

From: [Turner, Ed](#)
To: [Betty Grizzle](#)
Subject: Metadata
Date: Wednesday, May 3, 2017 6:01:33 PM
Attachments: [Dens Metadata.pdf](#)
[Inman WCS PH State SMA Metadata.pdf](#)
[North American Wolverine Current Range Metadata.pdf](#)
[North American Wolverine Current Range w EPA levelII Metadata.pdf](#)
[North American Wolverine Current Range w States SMA Metadata.pdf](#)

Hi Betty, Got around to working on metadata for all but the all locations data.

I think we mainly need metadata for:

- Dens
- All Locations *** Need to complete **
- PH combined with States and SMA (ownership)
- Current Range as a single area that represents the Lower 48 and the northern territories
- Current Range combined with the EPA Eco-Regions
- Current Range combine with state and SMA own (gave numbers of lower 48 vs. Canada and ownership)

I will send John a copy of the den and Current Range. He helped with those so I should make sure he likes the metadata. Plus depending on where data will finally reside we may need to change address of FWS office in doc.

Hope this helps, Ed

--

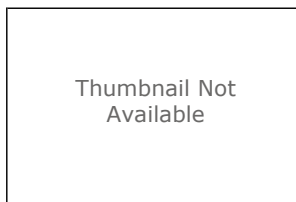
Edwin Turner, Geographer
GIS Mapping and Analysis Branch

DOI-R8-CFWO
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Carlsbad, CA 92008
760.431.9440 x266

Ed_Turner@fws.gov
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Wolverine_Dens_20170321

File Geodatabase Feature Class



Tags

Wolverine, Dens, state fish and game, USFS, federal, NHP

Summary

These data represent Wolverine Dens from all location data provided, and constructed / combined into one dataset for the lower 48. Additional data could be in existence, but these are the data that we obtained in the 2017 effort.

Description

These data represent Wolverine Dens from all location data provided, and constructed / combined into one dataset for the lower 48. Data was provided, obtained, and constructed using various Federal, State, and Biological Associations/Individuals that will be listed below.

Ed Turner took each location dataset and turned any field that would have attribute information pertaining to species observation or habitat to all uppercase for ease of word searching. Using the uppercase fields, a search was completed for the word "DEN" or any variation thereof. If any form of the word "DEN" was located, those records in each dataset were given a code DEN = 1 to signify a positive hit. Using DEN = 1, those records were extracted to new datasets. Records were then review and those not truly Dens were dropped in the first cut. The resulting Dens were then viewed in GoogleEarth using the timeline function for available imagery (USGS Imagery). This was completed to try and determine if snow cover was present in Mid-May. Viewing in the GoogleEarth (using the USGS Imagery, also aided in noting habitat or terrain at each den site. When using this process we determined that various records in Idaho and Montana we accounted for in multiple datasets and we suspected some remaining duplication. This was due to duplicate entry in specific datasets or because data was represented in one set and then the same record was reported to another; and plotted in the exact same or slightly offset position. Duplicates were flagged and removed and additional records that did not seem like true dens based on biological input from Betty Grizzle were pulled. Data was then processed for slope, elevation, and snowmelt out by John Guinotte and in the process he determined a few additional records were duplication. Those were additional duplication records were removed and the resulting dataset was ready for use.

John Guinotte obtained elevation and slope data for den sites from use of https://nationalmap.gov/3DEP/3dep_prodserv.html 1/3 arc second data. John Guinotte used the daily images described in the "MODIS Observed Historic Snowpack Variability Analysis" document (see supplemental information in Details) to identify meltout date for the den sites in Glacier NP. For all den sites outside of Glacier NP I used the Modis 8-day product, citation below. The modis 8-day product is classified by NASA (snow, no snow, etc.) and downloadable as hdf files. Let me know if you need something else on this.

Elevation and Slope Data Citation:

USGS 3D Elevation Program (3DEP), National Map Gov (https://nationalmap.gov/3DEP/3dep_prodserv.html)

Seamless 1/3 arc-second – This is the highest resolution seamless DEM dataset for the U.S. with full coverage of the 48 conterminous states, Hawaii, and U.S. territories. Alaska coverage is partially available now and is being expanded to statewide coverage as part of the Alaska Mapping Initiative. Ground spacing is approximately 10 meters north/south, but variable east/west due to convergence of meridians with latitude.

MODIS Data Citation:

Hall, D. K. and G. A. Riggs. 2016. MODIS/Terra Snow Cover 8-Day L3 Global 500m Grid, Version 6. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. doi: <http://dx.doi.org/10.5067/MODIS/MOD10A2.006>.

Wolverine Data are based on provided wolverine records from various sources, such as; USFS, State Heritage, State Fish and Game, etc. All datasets are retained as backup and we have included a source code and link code to crosswalk back to source data for more information if needed.

Wolverine Data:

USFS NRIS wolverine Data pull, Jan 6, 2017

California Natural Diversity Database (CNDDB)

Inman Wildlife Conservation Society (Bob Inman)

Jeff Copeland

Idaho Department of Fish and Game

Washington Department of Fish & Wildlife

These data are protected under each data source use and agreement limitations and one must contact source only.

******* Any and all original Source Data used in this effort are property of the source provider and are considered proprietary. Under no circumstance will these data be distributed. Any inquiry or request of these data must be directed to the originator and not to the USFWS.**

Credits

USFWS; Ed Turner and Betty Grizzle U.S. Fish and Wildlife Service, Carlsbad, CA. and John Guinotte U.S. Fish and Wildlife Service Mountain Prairie Region 6, Lakewood, CO.

Use limitations

Although these data and information have been processed successfully on a computer system at the USFWS, no warranty expressed or implied is made regarding the accuracy or utility of the data and information on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data, and information, and aggregate use with other data and information. It is also strongly recommended that careful attention be paid to the contents of the metadata file associated with these data and information. The USFWS shall not be held liable for improper or incorrect use of the data and information described and/or contained herein.

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Carlsbad Fish and Wildlife Office
GIS Mapping and Analysis Branch
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Carlsbad, CA 92008

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Extent

West -122.384607 **East** -110.356143
North 49.662137 **South** 36.290469

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata ►

Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE biota, environment, location

* CONTENT TYPE Downloadable Data
EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION No

THEME KEYWORDS Wolverine Dens, Lower 48

[Hide Topics and Keywords ▲](#)

Citation ►

* TITLE Wolverine_Dens_20170321
CREATION DATE 2017-03-10 00:00:00
PUBLICATION DATE 2017-03-10 00:00:00

PRESENTATION FORMATS digital map
 FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

[Hide Citation ▲](#)

Citation Contacts ►

RESPONSIBLE PARTY

INDIVIDUAL'S NAME Edwin Turner, Geographer
 ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch
 CONTACT'S POSITION GIS Analyst
 CONTACT'S ROLE originator

CONTACT INFORMATION ►

PHONE
 VOICE 760.431.9440 x266

ADDRESS

TYPE physical
 DELIVERY POINT 2177 Salk Ave. Suite 250
 CITY Carlsbad
 ADMINISTRATIVE AREA CA
 POSTAL CODE 92008
 COUNTRY US
 E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)

[Hide Citation Contacts ▲](#)

Resource Details ►

DATASET LANGUAGES English (UNITED STATES)
 DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

STATUS on-going
 SPATIAL REPRESENTATION TYPE vector

SUPPLEMENTAL INFORMATION

The USFWS complied

It should be noted; that source data are not the property of the USFWS and these data are not available from the USFWS under any circumstances or FOIA process. Should requestor need such data they are, bound by this process and must contact original source provider to request access from such source. Under no law or request will the USFS have any legal authority to provide such data.

The USFWS complied records from various sources into one dataset with new attribute fields intended to capture information that would denote den records including dates if available. Additionally data was processed for elevation, slope, and snow melt-out date, and all records were viewed in GoogleEarth which uses USGS imagery for information about location and visual of snow cover in the month of May.

Ed Turner took each location dataset and turned any field that would have attribute information pertaining to species observation or habitat to all uppercase for ease of word searching. Using the uppercase fields, a search was completed for the word "DEN" or any variation thereof. If any form of the word "DEN" was located, those recodes in each dataset were given a code DEN = 1 to signify a positive hit. Using DEN = 1, those records were extracted to new datasets. Records were then review and those not truly Dens were dropped in the first cut. The resulting Dens were then viewed in GoogleEarth using the timeline function for available imagery (USGS Imagery). This was completed to try and determine if snow cover was present in Mid-May. Viewing in the GoogleEarth (using the USGS Imagery, also aided in noting habitat or terrain at each den site. When using this process we determined that various records in Idaho and Montana we accounted for in multiple datasets and we suspected some remaining duplication. This was due to duplicate entry in specific datasets or because data was represented in one set and then the same record was reported to another; and plotted in the exact same or slightly offset position. Duplicates were flagged and removed and additional records that did not seem like true dens based on biological input from Betty Grizzle were pulled. Data was then processed for slope, elevation, and snowmelt out by John Guinotte and in the process he determined a few additional records were duplication. Those were additional duplication records were removed and the resulting dataset was ready for use.

