PAD-US – RECOMMENDED AGENCY NAMING CONVENTIONS

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Summary

The Protected Areas Database of the United States (PAD-US) is the official national inventory of public parks and protected areas. Published by the USGS Gap Analysis Project, PAD-US is a GIS database of over 150,000 units owned and managed by more than 15,000 public agencies and non-governmental organizations. PAD-US data is guided by data standards. This proposal encourages data stewards to continue to improve and standardize the data about owning and managing agencies within their protected areas database. By tracking the names of owners and managers according to the described guidelines, the national PAD-US file will become more consistent. Standardized agency values improve the usability of the database with more accurate query and analysis options.

Agency Naming Overview

PAD-US uses a defined naming approach for **federal** agencies, developed in 2016 and implemented by those land managing agencies in their submissions of data to PAD-US. The approach lays out exact names and shorter versions of names, along with categorizations. More information on these definitions can be found at: https://gapanalysis.usgs.gov/padus/data/manual/

Non-federal agencies: Because PAD-US also includes thousands of state, regional, and local agencies, as well as numerous NGOs, consistency among these agency names is also highly desirable. –While it is a much larger task than federal agency naming conventions, there are basic approaches data stewards can implement as time and resources are available. Implementation can be gradual and make use of standard tools available in GIS and spreadsheets – with the goal of moving to a domain-value tracking via an agency table.

This memo outlines **two levels of effort** that can be considered by data steward organizations working to improving the overall naming conventions in their database– a basic approach, and a more robust approach.

Agency Name Example from PAD-US 1.4

While the great majority of agency entries are satisfactory for users to understand the agency that owns the land, variations of agency names make it difficult for users to query, sort, or select protected areas in a reliable way.

To **illustrate** the variations that can occur when not using consistent agency naming, the following are examples from PAD-US 1.4 of same-agency name variations.

Example 1: The following are PAD-US entries for a **county agency** whose official name is "Greenville County Parks, Recreation, & Tourism" – these names appear to have been entered for individual parks/protected areas:
GREENVILLE CO RECREATION COMM
GREENVILLE CO RECREATION COMMI
GREENVILLE CO RECREATION DIST
GREENVILLE CO RECREATION DISTR
GREENVILLE COUNTY
GREENVILLE COUNTY RECREATION
GREENVILLE COUNTY RECREATION C
GREENVILLE COUNTY RECREATION D
GREENVILLE COUNTY RECREATION DISTRICT
GREENVILLE CTY RECREATION DIST
GVILLE CO RECREATION COMM
GVILLE CO RECREATION COMMISSIO
GVILLE CO RECREATION DIST
GVILLE COUNTY REC COMMISSION
GVILLE COUNTY RECREATION COMM
GVILLE COUNTY RECREATION COMMI

PAD-US data users would need to need query 16 unique values to obtain all lands for "Greenville County Parks, Recreation, & Tourism". Sorting on agency name would order the lands in two separate blocks. In both cases, data users would be likely to omit lands that should be included in their selection or analysis.

Example 2: Similarly, these are entries for a **nonprofit**, the 'Platte River Recovery Implementation Foundation':
Platte River Recov Implmt Fond
Platte River Recovery
Platte River Recovery Implementation Foundation Trustee
Platte River Recovery ImplementationFou
Platte River Recovery ImplementationFoundations NE NPC Trustee
Platte River Recovery Implemt Found Trustee
Platte River RecoveryImplementation Foundation

Seven queries would be needed in this example and the use of the terms 'foundation' and 'trustee' makes it difficult to know if these are lands for one agency, or if the trustee records are for a second agency/owner.

Example 3: These are entries for a **single town**, 'Town of Hilton Head Island' also stated , 'Hilton Head Island, Town of' in South Carolina):
TOWN OF HILTON HEAD
TOWN OF HILTON HEAD (THE)
TOWN OF HILTON HEAD (THE) % TOWN MAN
TOWN OF HILTON HEAD ISL (THE)
TOWN OF HILTON HEAD ISL (THE)
TOWN OF HILTON HEAD ISL SC
TOWN OF HILTON HEAD ISL SC THE
TOWN OF HILTON HEAD ISLAND
TOWN OF HILTON HEAD ISLAND (THE)
TOWN OF HILTON HEAD ISLAND BEAUFORT
TOWN OF HILTON HEAD ISLAND SC
TOWN OF HILTON HEAD ISLAND SOUTH CAR

Hilton Head Island lands are easier to work with and sort together, but still require multiple query statements. Also, the use of special characters (%, &, @) should be avoided.

