



**PAD-US 1.1 (CBI Edition):
Standards and Procedures**

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Introduction to PAD-US 1.1 (CBI Edition)

Protected areas are the cornerstones around which regional, national and international conservation strategies are developed. Through these designations, lands are set aside in perpetuity to preserve functioning natural ecosystems, provide refuges for species and maintain ecological processes. Working from this foundation, public agencies, private organizations and corporations develop and implement complementary conservation strategies to designate land for the sustainable use of natural resources, the protection of significant geologic or cultural features and for the provision of ecosystem services.

On May 1, 2010 the Conservation Biology Institute released PAD-US 1.1 (CBI Edition), the most current and comprehensive spatially explicit protected areas dataset for the United States. This update is the result of collaboration with federal and state agencies (including the USDA Forest Service, USGS GAP, BLM and several state agencies, Universities and Natural Heritage Programs), as well as private conservation organizations, including The Nature Conservancy. Collaborating with the nation's leading data providers, the goal is to provide an annual update.

The PAD-US 1.1 (CBI Edition) dataset portrays the nation's protected areas with a standardized spatial geometry and numerous valuable attributes on land ownership, management designations and conservation status (using national GAP and international IUCN coding systems). The PAD-US 1.1 (CBI Edition) defines *protected area* to include all lands dedicated to the preservation of biology diversity and to other natural, recreation and cultural uses, and managed for these purposes through legal or other effective means (adapted from IUCN definition). The database represents the full range of conservation designations that preserve these natural resources in the United States. Our database does not distinguish a protection threshold above which biodiversity is considered secure. Instead, a complete suite of protected area attributes are provided for each polygon with the purpose of giving users the information they need to define the most relevant conservation thresholds for their own objectives and requirements.

This GIS-based dataset was created to help people integrate protected areas data into their daily work (e.g. mapping, planning, analyses, and problem-solving). For example, this database makes it easy for users to address important conservation and resource questions pertaining to climate change adaptation, green energy development, infrastructure planning and wildlife connectivity. State and regional planners and managers will appreciate this dataset as it provides critical contextual information for their work. Institutions responsible for national and international reporting will find this database full of reliable, accurate information for their purposes. The scientific and conservation community will similarly benefit from having this standardized base map to carry out their research and planning objectives.

Policies and Procedures For Aggregating and Reviewing PAD-US 1.1 (CBI Edition) Data Sources

PAD-US 1.1 (CBI Edition) is a comprehensive geospatial data set of United States protected areas, including detailed information on land ownership, management and conservation status. Our goal is to regularly compile and publish national, state and local protected areas information (public and private) that we obtain through an established network of data providers. Protected areas data are collected from these sources and aggregated into a standard framework. Challenges related to the incompleteness of source data, varied formats, data structures and accuracy are reconciled as much as possible, but this effort is an ongoing process of steady improvement. A unique collaborative process with leading data providers across the nation ensures that source information flows into this database and back to the providers in an iterative fashion. This version substantially improves our national inventory of protected lands. PAD-US 1.1 (CBI Edition) provides the spatial foundation by which users can conceptualize our national conservation landscape.

To build PAD-US 1.1 (CBI Edition), CBI utilized ESRI's geodatabase technology. The purpose of this document is to define the policies and procedures used to aggregate protected areas data into the PAD-US 1.1 (CBI Edition) staging and production database.

I. Compile and Review data sources and documentation

- 1) Download source data. Confirm all project files open appropriately in ArcMap.**
- 2) Review source metadata to confirm Federal Geographic Data Committee (FGDC) standards are met. Coordinate with the source to update source metadata, if needed.**
- 3) Confirm that basic tabular data is available from the source dataset to populate PAD-US 1.1 (CBI Edition) attributes.**
 - a) Primary Designation
 - b) Owner Type
 - c) Owner Name
 - d) Secondary Designation
 - e) Primary Designation Name
 - f) State Name
 - g) GAP Code
 - h) GIS Source

