

## Surface Management Agency (SMA)

### National GIS Data Standard

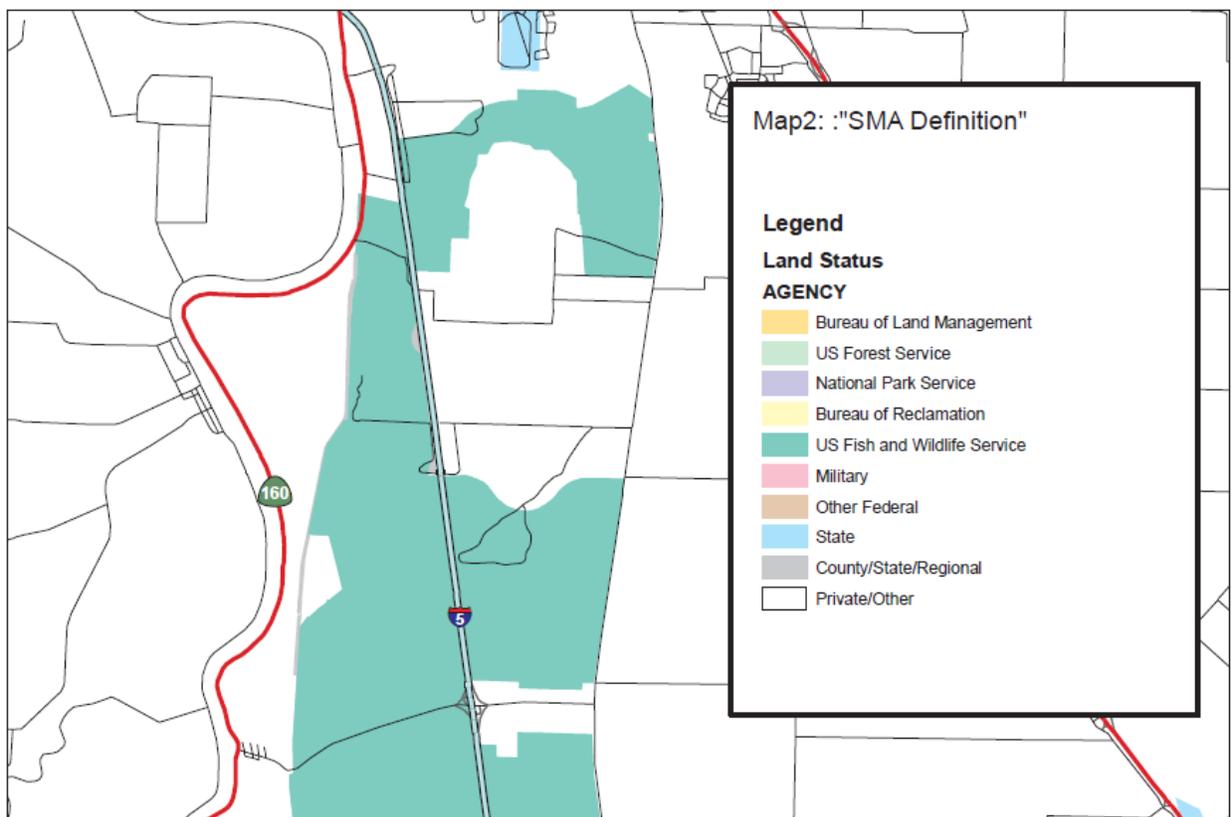
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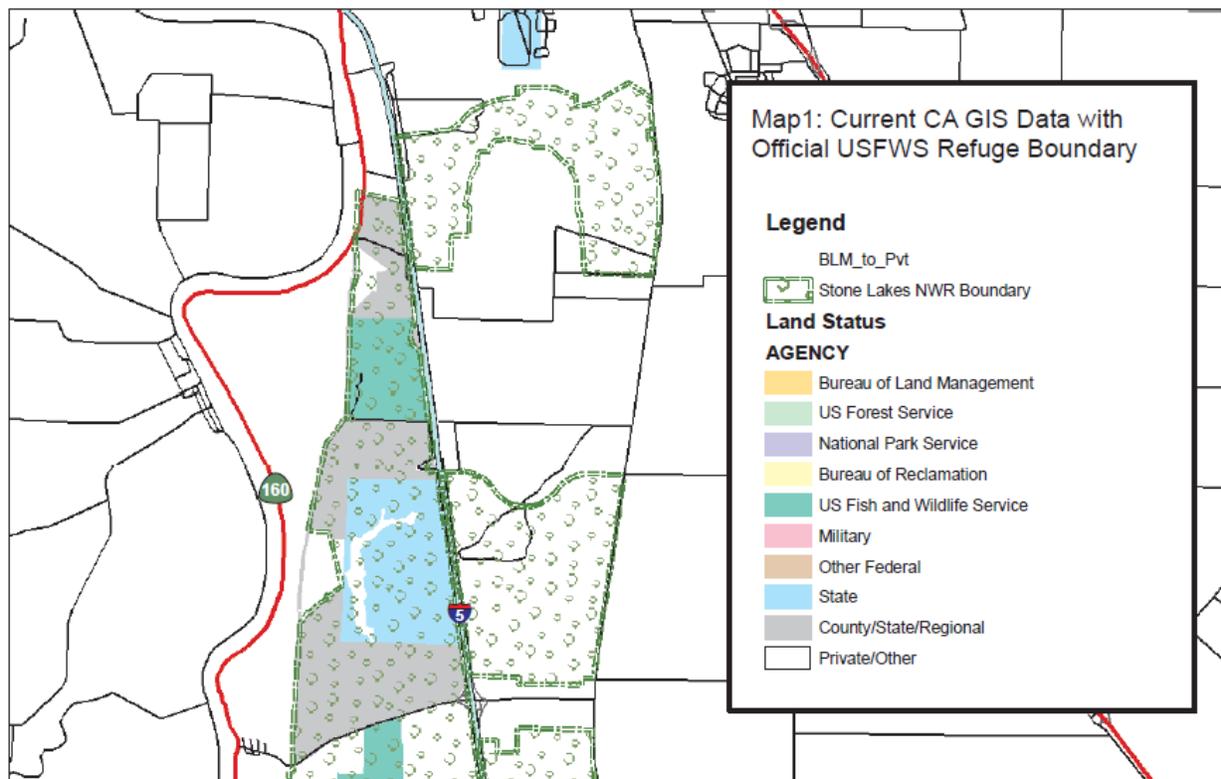
This "Surface Management Agency" (SMA) GIS data layer depicts federal land for the United States and classifies these holdings by the active federal managing agency. Federal **surface land management agency** means a **Federal Agency having administrative jurisdiction** over the **surface** of Federal lands. For the appropriate use of this dataset it is important for the user to understand that title (ownership) to federal land is held in the "United States of America" and "juris" or jurisdiction over the land is defined when the land is **withdrawn** by some administrative or legislative process or acquired by a federal agency.

