

CALIFORNIA PROTECTED AREAS DATABASE (CPAD)
Version 1.6

DATABASE MANUAL

Revised: January 2011

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For more information about CPAD, see www.calands.org.

***Use of CPAD is governed by a separate license agreement
that must be reviewed before any use of CPAD***

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- California Department of Parks and Recreation
- California State Coastal Conservancy
- Resources Legacy Fund Foundation
- Pacific Gas & Electric Company
- The Sierra Nevada Conservancy
- The Bay Area Open Space Council
- California State University Stanislaus
- The Nature Conservancy
- California Department of Forestry and Fire Protection (CAL FIRE)
- The California Endowment
- California Council of Land Trusts
- US Geological Survey Gap Analysis Program

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A large number of other public agencies and private non-profits contributed data and advice to the CPAD. We can't list them all here, but we are very thankful for their time and assistance.

Current and past GreenInfo Network staff and interns who designed CPAD and created the data contained in it include:

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SUMMARY

The **California Protected Areas Database (CPAD)** inventories open space lands that have been *protected primarily for open space uses* through fee ownerships (it is not a database of all public land). Lands in CPAD are defined by their owning agency or organization, not by who *manages* the site. While non-profits are included in CPAD, private owners are not currently included (with the exception of some home owner associations in Orange and Placer counties), nor are properties protected through the use of easements.

CPAD has been prepared by GreenInfo Network (www.greeninfo.org), based on prior state and other inventories and through compiling newer agency holdings databases and cross-checking with many state and local agency data sources. **A user license governs the use of this data set – see the License Agreement for details.** GreenInfo Network continues maintenance of the database to the extent financial resources are available to do so.

GENERAL CPAD DESCRIPTION

Access to CPAD is through the State of California's Cal-Atlas web site – a download link and more information about CPAD is at www.CALands.org. CPAD is available as both an ESRI file geodatabase and as an ESRI shape file – the file geodatabase is a far more compact data set (approximately 100MB) than the shape file but requires the most recent ESRI software.

DATA STRUCTURE: The structure of the data in CPAD is based on holdings, units and super units. **Holdings** are the base level and consist of individual parcels of protected land. **Units** are aggregations of those parcels under common name, usually owned by a single agency and within a single county -- e.g., Inyo National Forest owned by USFS and within Inyo County. **Super Units** are similar to Units but have federal and state level units aggregated to a common name, regardless of county (e.g., all of Inyo NF shows as one data element, across county boundaries). Units and Super Units are primarily for cartographic uses – most data attributes are maintained at the Holding level, while Units and Super Units contain fewer attributes.

MILITARY/TRIBAL LANDS: CPAD does not include Defense Department lands actively used for military purposes, nor does it include Tribal lands. GreenInfo-created GIS files of military lands are available separately on the Cal-Atlas site (see www.CALands.org for references). Tribal lands are not included in CPAD unless subject to enforceable conservation restrictions, however, tribal lands Greeninfo-created GIS data for Tribal areas is also available on the Cal-Atlas site, through www.CALands.org.

PARCELS: CPAD inventories lands ranging from the smallest urban parks to the largest national parks. In most counties, land boundaries are aligned to digital assessor parcel boundaries – see “Remaining Issues” section below for more information.

ACCESS: CPAD lands are defined as Open, Restricted (permit required, or irregular hours) or Closed – **any display of CPAD data showing recreational opportunities must not show Closed lands**, to avoid public confusion, and should indicate that any Restricted lands require a permit or a check-in before visiting. Please note that Calif. Dept. of Fish & Game lands are now Restricted Access by default, due to the seasonal nature of access to many of their lands (this is a change from previous CPAD Editions).

CITY PARKS: City parks in CPAD include only those sites that have significant amounts of open space compared to structures – recreation facilities that are primarily buildings (indoor ball courts, buildings or swim centers) are not included in CPAD. Parks shown in CPAD may exclude major building areas from remaining open space, due to lack of consistent and detailed information on which buildings are parts of parks.