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USGS 3D Elevation Program (3DEP), National Map Gov (https://nationalmap.gov/3DEP/3dep_prodserv.html) Seamless 1/3 arc-second – This is the highest resolution seamless DEM dataset for the U.S. with full coverage of the 48 conterminous states, Hawaii, and U.S. territories. Alaska coverage is partially available now and is being expanded to statewide coverage as part of the Alaska Mapping Initiative. Ground spacing is approximately 10 meters north/south, but variable east/west due to convergence of meridians with latitude.

MODIS Data Citation:

Hall, D. K. and G. A. Riggs. 2016. MODIS/Terra Snow Cover 8-Day L3 Global 500m Grid, Version 6. [Indicate subset used]. Boulder,

Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. doi:
<http://dx.doi.org/10.5067/MODIS/MOD10A2.006>.

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USFS NRIS wolverine Data pull, Jan 6, 2017
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 Inman Wildlife Conservation Society (Bob Inman)
 Jeff Copeland
 Idaho Department of Fish and Game
 Washington Department of Fish & Wildlife

These data are protected under each data source use and agreement limitations and one must contact source only.

MODIS Snow Information:

MODIS Observed Historic Snowpack Variability Analysis Documentation:

1.1 Introduction

In this chapter we perform an analysis of the variability of snow cover in the historical period 2000-2016 using gridded snow cover data acquired by the Moderate Resolution Imaging Spectroradiometer (MODIS) on board the Terra satellite. Analyses based on spatial area coverage, aspect, and elevation are presented. MODIS snow cover data serves two purposes in this study – first for the analysis of historical variability in the study areas, and second to serve as a basis for the spatial evaluation of the hydrologic model simulations.

1.2 Methods

1.2.1 Data subsetting and re-projection

We downloaded selected MODIS/Terra daily snow cover data on a 500m grid from the recently released version 6 (MOD10A1.006) (Hall and Riggs, 2016). All data from geographic tiles h09v04 (ROMO) and h10v04 (GLAC) were downloaded for days between March 1 and July 1 for all years from 2000 to 2016. Period: March 1 to July 1, 2000 to 2016

The data are available in daily files, one for each tile, and georeferenced to an equal-area sinusoidal projection. Each tile covers $10^{\circ} \times 10^{\circ}$ at the equator or approximately 1200 km by 1200 km, with a nominal pixel resolution of 500 m (actual resolution 463.313 m). To bring the data to the same grid as used in the hydrologic modeling necessitated re-projection of the data onto a Universal Transverse Mercator Grid. We used the MODIS Reprojection Tool (https://lpdaac.usgs.gov/tools/modis_reprojection_tool) to subset the daily tiles to the areas of interest and reprojected the subsetting areas to UTM grids with a pixel resolution of 250 m using nearest-neighbor resampling. The ROMO study area perimeter falls at the corner of tile h09v04, and extends slightly beyond the tile boundaries at its southern tip. We excluded this extension of the study from our analysis. Parameters for the MODIS data reprojection are shown in Table 4-1.

1.2.2 Normalized Difference Snow Index

In the MODIS product, snow cover is identified using the Normalized Difference Snow Index (NDSI). Snow covered land typically has very high reflectance in visible bands and very low reflectance in the shortwave infrared, and the magnitude of this difference is quantified by the NDSI. A series of screens is also implemented to alleviate errors and flag uncertain snow cover detections. NDSI is reported as a ratio, with values range from 0 to 1.0 (scaled and reported as 0 to 100 in the data files). In the dataset, certain values over 200 are used to classify grid points as “missing data”, “night”, “inland water”, “cloud”, etc. The NDSI Snow Cover variable is comparable to the Fractional Snow Cover (FSC) variable used in previous collections of this data. A user could calculate FSC by applying the following linear relationship: $FSC = (-0.01 + (1.45 * NDSI)) * 100.0$ for $0.0 \leq NDSI \leq 1.0$.

The prior work by McKelvey and Copeland used Collection 4 of the MODIS data which provided them with a binary snow cover classification. These data are only available for the years 2000-2007, necessitating the use of the more recent MODIS products. However, collection 6 does not include a binary snow cover product for the daily data. For the purposes of determining binary snow cover, we apply a threshold of $NDSI > 0.1$. This choice of threshold is the same as that used in the MODIS 8-day composite product.

1.2.3 Snow disappearance date and snow cover on a given date

We defined the Snow Disappearance Date (SDD) as the first day after March 1 in which $NDSI/100$ was less or equal to 0.1. The SDD is denoted by the Day of Year value, in which January 1 is 1, February 1 is 32, March 1 is 60 (or 61 in leap years), etc. Once SDD was defined at each grid point for each year (resulting in 17 annual maps of SDD for the period of record), we were able to derive snow cover maps for any given date. For example, snow cover on May 1 was inferred by marking grid points as “snow-covered” if their SDD was equal or greater than 121 (or 122 for leap years). We repeated the process to infer snow cover maps for May 15 and June 1. This indirect method to infer snow cover allowed us to circumvent the reality of several missing data points due to cloud cover, and offered a conservative estimate of snow disappearance.

* **PROCESSING ENVIRONMENT** Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.4.1.5686

CREDITS

USFWS; Ed Turner and Betty Grizzle U.S. Fish and Wildlife Service, Carlsbad, CA. and John Guinotte U.S. Fish and Wildlife Service Mountain Prairie Region 6, Lakewood, CO.

ARC GIS ITEM PROPERTIES

* **NAME** Wolverine_Dens_20170321
 * **LOCATION** file://\ifw8csbd-

gim.fws.doi.net\sdata\stem\edstemp\American_wolverine\FWS_Data\CFWO_Wolverine_Efforts\CFWO_Wolverine.gdb

* ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

Extents ►

EXTENT

DESCRIPTION

Lower 48

VERTICAL EXTENT

* MINIMUM VALUE 0.000000

* MAXIMUM VALUE 0.000000

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

* WEST LONGITUDE -122.384607

* EAST LONGITUDE -110.356143

* NORTH LATITUDE 49.662137

* SOUTH LATITUDE 36.290469

* EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* WEST LONGITUDE -1290882.673200

* EAST LONGITUDE -476125.205000

* SOUTH LATITUDE 356964.667100

* NORTH LATITUDE 1749827.540500

* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

Resource Points of Contact ►

POINT OF CONTACT

INDIVIDUAL'S NAME Edwin Turner, Geographer

ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch

CONTACT'S POSITION GIS Analyst

CONTACT'S ROLE originator

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TYPE physical

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[Hide Resource Points of Contact ▲](#)

Resource Maintenance ►

RESOURCE MAINTENANCE

DATE OF NEXT UPDATE 2017-01-31 01:00:00

UPDATE FREQUENCY daily

MAINTENANCE CONTACT

INDIVIDUAL'S NAME Edwin Turner, Geographer

ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch

CONTACT'S POSITION GIS Analyst

CONTACT'S ROLE originator

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ADMINISTRATIVE AREA CA

POSTAL CODE 92008
 COUNTRY US
 E-MAIL ADDRESS ed_turner@fws.gov

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[Hide Resource Maintenance ▲](#)

Resource Constraints ►

CONSTRAINTS

LIMITATIONS OF USE

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[Hide Resource Constraints ▲](#)

Spatial Reference ►

ARCGIS COORDINATE SYSTEM

* TYPE Projected

* GEOGRAPHIC COORDINATE REFERENCE GCS_North_American_1983

* PROJECTION Wolverine Range Wide

* COORDINATE REFERENCE DETAILS

PROJECTED COORDINATE SYSTEM

X ORIGIN -16391800

Y ORIGIN -8034400

XY SCALE 10000

Z ORIGIN -100000

Z SCALE 10000

M ORIGIN -100000

M SCALE 10000

XY TOLERANCE 0.001

Z TOLERANCE 0.001

M TOLERANCE 0.001

HIGH PRECISION true

WELL-KNOWN TEXT PROJCS["Wolverine Range Wide",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Albers"],PARAMETER["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",-105.0],PARAMETER["Standard_Parallel_1",38.0],PARAMETER["Standard_Parallel_2",41.0],PARAMETER["Latitude_Of_Origin",34.0],UNIT["Meter",1.0]]

