Air Quality Standards' primary and secondary air quality standards. The Prevention of Significant Air Quality Deterioration regulations allow the resource area the maximum deterioration increment described under the criteria for a Class II air quality area. Class II air quality allows for some degradation associated with moderate and well-controlled growth. There are no Class I air quality areas in the resource area; however, Dinosaur National Monument is an area of special air quality concern. Presently, the Vernal District does not monitor air quality.

CLIMATE

DMRA lies within both the Colorado Plateau and the Middle Rocky Mountains physiographic provinces. The climate within these provinces involves a semi-arid continental regime characterized by low relative humidity, abundant sunshine, high evaporation rates, and low to

moderate precipitation. Prevailing clear skies with strong daytime insolation and rapid nighttime cooling result in wide daily temperature variations. In Browns Park the temperature extremes are moderated because of the buffering effect of the Green River. The Uinta Basin experiences a high frequency of inversion and fog during the winter months resulting from nighttime cold air draining from surrounding higher elevations. In the resource area, annual precipitation averages 6-14 inches in the lower elevations and may exceed 20 inches at the higher, mountainous elevations. Most precipitation comes from winter snowfall and intense late summer rains causing saturated soils generally in the spring and the fall.

CULTURAL AND PALEONTOLOGICAL RESOURCES

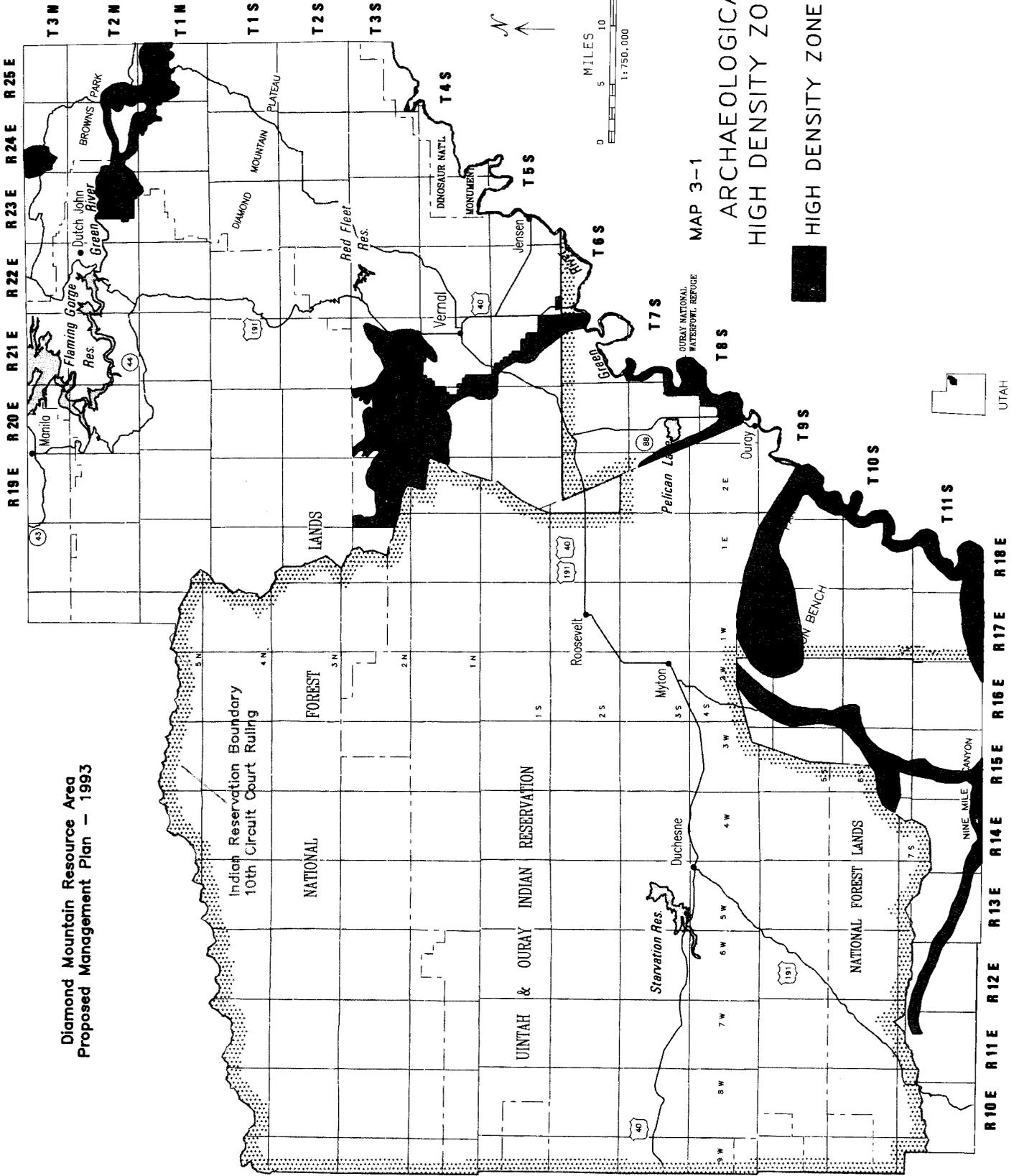
CULTURAL RESOURCES

Cultural resources in the Diamond Mountain Resource Area include both historic and prehistoric resources. Evidences of human activity or occupation are reflected in: cultural districts, sites, structures, buildings, objects, artifacts, works of art, and natural features important in human events.