II. Apply the PAD-US 1.1 (CBI Edition) Schema

- 1) **Confirm core attribute properties** See Appendix A for a list of attribute fields.
 - 2) **In *Primary, Secondary and Tertiary Designation Name* fields, conform new parcel names to list of standard designation names.** See Appendix B.
 - a) Standardize parcel names (no acronyms, no spelling errors, proper case, overarching name-no units) in Primary, Secondary and Tertiary Designation Name. The purpose of this exercise is to enable searches for an entire protected area by name, regardless of how many disparate polygons comprise the area.
 - b) Where new data contains unknown parcel names, every attempt should be made to request some type of identification method from the data source.
 - c) Select by attributes where 'parcel name LIKE %WMA%', for example. Search for common acronyms (WMA, RNA, ONA, NP, GMA etc.) in parcel names to enable review of records prior to using 'find and replace' (use match case) tool to repopulate WMA with Wildlife Management Area. Review is required to crosscheck management designation as some acronyms have dual meaning (e.g. NP = Nature Preserve and National Park).
 - d) Update attributes to 'proper case' after 'find and replace' step is complete, e.g. initials become proper case.
 - e) Compare Local Designation and Primary Designation Type. Where obvious discrepancies exist, correct Primary Designation Type to match the information provided by the local designation field. Note: Primary Designation Type is a general description of management type.
- 2) **Apply standard designation domains to new parcels.**
- a) See Appendix B for a list of standard designation domains.
 - b) If new owner or designation names need to be added, confirm revisions with the team.
 - c) Assign all new parcels with GAP 0 = Undetermined (unless assigned in dataset by PAD-US partner, e.g. GAP, CBI PAD or TNC). For those parcels where a partner has assigned a GAP code, attribute the GAP Status Code Source field appropriately. Once the database is assembled, parcels coded GAP 0 will be categorically assigned a GAP Code by the CBI team, or assigned 'unknown.'
 - d) Reattribute *water* to reflect appropriate designations. Whenever a water polygon is completely surrounded by a polygon with similar ownership and one

management designation, merge the water body into the designation polygon (e.g. Yellowstone Lake is completely contained within Yellowstone National Park. The lake should be merged into the park boundary so there is no differentiation between land and water, so that only the protected area is represented.

3) Integrate, translate or assign GAP Status Codes to new data.

- a) GAP Status Codes are a measure of management intent to conserve biodiversity. If GAP Status Codes are available in source data, incorporate or translate into the GAP 1-4, National Standard (see examples below) and reference accordingly. In most cases, retain GAP Status Codes from the USGS Gap Analysis Program where available. If GAP Status Codes are unavailable, apply categorical assignment or 'unknown'.

4) Attribute GAP Status Code sources and source dates

- a) GAP Status Code sources and date references are used as a mechanism to track methodology and prioritize updates at a national scale. The GAP Status Code Source field ('GAPCodeSrc') contains an acronym (defined in the metadata) to reference the organization that assigned the GAP Status Code to the parcel (e.g. GAP, CBI or TNC). The GAP Status Code Date ('GAPCodDate') field attributes the date (year) the code was assigned based on the publication date in the metadata of the data source, unless other information is available.
- b) As methods to assign GAP Status Codes differ among organizations, any organization providing GAP Status Codes should provide the PAD-US Conservation Measures Team with a copy of their methods.

III. Aggregate Datasets into PAD-US 1.1 (CBI Edition)

1) Identify state-by state update schedule

2) Load updates into edit geodatabase

- a) Confirm geodatabase projection and datum:
USA_Contiguous_Albers_Equal_Area_Conic_USGS_version and Geographic coordinate system – GCS North American 1983.
- b) Load updates into the edit geodatabase individually to ensure fields are mapped and documented correctly. The Data Loader tool in ArcMap and the Simple Data Loader in ArcCatalog are both helpful in ensuring that attribute fields are populated correctly.

- c) Compact geodatabase intermittently to improve performance.
- d) Check geometry and repair errors.

3) Use overlay tool to combine attributes and linework

4) Obtain national boundary file to create seamless coverage

- a) It may be necessary for the data developer to overlay state update source files with a standard source to create a private lands polygon, using the Update and Merge tools.
- b) CBI used three separate shoreline boundaries. The primary boundary used is NOAA Medium Resolution Shoreline for the contiguous U.S. (variable resolution, average is 1:70,000). For Hawaii, the USGS 1983 (1:24,000) coastline boundary was used. For Alaska, a 1:100,000 shoreline boundary was used.

5) Private/Unknown Lands Matrix

The Private/Unknown Lands Matrix fills in the un-protected lands between the state boundary and the protected area parcels. This feature creates seamless coverage across the national dataset and provides an additional analysis tool for users.