SCHOOLS: Park-like areas that are parts of public schools are also not included in CPAD unless there is a known, defined agreement to allow those for public use. CPAD may include school sites without such agreements – if you find these errors, please contact us at: cpad@calands.org

HOME OWNER ASSOCIATIONS: CPAD 1.6 now includes some park holdings owned by home owner association (HOA), particularly in Orange and Marin counties. These lands are Restricted in their access since they typically are available only for the residents of the association, and they are coded Private ownership. Very few of California’s HOA parks are currently captured in CPAD. However, future releases will seek to include more HOA parks.

SPECIAL USES: Lands in CPAD include some special use lands – at this time, publicly-owned cemeteries and golf courses are included and have those special use codes, which can then be queried out if desired. *Privately owned* golf courses or cemeteries are not included. Offshore islands (BLM lands) also have special use coding.

DESIGNATIONS: All CPAD holdings are attributed with a generalized designation (“city park”, “National Forest”, etc.), based on USGS Gap Analysis Program (GAP) data conventions, and where possible with a specific source agency designation. For more information on USGS GAP designations, visit <http://blogs/nbii.gov/gapanalysis>.

EASEMENTS: A separate database is in development by GreenInfo Network, as part of national inventory, that tracks those lands that have been protected through easements and related less-than-fee mechanisms. More information on this data will be available by mid-2011.

CONSERVATION RANKING: A special CPAD 1.6 - Gap Edition will be published in early 2011, including USGS GAP conservation rankings for all CPAD holdings. Check www.CALands.org for more information.

IMPROVEMENTS IN CURRENT CPAD EDITION

The data in CPAD 1.6 are generally current from early to mid to late 2010, however, not all areas have been completely updated due to the large number of agencies in the data set (over 900). As with any large data gathering program, there are likely to be lands that have been missed or wrongly included or mis-attributed. We welcome feedback on corrections – see www.CAlands.org for more information, including information GreenInfo Network’s new MapCollaborator™ application, which allows online markup of mapped CPAD data with comments and proposed revisions.

Funding for CPAD 1.6 work came from the Calif. Dept. of Parks & Recreation, the Southern California Association of Governments (SCAG) and Pacific Gas & Electric Co. GreenInfo appreciates all of these organizations’ support.

CPAD 1.6 includes updates and corrections for the major **federal and state agencies**, these include, BLM, USFS, USF&WS, NPS, CDFG, CDPR. These updates include additions, revisions and in a number of cases deletions where previous information was incorrect. Special attention was paid to the transfer of land from land trusts and other agencies to the BLM in the desert region.

Continued improvements have been made to **urban parks** data in CPAD 1.6, with many missing parks now included and boundaries and attributes made more accurate, particularly in Southern California (funding provided by SCAG for this work) and the Sacramento region.

Through our partnership with SCAG, CPAD in Orange County has been significantly updated and improved. CPAD is now aligned to parcels in most of the county. Many community parks in Orange County are privately owned by home owner associations, and were excluded from previous versions of CPAD, as there was not reliable data to consider them. At CPAD 1.6, these park holdings are now incorporated, as they provide important recreational opportunities, even though they are restricted to limited populations.

CPAD 1.6 contains over thirty new regional public and private agencies.

Alignment of CPAD data to parcel boundaries has been further improved throughout the state, with special attention paid to Colusa, Fresno, Madera, Orange, and Placer counties.

REMAINING ISSUES IN CPAD

Outstanding issues at CPAD 1.6 include the following:

