

Appendix C: Places

Table of Contents

C-1 Model Approach: Places I, II, III.....	2
C-1.1 Conceptual and Spatial Modeling.....	2
C-1.2 Non-Overlapping Raster Places Datasets	3
C-1.2.1 Places Class I: Sites of High Biodiversity	3
C-1.2.2 Places Class II: Specially Designated Areas of Ecological or Cultural Value	3
C-1.2.3 Places Class III: Other Managed Lands.....	3
C-1.3 Overlapping Polygon Region Places Dataset	4
C-2 Findings in terms of Management Questions.....	4
C-2.1 Places I - Areas of High Biodiversity.....	4
C-2.1.1 Places I – Aquatic sites	6
C-2.2 Places II – Designated Sites of Ecological and Cultural Value.....	7
C-2.3 HMAs, HAs, GAs.....	10
C-3 References Cited in Appendix C.....	11

Tables

Table C - 1. Places Class I - Source datasets for Sites of High Biodiversity.....	2
Table C - 2. Places Class II - Source datasets for Specially Designated Areas of Ecological and Cultural Value	2
Table C - 3. Places Class III – Source datasets for Other Managed Lands	3
Table C - 4. Aerial extent of lands identified, but not designated, for their ecological and cultural value (Places I).	5
Table C - 5. Summary of areal extent of designated (Places II) and priority (Places I) sites that include aquatic/wetland/riparian CEs, by owner/manager.....	7
Table C - 6. Aerial extent of lands designated for significant ecological and cultural value (Places II).	8

Figures

Figure C - 1. Data processing steps to create polygon datasets for Places I, II, III.	4
Figure C - 2. Places identified as of biodiversity significance, but not designated as such. For this map, only polygons of at least 10 acres (46,469 sq meters) were included.	6

Figure C - 3. Sites designated of ecological or cultural value in the CBR. For clarity, several categories of disnated sites (e.g. ACEC, wilderness, wildlife refuges, national parks) are included in the USGS Protected Areas Database in the map.....	9
Figure C - 4. Existing lands designated for high ecological or cultural value (Places II) overlain on undesignated areas identified for high ecological or cultural value (Places I)	10
Figure C - 5 Herd management areas.....	11

C-1 Model Approach: Places I, II, III

C-1.1 Conceptual and Spatial Modeling

Datasets representing places of conservation and management interest were acquired and compiled into three derivative datasets: Sites of High Biodiversity (Places I), Specially Designated Areas of Ecological and Cultural value (Places II), and Other Managed Lands (Places III).

Places Class I: Areas of High Biodiversity were derived from source data characterizing locations with concentrated at-risk biodiversity or existing source data of a prioritization exercise that identified areas of high conservation significance (e.g. TNC Portfolio Sites).

Places Class II: Specially Designated Areas of Ecological and Cultural Value were derived from source data delineating legally protected lands/waters (e.g. ACEC). Plus a few exceptions that represented known species recovery lands (e.g. critical habitat recommended for recovery of Desert Tortoise).

Places Class III: Other Managed Lands describe the majority of federal or state managed lands characterized by management for multiple uses (e.g. DOD lands).

The *Places I class often overlaps spatially with the Places II and III classes*, but differ in that the latter categories includes established legal boundaries for land and water units (e.g., ACECs). Areas of high biodiversity significance most frequently imply a more flexible boundary definition and suggest the need for future field verification prior to settling upon new legal or management designations.

SOURCE DATA

Table C - 1. Places Class I - Source datasets for Sites of High Biodiversity

Source Dataset
California Essential Habitat Connectivity (Essential Connectivity Areas – ECA)
TNC Portfolio Sites
USFWS Critical Habitat
USGS Protected Areas of the United States (PADUS) v1.2 (all records attributed as Places I)
Nevada Important Bird Areas
Nevada Priority Conservation Areas 2006

Table C - 2. Places Class II - Source datasets for Specially Designated Areas of Ecological and Cultural Value

Source Dataset
Bighorn Sheep Management Area
Desert Tortoise Critical Habitat (areas recommended for recovery)
National Inventoried Roadless Areas
NLCS Historic Trails

NLCS Scenic Trails
NLCS Wild Rivers
USGS Protected Areas of the United States (PADUS) v1.2 (records attributed as Places II)

Table C - 3. Places Class III – Source datasets for Other Managed Lands

Source Dataset
USGS Protected Areas of the United States (PADUS) v1.2 (records attributed as Places III)

C-1.2 Non-Overlapping Raster Places Datasets

Non-overlapping Places I, Places II, and Places III raster datasets were produced for use in processing with the CBR raster CE data for calculating Gap Analysis statistics.