- a) Using the National Boundary and Shorelines mentioned above, create a closed polygon feature, attributed as Private/Unknown Lands Matrix.
- b) In ArcCatalog choose the Analysis Tools->Proximity->Buffer, create a buffer of 1,000m along the state boundaries.
 - i) This buffer will ensure that any protected area that fall outside of the NOAA Medium Resolution Shoreline boundary will be retained in the output dataset.
- c) In ArcCatalog choose the Identity tool, enter the state boundary (with the new buffer) polygon feature, then the protected areas. The tool will cut the protected areas into the Private/Unknown Lands Matrix.
- d) Attribute the new Private/Unknown Lands Matrix polygon appropriately:
 - i) Owner Type: Private
 - ii) Owner Name: Unknown
 - iii) Designation Type: NULL
 - iv) Primary Designation Name: Private Land Matrix
 - v) Primary Local Name: Private Land Matrix

- vi) Aggregator: CBI
- e) In ArcMap use the Explode Multi-part Feature tool on the Advanced Editing toolbar to explode the multi-part polygon called Private/Unknown Land Matrix.
 - i) Remove the buffer around the state boundary
- f) In the attribute table, calculate geometry in the acres field.

IV. QA/QC Review

1) Internally review each state dataset for QA/QC

- a) Validate geodatabase domains meet PAD-US 1.1 (CBI Edition) domain standards and are all assigned. Use the *select by attributes* tool -> *Get unique values* function to confirm that all designations in list have approved domains.
- b) Search each state for stacked polygons (two records with the same geometry). If the topology error inspection tool 'must not overlap' is ineffective, sort the GIS_Acres field and look for polygons of the same size. Determine the appropriate attributes for the polygon and delete the duplicate record.
- c) Review each state to ensure the combination of updated line work with existing attributes (or vice versa) was implemented correctly (e.g. new line work from COMAP assigned to PAD-US 1.1 (CBI Edition) attributes). Identify random polygons, with effort scaled to represent the level of updates incorporated, to compare attributes between the two layers.
- d) Validate state names are spelled out and properly assigned.
- e) Validate GAP codes range from 0-4, 4a or 4b only.
- f) Validate geodatabase field properties match PAD-US 1.1 (CBI Edition) standards.
- g) Run topology using "must not have gaps" and "must not overlap" rules to do a final topology error check.
 - i) PAD-US 1.1 (CBI Edition) will include minor error corrections, as defined in this section. A separate topology correction free feature class will not be maintained, due to time constraints. PAD-US 1.1 (CBI Edition) will include outstanding (gross) topology errors that cannot be fixed in compliance with PAD-US 1.1 (CBI Edition) Policies and Procedures.
 - ii) Procedures for Minor Error Corrections – errors < 5 acres:

- (1) Overlap Errors: Repair with topology tool to the most geometrically simple line-work.
 - (2) Gap errors: Repair with topology tool to the most geometrically simple line-work.
- iii) Using the Select by Attributes tool, identify polygons < 5 acre:
- (1) Select attribute records with p_loc_nm= 'Private/Unknown Land Matrix" and acres < 5.
 - (2) Review each individual selected record to identify the nature of the polygon (i.e. sliver or inholding) Slivers are polygons between two protected areas or between a protected area and a state boundary which is a result of variations in geometry or techniques between different agencies.
 - (3) Slivers less than 5 acres should be merged using the Editor tool, to the adjacent protected area, which will create the simplest geometry.
 - (4) Slivers along shorelines or state boundary that area less than 5 acres should be snapped to the shoreline or state boundary.
- iv) Error Correction Procedures – errors > 5 acres:
- (1) Document all errors > 5 acres.
 - (2) Overlapping errors > 5 acres, can be resolved using "nesting" in the attribute table (example: Wilderness Area within a National Forest, Primary designation – Wilderness Area and Secondary designation – National Forest).
 - (a) If three designations is required to represent the geometry accurately choose the two most common designations to be represented in the PAD US 1.1 (CBI Edition) attribute table and the third designation is records on a companion document. This will ensure that no information is lost, and will allow the data to be entered back into the dataset in future versions if the schema changes.
 - (3) Contact source data provider about line-work conflicts:

- (a) Request their review of all errors > 5 acres: *Why were these errors left in the dataset? How would they like us to make corrections?*
- (b) Confirm their allowance of error corrections < 5 acres.
- (c) If time allows, resolve errors as requested by original data source.
- (d) If no time, errors to be resolved in next version, using guidance provided by the source.
- (e) Send source data provider the final dataset for review.