- CPAD is not aligned to parcels in the following areas:
 - Sierra: Parcel data appears to be inaccurate. Parcel data is aligned to BLM base data pending further review.
 - Southern California Desert: Areas of eastern Riverside and San Bernardino are aligned to BLM base data – these areas are almost entirely BLM-owned and BLM ownerships here change rapidly, making use of the BLM base data (instead of parcels) more efficient in relation to the resources we currently have available.
 - Some individual parks and open spaces may not be aligned to parcels where those parcels are significantly inaccurate against aerial imagery.
 - In various areas of the state, particularly in metropolitan areas, there will be occasional CPAD holdings that are not aligned to parcels.
 - Some State Parks are not aligned to parcels where those boundaries have been surveyed by State Parks more accurately, compared to parcel boundaries.
- Lands considered owned by State Lands Commission (SLC) are much better defined in CPAD 1.6 but may still have some inaccuracies, as the State Lands Commission does not maintain a full GIS inventory of its extensive lands. SLC lands that are managed by CDFG or CDPR are generally accurate. CPAD 1.6 now captures former SLC lands in the desert region that have been transferred to federal and state agencies.
- CPAD contains a few parcels from the 2005 Public and Conservation Trust Lands data set coded as “Other State” or “Other Federal” – these need further review.
- The use of the “Managing Agency” attribute is greatly improved in CPAD 1.6, particularly for Calif. Dept. of Fish & Game-managed lands, but is not yet complete.
- In areas where CPAD is not aligned to parcels, or in areas where parcels are not accurate, CPAD may not be seamless between polygons. Small “slivers” may exist between parcels in some areas.
- The Access attribute in CPAD is sometimes a best estimate, as GreenInfo is not able to fully determine the access status of every parcel in CPAD – where access cannot be determined, it is coded “Unknown”. User feedback on these codes is always welcome. In CPAD 1.6, we have improved the coverage of access codes by about 10,000 acres, leaving just 60,000 acres (out of 49 million) still unknown. At the request of CDFG, we CPAD 1.6 coded all their owned and managed lands as restricted in access, since many holdings have seasonal public access.

CALIFORNIA PROTECTED AREAS DATABASE (CPAD) 1.6 – KEY STATISTICS

January 2011

49,000,000 total acres in fee ownership

916 Agencies (governmental, non-profit and some private)

53,000 Holdings (individual parcels of protected lands)

15,000 Units (named park and other protected areas, by county and owner)

12,000 Super Units (units grouped under name of park/other areas, no county breaks)

Acres by access type:

47,100,000 open access

1,630,000 restricted acres (requires permit or special permission)

303,000 closed access (no public access allowed)

57,000 unknown access

Public Access note: Not all lands in this database are open to public access – see the public access code to determine which holdings are and are not accessible. Any use of this data that displays lands for public access should be careful to distinguish holdings that do and don't have public access, and should note that "restricted" lands require a permit for entry.

Acres by agency type:

Federal	44,250,000
State	2,720,000
County	315,000
City	692,000
Special District	557,000
Non-Profit	550,000
Private*	1,100
Military**	500
Unknown	4,000

*Mostly Home Owner Association (HOA) parks

**The only military lands in CPAD are several publicly accessible golf courses and a recreation area near Lake Tahoe, but not including Army Corps of Engineers lands used for recreation which are classified as "Federal".

More information on CPAD at www.CALands.org



CPAD is a project of GreenInfo Network - www.greeninfo.org

CPAD RELEASE HISTORY

Version 1.6 – Released January 31, 2011

CPAD 1.6 includes significant city park updates in the Southern California region. Orange County in particular has been completely updated and aligned to parcel data, with many new sites added to CPAD. This version more accurately captures the transition of lands from the State Land Commission or lands trust to the BLM in the desert region. National Park boundaries have been revised based upon more accurate alignment. Home owner associations' parks have now begun to be incorporated into CPAD. Data is better aligned to parcels throughout the state. In general, the top 20 agencies/organizations have been surveyed for new data and revisions made accordingly in CPAD.

Version 1.5 – Released June 9, 2010: Version 1.5 had significant updates made to federal lands in the Sierra Nevada region, plus updates to all federal and state agencies generally. Most land trust data was updated, especially in the Bay Area, the Sierra Nevada region and the San Joaquin Valley. Super Units, used for cartography were revised so that they aggregate just federal and state holdings (national forests, etc.) across county boundaries – other ownerships retain their Unit-based configuration. Managing agencies were more fully identified (especially Calif. Dept. of Fish & Game), but not all managing agencies are yet identified. CPAD 1.6 also removed a dozen State Lands holdings that were Calif. State Univ. campuses or prisons.

Version 1.4 – Released February 3, 2010: CPAD 1.4 features updated city data in most areas of the state, and includes city park data for many smaller incorporated areas that were not included in previous releases. Parks and open spaces within incorporated areas of San Diego County have been updated extensively. The San Joaquin Valley data is greatly improved from the smallest city parks to larger state and federal preserves. In the nine county Bay Area, CPAD 1.6 is aligned to parcels and more inclusive. Special attention was paid to updating Calif. DFG and US FWS lands across the state. Super Units is a new feature class in CPAD 1.6. They differ from Units in that Super units are not divided by owning/managing agency or by county. Super units are intended to be used for cartographic purposes.