C-1.2.1 Places Class I: Sites of High Biodiversity

All Places I source datasets listed above were clipped to the REA boundary, merged and converted to a raster dataset. Line and polygon source datasets were merged/converted separately and then combined. *All Places Class II sites were then subtracted from the Places Class I raster dataset.*

Each record in the USGS PADUS 1.2 data was first attributed to one of the three Places categories, and then Places I records were subset. PADUS 1.2 Places I classes include: Desert Tortoise Habitat and Highland Range Crucial Bighorn Habitat Area (PADUS Places I only occur in the MBR REA). For the California Essential Habitat Connectivity only the ECA (Essential Connectivity Areas) feature class was used. For the USFWS both line and polygon critical habitat datasets were used.

C-1.2.2 Places Class II: Specially Designated Areas of Ecological or Cultural Value

All Places II source datasets listed above were clipped to the REA boundary, merged and converted to a raster dataset. Line and polygon source datasets were merged/converted separately and then combined.

Each record in the USGS PADUS 1.2 dataset was first attributed to one of the three Places categories, and then Places II records were subset. All Gap Status 1 and 2 were classified as Places II. PADUS 1.2 Places II include: areas of critical environmental concern, ecological preserve, local land trust preserve, national conservation area, national land trust preserve, national forest, national historic site, national landmark conservation system, national monument, national park, national preserve, national recreation area, national wildlife refuge, national conservancy preserve, state land trust, state natural reserve, state park, TNC preserve, water district lands, wilderness, wilderness area, wildlife area, wilderness land trust, wilderness study area, wildlife sanctuary. This list is not exhaustive because the PADUS 1.2 dataset has multiple attributes that describe the site and it is not possible to generate a single summary list.

C-1.2.3 Places Class III: Other Managed Lands

The Places III source dataset listed above was clipped to the REA boundary and converted to a raster. *All Places I sites were then subtracted from the Places Class III raster dataset.*

Each record in the USGS PADUS 1.2 dataset was first attributed to one of the three Places categories, and then Places III records were subset. All Gap Status 3 and 4 were classified to Places III. PADUS 1.2 Places III include: BLM lands, DOD lands, city parks, etc. This list is not exhaustive because the PADUS 1.2 dataset has multiple attributes that describe the site and it is not possible to generate a single summary list.

C-1.3 Overlapping Polygon Region Places Dataset

An overlapping polygon region places dataset was produced to enable users to identify the individual source data for each Places site (keeping in mind that in this version of the Places data, Places II and III sites overlap with Places I sites).

The Places I, II and III source datasets listed above were clipped to the REA boundary. Line datasets were buffered by 15 meters. All source datasets were then merged into an overlapping region polygon dataset. Two new attribute fields were added: Source_Data and PlacesCd. The Source_Data field identifies the source dataset: Bighorn_sheep_whma, CECHP_ECA, Historic_Trail, NHP_NV_site2006_v2, NV_IBAs, Scenic_Trails, TNC_Porfolio_Terr_Phase1_Sites, USDAFS_roadless_Areas, USFWS_CritHab, USFWS_CritHab_Line, USFWS_CritHab_Tortoise, USGS_PADUS 1.2, and Wild_Scenic_Rivers. The PlacesCD is a numeric value identifying the places class: 1 represents Places I, 2 represents Places II, 3 represents Places III and 4 represents records in the USGS PADUS 1.2 that were excluded from the non-overlapping raster Places datasets (e.g. prisons, swimming pools, tennis courts, etc.)