Cultural resource uses are allocated through special designations, such as Areas of Critical Environmental Concern (ACECs) and identification of American Indian tribal, religious, or cultural sites. The probability of finding cultural resources in this resource area is identified and mapped by zones on Map 3-1.



**Diamond Mountain Resource Area
Proposed Management Plan - 1993**



6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

SECTIONED TOWNSHIP

MAP 3-1
**ARCHAEOLOGICAL
HIGH DENSITY ZONES**



HIGH DENSITY ZONES



UTAH

The ranked site density zones are based on known site densities correlated to topographic and vegetation variables. The high density zone is the area where site density varies between 10 and 40+ sites per square mile. The moderate density zone contains 10 to 1 site(s) per square mile. Low density areas have less than one site per square mile.

These rankings are based on a predictive model for site location which correlated variables from various Class II statistically-based inventories and Class III site-specific inventories.

The cultural resources in DMRA developed from centuries of human occupation, which have been divided into the following time periods: Paleo-Indian (10,850-5050 BC), Archaic (6050 BC-AD 600), Formative or Fremont (300 BC-AD 1550), and Historic (1750 AD-present) (BLM, 1996).

Cultural sites are generally concentrated near historic springs and seeps and along reliable streams such as Nine Mile Creek, Dry Fork Creek, Ashley Creek, Brush Creek and the Green River. The transition area between vegetation communities (e.g., sagebrush and pinyon-juniper woodlands, riparian and desert shrub, etc.) are also important because they provided a wide variety of plant and animal resources.

The resource area presently has approximately 1,950 recorded cultural sites. They have been initially categorized into the following BLM use categories:

<u>Use Category</u>	<u>Estimated Number of Sites</u>
Information Potential	1,460
Public Values	390
Conservation	100