Consideration of future needs

CBI will release an updated version of PAD-US annually. This version should substantially improve our national inventory of protected lands; however, there is always more work to be done. We identify the following needs for consideration in future versions.

- 1) A collaborative network of data providers: Aggregating a nation's protected areas into a national standard is a collaborative process. Each edition is built in partnership with numerous data providers and reviewers. Only by working together can we assure the highest quality. Before we commence work on the next version, we will communicate with our data network to identify important additions and synchronize update schedules. Several sources published new state and regional protected areas datasets close to our release date. Therefore, these datasets could not be incorporated into PAD-US 1.1 (CBI Edition), but will be added to the next version.
- 2) Line-work conflicts: When aggregating multiple source datasets in a geographic region, the geometric representations of protected area polygons and boundaries often do not agree among the different sources. CBI will continue to develop sustainable mechanisms for detecting, avoiding and resolving the conflicts that will be present in data provided by our sources.
- 3) Improvements to the standard designations: Our current list of standard designations is an adaption of the PAD-US Master Stewardship Codes. We represent standard designations rather than codes with the purpose of providing users with the summary information they need to assess, summarize and communicate the scope of their choosing. Our database does not distinguish a protection threshold above which biodiversity is considered secure. Instead, a complete suite of protected area attributes are provided for each polygon with the purpose of giving users the information they need to define the most relevant conservation thresholds for their own objectives and requirements. We plan to work with our user community to better tailor our standardizations to their needs.
- 4) Incorporation of local review: With a large database of this type, errors do occur. For our vision to be achieved, the conservation landscape represented in CBI products should match your understanding. A process is being developed on the Data Basin Protected Areas Center for soliciting, documenting and incorporating local review in the development of future products. We will request feedback on the following: Known and digitized protected lands are accurately represented; attributes related to owner, manager, designation, etc. are correct; and linework accurately represents protected area boundaries. This information allows us to establish the proper communication channels and relationships to ensure the corrections are made and future errors are avoided.

Appendix A: PAD-US 1.1 (CBI Edition) Attribute Table

Field Name	Description	Domain
US Unique ID	Internal use ID number	
Category	General category for the protection mechanism	Fee, Easement Other, Unknown
Owner Type (Class MSL Code)	General land owner description (e.g. Federal, Tribal, State, Private) standardized for nation	Look up table
Owner Name (Owner Code)	Primary agency or entity who owns the parcel, generalized ownership name	Look up table
Owner Name Detailed	Primary agency or entity who owns the parcel, detailed name	
Manager Name Detailed	Primary agency or entity responsible for the management of the parcel, detailed manager name	
Primary Designation Type (Standard Desg)	Primary land management description or designation expected to overlap another designation, standardized for national (e.g. Area of Critical Environmental Concern (BLM) resides in this field while Named BLM District resides in Secondary Manager Description	Look up table
Primary Local Designation Type	Primary land management description or designation as provided by data source, not standardized for nation	
Primary Designation Name (Primary Parcel Name)	Name of parcel standardized to enable searches for protected area by name	Standardized field
Primary Local Name	Name of parcel as provided by source, not standardized	
Secondary Designation Type (Standard Desg)	Overarching management of a polygon under which another may overlap (e.g. a National Forest is listed here, when a Wilderness Area “overlaps” and therefore is the primary designation type)	Look up table
Secondary Local Designation Type	Land management description or designation as provided by data source, not standardized for nation	
Secondary Designation Name (Secondary Parcel Name)	Name of parcel standardized to enable searches for protected area by name	Standardized field
Secondary Local Name	Name of parcel as provided by source, not standardized	