REFERENCE SYSTEM IDENTIFIER

DIMENSION horizontal

VALUE 4326

CODESPACE EPSG

VERSION 8.6.2

[Hide Spatial Reference ▲](#)

Spatial Data Properties ►

VECTOR ►

* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

GEOMETRIC OBJECTS
 FEATURE CLASS NAME Wolverine_Dens_20170321
 * OBJECT TYPE point
 * OBJECT COUNT 34

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ►
 FEATURE CLASS NAME Wolverine_Dens_20170321
 * FEATURE TYPE Simple
 * GEOMETRY TYPE Point
 * HAS TOPOLOGY FALSE
 * FEATURE COUNT 34
 * SPATIAL INDEX TRUE
 * LINEAR REFERENCING TRUE

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

Geoprocessing history ►

PROCESS
 PROCESS NAME
 DATE 2017-03-09 15:41:14
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked DUP_20170309 1 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-03-10 13:29:57
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked Directions "None provided, but have ID info F133 and F134 NATAL" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-03-10 13:31:46
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked Comments All "Bob Inman email to Betty Grizzle 20170210, Bob Inman Typed coords in email as UTM 27 12N and USFWS CFWO put those into an Excel file, created the point feature and projected to Wolverine Range-wide custom projection, F133 and F134 NATAL at this same location and assuming it was two female kits at den, These data must Not Be Distributed and requester must go to Bob" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-03-10 13:35:58
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked DUP_20170309 1 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-03-10 13:36:28
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked DUP_20170309 0 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-03-10 13:36:38
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked DUP_20170309 0 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-03-10 13:36:46
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED

CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked DUP_20170309 0 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-10 13:36:56
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked DUP_20170309 0 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-10 13:38:23
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked DUP_Notes ""Same coordinate location but Bob gave them unique ID's, F133 and F134 at this same location and assuming it was two female kits at den" " VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-10 13:38:47
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Dens_Copeland_7yr_snow_Identity_results_20170309_Linked DUP_Notes ""Same coordinate location but Bob gave them unique ID's, F133 and F134 assuming it was two female kits at den" " VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 12:14:02
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Wolverine_Dens_20170310 DATES 20040212 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 12:14:19
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Wolverine_Dens_20170310 DATES 20050210 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 13:36:43
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Wolverine_Dens_20170310 Comments_All "Bob Inman email to Betty Grizzle 20170210, Bob Inman typed coords in email as UTM 27 12N and USFWS CFOW put those into an Excel file, created the point feature and projected to Wolverine Range-wide custom projection, F105 NATAL, Date Range Jan 31 - Feb 10, These data must Not Be Distributed and requester must go to Bob" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 13:37:42
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Wolverine_Dens_20170310 Comments_All "Bob Inman email to Betty Grizzle 20170210, Bob Inman typed coords in email as UTM 27 12N and USFWS CFOW put those into an Excel file, created the point feature and projected to Wolverine Range-wide custom projection, F105 NATAL, Date Range Jan 15 - Feb 12, These data must Not Be Distributed and requester must go to Bob" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 13:38:27
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Wolverine_Dens_20170310 DATES 20070216 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 13:38:58
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Wolverine_Dens_20170310 Comments_All "Bob Inman email to Betty Grizzle 20170210, Bob Inman typed coords in email as UTM 27 12N and USFWS CFOW put those into an Excel file, created the point feature and projected to Wolverine Range-wide custom projection, F121 NATAL, GPS Collar, These data must Not Be Distributed and requester

must go to Bob" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 13:39:46
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Wolverine_Dens_20170310 DATES 20060300 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 13:41:02
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Wolverine_Dens_20170310 Comments All "Bob Inman email to Betty Grizzle 20170210, Bob Inman typed coords in email as UTM 27 12N and USFWS CFOW put those into an Excel file, created the point feature and projected to Wolverine Range-wide custom projection, F133 and F134 NATAL at this same location and assuming it was two female kits at den, Estimated parturition of March 8 via tooth eruption., These data must Not Be Distributed and requester must go to Bob" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 13:41:40
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Wolverine_Dens_20170310 DATES 20040223 VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-03-16 13:44:36
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CopyFeatures
 COMMAND ISSUED
 CopyFeatures
 S:\stem\edstemp\American_wolverine\FWS_Data\CFWO_Wolverine_Efforts\CFWO_Wolverine.gdb\Dens\Wolverine_Dens_20170316
 S:\stem\edstemp\American_wolverine\FWS_Data\John_Guinotte\Wolverine_Dens.gdb\Wolverine_Dens_20170316 # 0 0 0
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

[Hide Geoprocessing history ▲](#)

Distribution ►

DISTRIBUTION FORMAT
 VERSION ArcGIS 10.3.1
 * NAME File Geodatabase Feature Class

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT [Wolverine_Dens_20170321 ►](#)

* TYPE Feature Class
 * ROW COUNT 34

DEFINITION

Animal Species Diversity Database

DEFINITION SOURCE

Idaho Fish and Wildlife Information System

FIELD [OBJECTID ►](#)

* ALIAS OBJECTID
 * DATA TYPE OID
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Internal feature number.

DESCRIPTION SOURCE

Esri

DESCRIPTION OF VALUES

Sequential unique whole numbers that are automatically generated.

[Hide Field OBJECTID ▲](#)

FIELD Common_Name ►

* ALIAS Common_Name
 * DATA TYPE String
 * WIDTH 255
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Wolverine

Hide Field Common_Name ▲

FIELD FID_Dens_Comp_20170210 ►

* ALIAS FID_Dens_Comp_20170210
 * DATA TYPE Integer
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

Hide Field FID_Dens_Comp_20170210 ▲

FIELD Shape ►

* ALIAS Shape
 * DATA TYPE Geometry
 * WIDTH 0
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Feature geometry.

DESCRIPTION SOURCE
 ESRI

DESCRIPTION OF VALUES
 Coordinates defining the features.

Hide Field Shape ▲

FIELD Directions ►

* ALIAS Directions
 * DATA TYPE String
 * WIDTH 2147483647
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 If provided, the directions to observation.

Hide Field Directions ▲

FIELD Observers ►

* ALIAS Observers
 * DATA TYPE String
 * WIDTH 255
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Observer name(s).

Hide Field Observers ▲

FIELD Person_Confidence ►

* ALIAS Person_Confidence
 * DATA TYPE String
 * WIDTH 255
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Text version of Observer Confidence

Hide Field Person_Confidence ▲

FIELD Verification_Status ►

* ALIAS Verification_Status

* DATA TYPE String
 * WIDTH 255
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 How den was observed / located

[Hide Field Verification_Status ▲](#)

FIELD DEN ►
 * ALIAS DEN
 * DATA TYPE SmallInteger
 * WIDTH 2
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION

Den code use in original source data as created by USFWS. Den = 1 resulted in record proceeding in process.

[Hide Field DEN ▲](#)

FIELD FWS_SOURCE ►
 * ALIAS FWS_SOURCE
 * DATA TYPE String
 * WIDTH 35
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Denotes original source data

[Hide Field FWS_SOURCE ▲](#)

FIELD FWS_LINK ►
 * ALIAS FWS_LINK
 * DATA TYPE SmallInteger
 * WIDTH 2
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Record link number when used with FWS_SOURCE to access record in original source data

[Hide Field FWS_LINK ▲](#)

FIELD DEN_TYPE ►
 * ALIAS DEN_TYPE
 * DATA TYPE String
 * WIDTH 11
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Denotes den type if available

[Hide Field DEN_TYPE ▲](#)

FIELD DATES ►
 * ALIAS DATES
 * DATA TYPE Integer
 * WIDTH 4
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Denotes date if available

[Hide Field DATES ▲](#)

FIELD STRUCTURE ►
 * ALIAS STRUCTURE
 * DATA TYPE String
 * WIDTH 11
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Denotes den structure if available

[Hide Field STRUCTURE ▲](#)

FIELD TOTAL_DETE ►

* ALIAS TOTAL_DETE
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Denotes den kit count if available

Hide Field TOTAL_DETE ▲

FIELD FWS_YEAR ►
 * ALIAS FWS_YEAR
 * DATA TYPE Integer
 * WIDTH 4
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Denotes year in which den was accessed or recorded

Hide Field FWS_YEAR ▲

FIELD FWS_DECADE ►
 * ALIAS FWS_DECADE
 * DATA TYPE SmallInteger
 * WIDTH 2
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Denotes decade in which den was accessed or recorded

Hide Field FWS_DECADE ▲

FIELD Comments_All ►
 * ALIAS Comments_All
 * DATA TYPE String
 * WIDTH 3000
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Accounts of descriptive attribute information provided for record in original source fields compiled into one for our use

Hide Field Comments_All ▲

FIELD Source_Agency ►
 * ALIAS Source_Agency
 * DATA TYPE String
 * WIDTH 255
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 If provided the source agency of the dataset

Hide Field Source_Agency ▲

FIELD Snow_Cover ►
 * ALIAS Snow_Cover
 * DATA TYPE String
 * WIDTH 150
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Attribute information describing features or snow cover visible in GoogleEarth using the USGS imagery for location

Hide Field Snow_Cover ▲

FIELD DUP_Notes ►
 * ALIAS DUP_Notes
 * DATA TYPE String
 * WIDTH 120
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Note that would describe duplicate records. These records dropped from the final and notes fell to the wayside, but filed was retained to capture any additional situations that should be noted.