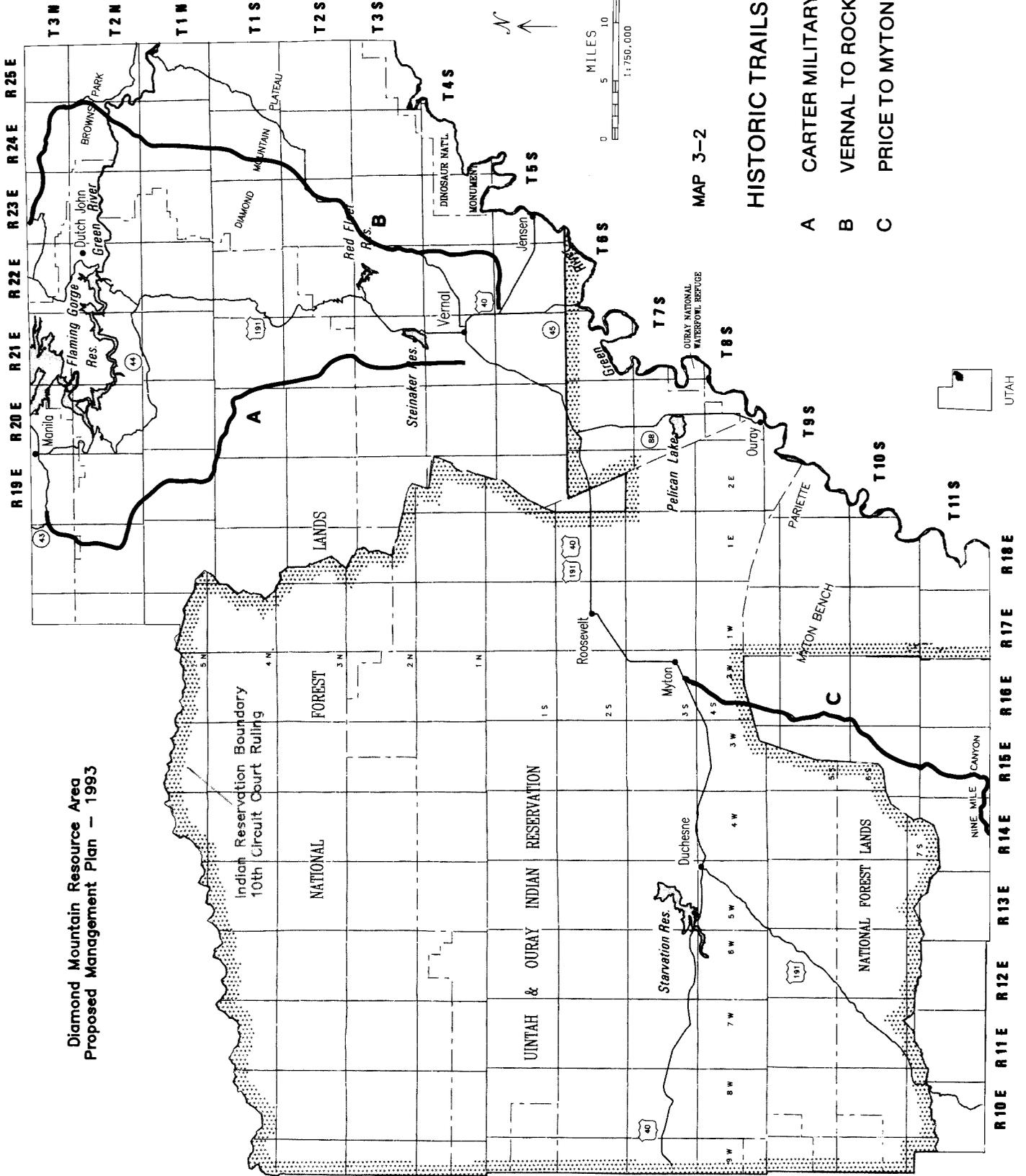
The site types and numbers currently recorded in the resource area represent only the resource area's cultural resources that have been found. Only 1 percent (or 7,000 public surface acres) of the resource area has been surveyed. From an extrapolation of these figures, DMRA may have more than 150,000 sites.

While many cultural areas are known to exist in the resource area, some areas are known to contain particularly significant or high concentrations of sites. These areas are identified below, however, other areas of cultural significance also exist.

- Nine Mile Canyon is an outstanding area of archeological importance. This canyon forms the boundary between the Uinta and San Rafael Fremont variants. Site densities exceed 100 per square mile. Numerous petroglyphs, pictographs and structures occupy this area. The Ute people also occupied this canyon and left many petroglyphs unique to their culture.
- The series of sandstone hogbacks at the base of the south-facing slopes of the Uinta Mountains also have high site densities. These features have been the focus of several major Fremont rock art studies (Schaafsma, 1971; Castleton, 1978; Castleton and Madsen, 1982; and Burton, 1971). Significant rock art concentrations occur at the Red Mountain-Dry Fork Canyon area, and along Ashley Creek, Spring Creek, and Big and Little Brush Creeks. Moderate density areas for rock art include Asphalt Ridge and Steinaker Draw.
- The north-facing slopes of the Uintas in Browns Park and Little Hole have very high site densities (exceeding 40 per square mile). These areas have large, complex sites which are in good condition. They contain considerable information concerning how prehistoric peoples lived and interacted with other populations in the region. Inventories of these areas indicate prehistoric peoples focused their activities in these areas for the past 3,500 years. The Jarvie National Historic Site is here, and is a good example of the historic values of the area
- Certain areas within the pinyon-juniper woodlands, sagebrush, and riparian vegetation communities have cultural significance for present day Utes as areas of religious importance.
- Three historic trails transect the resource area: the Carter Military Trail, the Vernal to Rock Springs Road and the Price to Myton Road (refer to Map 3-2).

Sites eligible for or listed on the *National Register of Historic Places* (NRHP) within the resource area include: one NRHP Historic District, one NRHP Historic Site, and 13 other sites determined to be eligible for designation as NRHP Historic Sites by the Utah State Historic Preservation Officer (SHPO). For a description of these properties, see Table 3-1, "Cultural Resource Properties." About 350 other sites within the resource area are significant and have been recorded by the professional archeologist responsible for the inventory as eligible for listing on NRHP.