Tertiary Designation Type (Standard Desg)	Tertiary land management description or designation expected to overlap another designation, standardized for the nation	
Tertiary Local Designation Type	Land management description or designation as provided by data source	
Tertiary Designation Name (Tertiary Parcel Name)	Name of parcel standardized to enable searches for protected area by name	
Tertiary Local Name	Name of parcel as provided by source.	
Status	Proposed - Site has approval on a local government level but is awaiting legal declaration/decreed; Designated - Site has been legally decreed; Recommended - Site has been put forward by local/international, non governmental organization or national agency	
State Name	Name of state spelled out	State Domain
GAP Status Code	Measure of long-term biodiversity protection according to GAP 1-4 scale. GAP 0 id parcels where GAP codes are currently unavailable	GAP Codes (0-4)
IUCN Category	IUCN management categories, codes assigned using USGS GAP Master Stewardship List	IUCN code (Ia, Ib, II, III, IV, V, VI)
GAP Status Code Source	An acronym to describe the organization that applied the Gap Status Code to the polygon (e.g. GAP, CBI, TNC)	
GAP Status Code Data (Year)	The year the GAP Status Code was assigned to the polygon based on publication date of the data source unless other information is available	
Aggregator Source	Organization that aggregated source datasets for PAD-US 1.1 (CBI edition)	
GIS Source	Source of GIS spatial and attribute information.	
GIS Source Date (Year)	Date GIS information was published according to source field metadata	
GIS Acre	Acres calculated from polygons-calculate geometry command	
Comments	Any comments from either the source or the aggregator	
Shape Length	Shape Length, meters	
Shape Area	Shape Area, meters	

Appendix B: PAD-US 1.1 (CBI Edition) Standard Designation Domains

PAD-US 1.1 (CBI Edition) provides a comprehensive picture of United States protected area coverage at a variety of scales. To do so, we standardize several summary land ownership fields: owner type (e.g. federal, state, local) and owner name (i.e. agency name), as well as primary, secondary, and tertiary designation type (Table 1). This method allows for easy, standardized searches of common protected area designations across political boundaries.

Federal and tribal designations are summarized by federal ownership name, e.g. *Wilderness Area (Bureau of Land Management)*, *Wilderness Area (Fish and Wildlife Service)*.

State lands summarizations are more complex, as individual states retain the right to regulate and manage land designations as they choose, with no required consistency in owner or designation name across jurisdictional boundaries. In an attempt to standardize state designation patterns, we group state lands by a generalized description of owner name. For example, all state lands managed by an agency charged with natural resource management are grouped under the owner name *State Land Managing Natural Resources*, regardless of more localized owner and designations names. This format allows users to quickly compare similar owner and designation names across states. Give differences in bureaucratic structures across state agencies, a designation name may be duplicated across multiple owner name domains, e.g. a State Wildlife Refuge designation may be classified as a State Agency Managing Conservation or Preservation, State Agency Managing Fish & Game or a State Agency Managing Natural Resources. Each owner name domain is explicitly defined in our standard designation domain table. However, it is beyond the scope of PAD-US 1.1 (CBI Edition) to differentiate management intent.

Regional, city and county designations are classified under those ownerships. Private conservation lands are grouped into summary categories related to conservation easements or private conservation land holdings. Private lands without protection are classified as such.

We hope the common nomenclature we offer provides the conservation community with useful metrics for assessing, summarizing and communicating the scope of work to preserve natural values across political boundaries.

Table 1 (next page). A complete list of standard PAD-US 1.1 (CBI Edition) standard designation domains.

Owner Type	Owner Name	Standard Designation Type (Primary, Secondary, Tertiary)
Federal Land		
Agricultural Research Service (ARS)	Agricultural Research Center (ARS)	
	Experimental Range (ARS)	
	Other Land (ARS)	
Bureau of Indian Affairs (BIA)	American Indian Reservations-Federally Recognized Tribal Governments (BIA)	
	Ceded Lands (BIA)	
	Tribal Wilderness Buffer Zone (BIA)	
	Wilderness Areas (BIA)	
	Wildlife Reserve (BIA)	
	Wild Scenic and Recreation River (BIA)	
	Other Land (BIA)	
Bureau of Land Management (BLM)	Area of Critical Environmental Concern (BLM)	
	Area of Critical Environmental Concern - Proposed (BLM)	
	Archaeological Area (BLM)	
	Bankhead-Jones Land Use Land (BLM)	
	Botanical Reserve (BLM)	
	Bureau of Land Management General Public Land (BLM)	
	Cooperative Management and Protection Area (BLM)	
	Farmland Preservation (BLM)	
	Fossil Area (BLM)	
	Globally Important Bird Area (BLM)	
	Historical Area (BLM)	
	Holding (BLM)	
	Late Successional Reserve (BLM)	
	Lease (BLM)	
	National Conservation Area (BLM)	
	National Monument (BLM)	
	National Natural or Historic Landmark (BLM)	
	National Outstanding Natural Area (BLM)	
	National Petroleum Reserve (BLM)	
	National Recreation Area (BLM)	
	National Scenic Research Area (BLM)	
	Research Natural Area (BLM)	
	Research Natural Area - Proposed (BLM)	
	Scenic Area (BLM)	
Significant Cave & Cave System (BLM)		
Special Management Area (BLM)		