Hide Field DUP_Notes ▲

FIELD **Num_Snow_Years** ▶

* ALIAS Num_Snow_Years
 * DATA TYPE SmallInteger
 * WIDTH 2
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Some records had values for the number of years snow was present at the site. These values were retained.

[Hide Field Num_Snow_Years](#) ▲

FIELD **POINT_X** ▶

* ALIAS POINT_X
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Coordinates used in the slope, elevation, and snow melt-out date efforts.

[Hide Field POINT_X](#) ▲

FIELD **POINT_Y** ▶

* ALIAS POINT_Y
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Coordinates used in the slope, elevation, and snow melt-out date efforts.

[Hide Field POINT_Y](#) ▲

FIELD **Elev_ft** ▶

* ALIAS Elev_ft
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Elevation record of den location in feet

[Hide Field Elev_ft](#) ▲

FIELD **Elev_m** ▶

* ALIAS Elev_m
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Elevation record of den location in meters

[Hide Field Elev_m](#) ▲

FIELD **Meltout** ▶

* ALIAS Meltout
 * DATA TYPE Date
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

MODIS snow melt date at den location.

[Hide Field Meltout](#) ▲

FIELD **sd_may15_m** ▶

* ALIAS sd_may15_m
 * DATA TYPE Single
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Snow for den locations on May 15 recorded in meters

[Hide Field sd_may15_m](#) ▲

FIELD slope_deg ►

* ALIAS slope_deg
 * DATA TYPE Single
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Slope in degrees at den location

[Hide Field slope_deg ▲](#)

[Hide Details for object Wolverine_Dens_20170321 ▲](#)

[Hide Fields ▲](#)

Metadata Details ►

METADATA LANGUAGE English (UNITED STATES)
 METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset
 SCOPE NAME *dataset

* LAST UPDATE 2017-05-03

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0
 METADATA STYLE FGDC CSDGM Metadata
 STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2017-03-21 14:03:53
 LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-05-03 16:19:03

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes
 LAST UPDATE 2017-05-03 16:18:52

[Hide Metadata Details ▲](#)

Metadata Contacts ►

METADATA CONTACT

INDIVIDUAL'S NAME Edwin Turner, Geographer
 ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch
 CONTACT'S POSITION GIS Analyst
 CONTACT'S ROLE originator

CONTACT INFORMATION ►

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 VOICE 760.431.9440 x266

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 CITY Carlsbad
 ADMINISTRATIVE AREA CA
 POSTAL CODE 92008
 COUNTRY US
 E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

Metadata Maintenance ►

MAINTENANCE

DATE OF NEXT UPDATE 2017-01-31 00:00:00
 UPDATE FREQUENCY unknown

MAINTENANCE CONTACT

INDIVIDUAL'S NAME Edwin Turner, Geographer
 ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch
 CONTACT'S POSITION GIS Analyst
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[Hide Contact information ▲](#)[Hide Metadata Maintenance ▲](#)

Metadata Constraints ►

CONSTRAINTS

LIMITATIONS OF USE

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U.S. Fish and Wildlife Service

Carlsbad Fish and Wildlife Office

GIS Mapping and Analysis Branch

6010 Hidden Valley Rd.

Carlsbad, CA 92008

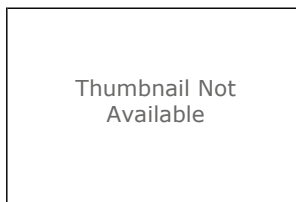
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[Hide Metadata Constraints ▲](#)

FGDC Metadata (read-only) ▼

Inman_WCS_PH_State_SMA

File Geodatabase Feature Class



Tags

Wolverine, BLM SMA, Ownership, States

Summary

These data represent Wolverine Primary Habitat as modeled by Bob Inman et al (2013) combined with the 2015 U.S. Census Bureau's State boundaries and the April 2015 Bureau of Land Management BLM, Surface Management Agency (SMA) land ownership data.

Description

These data represent Wolverine Primary Habitat as modeled by Bob Inman et al (2013) combined with the 2015 U.S. Census Bureau's State boundaries and the April 2015 Bureau of Land Management BLM, Surface Management Agency (SMA) land ownership data.

Data was compiled in order to assess the amount of Primary Habitat (PH) on Federal, State, Local, and Private lands.

Base data was the final Inman et al (2013) Primary Habitat (PH) as follows: These data layers were developed for the purposes of wolverine conservation, including population and land management decisions, especially at the scale of the population, i.e. western United States.

Wolverine habitat predictions were developed using radio-telemetry data collected in the Yellowstone Region of the United States and Resource Selection Function (RSF) modelling. Details of the process with which the 4 habitat layers were developed were published in the journal Biological Conservation, 2013, Vol 166 pages 276-286. Primary habitats are those areas of high enough quality that adult wolverines can reside there continuously year after year. Maternal habitats are those areas of high enough quality that female wolverines are capable of locating natal dens and rendezvous sites within (see Inman et al. 2012 Journal of Mammalogy publication for description of wolverine dens and timing of their use). Dispersal habitats are those areas of high enough quality that they may be used briefly (up to approximately 1-2 months) by male OR female wolverines while they travel to disperse from one area of primary habitat to another area of primary habitat.

Originator: Robert M. Inman, rminman@craigheadinstitute.org or robert.michael.inman@gmail.com

Inman, R. M., B.L. Brock, K.H. Inman, S.S. Sartorius, B.C. Aber, B. Giddings, S.L. Cain, M.L. Orme, J.A. Fredrick, B.J. Oakleaf, K.L. Alt, E. Odell, and G. Chapron. 2013. Developing Priorities for Metapopulation Conservation at the Landscape Scale: Wolverines in the Western United States. Biological Conservation 166:276-286.

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Credits

USFWS; Ed Turner, U.S. Fish and Wildlife Service, Carlsbad, CA. using data from Bob Inman, U.S. Census Bureau, and BLM Surface Management Agency (SMA).

Use limitations

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Extent

West -125.233346 **East** -104.874501
North 50.067268 **South** 34.273269

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata ►

Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE biota, environment, location

* CONTENT TYPE Downloadable Data

THEME KEYWORDS Wolverine Dens, Lower 48

[Hide Topics and Keywords ▲](#)

Citation ►

* TITLE Inman_WCS_PH_State_SMA
 CREATION DATE 2017-03-10 00:00:00
 PUBLICATION DATE 2017-03-10 00:00:00

PRESENTATION FORMATS digital map
 FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

[Hide Citation ▲](#)

Citation Contacts ►

RESPONSIBLE PARTY

INDIVIDUAL'S NAME Edwin Turner, Geographer
 ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch
 CONTACT'S POSITION GIS Analyst
 CONTACT'S ROLE originator

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 ADMINISTRATIVE AREA CA
 POSTAL CODE 92008
 COUNTRY US
 E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)

[Hide Citation Contacts ▲](#)

Resource Details ►

DATASET LANGUAGES English (UNITED STATES)
 DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

STATUS on-going
SPATIAL REPRESENTATION TYPE vector

SUPPLEMENTAL INFORMATION

Owner Process:

1. Took all data and projected into consistent geographic positioning. Used "GCS_North_American_1983"
2. Took Bob Inman's Primary Habitat (PH) modeled Wolverine Habitat data and combined (identity) in the 2015 U.S. Census Bureau's Master Address cartographic boundary Lower 48 500k states boundary data. This provided state value for all portions of PH data.
3. Took step 2 product and combined (identity) in the BLM Surface Management Agency (SMA) Geographic Information data 4, 2015 for the western US. This provided an idea of ownership type for all portions of PH data within the states.
4. Projected output product to Projected Coordinate System: Wolverine Range Wide (Custom); Projection: Albers; Geographic Coordinate System: GCS_North_American_1983; to match all other data for overall Wolverine project.
5. Coded areas that had no SMA admin value (no owner Class) as "99"
6. Calculated Acres and Hectares as double values for each portion of PH data. This helps to determine percentages of PH by owner type.
7. Added new field "Owner " code for each class. This allows us to group Federal Lands and have descriptive names for each type of land owner. The data also contains specific agency information and we can further determine to that level if needed.