The GIS data therefore contained in this data standard represents the boundaries of a Federal Agencies authorized withdrawal\*. The boundary including acquisitions that may be located outside the boundary shown in figure 1; but not the detailed land ownership pattern that maybe found within the boundary shown in figure 2.

**Figure 1** Example of the U.S. Fish and Wildlife Service official administrative withdrawal boundary and the extent of this agencies' administrative jurisdiction over the federal land within that boundary.



**Figure 2** Detailed Land Ownership Pattern within the U.S. Fish and Wildlife Service official administrative withdrawal boundary portrayed over the detailed land ownership pattern within this boundary. In this example the agency only has administrative jurisdiction over the federal land within this boundary (i.e. Not State, Private or County).



### Purpose of the Dataset

The purpose of this dataset is focused on the public and government's need to know which agency is *managing* the federal land. For example, there are needs to know what agency is managing the land for the purpose of paying permit fees, obtaining licensing's, and to be informed about current laws, regulations, and restrictions governing the access and use of the land. The specific purpose of this data set is to provide a tool to determine and illustrate the boundaries of a particular federal agencies "managing" area and to quantify it in terms of "geographic" acreage.

These data are public information and may be used by various organizations, agencies, units of government, i.e., federal, state, county, and city; and others. The Geographic acreages contained in this dataset are not derived from legal documents associated with title documents or survey records. The geographic acreages are currently computed by mathematical programs and are described in detail in the supplemental section of this document.

The SMA data layer's spatial accuracy and attribute information are continuously being updated and improved on a daily basis.

### **Appropriate Use of this Dataset**

There are many land managing agencies and branches of government that this dataset attempts to classify into general categories. Some of the major land managing agency categories contained in this dataset includes the Bureau of Land Management (BLM), U.S. Forest Service (USFS), National Park Service (NPS), U.S. Fish and Wildlife Service, Bureau of Reclamation (BOR), and the Bureau of Indian Affairs (BIA).

The BLM collaborates with other federal government agencies and not just those within the Department of Interior, in creating this assemblage of data. As a result, BLM may not be the authoritative source or maintain files regarding various federal acquisitions or pertinent management agreements. State, local and private lands are also depicted for illustrative purposes, but should not be viewed as the authoritative source for this information. The user is advised to consult with the appropriate federal, state, county or local entity for information concerning these designated areas.

The BLM makes no representations or warranties regarding the accuracy or completeness of the attached files or the data from which it was derived. The BLM shall not be liable under any circumstance for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this file or the data from which it was derived. Because the files are merely representational, it and the data from which it was derived are not binding on the BLM and may be revised at any time in the future.

These data are public information and may be used and interpreted by organizations, agencies, units of government, or others. The user has sole responsibility for ensuring the appropriate application of these data and the BLM shall not be held liable for any use or misuse of the data described hereon.

Generally, these data are intended for small scale (1:24,000 and smaller) natural resource management and planning applications. Appropriate use of this data is restricted and includes landscape, or natural resource management and planning analysis, and for cartographic display. An example of inappropriate use would include relying on this data as "ownership" and interpreting geographic acreage computations as the legal acreage of a parcel. The user has the sole responsibility for ensuring the appropriate use and application of these data.

It is strongly recommended that these data be acquired directly from the BLM and not indirectly through some other source which may have changed the data. It is also strongly recommended

that careful attention be paid to the content of the metadata file associated with these data. Users are cautioned that digital enlargement of these data to scales larger than that at which they were originally mapped can cause misinterpretation. Users are further cautioned that these data and interpretations derived from them do not eliminate the need for onsite survey and evaluation of specific sites for intensive uses.

These digital boundaries are only representations of the official surface management agency boundaries and are not to be considered authoritative. This data does not address encroachments or questions of location, boundary, and area, which an accurate survey may disclose. It is to be used as an illustration only as no liability for damages arising from errors or omissions is assumed. The appropriate office of public land records should be consulted in determining current ownership of those lands depicted in this data as being outside BLM jurisdiction.

### **Public Lands, Public Domain and Acquired Lands**

It should be noted that the BLM has jurisdiction of a particular category of federal land, known as “*public* land”. **Public lands** are specifically defined as any land and interest in land owned by the United States of America and **administered by the Secretary of the Interior through the Bureau of Land Management**, without regard to how the United States acquired ownership, except for (1) lands located on the Outer Continental Shelf, and (2) lands held for the benefit of Indians, Aleuts, and Eskimos. The public lands include **public domain lands** (lands which have never left Federal ownership) and Acquired lands. **Acquired lands**, as defined in BLM’s Acquisition Handbook H-2100-1, are those acquired through purchase, donation and condemnation. Lands acquired through exchange are not considered acquired lands. This is important to distinguish, as lands acquired through purchase, donation, or condemnation are not opened to operation of the general land laws, while lands acquired through exchange are.