	Special or Extensive Recreation Management Area (BLM)
	Special Recreation Management Area (BLM)
	Wild, Scenic & Recreation River (BLM)
	Wilderness Area (BLM)
	Wilderness Area - Proposed (BLM)
	Wilderness Study Area (BLM)
	Wildlife Habitat Area (BLM)
	Withdrawn Land (BLM)
	World Heritage & Biosphere Site (BLM)
	Other Land (BLM)
Bureau of Reclamation (BOR)	National Recreation Area (BOR)
	Wildlife/Recreation Management Area (BOR)
	Other Land (BOR)
Department of Defense (DOD) and Department of Energy (DOE)	Army Corps of Engineers (ACE)
	Department of Energy (DOE)
	Ecological Reserve (DOD)
	Military Reservation (DOD)
	Military Recreation Area (DOD)
	National Recreation Area (DOD)
	National Cemetery (DOD)
	Natural Area with Extractive Uses (DOD)
	Special Resources Area/Research Natural Area (DOD)
	Wildlife Protection Area (ACE/DOD)
	Other Land (DOD/DOE)
Fish and Wildlife Service (FWS)	Botanical Area (FWS)
	Federal Fish Hatchery (FWS)
	Holding (FWS)
	Managed Hunting Area (FWS)
	National Wildlife Refuge (FWS)
	National Wildlife Refuge Overlay (FWS/DOD)
	Non-Conservation Land (FWS)
	Proclamation Boundary (FWS)
	Research Natural Area (FWS)
	Waterfowl Production Area (FWS)
	Wilderness Area (FWS)
	Wilderness Area - Proposed (FWS)
	Wildlife Management Area (FWS)
Other Land (FWS)	
Forest Service (USFS)	Archaeological Area (USFS)
	ANILCA: Alaska National Interest Lands Conservation Act (USFS)
	Backcountry Prescription (USFS)

Biosphere Reserve (USFS)
Botanical Reserve (USFS)
Brown Bear Core Area (USFS)
Environmental Study Area (USFS)
Experimental Forest (USFS)
Exxon Valdez Oil Spill Fee (USFS)
Fish and Wildlife Conservation Area (USFS)
Fish, Wildlife and Recreation Prescription
Forest Restoration (USFS)
Geological Area (USFS)
Habitat Protection Area (USFS)
Historical Area (USFS)
Inventoried Roadless Area (USFS)
LUD: Land Use Designation II (USFS)
Municipal Watershed (USFS)
National Forest General Public Land (USFS)
National Game Refuge (USFS)
National Grassland General Public Land (USFS)
National Historic Trail (USFS)
National Monument (USFS)
National Natural or Historic Landmark (USFS)
National Preserve (USFS)
National Primitive Area (USFS)
National Recreation Area (USFS)
National Scenic Research Area (USFS)
Natural Area (USFS)
Nature Preserve (USFS)
Non-Wilderness Monument (USFS)
Old Growth Habitat (USFS)
Recreation Area (USFS)
Remote or Semi-Remote Recreation (USFS)
Research or Demonstration Area (USFS)
Research Natural Area (USFS)
Research Natural Area - Proposed (USFS)
Scenic Area (USFS)
Scenic Byway (USFS)
Scenic Viewshed (USFS)
Special Biological Areas (USFS)
Special Interest Area (USFS)
Special Management Area (USFS)
Wild, Scenic & Recreation River (USFS)