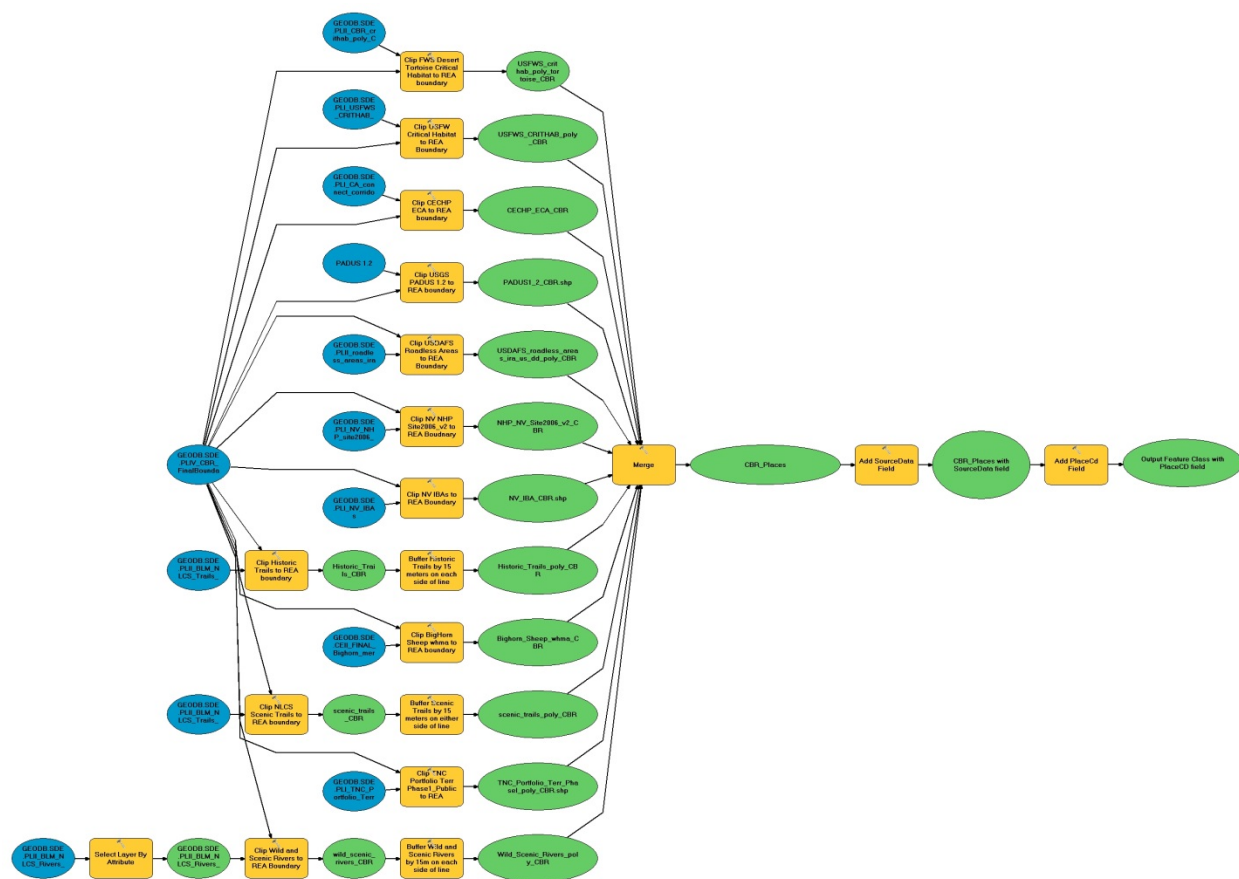


Figure C - 1. Data processing steps to create polygon datasets for Places I, II, III.

C-2 Findings in terms of Management Questions

C-2.1 Places I - Areas of High Biodiversity

MQ14 - WHERE ARE SITES IDENTIFIED (BUT NOT NECESSARILY DESIGNATED) FOR HIGH BIODIVERSITY?

Within this REA, **Places I** lands indicate sites that have been previously identified as possible conservation areas, but do not necessarily have a protective, legal designation in place. These places can include areas of high significance identified through private conservation plans, such as The Nature Conservancy ecoregional portfolios, or similar sites.