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SECTIONED TOWNSHIP

MAP 3-2

HISTORIC TRAILS

- A CARTER MILITARY TRAIL
- B VERNAL TO ROCK SPRINGS
- C PRICE TO MYTON ROAD



UTAH

**TABLE 3-1:
CULTURAL RESOURCE PROPERTIES**

NATIONAL REGISTER PROPERTIES		
John Jarvie Ranch		A 19 th Century Ranch in Browns Park. Restored National Historic District and reconstructed to look like it did about 1900. It is managed by Vernal District BLM and is open to the public.
Sand Wash National Historic Site		The site of a historic ferry across the Green River. It is administered by BLM's Moab District.
NATIONAL REGISTER ELIGIBLE PROPERTIES (determined eligible by Utah SHPO)		
Historic Homestead	42DA482	Consists of cabin, dugout, irrigation ditches, fence lines, corral. Post 1900.
Prehistoric Camp	42DA488	Several burned structures, Uinta grey pottery, and stone tools.
Lithic Scatter	42DA491	A mid-plains archaic period tool manufacturing site.
Prehistoric Camp	42DA404/455	Prehistoric camp of large size utilized to produce stone tools.
Prehistoric Quarry Site	42DA457	Prehistoric quarry and campsite where Native Americans utilized Uinta Mountain Group Quartzite to make tools.
Road	42DA395	Jesse Ewing Road. Served as a segment of Ashley Valley to Green River stage route.
Prehistoric Camp	42DA464	A lithic scatter which has an intact slab lined hearth.
Mining Project	42DA466	A small, shallow prospect.
Prehistoric Camp	42DA470	An open camp consisting of several hundred flakes, a mano, and chopper.
Prehistoric Camp	42DA471	A large camp used when quarrying stone to produce tools.
Prehistoric Camp	42DA472	A group of hearths and a lithic scatter.
Lithic Scatter	42DC585	The site of a very large tool manufacturing site.
Fremont Rock Art Site	42UN464	A series of small (<6") figures of persons and animals.

Source: Vernal District Files

The resource area has one National Historic Landmark—The Desolation Canyon, located on the lower Green River. It runs from the Sand Wash Recreation Site near Nine Mile Canyon down river into the Moab District. Current management practices are discussed in the 1979 "Desolation and Gray Canyons of the Green River, River Management Plan" (BLM, 1979).

PALEONTOLOGICAL RESOURCES

Within DMRA, geologic formations have been ranked as having being Type 1, 2 or 3 for fossil-bearing potential. The formations recognized as having the highest fossil