	Wilderness Area (USFS)
	Wilderness Area - Proposed (USFS)
	Wilderness Study Area (USFS)
	Wildlife Preserve (USFS)
	Zoological Area (USFS)
	Other Land (USFS)
National Oceanic and Atmospheric Administration (NOAA)	Marine National Monument (NOAA-FWS)
	National Estuarine Research Reserve (NOAA)
	National Marine Sanctuary (NOAA)
	Other Land (NOAA)
National Park Service (NPS)	Cave Protection Area (NPS)
	International Historic Site (NPS)
	National Battlefield (NPS)
	National Battlefield Park (NPS)
	National Battlefield Site (NPS)
	National Cemetery (NPS)
	National Gateway (NPS)
	National Heritage Corridor (NPS)
	National Historical Park (NPS)
	National Historic Site (NPS)
	National Lakeshore (NPS)
	National Memorial (NPS)
	National Military Park (NPS)
	National Monument (NPS)
	National Natural Landmark (NPS)
	National Park General Public Land (NPS)
	National Parkway (NPS)
	National Preserve (NPS)
	National Recreation Area (NPS)
	National Reserve (NPS)
	National River & Wild & Scenic Riverway (NPS)
	National Seashore (NPS)
	National Trail (NPS)
	Non-Conservation Land (NPS)
NPS Affiliated Areas (NPS)	
Research Natural Area (NPS)	
Scientific & Natural Area (NPS)	
Wilderness Area (NPS)	
Other Land (NPS)	
Natural Resources Conservation Service (NRCS)	Conservation Reserve Program Land (NRCS)
	Wetland Reserve Program Land (NRCS)

	Wildlife Habitat Incentive Program Land (NRCS)
	Other Lands (NRCS)
Tennessee Valley Authority (TVA)	Ecological Study Area (TVA)
	Habitat Protection Area (TVA)
	Natural Area (TVA)
	Reservoir Retained Land (TVA)
	Small Wild Area (TVA)
	Wildlife Observation Area (TVA)
	Other Land (TVA)
Other Federal Land	Federal Forest Reserve (USGS)
	Other Public Lands
Native American Land	
Native American Land	Native Allotment
	Native American Reservation
	Tribal Park
	Tribal Primitive Area
	Tribal Scientific or Natural Area
Native Corporations (AK)	Alaska Native Regional Corporations
State Land	
State Agency Managing Conservation/Preservation: Units, under state domain, that are set aside: (1) to protect examples of high priority terrestrial and aquatic ecosystems, rare plants and animal species; (2) as gene pool reserves; (3) as benchmarks against which human influences in similar, disturbed ecosystems may be compared; and (4) as outdoor laboratories for scientific research and education. Units managed primarily for open space values, recreation or consumptive uses are classified elsewhere.	State Mitigation Area
	State Natural Area - Proposed
	State Natural areas with extractive uses
	State Open Space
	State River Corridor
	State Archaeological Site
	State Conservation Land
	State Cultural/Historic Area
	State Ecological Reserve
	State Heritage Preserve
	State Forest
	State Natural Area
	State Nature Preserve/Reserve
	State Park
	State Reforestation Area
	State Wetland Conservation Area
State Wilderness Area	
State Wildlife Refuge	
State Wilderness - Proposed	
Other State Lands Managed for Conservation/Preservation	
State Agency Managing Coastal Reserves: Units, under state domain, that are designated	State Aquatic Preserve
	State Buffer Preserve

for coastal or marine resources protection. These areas ensure aquatic ecosystem services are sustained.	State Coastal Reserve
	State Estuary Reserve
	State Tidal Land
	Other State Lands Managed as Coastal Reserves
State Agency Managing Fish & Game: Units, under state domain, set aside for (1) game management and (2) fishing or hunting. State governments designate resource management guidelines under their own authority and local laws, which may differ from federal laws.	State Mitigation Area
	State Conservation Land
	State Critical Habitat Area
	State Fish Hatchery
	State Fishing or Hunting Unit
	State Greenway
	State Game Land
	State Game or Wildlife Sanctuary
	State Habitat Area
	State Nature or Environmental Education Center
	State Waterfowl Production Area
	State Wildlife Management Area
	State Wildlife Recreation Area
	State Wildlife Refuge
State Stream Bank	
Other State Lands Managed for Fish & Game	
State Agency Managing Natural Resources: Units, under state domain, set aside for resource management, including consumptive uses. These lands are set aside for sustainable extractive uses.	State Access Area
	State Area of Critical Environmental Concern
	State Bird Sanctuary
	State Education Forest
	State Forest
	State Forest Education Center
	State Forest Natural Area
	State Forest Nursery
	State Forest Research or Demonstration Area
	State Nature Preserve/Reserve
	State Park
	State Range Area
	State Research Forest
	State Restricted Area
	State Trust Land
	State Wayside
State Wildlife Refuge	
State Wildlife Habitat Restoration Area	
Other Lands Managed for Natural Resources	
State Agency Managing Parks & Recreation: Units managed primarily for open space,	Interstate Park
	State Public Fishing Area