BASIC AGENCY NAMING APPROACH – Five Simple Steps for Success

Most state PAD-US data steward agencies (those who gather statewide data for inclusion into PAD-US) have developed their own protected areas databases from assimilating information from many sources. Where these data sets **do not** use consistent agency names (within or between data sets), they can be improved by these relatively-easy-to-implement actions:

1. Use standard **proper case** language such as "Platte River Recovery Implementation Foundation" GIS and spreadsheet programs allow for this to be done quickly:

   - ArcMap via field calculator: http://support.esri.com/technical-article/000011159

   - QGIS via title case: http://docs.qgis.org/2.0/en/docs/user_manual/working_with_vector/field_calculator.html

   - Excel with the use of Proper formula/function: https://support.office.com/en-us/article/Change-the-case-of-text-01481046-0fa7-4f3b-a693-496795a7a44d

2. Review all current agency names in steward databases for variations and make changes to **create a single name** for sites owned/managed by one agency. To identify variations:

   - ArcMap – open attribute table, right click agency name column, Summarize…

     or,

     ArcMap – ArcToolbox –> Statistics -> Frequency

   - QGIS – see the Group Stats plugin: http://plugins.qgis.org/plugins/GroupStats/

   - Excel – Frequency function: https://support.office.com/en-us/article/FREQUENCY-function-44e3be2b-eca0-42cd-a3f7-fd9ea898fdb9

Once variations are identified, records can be revised to one standard agency name. Use the **full official agency name** wherever possible ('North Carolina Department of Parks and Recreation', instead of 'NC Dept. Parks & Rec.').

3. For **municipalities** (cities and towns), consistently use "Savannah, City of" or "City of Savannah" format.

4. For **counties**, use 'Broward, County of", "Broward County", or "Broward County Department of Parks".

5. To facilitate data aggregation and cartography, add a database code for agencies by their **jurisdictional level** – Federal, State, County, City (town), Special District, Nonprofit, Joint Agency, Private.

   - Special districts are those with their own elected boards, independent of cities or counties.

   - Private is for home owners associations or other private organizations.

These suggestions can be applied to owning agencies as well as managing agencies and provide major improvements for all data users.

ADVANCED AGENCY NAMING APPROACH – Implementing an Agency Name Database

A more efficient and advanced method for tracking agency information is to develop an agency database with unique domain values for each agency.   Benefits include:

- Inherits consistency in agency name – this aides tracking, querying, and analysis – useful for both data stewards and database consumers.

- Facilitates tracking of additional agency attributes without the need to update values in each land record. For example, changes in an agency website, phone number, or other attribute only needs to be made once - in the agency table.

- Agency database can be assigned to both 'owner' and 'manager' fields, through use of a unique ID that references any particular agency name.

- Allows for advanced joins and relates to bring in more complete information, as needed.

- Agency codes can be defined in groups to help identify the type and level of an agency. For example, PAD-US uses the following for jurisdiction level codes:
  - 1 - Federal
  - 2 – State
  - 3 – County
  - 4 – City (municipality – city, town, borough)
  - 5 – Regional Agency Special District (with own elected body)
  - 6 – Non Governmental Organization
  - 7 – Private (individual land owner, business, home owners association, etc.)
  - 8 – Joint (more than one agency owns/manages)
  - (9 – Territorial – not used in state data)
  - 10 – Unknown

Another example, used by the California Protect Areas Database stewards, is to also code agency levels with numeric grouping (where the universe of agency numbers is generally known):

- 100 – 199: Federal agency
- 200 – 299: State agency
- 300 – 399: County agency
- 1000 – 1999: City/town agency
- 2000 – 2999: Special district agency
- 3000 – 3999: Non-governmental non-profit agency
- 6000 – 6999: Private organization

- Agency spreadsheets can also contain agency contact information, web URLs, last date of data submissions, etc. By storing these apart from the protected lands records (in each unit), the data structure is more compact and efficient.

- Data stewards can generate and attached statistics about all agency lands – such as total units, total acres, and largest/smallest/average size unit, using unique IDs to join statistics from the spatial database.