Classes are as follows:

DOI, OTHFE (Other Federal Agencies), USDA = Federal Lands

PVT = Private Lands

LG = Local Government

ST = State Lands

UND = Undetermined

99 = NO CODE *

- Note these areas "99" have no coding within the SMA system. They could be slivers or areas not determined. These areas are approximately 0.03% of the total area and under visual checks much of these areas fall within USFS Administration Boundaries.

* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.4.1.5686

CREDITS

USFWS; Ed Turner, U.S. Fish and Wildlife Service, Carlsbad, CA. using data from Bob Inman, U.S. Census Bureau, and BLM Surface Management Agency (SMA).

ARCGIS ITEM PROPERTIES

* NAME Inman_WCS_PH_State_SMA

* SIZE 0.000

* LOCATION file:///\\fw8csbd-

gim.fws.doi.net\sdata\stem\edstemp\American_wolverine\FWS_Data\CFWO_Wolverine_Efforts\By_State_Own_Runs\State_Own_Runs.gdb

* ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

Extents ►

EXTENT

DESCRIPTION

Lower 48

VERTICAL EXTENT

* MINIMUM VALUE 0.000000

* MAXIMUM VALUE 0.000000

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

* WEST LONGITUDE -125.233346

* EAST LONGITUDE -104.874501

* NORTH LATITUDE 50.067268

* SOUTH LATITUDE 34.273269

* EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* WEST LONGITUDE -1502991.435400

* EAST LONGITUDE 9165.203600

* SOUTH LATITUDE 166960.030100

* NORTH LATITUDE 1776908.940700

* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

Resource Points of Contact ►

POINT OF CONTACT

INDIVIDUAL'S NAME Edwin Turner, Geographer
 ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch
 CONTACT'S POSITION GIS Analyst
 CONTACT'S ROLE originator

CONTACT INFORMATION ►

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 COUNTRY US
 E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

Resource Maintenance ►

RESOURCE MAINTENANCE

DATE OF NEXT UPDATE 2017-01-31 01:00:00
 UPDATE FREQUENCY daily

MAINTENANCE CONTACT

INDIVIDUAL'S NAME Edwin Turner, Geographer
 ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch
 CONTACT'S POSITION GIS Analyst
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Resource Constraints ►

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Carlsbad, CA 92008

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[Hide Resource Constraints](#) ▲

Spatial Reference ►

ARCGIS COORDINATE SYSTEM

- * TYPE **Projected**
- * GEOGRAPHIC COORDINATE REFERENCE **GCS_North_American_1983**
- * PROJECTION **Wolverine Range Wide**

* COORDINATE REFERENCE DETAILS

PROJECTED COORDINATE SYSTEM

X ORIGIN -16391800
 Y ORIGIN -8034400
 XY SCALE 10000
 Z ORIGIN -100000
 Z SCALE 10000
 M ORIGIN -100000
 M SCALE 10000
 XY TOLERANCE 0.001
 Z TOLERANCE 0.001
 M TOLERANCE 0.001
 HIGH PRECISION **true**
 WELL-KNOWN TEXT PROJCS["Wolverine Range Wide",GEOGCS["GCS_North_American_1983",DATUM
 ["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT
 ["Degree",0.0174532925199433]],PROJECTION["Albers"],PARAMETER["False_Easting",0.0],PARAMETER
 ["False_Northing",0.0],PARAMETER["Central_Meridian",-105.0],PARAMETER["Standard_Parallel_1",38.0],PARAMETER
 ["Standard_Parallel_2",41.0],PARAMETER["Latitude_Of_Origin",34.0],UNIT["Meter",1.0]]

REFERENCE SYSTEM IDENTIFIER

DIMENSION **horizontal**
 VALUE **4326**
 CODESPACE **EPSG**
 VERSION **8.6.2**

[Hide Spatial Reference](#) ▲

Spatial Data Properties ►

VECTOR ►

- * LEVEL OF TOPOLOGY FOR THIS DATASET **geometry only**

GEOMETRIC OBJECTS

FEATURE CLASS NAME **Inman_WCS_PH_State_SMA**
 * OBJECT TYPE **composite**
 * OBJECT COUNT **39137**

[Hide Vector](#) ▲

ARCGIS FEATURE CLASS PROPERTIES ►

FEATURE CLASS NAME **Inman_WCS_PH_State_SMA**
 * FEATURE TYPE **Simple**
 * GEOMETRY TYPE **Polygon**
 * HAS TOPOLOGY **FALSE**
 * FEATURE COUNT **39137**
 * SPATIAL INDEX **TRUE**
 * LINEAR REFERENCING **TRUE**

[Hide ArcGIS Feature Class Properties](#) ▲

[Hide Spatial Data Properties](#) ▲

Geoprocessing history ►

PROCESS

PROCESS NAME
 DATE **2017-04-20 15:45:44**
 TOOL LOCATION **c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField**
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83 Primary_Ha "Primary Habitat" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 15:46:23

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83 PrimaryHab "Primary Habitat" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 16:30:13

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83_ST NAME "99" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 16:30:19

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83_ST STUSPS "99" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 16:30:37

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83_ST NAME "NO DATA" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 16:35:49

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_DEPT "99" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 16:35:54

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_AGEN "99" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 16:35:58

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_UNIT "99" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 16:36:09

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_UN_1 "99" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 16:36:21

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA Owner "NO CODE" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2017-04-20 16:36:26

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA NAME "NO CODE" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-20 16:36:36
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA NAME "NO CODE" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:37:35
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA Owner "NO CODE" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:37:47
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_UN_1 "99" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:37:53
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_UNIT "99" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:37:59
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_AGEN "99" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:38:05
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_DEPT "99" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:39:54
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA Owner "NO CODE" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:40:04
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_UN_1 "99" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:40:08
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_UNIT "99" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:40:13
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_AGEN "99" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
 PROCESS NAME
 DATE 2017-04-20 16:40:18
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA ADMIN_DEPT "99" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-20 16:47:19
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA Owner "" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-20 16:48:47
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA Owner "Federal Lands" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-20 16:49:24
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA Owner "Local Government" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-20 16:49:59
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA Owner "Undetermined" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-20 16:50:26
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA Owner "State Lands" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-20 16:50:49
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_Primary_Habitat_GCS83_SMA Owner "Private Lands" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-21 11:37:44
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField Inman_WCS_PH_State_SMA NAME "US Canadian Border" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

[Hide Geoprocessing history ▲](#)

Distribution ►

DISTRIBUTION FORMAT
 VERSION ArcGIS 10.3.1
 *NAME File Geodatabase Feature Class

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT Inman_WCS_PH_State_SMA ►

*TYPE Feature Class
 *ROW COUNT 39137

DEFINITION
 Animal Species Diversity Database

DEFINITION SOURCE
 Idaho Fish and Wildlife Information System

FIELD OBJECTID ►

* ALIAS FID
 * DATA TYPE OID
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Internal feature number.

DESCRIPTION SOURCE

Esri

DESCRIPTION OF VALUES

Sequential unique whole numbers that are automatically generated.

Hide Field OBJECTID ▲

FIELD Shape ►

* ALIAS Shape
 * DATA TYPE Geometry
 * WIDTH 0
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Feature geometry.

DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES

Coordinates defining the features.

Hide Field Shape ▲

FIELD FID_Inman_ ►

* ALIAS FID_Inman_
 * DATA TYPE Integer
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

Hide Field FID_Inman_ ▲

FIELD PrimaryHab ►

* ALIAS PrimaryHab
 * DATA TYPE String
 * WIDTH 18
 * PRECISION 0
 * SCALE 0

Hide Field PrimaryHab ▲

FIELD STUSPS ►

* ALIAS STUSPS
 * DATA TYPE String
 * WIDTH 2
 * PRECISION 0
 * SCALE 0

Hide Field STUSPS ▲

FIELD NAME ►

* ALIAS NAME
 * DATA TYPE String
 * WIDTH 100
 * PRECISION 0
 * SCALE 0

Hide Field NAME ▲

FIELD FID_Surfac ►

* ALIAS FID_Surfac

* DATA TYPE Integer
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

Hide Field FID_Surfac ▲

FIELD ADMIN_DEPT ►
 * ALIAS ADMIN_DEPT
 * DATA TYPE String
 * WIDTH 5
 * PRECISION 0
 * SCALE 0

Hide Field ADMIN_DEPT ▲

FIELD ADMIN_AGEN ►
 * ALIAS ADMIN_AGEN
 * DATA TYPE String
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

Hide Field ADMIN_AGEN ▲

FIELD ADMIN_UNIT ►
 * ALIAS ADMIN_UNIT
 * DATA TYPE String
 * WIDTH 100
 * PRECISION 0
 * SCALE 0

Hide Field ADMIN_UNIT ▲

FIELD ADMIN_UN_1 ►
 * ALIAS ADMIN_UN_1
 * DATA TYPE String
 * WIDTH 42
 * PRECISION 0
 * SCALE 0

Hide Field ADMIN_UN_1 ▲

FIELD Shape_Leng ►
 * ALIAS Shape_Leng
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

Hide Field Shape_Leng ▲

FIELD Hectares ►
 * ALIAS Hectares
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Double

Hide Field Hectares ▲

FIELD Acres ►
 * ALIAS Acres
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0
 FIELD DESCRIPTION
 Double

Hide Field Acres ▲

FIELD Shape_Length ►

* **ALIAS** Shape_Length
 * **DATA TYPE** Double
 * **WIDTH** 8
 * **PRECISION** 0
 * **SCALE** 0
 * **FIELD DESCRIPTION**
 Length of feature in internal units.