Overall, currently BLM manages a total of 12.7 million acres of lands identified as high priority for conservation (Places I), or 14.38% of the ecoregion (Table C - 4). The total for identified priority areas, *which tend to overlap with already designated lands*, encompass 27.8% of the ecoregion. Figure C - 2 shows these areas for the CBR, with an indication of why the site was included in the Places I dataset.

Table C - 4. Aerial extent of lands identified, but not designated, for their ecological and cultural value (Places I).

Places I Owner/Manager	Acres	% of ecoregion
Bureau of Land Management (BLM)	12,786,061	14.38
No data	7,193,011	8.09
Forest Service (USFS)	1,660,885	1.87
Department of Defense (DOD)	1,234,826	1.39
State Land Board	515,311	0.58
Native American Land	370,795	0.42
Department of Energy (DOE)	318,869	0.36
City Land	310,765	0.35
State Department of Natural Resources	112,418	0.13
Bureau of Reclamation (BOR)	98,663	0.11
State Park & Recreation	35,927	0.04
Other State Land	30,634	0.03
Private Conservation Land	12,563	0.01
State Department of Land	6,691	0.01
County Land	5,189	0.01
State Fish and Wildlife	2,847	0.00
Regional Agency Land	1,041	0.00
Private Unrestricted for Development/No Known Restriction	33	0.00
Fish and Wildlife Service (FWS)	5	0.00
Total	88,925,446	27.8%