**Public Lands, Public Domain, and BLM acquired Lands compose the BLM** official surface administrative boundary.

### **Administrative Agency**

This term is used to identify the Federal agency that has administrative jurisdiction over the Federal land involved. When several agencies have some degree of resource management jurisdiction, the **Administrative Agency maintains primary surface management responsibility**. All Federal lands, even those which are not **withdrawn**, have an Administrative Agency. For example, where a withdrawal for the protection of a game management area was made in a National Forest, the U.S. Fish & Wildlife Service is the **Holding Agency**, the State Department of Game is the **Benefiting Agency**, and the Forest Service is the **Administrative Agency**.

Multiple withdrawals for various purposes may be placed on the same land. The extent of jurisdiction by each holding agency involved is determined by language in the authorizing withdrawal orders, the chronological order of the withdrawals, or by formal agreement between the Federal *and/or State (based on the prior example)* agencies involved.

## **Background on SMA relationship to Withdrawal Land Status**

### **Land Status: \*Withdrawal - Withdrawal Definitions**

**Management:** The relationship of a Federal Agency to a **withdrawal** is generally described as a **Holding Agency, Benefiting Agency or Administrative Agency.**

**Holding Agency:** All withdrawals have a (Federal) Holding Agency. It is not necessary that a Holding Agency have administrative jurisdiction over the withdrawn land.

**Benefiting Agency:** Withdrawals may be held by one Federal agency for the benefit of another (Federal, State or Local) agency. For example, a wildlife management area may be held by the U.S. Fish & Wildlife Service as the Holding Agency for the benefit of the State Department of Game.

### **Land \*Withdrawal - Types of Withdrawals**

There are four major categories of formal withdrawals:

1. Administrative
2. Presidential Proclamations
3. Congressional
4. Federal Power Act (FPA) or Federal Energy Regulatory Commission (FERC) Withdrawals

Withdrawals must accomplish one or more of the following:

- Transfer total or partial jurisdiction of Federal land between Federal agencies.
- Close (segregate) Federal land to operation of all or some of the public land laws and/or mineral laws.
- Dedicate Federal land to a specific public purpose.

Administrative withdrawals are made by the President, the Secretary of the Interior, or other authorized officer of the Executive branch of the Federal government. Examples include Executive Orders, Presidential Proclamations, Secretarial Orders, Public Land Orders, Departmental Orders, U.S. Geological Survey Orders, BLM Orders, etc. Currently, only a public land order signed by the Secretary or Assistant Secretary of the Interior is used for the establishment of administrative withdrawals. However, the President still has authority to make emergency withdrawals.

Presidential Proclamation withdrawals are made by the President pursuant to the authority under Section 2 of the Antiquities Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431). The President may use the authority to designate historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest. Examples include Cascade-Siskiyou National Monument and Hanford Reach National Monument. Recently President Obama designated Ford Ord as a National Monument, which is also part of the BLM's

**National Landscape Conservation System (NLCS)** designations as is the Cascade-Siskiyou National Monument (see below).

Congressional withdrawals are legislative actions by Congress in the form of public laws (Acts of Congress). Examples are Wilderness designations, National Parks, Wild and Scenic River designations, etc. (See also NLCS below). Additionally, public lands may be withdrawn and reserved for **military training and testing in support of our national defense requirements**. Such withdrawals and reservations are authorized by an Act of Congress (for withdrawals of over 5,000 acres) or by order of the Secretary of the Interior (for withdrawals of less than 5,000 acres). Lands so designated are usually withdrawn from all forms of appropriation under the public land laws, including the mining laws, but not the mineral and geothermal leasing laws and the Mineral Materials Act of 1947.

FPA or FERC withdrawals are established under the authority of the Federal Power Act of June 10, 1920. Such withdrawals are automatically created upon the filing for a preliminary permit or license application for hydroelectric power development with the FERC, formerly the Federal Power Commission (FPC). NOTE: Power Project withdrawals are not to be confused with power site reserves, power site classifications, waterpower designations, reservoir site, and reservoir site reserves, Indian power site reserves, which are Administrative or Congressional withdrawals.