 * **DESCRIPTION SOURCE**
 Esri

 * **DESCRIPTION OF VALUES**
 Positive real numbers that are automatically generated.

Hide Field Shape_Length ▲

FIELD Shape_Area ►
 * **ALIAS** Shape_Area
 * **DATA TYPE** Double
 * **WIDTH** 8
 * **PRECISION** 0
 * **SCALE** 0
 * **FIELD DESCRIPTION**
 Area of feature in internal units squared.

 * **DESCRIPTION SOURCE**
 Esri

 * **DESCRIPTION OF VALUES**
 Positive real numbers that are automatically generated.

Hide Field Shape_Area ▲

FIELD Owner ►
 * **ALIAS** Owner
 * **DATA TYPE** String
 * **WIDTH** 20
 * **PRECISION** 0
 * **SCALE** 0
 * **FIELD DESCRIPTION**
 Owner code was classed as follows:
 DOI, OTHFE (Other Federal Agencies), USDA = Federal Lands
 PVT = Private Lands
 LG = Local Government
 ST = State Lands
 UND = Undetermined
 99 = NO CODE * Note these areas "99" have no coding within the SMA system.

Hide Field Owner ▲

Hide Details for object Inman_WCS_PH_State_SMA ▲

Hide Fields ▲

Metadata Details ►

METADATA LANGUAGE English (UNITED STATES)
METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset
SCOPE NAME *dataset

* **LAST UPDATE** 2017-05-03

ARCGIS METADATA PROPERTIES
METADATA FORMAT ArcGIS 1.0
STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2017-04-20 17:00:17
LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-05-03 16:22:23

AUTOMATIC UPDATES
HAVE BEEN PERFORMED Yes
LAST UPDATE 2017-05-03 16:20:06

ITEM LOCATION HISTORY

ITEM COPIED OR MOVED 2015-10-20 15:43:18

FROM C:\0ArcGIS\Wolverine\Multistate_Monitor\Inman et al Biological Conservation 2013 Wolverine Habitat Primary
 TO \\FWPHQ\T914773\C\$\0ArcGIS\Wolverine\Data Layers\Inman Habitat\Inman et al Biological Conservation 2013 Wolverine Habitat Primary

[Hide Metadata Details ▲](#)**Metadata Contacts ►**

METADATA CONTACT

INDIVIDUAL'S NAME Edwin Turner, Geographer
 ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch
 CONTACT'S POSITION GIS Analyst
 CONTACT'S ROLE originator

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 ADMINISTRATIVE AREA CA
 POSTAL CODE 92008
 COUNTRY US
 E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)[Hide Metadata Contacts ▲](#)**Metadata Maintenance ►**

MAINTENANCE

DATE OF NEXT UPDATE 2017-01-31 00:00:00
 UPDATE FREQUENCY unknown

MAINTENANCE CONTACT

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 ORGANIZATION'S NAME USFWS Carlsbad Fish and Wildlife Office, GIS Mapping and Analysis Branch
 CONTACT'S POSITION GIS Analyst
 CONTACT'S ROLE originator

CONTACT INFORMATION ►

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 ADMINISTRATIVE AREA CA
 POSTAL CODE 92008
 COUNTRY US
 E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)[Hide Metadata Maintenance ▲](#)**Metadata Constraints ►**

CONSTRAINTS

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Carlsbad Fish and Wildlife Office
GIS Mapping and Analysis Branch
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Carlsbad, CA 92008

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[Hide Metadata Constraints ▲](#)

FGDC Metadata (read-only) ▼

NorthAmerican_Wolverine_Current_Range_4_27_17

Shapefile

Thumbnail Not Available

Tags

wolverine, North American Range, Wolverine, Gulo gulo

Summary

These data represent USFWS constructed Current Range distribution for Wolverine (*Gulo gulo*). Wolverine Current Range in both the Lower 48 and the Northern Territories (Canada and Alaska) within the North American Range.

Description

These data represent USFWS constructed Current Range distribution for Wolverine (*Gulo gulo*). Wolverine Current Range in both the Lower 48 and the Northern Territories (Canada and Alaska) within the North American Range.

The basis for the USFWS current range design originated from the Northwest Territories (NWT) Department of Environment and Natural Resources Species range distribution for Wolverine data. NWT Species range depicted distribution for Wolverine, showing the range (known distribution) as well as areas of increased presence. The data also incorporates the rest of the Canadian distribution, which includes the historical range and areas with unverified observations of wolverine (see COSEWIC 2014 status report for details). NWT range map was originally adapted from NatureServe 2002 and edited in 2008 to fit the COSEWIC (2003) status report and comments from Marsha Branigan (ENR). NWT range map was updated in 2014 for COSEWIC to include range of 'Increased Presence' on the Arctic Islands by Marsha Branigan (NT) and Malik Awan (NU).

The USFWS took the NWT current range polygon representation and refined portions relevant to the Lower 48, based on various data compiled and process performed by John Guinotte, PhD, U.S. Fish and Wildlife Service, Mountain Prairie Region 6, Lakewood, CO. and further edited by Ed Turner, Geographer, U.S. Fish and Wildlife Service, Pacific Southwest Region 8 Carlsbad Field Office.

The USFWS was able to collect and compile various wolverine record data along with obtained modeled habitat information and the efforts allowed for a refined distribution of the range.

Determination of the USFWS North American Wolverine Current Range:

1. Bonnie Fournier, Northwest Territories Department of Environment and Natural Resources, provided a shapefile that included the entire current range of the wolverine in North America. This file included Alaska, Canada, and the continental U.S. (lower 48 states). This data is depicted in Fig 3 of Cosewic (2014).

2. The continental U.S. region of this file was edited in ArcGIS by John Guinotte, USFWS, to reflect updated current range based on several datasets.

a. Wolverine occurrence data: This data included records from USFS NRIS Nationwide wolverine Data pull, Jan 6, 2017 (1995-Present), documented den site locations sources: USFS NRIS wolverine Data pull, California Natural Diversity Database (CNDDB), Inman Wildlife Conservation Society (Bob Inman), Jeff Copeland, Idaho Department of Fish and Game, Washington Department of Fish & Wildlife, camera trap locations (2014-2016) from the state of Wyoming, and trap and release records (2004) from the state of Wyoming (Wildlife Observation System, (WOS_Zone12_captured dataset)).

b. Shapefiles from Inman et al (2013) including Draft modeled polygons for maternal habitat, primary habitat, female dispersal, and male dispersal. Further compared to Inman final modeled habitat to assess USFWS design.

c. A kernel density analysis (also known as a heat map) performed in ArcGIS on all of the occurrence data described in (a) above to identify areas with the highest density of wolverine occurrences.

d. Number of occurrences from a, b, and c totaled 503.

e. U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping.

3. Methods: The current range shapefile for the continental U.S. was created by altering polygons to include the outer extent of the kernel density analysis and as many occurrence records as possible. Inman's data was used as a guide in areas that were not identified as high density in the kernel density analysis, but still contained recent occurrence data. Examples include central/western Oregon, the Sierra Nevada mountains in California and the Rocky Mountains in Colorado and southern Wyoming. Data then combined with the U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping data for review and edit. It was determined that the current range data and observations used in design, trend with the EPA ECO-Region 6.2, Western Cordillera, Northwestern Forested Mountains (Level I) in the lower 48. This trend was overlaid with Inman's final Primary Habitat (PH) Model and it was supportive in design. Due to the trend, we edited through selection, retention, and removal. We selected and retained the eco-region 6.2 polygon areas in the lower 48 where we had current range design and observation/PH model trend. We removed areas that were small and non-contiguous, not containing the observation trend, or of eco-region classes that would not support habitat typically used by Wolverines; such as, Cold Deserts or Great Plains in the lower 48. It should be noted, that our creation and edits of the current range are limited to the Lower 48 only and these eco-regions could be present in the northern territories of Canada. The resulting current range of the lower 48 exhibits detail that captures the observation schema as noted in 2. a., and seems to follow the Inman PH model in the Northwestern Forested Mountains eco-region. Data dissolved to remove all individual polygons and result in the area that represents overall current range spanning the lower 48 and the northern territories of Canada and Alaska.