Here's an example of a spreadsheet-based agency database:

AGNCY_NAME	AGNCY_ID	Agency Acres - Sept 2016	Change in Agency Acreage from prior version?	HOLDINGS COUNT	AGENCY SORT	AGNCY_LEV	AGNCY_TYP	LAYER	AGNCY_WEB
Atwater, City of	1014	80.5	No Change	23	4	City	City	City	http://www.atwater.org/
Auburn, City of	1015	15.9	No Change	11	4	City	City	City	http://www.auburn.ca.gov/
Avalon, City of	1016	4.0	No Change	7	4	City	City	City	http://www.cityofavalon.com/
Avenal, City of	1017	4.8	No Change	1	4	City	City	City	
Azusa, City of	1018	50.1	No Change	10	4	City	City	City	http://www.ci.azusa.ca.us/
Bakersfield, City of	1019	4,997.6	No Change	174	4	City	City	City	http://www.bakersfieldcity.us/
Baldwin Park, City of	1020	26.8	No Change	6	4	City	City	City	http://www.baldwinpark.com/
Barstow, City of	1021	31.5	No Change	9	4	City	City	City	http://www.barstowca.org/
Bell, City of	1022	8.3	No Change	4	4	City	City	City	http://www.cityofbell.org/
Bell Gardens, City of	1023	72.1	No Change	12	4	City	City	City	http://www.bellgardens.org/
Bellflower, City of	1024	41.5	No Change	5	4	City	City	City	http://www.bellflower.org/
Belmont, City of	1025	342.7	No Change	26	4	City	City	City	http://www.belmont.gov/
Belvedere, City of	1026	187.0	No Change	5	4	City	City	City	http://www.btrecreation.org/

In addition to agency jurisdiction level, a second level of category can facilitates more analysis. For example, 'find all non-governmental organizations that are land trusts' or 'special districts that are water agencies'. Some state stewards have found this list of secondary categories for agencies useful:

LEVEL	TYPE
City	City Agency
County	County Agency
Federal	Federal Agency
Non Profit	Non Profit - Conservation
Non Profit	Non Profit - Other
Non Profit	Non Profit - Education
Non Profit	Non Profit - Land Trust
Non Profit	Non Profit - Cemetery District
Private	Commercial
Private	Home Owners Association
Private	Mitigation Bank
Private	Utility
Private	Conservation
Private	Education
Private	Tribal
Private	Other
Special District	Cemetery District
Special District	School District
Special District	Water District
Special District	Community Services District
Special District	Special District - Other
Special District	Recreation/Parks District
Special District	Airport District
Special District	Flood District
Special District	Metropolitan Planning Organization
Special District	Open Space District
Special District	Port/Harbor District
Special District	Regional Park District
Special District	Sanitation District
Special District	Transportation Agency
Special District	Conservation District
Special District	Special District
State	State Agency
State	State Agency - Education
Unknown	Unknown
Joint	Joint Powers Authority
Joint	Joint - Other

Regardless of the format used, stewards should consider the number of attributes they can maintain over time. Fewer fields with accurate entries are most useful. Agency address, contacts, phone numbers, and other details can but useful but change often and take constant effort to maintain.

Options for Setting Up an Agency Database

There are two general options to create and maintain an agency database: the agency database can be managed **outside** of the geospatial database in a stand-alone spreadsheet or **within** a geodatabase (or other geospatial database).

In both instances columns in an agency table should track: unique identifier, full agency name, abbreviated name, level (federal, state, etc.), and other attributes desired such as website, and contact person(s). The unique identifiers defined in the column (typically Agency_ID) and are then joined to the spatial file (shapefile, geodatabase, kml, etc) as the domain values of the agency. The **key to this approach** is a reliable and unchanging unique agency identification number.

Option 1 – Stand-Alone Spreadsheet

This approach uses a spreadsheet for managing agency IDs, names, and associated information. Benefits:

- Using a spreadsheet allows non-GIS users to assist in maintaining agency data.

- Data stewards can make use of multi-editor systems (such as Google Docs) to allow multiple people to update the table at the same time and maintain an automatic change log.

Option 2 – Integrated Database Table

The other option is to store the agency table within the same database as the spatial units file. Benefits:

- Agency and land locations are stored in one parent file and less likely to be separated.

- Domain values can be coded for editors – allowing them to select on the descriptive text name, but storing the agency identifier value.   For example, if "Greenville, County of" has an agency ID of 332, the database editor selects the agency while viewing the text, but the agency identification number 332 is stored in the database.