### **Segregative Effect**

The term "segregation," as it pertains to withdrawals, refers to the closure of lands to the operation of all/some of the public land laws and/or mineral laws. Public land laws authorize some means to dispose of the surface estate, whereas generally the mineral laws authorize disposal of the subsurface estate. Public land laws can authorize the use and disposition of lands (and can include the disposal of the mineral estate). The mineral laws include the mining laws, mineral leasing laws, material disposal laws, and the Geothermal Steam Act, all of which do not provide for the disposal of the subsurface estate. The segregative effect of a withdrawal is stated in the order itself, OR it is prescribed by the authority under which a withdrawal is made. Many withdrawals, particularly older ones, have been subsequently amended by statute or by other administrative orders. Consequently, interpretation of the current segregative effect of many withdrawals can be difficult.

**Segregative Language:** The language used in withdrawal orders has undergone considerable change over the past 100 years. To further complicate things, new, revised, and repealed public land and mineral laws have changed the original meaning of segregative language in many older withdrawals. Many withdrawal orders have also been modified by statute or other administrative orders. Withdrawal segregations are divided into three major categories, Surface Entry, Mining, and Mineral Leasing; although other less commonly used variations exist.

**Surface Entry Closure:** This term means the surface estate is closed to disposition under the public land laws.

### **National Landscape Conservation System (NLCS) Withdrawals**

The BLM's National Landscape Conservation System (NLCS) includes over 887 federally recognized areas and approximately 27 million acres of **National Monuments, National Conservation Areas, Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers, National Scenic and Historic Trails**, and Conservation Lands of the California Desert.

**National Monuments:** The BLM's NLCS includes 17 national monuments in eight Western States. As stated above, the Antiquities Act of 1906 grants the President authority to designate national monuments in order to protect "objects of historic or scientific interest." While most national monuments are established by the President, Congress has also occasionally established national monuments protecting natural or historic features. Since 1906, the President and Congress have created more than 100 national monuments. National monuments are currently managed by various Federal agencies, including the National Park Service, Forest Service, Fish and Wildlife Service, or BLM.

**National Conservation Areas and Similarly Designated Lands:** National conservation areas (**NCA**s) and **similarly designated lands** are designated by Congress to conserve, protect, enhance, and manage public lands for the benefit and enjoyment of present and future generations. The BLM's NLCS includes 16 NCA's and five similarly designated lands in ten states. They differ tremendously in landscape and size, varying from the California's 18-acre Piedras Blancas Light Station Outstanding Natural Area to Nevada's 1.2 million acre Black Rock Desert-High Rock Canyon Emigrant Trails NCA.

**Wilderness Areas:** The BLM is responsible for **221 Wilderness Areas** with 8.7 million acres in 10 Western States (3 percent of BLM's total acreage in the coterminous United States). Wilderness areas are special places where the earth and its community of life are essentially undisturbed. They retain a primeval character, without permanent improvements and generally appear to have been affected primarily by the forces of nature. In 1964, Congress established the National Wilderness Preservation System and designated the first Wilderness Areas in passing the Wilderness Act.

**Wild and Scenic Rivers:** On October 2, 1968, President Johnson signed the Wild and Scenic Rivers Act, sponsored by Senator Frank Church. The Act currently protects more than 200 rivers in 35 states and Puerto Rico. The Act's legacy is one of protecting the special character of certain rivers, while recognizing the potential for use and development

The Act provides three levels of protection: wild, scenic, and recreational. "Wild" rivers are free of dams, generally inaccessible except by trail, and represent vestiges of primitive America. "Scenic" rivers are free of dams, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads. "Recreational" rivers are readily accessible by road or railroad, may have some development along their shorelines, and may have been dammed in the past.

The BLM has the responsibility of managing 69 Wild and Scenic rivers in 7 states including more than 2,400 river miles and approximately 1,165,000 acres (19% of the national system).

**National Scenic and Historic Trails:** The BLM is one of several agencies responsible for management of National Historic or Scenic Trails. In 1968, Congress established the National Trails System and designated the first national trails.

National Historic Trails are extended trails that closely follow a historic trail or route of travel of national significance. Designation identifies and protects historic routes, historic remnants, and artifacts for public use and enjoyment. The BLM is responsible for over 5,343 miles of 11 National Historic Trails.