Version 1.3 – Released August 27, 2009: The CPAD 1.3 has a more extensive management attributes, especially in regards to CDFG and CDPR managed lands that are owned by other agencies such as Calif. State Land Commission, BLM and BurRec. In addition management around reservoir areas is now more accurate. Version 1.3 continues to capture more urban park coverage. GreenInfo Network relied heavily on the CPAD user community to report errors in CPAD through www.calands.org. Federal and state agency data has been aligned and updated throughout the state. CPAD 1.3 has improved parcel alignment and more extensive and accurate attributes. This work has been supported by grants from the California Department of Forestry and Fire Protection, the California Endowment, and the Resources Legacy Fund Preserving Wild California program. See the Appendix for more details about this update.

Version 1.2 – Released March 10, 2009: The CPAD 1.2 dataset is a major improvement over past CPAD data, with extensive new urban park coverage, full holding updates for major agencies, many new agencies and organizations, numerous geographic focus areas updated, improved parcel alignment, and more extensive attributes. This work has been supported by grants from the Calif. Dept. of Parks and Recreation, the Sierra Nevada Conservancy and the Resources Legacy Fund Preserving Wild California program.

Version 1.1 – Released June 3, 2008: This is a minor update. Contains several corrections to Calif. Department of Fish & Game lands, including removal of some easement areas marked as fee, correction of Lake Sonoma as Army Corps not DFG, change of owner for lands transferred earlier to the department by the Land Trust of Napa County near Lake Berryessa, and additions of small areas of DFG land missed in Version 1.0 inventory. Contains minor additions for land trust fee lands in the Sierra foothills, additions for various agencies in the San Francisco Bay Area and in the Northern Sierra. Major holding changes for the U.S. Forest Service and Bureau of Land Management have been updated to most recent available releases for those agencies. Additional Calif. State Lands Commission lands (mostly School Lands) have been added where over 60 acres. Attributes of some city parks have been improved.

Version 1.0 – Released May 8, 2008: Original CPAD release.

I. INTRODUCTION

The California Protected Areas Database (CPAD) inventories open space lands that have been protected for open space uses through fee ownerships. A separate database tracks those lands that have been protected through easements and related less-than-fee mechanisms.

CPAD has been developed by GreenInfo Network, a non-profit technology support organization (www.greeninfo.org), with support from other non-profits, foundations and public agencies (particularly the California Department of Parks and Recreation, Sierra Nevada Conservancy and the Coastal Conservancy). There is no financial model yet in place to guarantee maintenance of CPAD – interest from individual agencies and organizations is welcome. More information about CPAD can be found at the website, www.CALands.org.

This manual describes the history, structure, intent and details of the California Protected Areas Database.

A BRIEF HISTORY OF THE DATABASE

CPAD was developed out of efforts to create regional open space databases in parts of California. In the San Francisco Bay Area, tabular inventories by Greenbelt Alliance in the 1980s led to GIS-based inventories in the mid-1990s by the then-newly formed GreenInfo Network. This data was created based primarily on USGS topographic maps, comparing paper maps of owning agencies and digitizing the resulting boundaries. Originally, the protected lands data included only lands 10 acres or greater – in 2005, funding was secured to begin including urban parks. Currently, the Bay Area Open Space Council provides ongoing support for maintaining protected lands data for the nine counties that touch San Francisco Bay.

In the early 2000s, the State of California developed a statewide coverage of protected lands known as the Public and Conservation Trust Lands (PCTL) database. This data included mainly state and federal lands owned in fee (with some other lands included), and was developed through a consortium of these agencies. The most recent update to this dataset was in 2005. PCTL is now a legacy data set, replaced by CPAD, though still available for download at the CASIL web site.

In 2005, GreenInfo Network received funding from the Annenberg Foundation (through the new Southern Calif. Open Space Council) to begin work on a Southern California version of the Bay Area database, and shortly thereafter funding was also secured from the Calif. Coastal Commission for inventories of the Central Coast and Southern Central Valley. These data inventories were built up from newly available GIS-based assessor's parcels to ensure accuracy and consistency. The Bay Area database was also revised to match available assessor parcels during this time period. First versions of this data were completed in late 2006.