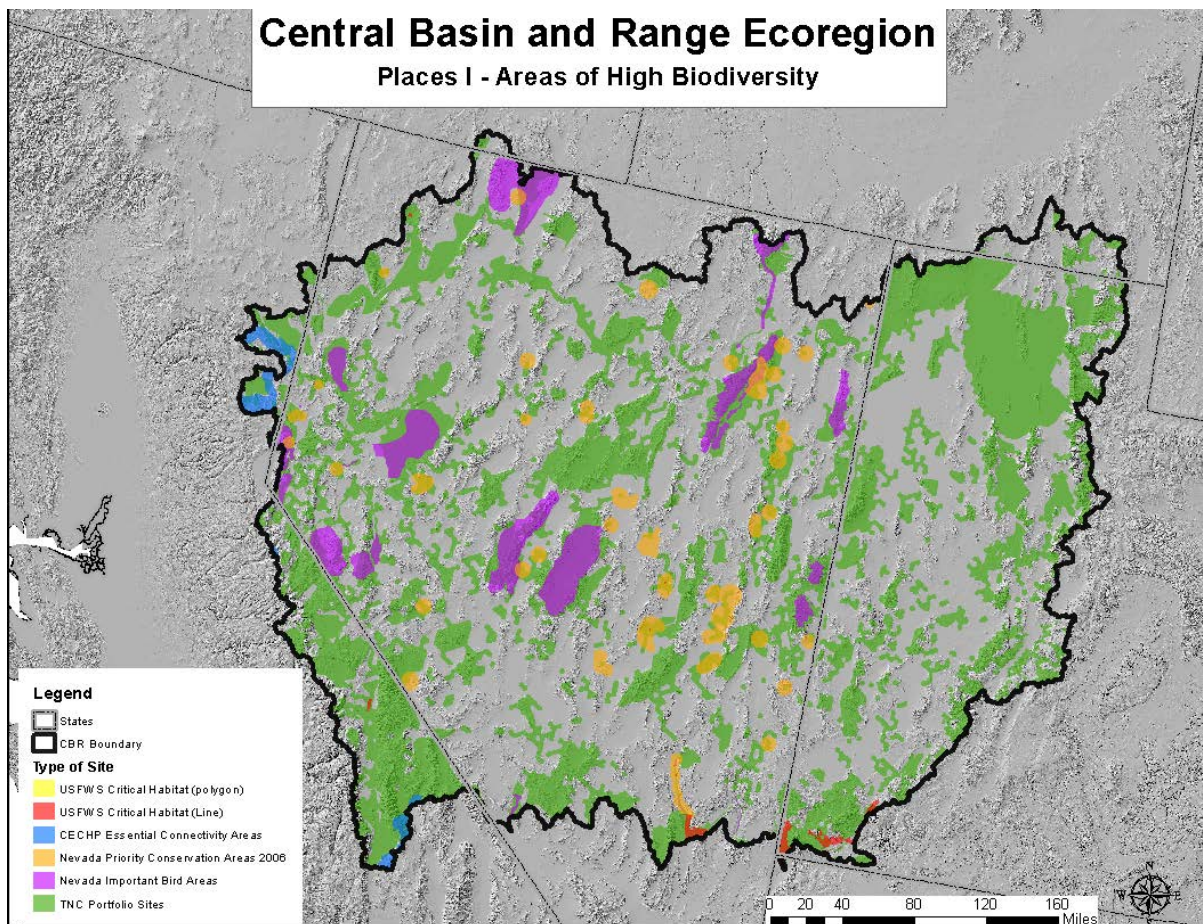


Figure C - 2. Places identified as of biodiversity significance, but not designated as such. For this map, only polygons of at least 10 acres (46,469 sq meters) were included.

C-2.1.1 Places I – Aquatic sites

MQ18 - WHERE ARE AQUATIC HIGH BIODIVERSITY SITES?

Aquatic CEs occur in virtually all of the Places (designated or undesignated but high priority) across the ecoregion; the acreage of Places that have aquatic CEs in them encompass some 12.8 million acres. Nearly half of that distribution occurs on BLM lands. Of the ecoregional extent, 11% is located within designated areas (Places II); again, with BLM being by far the largest proportional land manager. High priority sites (Places I) identify another 39% of the total distribution of these CEs throughout the ecoregion. Table C - 5 includes a summary of total area occupied by lands within these two designations, sorted by land owner/manager for the CBR ecoregion.

Table C - 5. Summary of areal extent of designated (Places II) and priority (Places I) sites that include aquatic/wetland/riparian CEs, by owner/manager.

Land Owner Class	Areal Extent (Acres)	Percent	% in Places I: Sites of High Biodiversity	% in Places II: Designated Areas of Ecological or Cultural Value	% in Other Managed Land
Bureau of Land Management (BLM)	6,127,719	47.77	13.60	6.12	28.05
Unknown - No PADUS record	3,602,493	28.08	18.81	0.24	9.03
Department of Defense (DOD)	1,623,751	12.66	3.38	0.05	9.23
Forest Service (USFS)	439,307	3.42	0.67	2.18	0.57
State Land Board	338,992	2.64	0.99	0.01	1.64
Fish and Wildlife Service (FWS)	158,455	1.24	0.00	1.24	0.00
Native American Land	115,614	0.90	0.41	0.01	0.48
State Fish and Wildlife	99,749	0.78	0.00	0.77	0.00
Bureau of Reclamation (BOR)	98,076	0.76	0.48	0.16	0.12
State Dept of Natural Resources	90,291	0.70	0.70	0.01	0.00
Other State Land	52,276	0.41	0.09	0.31	0.00
State Park & Recreation	19,872	0.15	0.05	0.02	0.08
City Land	16,390	0.13	0.11	0.00	0.02
National Park Service (NPS)	11,934	0.09	0.00	0.09	0.00
Private Conservation Land	11,412	0.09	0.09	0.00	0.00
The Nature Conservancy (TNC)	9,626	0.08	0.00	0.08	0.00
Department of Energy (DOE)	5,951	0.05	0.03	0.00	0.01
Agricultural Research Service (ARS)	4,697	0.04	0.00	0.04	0.00
State Department of Land	928	0.01	0.00	0.00	0.00
County Land	832	0.01	0.00	0.00	0.00
Regional Agency Land	118	0.00	0.00	0.00	0.00
Total			39.43	11.33	49.24

C-2.2 Places II – Designated Sites of Ecological and Cultural Value

MQ21- WHERE ARE SPECIALLY DESIGNATED AREAS OF ECOLOGICAL OR CULTURAL VALUE?

Within the REA, **Places II** lands have been formally designated for management to conserve significant ecological or cultural values. These can include land attributed by the USGS Gap Analysis Program as “Gap Status 1-2” which tend to include protected areas such as ACECs, National Parks, designated Wilderness lands, and Research Natural Areas, etc.