National Scenic Trails provide maximum outdoor recreation potential and for the conservation and enjoyment of the various qualities – scenic, historical, natural, and cultural – of the areas they pass through. The BLM is responsible for over 668 miles of the Continental Divide, Pacific Crest, Potomac Heritage, Arizona, and Pacific Northwest National Scenic Trails.

On March 30, 2009, the Omnibus Public Lands Management Act of March 30, 2009 (P.L.111-11) added three new trails and 40 miles to the NLCS. The new trails include the Arizona National Scenic Trail, Pacific Northwest National Scenic Trail, and the Washington Rochambeau Revolutionary Route National Historic Trail.

The BLM administers three trails and supports five national trail-related visitor centers including California Trail Historic Interpretive Center; National Historic Oregon Trail Interpretive Center; National Historic Trails Interpretive Center; Pompeys Pillar National Monument Visitor Contact Station; and Upper Missouri River Breaks National Monument Interpretive Center.

### **Supplemental Acreage Computation Information:**

The nomenclature used in this dataset to define these acreages is called: “Geographic Information System (GIS) \_Acres”.

Definition:  $GIS\_ACRES = AREA (sq. m) * 0.0002471044$

Definition Source: The Name and Format is BLM GIS Data Standards. The Conversion Constant is the U.S. Survey Foot from ESRI Inc. The acreage value is a two dimensional calculation based upon the computational algorithms of the ESRI Software and is a function of the feature Datum and Projection Coordinate values and MSL elevations. The spatial precision of the acreage calculation is dependent upon the accuracy of the data.

Note: Maps created on hard-copy media use scale as an indicator of accuracy. Digital data, derived from GPS, field survey, or other digital sources, has accuracy estimates rather than scale.

The following is supplemental information which helps describe how the GIS\_Acres standards

were developed.

The naming of the fields with the prefix of 'gis\_' is to insure that users clearly understand that these values are GIS generated and have no relation to any official or other reported values.

These computed values are a GIS two dimensional calculated value based upon ESRI computational algorithms. The calculated values are also a function of the datum and projection of the spatial data. The GIS calculated acres/square miles or the feet/mile value, while suitable for the defined purposes of this dataset will probably not agree precisely with any ground surveyed acreage/calculation, and or with planimeter calculations, plane table calculations, dot count calculations, other mechanical methods or any other digital calculations. Aerial values can also differ based upon the spatial precision of the spatial data.

Most digital spatial data originates from USGS maps and those data sources use MSL elevations, therefore most GIS computations are MSL consistent and may not agree with other computational methods.

Using empirical testing methods, it was identified that a significant difference exists between the use of four and seven significant figure calculations. There exists a 20 acre difference when calculated on 600,000 acres. This proposal insures that the numeric accuracy is retained at the highest internal accuracy, the use of seven significant figures rather than four, and which may exceed the capability of the data to support.

Users need to recognize that the acres/square miles and feet/miles that are reported in any document must conform to the coordinate precision of the data used to generate the acreage values regardless of the internal precision maintained by the computer. The user must determine the proper precision for the GIS calculated acres in any analysis, map-making, or tabular reporting effort and then report the acreage in the appropriate precision.

The user must balance the seven significant figure of the conversion constant, against the 15 significant figure of the reporting field and the spatial precision or the original data source. In most cases, the spatial precision of the data will probably be the limiting factor of the calculated values.

There are two basic categories of map projections commonly used 'Conformal' and 'Equal Area'. Conformal preserves shape, while equal area preserves area. These are mutually exclusive characteristics. Transverse Mercator is conformal; Albers (for example is equal area). Area calculations based on conformal projects can deviate significantly from the true area. Users therefore must also remember that acres must be calculated from a meter's based coordinate system such as UTM or similar projection. The 'gis\_' fields must be recalculated when ArcGIS 'Area' values change. Following an ESRI ArcGIS operation ('clean' or 'build' or shapefile change) the user needs to recalculate the area or length value and then the 'gis\_' column.