In late 2006, GreenInfo Network also completed work on its first version ParkInfo web portal to support public access to this data – www.parkinfo.org provides users the chance to find parks near them, in particular cities or by zip code and then get maps, lists and driving instructions, and follow out web links to source agency sites for more details (in 2010, ParkInfo web mapping was greatly upgraded).

In mid-2007, funding was secured from the Calif. Department of Parks and Recreation to complete the state and to improve existing data accuracy and currency. During this version 1.1 revision, the entire file structure of the databases was overhauled, migrating the files to an ESRI file geodatabase format, integrating them into a single file and greatly increasing the attribute robustness of the database.

In 2008 through mid 2009, further extensive updating was conducted (see Release History for details), greatly improving the coverage, accuracy and completeness of the database.

The two previous editions of CPAD were released in 2010. These were all incremental improvements that expanded alignment to parcels, improved the accuracy of data and included newly acquired holdings. In addition, funding from the US Geological Survey Gap Analysis Program and The Nature Conservancy helped support a CPAD-Gap Edition, which will be released in early 2011 and contains Gap conservation rankings (1-4 scale). GreenInfo's MapCollaborator™ web application also was launched as an online tool to let CPAD users more easily point out where corrections to CPAD are needed.

The CPAD release data is hosted by the state's CERES program and is available for download on the Cal-Atlas (formerly CASIL, California Spatial Information Library) web site. Further information about the California Protected Areas Database can be found at www.CALands.org.

GreenInfo Network is in continued discussion with state agencies and other organizations to assess the best approaches to tracking and publishing data on easements held by governmental bodies and non-profit land conservation organizations.

CPAD is an element of the US Geological Survey's Protected Areas Database of the United States (PAD-US), created by their Gap Analysis Program– learn more at www.protectedlands.net.

There continues to be no dedicated source of funding for CPAD. GreenInfo Network and others are working to secure the support needed for annual or semi-annual updates of this important data set. We welcome the interest of any agency or organization that might be able to join in supporting this work.

Even without ongoing support, however, the CPAD remains an outstanding data set for California – it is the most comprehensive and accurate inventory ever done for the state and is among the most complete in the nation. With any such inventory for a state as large and complex as California, there are undoubtedly holdings that are not accurate, are missing or wrongly included, or have incorrect or incomplete attributes. GreenInfo Network welcomes corrections to this data, to the extent it has financial resources to respond to such information.

II. BASIC DATABASE DEFINITIONS

The CPAD database includes protected open space lands in California. The following are key elements in the data definitions:

1. “Protected” Status

Lands in CPAD must be protected as open space through fee title ownership by a public agency or non-profit land conservation organization (easements are in a separate database). The purpose for the fee title ownership must be primarily for the continuation of open space values. CPAD “protected” status does not mean a specific level of conservation (e.g., a Gap code) for biodiversity values – “protection” refers to a general commitment to maintain the property for any of a wide range of open space uses. Specifically:

- Leases, contracts, term easements and regulatory controls adopted through the land use planning process are not considered “protected” in this database, though such mechanisms may be very effective and necessary.
- Lands owned by public agencies that may have open space values but that are not explicitly owned or held to protect those values, are not considered protected in CPAD. (Examples: a utility easement, unless it is also used or planned to be used as a non-motorized trail corridor intended for public use; a school; a wastewater treatment plant; military installations).
- U.S. BLM lands are all included in CPAD, even though significant areas of these lands may be sold or traded over time to better configure and conserve public land resources. (BLM data note: most BLM parcels have been dissolved into contiguous groupings within each county)

2. Open Space Uses

The open space lands in CPAD typically serve one or more of the following purposes:

- Habitat Conservation - Wildlife or plant reserve protected specifically for habitat
- Recreation – Active recreation, picnicking (city parks, parks with developed areas)
- Open Space – Open land used serving a broad range of purposes
- Historical/Cultural - Historic sites, museums with large open areas
- Forestry - Active forest harvesting, tree growth for forestry (publicly owned only)
- Agriculture - Crop lands including developed pastures
- Ranching - Grazing lands - dry and grazing pasture
- Water Supply - Watersheds, waterways
- Scenic area - If officially designated
- Flood Control – Flood plains, natural flood control channels (but generally not concrete or other impervious structures)

