

## US Rights Working Group Final Report

July 16, 2015

### **Analysis Results**

Based on the analysis of the content of the geodatabases, the internal agency uses of these systems, and descriptions of the connected business systems building a common federal rights GIS data rights geodatabase would be very complex and probably unnecessary. Each agency has built internal systems that support many reporting, management and decision needs for their agency.

Recognizing the BLM is the designated federal land interest “holder of records” and as such is the agency that should be tracking the records of ownership and the inventory of federal lands, it appears that an optimum solution for a standard US Rights inventory and record would be as follows.

- BLM should identify a transaction reporting standard format including the attributes and records required to create and update an LR2000 and associated Master Title Plat (MTP) record for federal lands holdings, purchases, and disposals.
  - This should be a complete list of the attributes needed for BLM to create a defensible record
  - The attributes should be the “minimum” required records
  - Defined domains of values should be provided for any coded attributes such as document type, ownership type, agency, etc.
- Land management agencies could cross walk their production systems to this record of transaction reporting standard.
  - Exceptions or missing elements in land management agency systems should be noted
  - Exporting and standardizing routines can be institutionalized within the land management agencies systems so the reporting processes are repeatable and easily accomplished within the agency regular workflow.
- An agreed upon reporting cycle should be developed.
- Develop a schedule for completing a baseline that will update the current LR2000 and MTP records for each agency and region.
- The Federal Lands database, USPAD, which is currently wrapping up a version 1 release, should be considered as a standard publication model for general public and National Geospatial Data Asset (NGDA) data set that could be updated periodically.
  - The Federal Lands Team has completed a standardized domain for agency names.

- The USPAD data set is focused on fee only (complete) federal surface interests and does not address many of the management and authority nuances the land management data sets contain.
- The general public consumption would likely be confused with the added management nuances and presenting a simplified view of federal lands, identifying the primary lead agency for federal lands would meet most general public needs.

## **Background**

The FGDC Cadastral Subcommittee formed the U.S. Rights and Interests Working Group in 2014.

The original charge for this working group was as follows.

The US Rights, Authorizations, and Restrictions Working Group is focused on describing the attributes, domains of values, features, and spatial extent of US Rights, Authorizations, and Restrictions for properties that have an interest held or managed by the federal government. The goal of the Working Group will be to provide guidelines for publishing of US Rights, Authorizations, and Restrictions from production (operation and maintenance) systems in federal agencies that can be accessed and processed by business operations that rely on this information. Ideally the information from various federal agencies that hold an interest in and manage land could be combined into a single data set and the resulting specified formats could be added to the existing CadNSDI Publication format

Through a series of conference calls and data set reviews the working group refined the original scope to narrow in on federal surface rights. BLM, Forest Service, and the Eastern Band of Cherokee Indians existing data sets and business needs were reviewed and discussed.

Data sets for these three agencies plus the FGDC Boundary Working Group's Federal Lands Team, and the Cadastral Data Content standard rights and interests features were combined in a single geodatabase. This combined database resulted in 26 Feature Classes and 243 Domain of Value Tables.

## **Analysis Summary**

### *Domains of Values*

Many of the domain of value tables were duplicative. For example, each system had at least one domain for Agency or Land Manager and often several domains for these same values. Each had a domain for State and County although the content and listing of each was slightly different and all were named differently.

There were 6 tables for state names alone and each of these was different. One contained the FIPS Number, another the two letter abbreviation, another a

combination of number and state name, another a combination of abbreviation and name, and one with the name only. Some included 50 states plus the District of Columbia; some included the US Territories, and some only states in a local region.

The same pattern existed for counties and cities; duplicative tables but not exactly the same.

The agency, state, and county domains could easily be crossed walked and translated to a common list of domains, at least for publication or for data sharing. Resolving the content of the state and county lists is straight forward. The agency domains are also relatively straight forward, although the level of detail, such as agency and state office and district identifiers could be a bit complicated.

Identifying the surface rights is more complex. The domains that are used to document surface rights and the potential limitations or extensions to surface rights are listed in the table below.

<b>Domain Name</b>	<b>Description</b>
Access	Public Access
AuthNmTpLi	Use Authorization Name Type Line
AuthNmTpPo	Use Authorization Name Type Poly
Category	General category for the protection mechanism
dComActType	Type of activity allowed on the land
dCommentType	Type of conflict or note about document legal description and mapping result
dDocClass	Legal document classification
dDocType	Legal document type
dEasementType	Types of Easements
dEBCILandOwnType	EBCI Land ownership type
dEnrollStatus	Land enrollment status
Designation Type	Primary land management description or designation, standardized nationally
dFunction	Federal land primary current use
dHistoricSiteType	Historical rights
dLandPurchaseType	Land purchased by EBCI Govt
dLandType	Type of Land Purchase Ownership by EBCI
dLandUseType	Current land use classification
dLeaseStatus	Currency for leases
dLeaseType	Lease type
DocCat	Document Type Category
dom_LLI_FEDERAL_STATUS	LLI Federal Land Status
dom_LLI_SURFACE_RIGHTS	LLI Surface Rights
dOwnership	Type of ownership acquisition
dParcelOwnType	Land estate type
dPeriodOfSig	Historical period of significance
dProjectReviewStatus	PRMA Project Review Codes
dProjectStatus	PRMA Project Status
dProjectType	Project Type
dResponsibility	Management agency type
dTrustType	Indian trust type
GAP Status Code	Measure of long-term biodiversity protection

LR2KLINK	LR2KLINK
Owner Type	General Land Owner Description
OWNERSHIP	ROAD OWNER
Percentage	Percentage of ownership by identified agency
Primary Designation Type	Primary land management description or designation, standardized nationally
Provisional	Provisional
SegAuthority	Segregation Authority
SegCat	Segregation Category
SEGREGATIONS_Rep_1_Rules	Representation rules
SegSubCat	Segregation Sub Category
Status	Legal status or administrative decree of site
SURFACE	TYPE OF SURFACE
SurfRtClass	Surface Right Classification
SurfRtOth	Segregation Category
SurfRtRstn1	Surface Right Restrictions 1
SurfRtRstn2	Surface Right Restrictions 2
SurfRts1	Surface Rights 1
SurfRts2	Surface Rights 2

Several of these tables could be combined and several have similar content, but there are slight nuances in each of the business systems the agencies support that requires specific domains.

### *Features and Tables*

Similarly to the domains of values the features and tables in each agency had commonalities and some very basic design differences. The biggest difference in design is characterized by the handling of the ownership type. For example there can be one polygon feature that has an attribute indicating whether the ownership is fee (full and complete), partial (such as a lease or easement), or some combination of specified rights or each ownership type (fee, easement, partial) could be a separate feature class. In some cases a combination of single polygons and separated polygons are used. These designs derive from specific business, reporting, cartographic, maintenance, or data integrity needs within the agency. No design is better than any other and there is not a single “best” design.

The initial analysis reviewed only the GIS geodatabase features. In each agency there are extensive business systems or attribute tables and document image management systems that stand behind and are linked to the GIS features. The attribute table data sets are often linked to software programs to manage the data and in some cases may be proprietary systems. In some cases the GIS features connect to tables exported from a larger management system and there is not a direct connection between the operational business system and the GIS. In other cases the GIS is an integral part of the business system and shares tables with the business system.