As indicated in Table C - 6, the BLM and the U.S. Forest Service manage the vast majority of designated lands in the ecoregion, with a combined total of nearly 16.5 million acres. The BLM share of these lands account for 9.2 million acres, or 10.36% of the ecoregion. The National Park Service is third,

managing just over one million acres in this category. BLM manages a total of 12.7 million acres of lands identified as high priority for conservation (Places I), or 14.38% of the ecoregion (Table C - 4). Given the overlap of these two Places categories, this suggests that some 3.57 million additional acres have been identified as possibilities for more specific land conservation measures on BLM land.

There are many types of designated “protected areas” included in this dataset, Figure C - 3 is simplified for clarity of display, but all the categories are included in the data delivered to BLM.

Table C - 6. Aerial extent of lands designated for significant ecological and cultural value (Places II).

Place II Owner/Manager	Acres	% of ecoregion
Bureau of Land Management (BLM)	9,214,882	10.36
Forest Service (USFS)	7,269,018	8.17
National Park Service (NPS)	1,024,902	1.15
Fish and Wildlife Service (FWS)	696,551	0.78
No data (<i>from PADUS – potentially various managers</i>)	390,301	0.44
State Fish and Wildlife	331,757	0.37
Department of Defense (DOD)	286,381	0.32
Agricultural Research Service (ARS)	55,491	0.06
Native American Land	45,216	0.05
Other State Land	44,414	0.05
Bureau of Reclamation (BOR)	27,871	0.03
State Park & Recreation	27,679	0.03
The Nature Conservancy (TNC)	23,140	0.03
City Land	19,981	0.02
State Land Board	13,840	0.02
State Department of Natural Resources	1,306	0.00
County Land	698	0.00
Regional Agency Land	127	0.00
State Department of Land	97	0.00
Ecoregion Total Area	88,925,446	21.9%