3. Criteria for Inclusion

- Open space holdings may have buildings, structures, or other non-open space coverage, provided they are subordinate or ancillary to the dominant open space purposes of the holding. As a general rule, the holding is not considered open space if structures or other non-open space uses constitute a large portion of the total acreage (roughly half or more, based on visual inspection). Urban parks are the holdings most subject to this filter, and generally CPAD does not include such parks when they are primarily recreation centers, swim centers, stadiums or other hardscape facilities. (This revises prior CPAD documentation which noted an approximately 10 percent hardscape threshold for large sites).
- Parking lots used principally for qualifying public recreational purposes are considered part of the protected open space holding. In smaller urban parks, parking lots may not be included due to difficulties in determining their relationship to park holdings and our resource limitations for fact-checking.
- Open land holdings of transportation agencies (highway medians, construction staging areas, etc.) are not considered as protected open space. (Note: such open space could be considered protected if significant enough in size and permanently protected in such use through joint-agency agreements or easements).
- "Remnant" parcels of open land whose location or configuration significantly impair any broader open space purpose (e.g., highway or roadway shoulders or medians) are generally not included in the database.
- Privately-owned cemeteries are not considered protected open space, but cemeteries owned by the public are considered protected open space – and are given a special flag in the database attribute table.
- Privately-owned golf courses are not considered protected open space, but golf courses owned by the public are considered protected open space – and are given a special flag in the database attribute table. Golf courses owned by homeowners associations are currently considered privately owned and are not included in CPAD.
- If a non-open space use occupies a portion of a larger open space area, and it is a separate parcel and functions separately from the larger open space area, then it is excluded from protected open space wherever possible. However, if it is not a separate parcel, and/or it is difficult to separate from the larger open space area, then the entire area is included as open space.
- Publicly owned RV parks and similar highly-developed camping or lodging facilities are not in and of themselves considered open space in CPAD; however, if they are a subordinate part of a larger protected open space area and are themselves protected through fee ownership, they may qualify (e.g., if a state park has camping areas for RVs, those areas are included).
- Holdings of water and flood control agencies that do not serve open space purposes are not generally included – for example, concrete flood channels and developed access ways along such channels or other open lands that only support the use of constructed facilities, unless those facilities are a small portion of an overall open space holding owned by such an agency (e.g., dams that are part of recreation areas).

4. Ownership vs. Management

CPAD tracks lands according to the agency that owns the title to the property. If another agency manages the site, that agency is not shown as the owner (although that management information may be placed in the holding attributes under “Managing Agency”). CPAD listings by agency may therefore differ from similar listings by an individual agency, where that agency is showing both owned and managed sites.

Private conservation owners (as opposed to public agencies and qualified non-profit organizations such as land trusts) are not included in this version of CPAD. While individuals may have made conservation commitments that do not include agencies or non-profits, we do not have reliable methods to determine these lands.

5. Land and Water

Water areas of protected fee land holdings (tidal areas, coastal areas, lakes/reservoirs) are included for most of the state and identified with a “water” code in the Holdings attribute table. Water boundaries are taken from a variety of sources including 100K DLG and the National Hydrology Dataset (NHD), and in some cases manually drawing the water boundary using aerial imagery. Some revisions have been made for Bay Area tidal zones. CPAD does not show very small water bodies (i.e., small lakes, ponds under 10 acres) or streams or creeks. The water /land attribute is only in the Holding feature class.

III. DATABASE STRUCTURE AND DATA PROCESS

Database Overview

The CPAD is a relational database linking information about land holdings with information about the agencies and other organizations that own and operate these lands.

The key framework of the database is the division of open space lands into the following feature classes:

- HOLDINGS, which are individual parcels of protected lands (which usually correspond to legal assessor or tax parcel boundaries);
- UNITS, which are aggregations of Holdings into specific parks and preserves. Some units may have one holding others may have many, some of which may be physically separated from each other. Units have fewer attributes and are mainly used for better cartographic representation; and,
- SUPER UNITS, which are aggregations of federal and state Holdings by site name without regard to county boundaries (this allows for display of all areas that are commonly known as an overall national or state park or other protected area, particularly for state parks). Super Units should be used mainly for cartographic purposes.