COSEWIC. 2014. COSEWIC assessment and status report on the Wolverine *Gulo gulo* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 76 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).

Inman, R. M., B.L. Brock, K.H. Inman, S.S. Sartorius, B.C. Aber, B. Giddings, S.L. Cain, M.L. Orme, J.A. Fredrick, B.J. Oakleaf, K.L. Alt, E. Odell, and G. Chapron. 2013. Developing Priorities for Metapopulation Conservation at the Landscape Scale: Wolverines in the Western United States. Biological Conservation 166:276–286.

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Credits

USFWS; John Guinotte U.S. Fish and Wildlife Service
Mountain Prairie Region 6, Lakewood, CO.

USFWS; Ed Turner U.S. Fish and Wildlife Service
Pacific Southwest Region 8, Carlsbad Field Office, Carlsbad, CA.

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U.S. Fish and Wildlife Service

Ecological Services

Mountain Prairie Region 6

134 Union Blvd., Lakewood, CO 80228

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Extent

West -180.000000 **East** 180.000000
North 83.578012 **South** 28.669582

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata ►

Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE biota, environment, location

* CONTENT TYPE Downloadable Data

THEME KEYWORDS Wolverine Dens, Lower 48

[Hide Topics and Keywords ▲](#)

Citation ►

* TITLE NorthAmerican_Wolverine_Current_Range_4_27_17
CREATION DATE 2017-03-10 00:00:00
PUBLICATION DATE 2017-03-10 00:00:00

PRESENTATION FORMATS digital map
FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

[Hide Citation ▲](#)

Citation Contacts ►

RESPONSIBLE PARTY
INDIVIDUAL'S NAME John Guinotte, PhD
ORGANIZATION'S NAME U.S. Fish and Wildlife Service
CONTACT'S POSITION Fish and Wildlife Biologist
CONTACT'S ROLE point of contact

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RESPONSIBLE PARTY

INDIVIDUAL'S NAME Ed Turner
 ORGANIZATION'S NAME USFWS - Carlsbad CA Filed Office
 CONTACT'S POSITION Geographer
 CONTACT'S ROLE point of contact

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 COUNTRY US
 E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)

[Hide Citation Contacts ▲](#)

Resource Details ►

DATASET LANGUAGES English (UNITED STATES)
 DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

STATUS completed
 SPATIAL REPRESENTATION TYPE vector

SUPPLEMENTAL INFORMATION

Determination of the USFWS North American Wolverine Current Range:

1. Bonnie Fournier, Northwest Territories Department of Environment and Natural Resources, provided a shapefile that included the entire current range of the wolverine in North America. This file included Alaska, Canada, and the continental U.S. (lower 48 states). This data is depicted in Fig 3 of Cosewic (2014).

2. The continental U.S. region of this file was edited in ArcGIS by John Guinotte, USFWS, to reflect updated current range based on several datasets.

a. Wolverine occurrence data: This data included records from USFS NRIS Nationwide wolverine Data pull, Jan 6, 2017 (1995-Present), documented den site locations sources: USFS NRIS wolverine Data pull, California Natural Diversity Database (CNDDB), Inman Wildlife Conservation Society (Bob Inman), Jeff Copeland, Idaho Department of Fish and Game, Washington Department of Fish & Wildlife), camera trap locations (2014-2016) from the state of Wyoming, and trap and release records (2004) from the state of Wyoming (Wildlife Observation System, (WOS_Zone12_captured dataset)).

b. Shapefiles from Inman et al (2013) including modeled polygons for maternal habitat, primary habitat, female dispersal, and male dispersal.

c. A kernel density analysis (also known as a heat map) performed in ArcGIS on all of the occurrence data described in (a) above to identify areas with the highest density of wolverine occurrences.

d. Number of occurrences from a, b, and c totaled 503.

e. U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping.

3. Methods: The current range shapefile for the continental U.S. was created by altering polygons to include the outer extent of the kernel density analysis and as many occurrence records as possible. Inman's data was used as a guide in areas that were not identified as high density in the kernel density analysis, but still contained recent occurrence data. Examples include central/western Oregon, the Sierra Nevada mountains in California and the Rocky Mountains in Colorado and southern Wyoming. Data then combined with the U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping data for review and edit. It was determined that the current range data and observations used in design, trend with the EPA ECO-Region 6.2, Western Cordillera, Northwestern Forested Mountains (Level I) in the lower 48. This trend was overlaid with Inman's final Primary Habitat (PH) Model and it was supportive in design. Due to the trend, we edited through selection, retention, and removal. We selected and retained the eco-region 6.2 polygon areas in the lower 48 where we had current range design and observation/PH model trend. We removed areas that were small and non-contiguous, not containing the observation trend, or of eco-region classes that would not support habitat typically used by Wolverines; such as, Cold Deserts or Great Plains in the lower 48. It should be noted, that our creation and edits of the current range are limited to the Lower 48 only and these eco-regions could be present in the northern territories of Canada. The resulting current range of the lower 48 exhibits detail that captures the observation schema as noted in 2. a., and seems to follow the Inman PH model in the Northwestern Forested Mountains eco-region. Data dissolved to remove all individual polygons and result in the area that represents overall current range spanning the lower 48 and the northern territories of Canada and Alaska.

COSEWIC. 2014. COSEWIC assessment and status report on the Wolverine *Gulo gulo* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 76 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).

Inman, R. M., B.L. Brock, K.H. Inman, S.S. Sartorius, B.C. Aber, B. Giddings, S.L. Cain, M.L. Orme, J.A. Fredrick, B.J. Oakleaf, K.L. Alt, E. Odell, and G. Chapron. 2013. Developing Priorities for Metapopulation Conservation at the Landscape Scale: Wolverines in the Western United States. *Biological Conservation* 166:276-286.

These data were under the original Canadian Lambert Conformal Conic positioning. For North American consistency the newly refined data of the Lower 48 including the NWT Canadian portion were re-projected to North America Lambert Conformal Conic positioning. This placed both the Lower 48 and the Northern Territories (Canada and Alaska) in the same geographic origin.

*PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.4.1.5686

CREDITS

USFWS; John Guinotte U.S. Fish and Wildlife Service
 Mountain Prairie Region 6, Lakewood, CO.

USFWS; Ed Turner U.S. Fish and Wildlife Service
Pacific Southwest Region 8, Carlsbad Field Office, Carlsbad, CA.

ARCGIS ITEM PROPERTIES

* NAME NorthAmerican_Wolverine_Current_Range_4_27_17
* SIZE 2.262
* LOCATION file:///\\ifw8csbd-gim.fws.doi.net\\sdata\\stem\\edstemp\\American_wolverine\\FWS_Data\\John_Guinotte\\John_Current_Range\\NorthAmerican_Wolverine_Current_Range_4_27_17.shp
* ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

Extents ►

EXTENT

DESCRIPTION
Lower 48

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

* WEST LONGITUDE -180.000000
* EAST LONGITUDE 180.000000
* NORTH LATITUDE 83.578012
* SOUTH LATITUDE 28.669582
* EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* WEST LONGITUDE -3791977.534575
* EAST LONGITUDE 1629149.874125
* SOUTH LATITUDE -259062.424788
* NORTH LATITUDE 5253039.078067
* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

Resource Points of Contact ►

POINT OF CONTACT

INDIVIDUAL'S NAME John Guinotte, PhD
ORGANIZATION'S NAME U.S. Fish and Wildlife Service
CONTACT'S POSITION Fish and Wildlife Biologist
CONTACT'S ROLE originator

CONTACT INFORMATION ►

PHONE

VOICE 303-236-4264

ADDRESS

TYPE physical
DELIVERY POINT 134 Union Blvd.
CITY Lakewood
ADMINISTRATIVE AREA CO
POSTAL CODE 80228
COUNTRY US
E-MAIL ADDRESS john_guinotte@fws.gov

[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

Resource Maintenance ►

RESOURCE MAINTENANCE

DATE OF NEXT UPDATE 2017-01-31 01:00:00
UPDATE FREQUENCY daily

MAINTENANCE CONTACT

INDIVIDUAL'S NAME John Guinotte, PhD
ORGANIZATION'S NAME U.S. Fish and Wildlife Service
CONTACT'S POSITION Fish and Wildlife Biologist