<p>aesthetic interests or recreational access. They commonly preserve natural, scenic and rural characteristics and limit development, industry, or natural resources extraction. Designations range from fee ownership and easements to zoning districts or overlays.</p>	State Recreation Trail
	State Access Area
	State Beach
	State Conservation Area or Park
	State Cultural/Historic Area
	State Ecological Reserve
	State Horse Park
	State Lake or Reservoir
	State Marine Park
	State Monument (Natural)
	State Park
	State Recreation Area
	State Recreation River
	State Resort Park
	State Rustic Park
	State Scenic Reserve
State Wild or Scenic River	
Other State Lands Managed for Parks & Recreation	
<p>State Agency Managing Transportation</p>	State Access Area
	Scenic Area
	State Mitigation Area
	State Right of Way
	Other State Lands Managed for Transportation
<p>State Land Board: Units set aside by the Colorado State Land Board for natural values, rather than for revenue generating sale. These lands are leased via legal agreements between leases and the board for uses and management practices that protect and enhance the beauty, natural values, open space and wildlife habitat of the land. Ranching, recreation, farming, oil and gas production, mining, timbering, are common allowable uses.</p>	State Arboretum or Botanical Area
	State Nature Preserve/Reserve
	State Research Area
	State Stewardship Trust Land
	State Trust Land
	State University Land
	Other State Land Board
<p>Other State Managed Land: Units without specific conservation or sustainable use designations.</p>	State Military Reservation
	State Offshore & Other Submerged Land
	State Sovereign Land
	Other State Managed Lands
<p>Regional Agency Land</p>	
<p>Regional Agency Land</p>	Regional Conservation Area
	Regional Facility
	Regional Forest

	Regional Open Space
	Regional Park
	Regional Preserve
	Regional Recreation Area
	Regional Shoreline
	Regional Wilderness Area
Regional Water Districts	Regional Water District Parks
	Regional Watershed Conservancy Land
	Regional Watershed Open Space
	Other Regional Water District Lands
Local Government Land	
City Land	City Access Area
	City Aquatic Area
	City Beach
	City Cemetery
	City Facility
	City Fish Hatchery
	City Forest
	City Historic Site
	City Lake
	City Open Space
	City Park
	City Preserve or Natural Area
	City Recreation Area
	City Wildlife Refuge or Management Area
	City Zoo
	Municipal Watershed
	Other City Land
County Land	County Access Area
	County Beach
	County Cemetery
	County Facility
	County Fish Hatchery
	County Forest
	County Historic Area
	County Open Space
	County Park
	County Preserve or Natural Area
	County Recreation Area
	County Wildlife Refuge or Management Area
	Other County Land

	Other local government land
County Water Districts	County Water District Parks
	County Watershed Lands
	County Watershed Open Space
	Other County Water District Lands
Private Conservation Lands	
Conservation Easement Holder	Audubon Society - Easement Holder
	Bureau of Land Management - Easement Holder
	City Conservation - Easement Holder
	County Conservation - Easement Holder
	Department of Defense/Energy - Easement Holder
	Ducks Unlimited - Easement Holder
	Local Land Trust - Easement Holder
	National Resources Conservation Service - Easement Holder
	National Park Service - Easement Holder
	The Nature Conservancy - Easement Holder
	Regional Conservation - Easement Holder
	State Agency Managing Conservation & Preservation - Easement Holder
	State Agency Managing Fish & Game - Easement Holder
	State Agency Managing Natural Resources - Easement Holder
	State Agency Managing Parks & Recreation - Easement Holder
	US Fish and Wildlife Service - Easement Holder
	US Forest Service - Easement Holder
	Other Federal Conservation - Easement Holder
	Other Local Conservation - Easement Holder
	Other Private Conservation - Easement Holder
Other State Conservation - Easement Holder	
Private Conservation Land Holding	Audubon Society Lands (Audubon Society Preserve)
	Ducks Unlimited Conservation Preserve
	Local Land Trust Preserve
	The Nature Conservancy Fee Lands
	Private University Lands
	Other Private Non-profit lands
Other Private Protected Lands	Other Private Protected Lands
Private Land	
Unprotected Land	Private Land - Unknown Restriction
	Private Land - Unrestricted for Development
Joint Ownership	
Joint Ownership	Joint Ownership
Unknown	
Unknown	Unknown