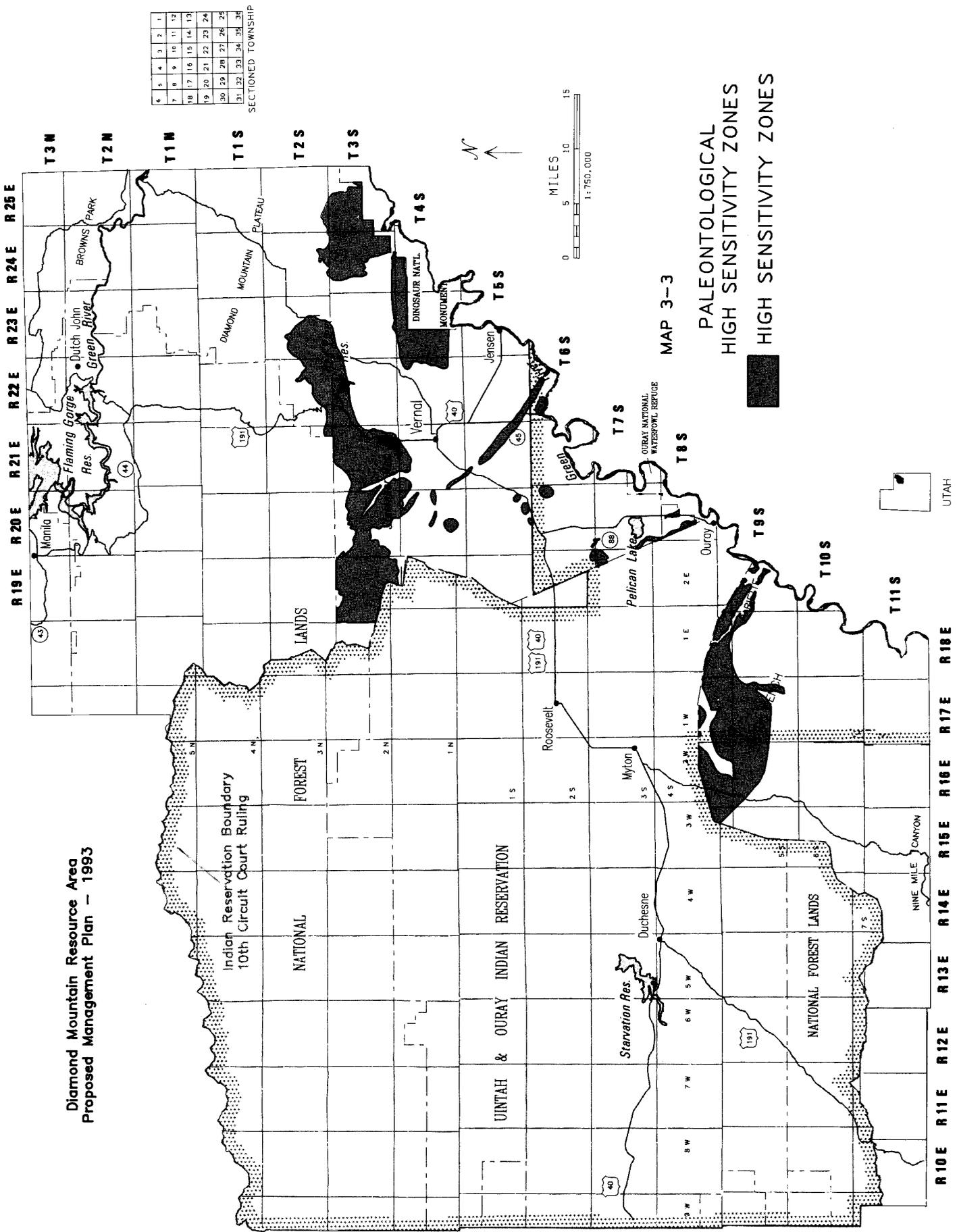
potential are identified in Table 3-2. Map 3-3 provides areas within the resource area having the highest site potential. In particular, the Mesozoic Formations in the Red Fleet area are becoming important due to diversity and density of recently uncovered dinosaur fossils and trackways. This area may be proposed for inclusion into the National Natural Landmark System. Currently about 300 paleontological sites have been found and recorded covering less than 1 percent of the resource area. (Refer to Appendix Table A1-1 for further information.)

**TABLE 3-2:
HIGHLY SENSITIVE FORMATIONS
FOR PALEONTOLOGICAL RESOURCES**

NAME	AGE	GEOLOGIC ERA	REASON
Browns Park	Miocene	Cenozoic	Mammal fossils (Gomphothere, camel, horse, etc.)
Duchesne River	Late Eocene/ Early Oligocene	Cenozoic	Same as Green River Formation, mammal trackways.
Uinta	Upper Eocene	Cenozoic	Same as Green River Formation, mammal trackways.
Green River	Middle Eocene	Mesozoic	Fish, amphibian, bird, large and small mammals, reptiles, etc. Aided in definition of faunal ages.
Wasatch	Early Eocene	Mesozoic	Reptile and mammal fossils, some of the earliest primates. Aided in the definition of mammal ages.
Mesa Verde Gr.	Upper Cretaceous	Mesozoic	Dinosaur trackways previously unknown in this formation in this area.
Frontier	Middle Cretaceous	Mesozoic	Presence of heretofore unknown dinosaur footprints
Mowry	Early Cretaceous	Mesozoic	Presence of the first known perch (Beryciforme fish)
Morrison	Upper Jurassic	Mesozoic	World class localities for dinosaurs, reptiles, microvertebrates, etc.
Glen Canyon Gr.	Upper Triassic/ Lower Jurassic	Mesozoic	Presence of heretofore unknown dinosaur tracks
Curtis	Late Jurassic	Mesozoic	Presence of marine reptiles, both types the first found in Utah of this age. (Ichthyosaur and Pliosaur)
Carmel	Middle Jurassic	Mesozoic	Presence of heretofore unknown dinosaur footprints
Chinle	Middle/Upper Triassic	Mesozoic	Presence of heretofore unknown dinosaur tracks
Moenkopi	Lower Triassic	Mesozoic	Presence of early pre-dinosaur tracks

Source: Vernal District Files

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SECTIONED TOWNSHIP

MAP 3-3

PALEONTOLOGICAL
HIGH SENSIVITY ZONES
HIGH SENSIVITY ZONES

R 10 E R 11 E R 12 E R 13 E R 14 E R 15 E R 16 E R 17 E R 18 E R 19 E R 20 E R 21 E R 22 E R 23 E R 24 E R 25 E

T 3 N
T 2 N
T 1 N
T 1 S
T 2 S
T 3 S

UTAH