In database language, this relationship is a many-to-one structure, where a single unit can have many holdings, with unique IDs linking the tables.

A related table, or feature class, is the Agency table, which has information about each governmental or non-profit organization that owns protected lands. This table is not in publication versions of CPAD.

In addition to these major tables, or feature classes, numerous look-up tables (or “coded domains”) exist in the database defining abbreviated values (e.g., Level “2” is for State agencies).

The CPAD is provided in two forms:

1. As an ESRI File **Geodatabase** (requires ArcGIS 9.2 or better), which enables the relational system noted above along with other lookup tables that provide detail on particular attributes. The Geodatabase is provided in a compressed format and must first be uncompressed in ArcCatalog if it is to be edited.
2. As ESRI **shape files**, in which case CPAD consists of shape files for Holdings, Units and Super Units. In these shape files, attributes such as agency name and other geodatabase look up or domain values have been included in place of the actual field codes.

How CPAD Data Has Been Gathered

CPAD makes use of a wide range of data sources, including previous databases, parcel data from counties, ownership data files from agencies and other research. In general, the following approach has been taken:

1. **PARCELS AS BASE:** For a particular county, GIS-based assessor tax parcel data is acquired to set the basic geometry of the CPAD holdings. Base data including PLSS lines, TIGER road and county boundaries, National Hydrology Dataset water features and high resolution aerial photography are also incorporated into the base GIS project. Parcels are then filtered for ownership by relevant public agencies and non-profits, with other parcels discarded. In almost all cases where GIS parcel data is available, it forms the geographic reference point for CPAD holdings, unless it exhibits obvious errors (e.g., parcels overlapping houses, etc.).
2. **CROSS-CHECK WITH OTHER DATA:** Other existing protected lands information is then correlated with the parcel data – this includes prior data sets, along with GIS data sets for individual agencies. This information is also scanned for the listing of agencies/organizations that might show in the parcel data.
3. **RESOLVING CONFLICTS:** In case of conflicts between agencies or with assessor boundaries, the following guidelines are used: In urban areas, assessor parcels are given precedence; in rural areas, if the owning agency explains that its data is gathered by survey or analysis of coordinate geometry and that it is confident of its boundaries, that geometry can supercede the assessor parcels (which are known to have accuracy issues in rural areas in some counties). Where agencies differ about their holdings, efforts are made to review these issues with the agencies (often the issue is that one agency owns a site while the other operates it) and reach a resolution. When that is not possible, best judgment is used by GreenInfo Network staff.
4. **AERIAL IMAGE CHECKS:** 1-meter or better aerial photography is used to check boundaries – where there are assessor parcel conflicts with aerial imagery, operator judgment is used to decide which has precedence, but in general, the approach in (4) above is followed (urban – assessor; rural - aerial image).
5. **WATER:** Where a holding extends over significant water bodies or tidal zones, the shape is divided into sections for land and water – water parcels get flagged with the Tidal/Submerged field value. The official state coastline is mostly used for coastal high water marks. Aerial photography can be used to refine these choices for particular sites. Smaller water bodies (i.e., under 10 acres) are generally not coded as water at all.
6. **COUNTY BREAKS:** Where a single holding spans a county boundary, it is separated into separate Holding records for each county (e.g., a national forest holding that extends across two or more counties), but then merged in the Super Units classification.
7. **MIXED PROTECTION:** Where an open space area is protected both by fee title ownership by a public agency or non-profit land conservation organization, and by an additional conservation easement, then only the fee-title designation is used – the conservation easement may be cited in the Holding note.
8. **SCALE:** In general, CPAD is accurate to at least 1:24,000 scale, but parcels and air photos (and some agency datasets) often improve this to 1:5-10,000 or better in many parts of the state.