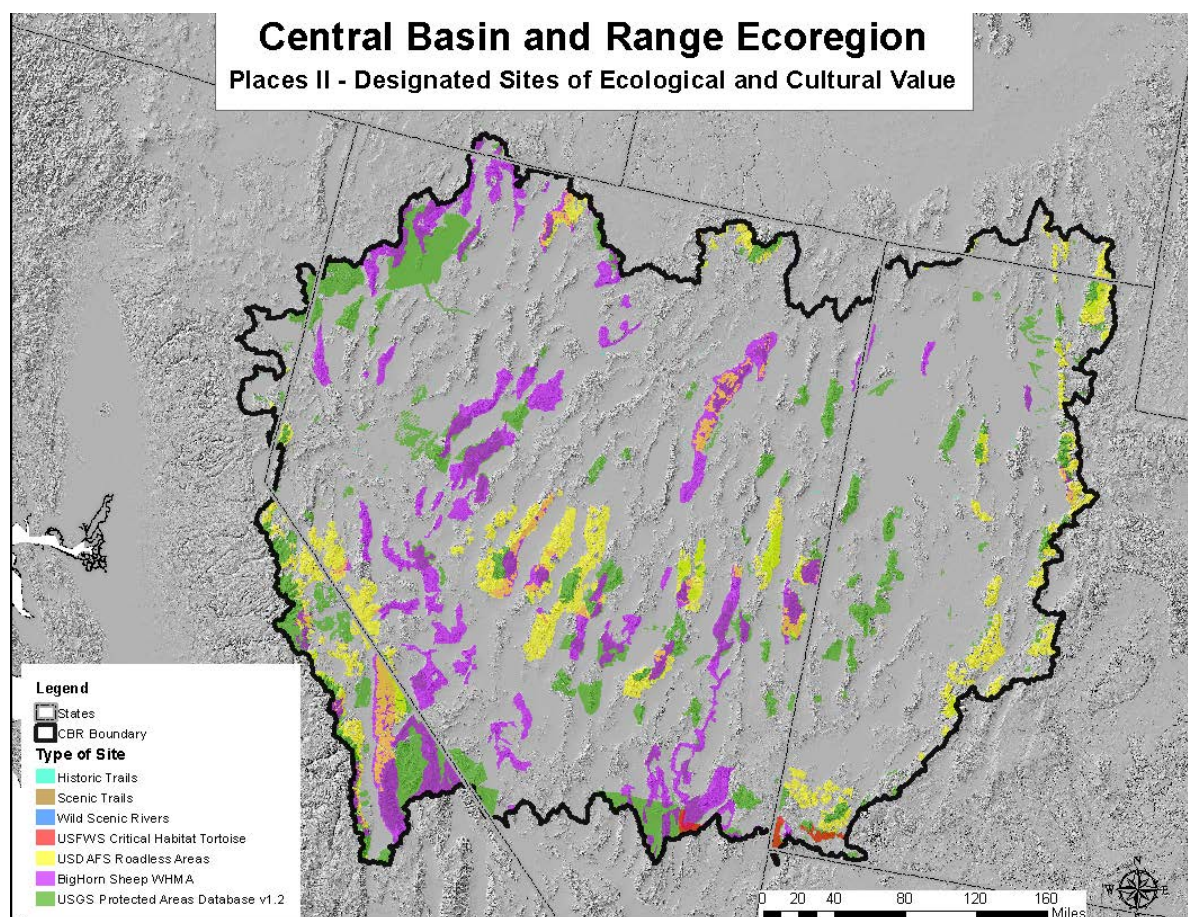


Figure C - 3. Sites designated of ecological or cultural value in the CBR. For clarity, several categories of designated sites (e.g. ACEC, wilderness, wildlife refuges, national parks) are included in the USGS Protected Areas Database in the map.

Figure C - 4 shows a non-overlapping view of Places II and Places I lands in the CBR. This suggests that more specific land conservation measures have been recommended for some 5.9% of the ecoregion. That would equate to approximately 5.2 million acres (NOTE: a significant proportion of that areal extent includes the Great Salt Lake, at some 1.2 million acres).

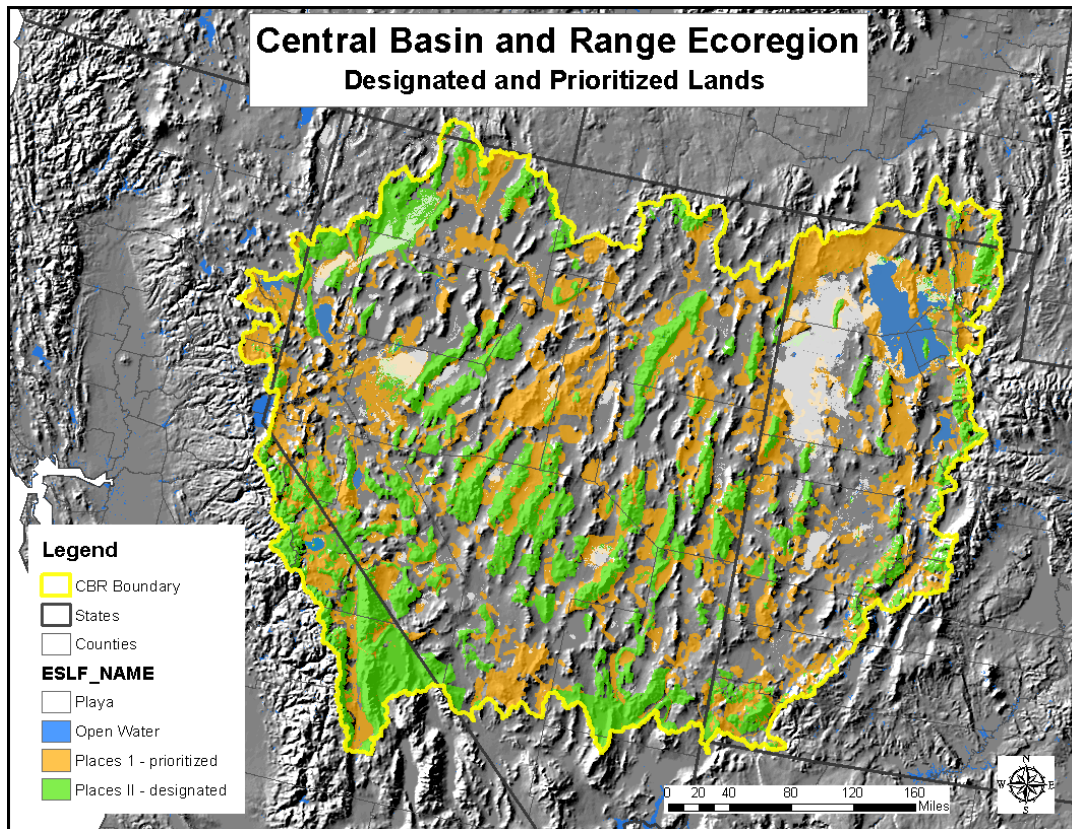


Figure C - 4. Existing lands designated for high ecological or cultural value (Places II) overlain on undesiguated areas identified for high ecological or cultural value (Places I)