V. DATABASE DICTIONARY

The basic data relationships in the CPAD database are:

- Holdings are individual ownerships (or aggregation of undifferentiated parcels) that are also parts of a Unit (groups of holdings managed under and known by common names, like “Briones Park”, within a single county; parks with just one holding are also identical units) – the two are linked by the unique Unit ID being specified for each record in the Holdings table.
- Each Holding has one owner, and Units are always aggregated under a single owner.
- Super Units are based on Units, but are federal and state lands are aggregated by Unit name without out regard to county. Super Units are primarily used for cartographic or online display purposes, as they show national and state parks/open spaces grouped entirely under their commonly known names.
- Core information on Agencies is maintained in the Agency table, and linked by Agency ID to Holdings, Units and Super Units feature classes. The Agency table is not published as part of public CPAD data.

Unit and Super Unit geometry is used primary for display purposes – to show aggregated outlines of overall area designations. Due to important details in the Holdings table, Holdings should be used for all analysis.

The following tables describe each of the fields in the database. In the shape file version of the database, the actual values for lookup tables are inserted in the relevant fields; in the file geodatabase, coded domains are used to manage most these fields.

HOLDINGS FEATURE CLASS

Holding ID	Internal assigned unique database number used to link to AV
Site Name	Holding name, as reported by the agency
Alternate Site Name	Alternative name (optional)
Unit ID	ID of the Unit this holding is part of (see description above)
Unit Name	Name of Unit (from Units table)
Owning Agency ID	ID number used to link to the agency's general information (Agency Table)
Type of Owner	Agency type - Federal, State, County, City/Town, Special District, Non-Profit, Private, Other, Military, Unknown (from Agency table, see below)
Ownership Type	Fee, Mixed, Transfer, Unknown. "Transfer" is for lands being conveyed to public agencies (rarely used). "Mixed" is for combination fee/easement lands where fee ownership predominates (rarely used).
Ownership Note	Text string. Any special circumstances regarding the ownership status of this property
Public Access Level	OA, RA, XA – Open Access, Restricted or Limited Access (permit required, days limited, etc.), No Public Access.
National Designation	From the USGS Master Stewardship List (MSL) of national designations
Managing Agency	If managed by another agency, that agency's ID (more fully implemented, but not yet complete)
Land or Water	Indicates if the Holding is tidal or submerged
Special Use	Codes for whether holding is a special use (see table list below)
Holding Notes	Notes on the holding including unique or unusual aspects of the holding, includes whether the holding is leased from another agency
County	County this holding lies in – uses FIPS code with lookup table
City	Where holding is entirely inside a city – uses FIPS code with lookup table
Website	Owning agency's web site (from Agency table)
Data Source	Source for this record's data
Date Last Revised	Date holding info last revised (this is overwritten when a change is made, and changed to the date of the most recent update)
Name of Person Revising	Name of individual responsible for last revision to the holding
Symbology Layer	Codes for official California agency classifications
GIS Acres	Based on GIS software calculation
Label Name	Abbreviated Name (i.e. Sequoia NP)
Agency Name	Name of agency, from Agency table
Managing Agency ID	Populated only if managing agency is different than owning agency

UNITS FEATURE CLASS

Unit ID:	Database ID of Unit (unique number, e.g.)
Unit Name:	Common name of the Unit that encompasses a set of Holdings (e.g., the name of a park (e.g., "Briones Regional Park"))
Agency ID:	Database ID of Agency managing the Unit
Agency Name:	Full name of agency
Agency Level:	Level of agency (federal, state, etc.), per list below
Ownership Type:	Dominant ownership type in Unit (mostly fee)
Access:	Level of public access allowed (open, restricted, none, unknown)
Label Name	Abbreviated Unit Name (i.e. Sequoia NP)
County:	County of Unit
Layer:	Classification for California state agencies layer file
GIS Acres:	Acreage calculated by GIS software

SUPER UNITS FEATURE CLASS

Unit Name:	Common name of the Unit that encompasses a set of Holdings aggregated across county lines (e.g., National Forests) and across agency ownerships where one agency is the dominant manager of the Super Unit (i.e., a number of Calif. State Parks).
Agency ID:	Database ID of Agency managing the Unit
Agency Level:	Level of agency (federal, state, etc.), per list below
Ownership Type:	Dominant ownership type in Unit (mostly fee)
Access:	Level of public access allowed (open, restricted, none, unknown)
Agency Name:	Full name of agency