C-2.3 HMAs, HAs, GAs

MQ23 -WHERE ARE THE CURRENT HERD MANAGEMENT AREAS (HMAs)?

Herd management areas are located throughout the ecoregion (Figure C - 5). Located almost exclusively on federal land, HMAs tend to be located in the most remote and least densely populated areas. This information was received directly from BLM and was not verified by the contractor.

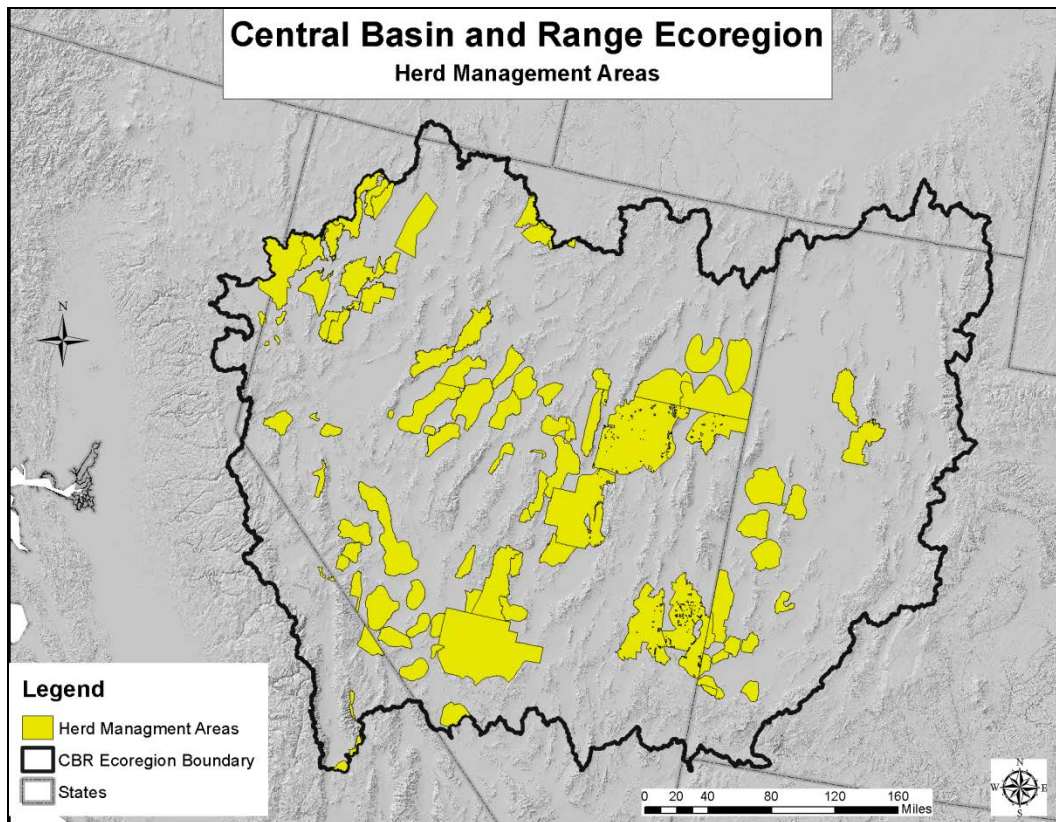


Figure C - 5 Herd management areas

C-3 References Cited in Appendix C

Protected Areas Database of the United States (PADUS) version 1.2, April 2011.

<http://gapanalysis.usgs.gov/padus/>

The Nature Conservancy Ecoregional Portfolio Sites, 1990s-2000.

http://maps.tnc.org/files/metadata/ERA_STEWARD_TNC_Portfolio_Terr_Phase1.xml