CONTACT INFORMATION ►

PHONE

VOICE 303-236-4264

ADDRESS

TYPE physical
DELIVERY POINT 134 Union Blvd.
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POSTAL CODE 80228
COUNTRY US
E-MAIL ADDRESS john_guinotte@fws.gov

[Hide Contact information ▲](#)

[Hide Resource Maintenance ▲](#)

Resource Constraints ►

CONSTRAINTS

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U.S. Fish and Wildlife Service

Ecological Services

Mountain Prairie Region 6

134 Union Blvd., Lakewood, CO 80228

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Spatial Reference ►

ARCGIS COORDINATE SYSTEM

* TYPE **Projected**

* GEOGRAPHIC COORDINATE REFERENCE **GCS_North_American_1983**

* PROJECTION **North_America_Lambert_Conformal_Conic**

* COORDINATE REFERENCE DETAILS

PROJECTED COORDINATE SYSTEM

WELL-KNOWN IDENTIFIER **102009**

X ORIGIN **-35214300**

Y ORIGIN **-28218500**

XY SCALE **127891215.42584959**

Z ORIGIN **-100000**

Z SCALE **10000**

M ORIGIN **-100000**

M SCALE **10000**

XY TOLERANCE **0.001**

Z TOLERANCE **0.001**

M TOLERANCE **0.001**

HIGH PRECISION **true**

LATEST WELL-KNOWN IDENTIFIER **102009**

WELL-KNOWN TEXT PROJCS["North_America_Lambert_Conformal_Conic",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert_Conformal_Conic"],PARAMETER["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",-96.0],PARAMETER["Standard_Parallel_1",20.0],PARAMETER["Standard_Parallel_2",60.0],PARAMETER["Latitude_Of_Origin",40.0],UNIT["Meter",1.0],AUTHORITY["Esri",102009]]

REFERENCE SYSTEM IDENTIFIER

DIMENSION **horizontal**

VALUE **4326**

* CODESPACE **Esri**

* VERSION **4.0.0**

[Hide Spatial Reference ▲](#)

Spatial Data Properties ►

VECTOR ►

* LEVEL OF TOPOLOGY FOR THIS DATASET **geometry only**

GEOMETRIC OBJECTS

FEATURE CLASS NAME **NorthAmerican_Wolverine_Current_Range_4_27_17**

* OBJECT TYPE **composite**

* OBJECT COUNT **1**

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ►

FEATURE CLASS NAME **NorthAmerican_Wolverine_Current_Range_4_27_17**

* FEATURE TYPE **Simple**

* GEOMETRY TYPE **Polygon**

* HAS TOPOLOGY **FALSE**

* FEATURE COUNT **1**

* SPATIAL INDEX **TRUE**

* LINEAR REFERENCING **FALSE**

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

Data Quality ►

SCOPE OF QUALITY INFORMATION ►

RESOURCE LEVEL **dataset**

[Hide Scope of quality information ▲](#)

[Hide Data Quality](#) ▲

Geoprocessing history ▶

PROCESS

PROCESS NAME
DATE 2017-03-23 11:26:52
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField canada_current_range_fix FeatureNam "Wolverine - Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-03-23 11:28:40
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField canada_current_range_fix Species "Wolverine" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-03-23 11:28:51
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField canada_current_range_fix Scientific "Gulo gulo" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-03-23 11:29:00
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField canada_current_range_fix Range_Type "Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-03-23 12:43:59
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\Project
COMMAND ISSUED
Project Wolverine_Current_Range
S:\stem\edstemp\American_wolverine\FWS_Data\John_Guinotte\John_Current_Range\Wolverine_Current_Range_NALAM.shp PROJCS
['North America Lambert Conformal Conic',GEOGCS['GCS North American 1983',DATUM['D North American 1983',SPHEROID
['GRS_1980',6378137.0,298.257222101]],PRIMEM['Greenwich',0.0],UNIT['Degree',0.0174532925199433]],PROJECTION
['Lambert Conformal Conic'],PARAMETER['False_Easting',0.0],PARAMETER['False_Northing',0.0],PARAMETER['Central_Meridian',-96.0],PARAMETER
['Standard_Parallel_1',20.0],PARAMETER['Standard_Parallel_2',60.0],PARAMETER['Latitude_Of_Origin',40.0],UNIT['Meter',1.0]] # PROJCS
['Canada Lambert Conformal Conic',GEOGCS['GCS North American 1983',DATUM['D North American 1983',SPHEROID
['GRS_1980',6378137.0,298.257222101]],PRIMEM['Greenwich',0.0],UNIT['Degree',0.0174532925199433]],PROJECTION
['Lambert Conformal Conic'],PARAMETER['False_Easting',0.0],PARAMETER['False_Northing',0.0],PARAMETER['Central_Meridian',-96.0],PARAMETER
['Standard_Parallel_1',50.0],PARAMETER['Standard_Parallel_2',70.0],PARAMETER['Latitude_Of_Origin',40.0],UNIT['Meter',1.0]]
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:29:45
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 FeatureNam "Wolverine - Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:29:58
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 Species "Wolverine" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:30:10
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 Scientific "Gulo gulo" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:30:23
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 Range_Type "Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:34:47
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV NA_L2NAME "No Data" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:35:00
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

```

COMMAND ISSUED
  CalculateField NA_CEC_Eco_Level2_WOLV NA_L2NAME "NO DATA" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-17 14:35:05
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NA_CEC_Eco_Level2_WOLV NA_L1NAME "NO DATA" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:06:27
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:07:08
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:07:37
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:07:58
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:14:06
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:38:05
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:38:41
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:39:15
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-27 14:16:44
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-27 14:17:53
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA  No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-27 18:19:14
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
  CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO Keep_Drop "DROP" VB #

```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA **No**

[Hide Geoprocessing history ▲](#)

Distribution ►

DISTRIBUTION FORMAT

* NAME **Shapefile**

TRANSFER OPTIONS

* TRANSFER SIZE **2.262**

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT [NorthAmerican_Wolverine_Current_Range_4_27_17](#) ►

* TYPE **Feature Class**

* ROW COUNT **1**

DEFINITION

Animal Species Diversity Database

DEFINITION SOURCE

Idaho Fish and Wildlife Information System

FIELD [FID](#) ►

* ALIAS **FID**

* DATA TYPE **OID**

* WIDTH **4**

* PRECISION **0**

* SCALE **0**

* FIELD DESCRIPTION

Internal feature number.

* DESCRIPTION SOURCE

Esri

* DESCRIPTION OF VALUES

Sequential unique whole numbers that are automatically generated.

[Hide Field FID ▲](#)

FIELD [Shape](#) ►

* ALIAS **Shape**

* DATA TYPE **Geometry**

* WIDTH **0**

* PRECISION **0**

* SCALE **0**

FIELD DESCRIPTION

Feature geometry.

DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES

Coordinates defining the features.

[Hide Field Shape ▲](#)

FIELD [FeatureNam](#) ►

* ALIAS **FeatureNam**

* DATA TYPE **String**

* WIDTH **254**

* PRECISION **0**

* SCALE **0**

FIELD DESCRIPTION

Wolverine - Range

[Hide Field FeatureNam ▲](#)

FIELD [Species](#) ►

* ALIAS **Species**

* DATA TYPE **String**

* WIDTH **254**

* PRECISION **0**

* SCALE **0**

FIELD DESCRIPTION

Wolverine

[Hide Field Species ▲](#)

FIELD [Scientific](#) ►

* ALIAS **Scientific**

* DATA TYPE **String**

* WIDTH **254**

* PRECISION **0**

* SCALE **0**

FIELD DESCRIPTION
Gulo gulo

[Hide Field Scientific ▲](#)

FIELD Range_Type ►
* ALIAS Range_Type
* DATA TYPE String
* WIDTH 254
* PRECISION 0
* SCALE 0
FIELD DESCRIPTION
Range

[Hide Field Range_Type ▲](#)

[Hide Details for object NorthAmerican_Wolverine_Current_Range_4_27_17 ▲](#)

[Hide Fields ▲](#)

Metadata Details ►

METADATA LANGUAGE English (UNITED STATES)
METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset
SCOPE NAME * dataset

* LAST UPDATE 2017-05-03

ARCGIS METADATA PROPERTIES
METADATA FORMAT ArcGIS 1.0
METADATA STYLE FGDC CSDGM Metadata
STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2017-04-27 18:21:37
LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-05-03 16:07:30

AUTOMATIC UPDATES
HAVE BEEN PERFORMED Yes
LAST UPDATE 2017-05-03 16:07:30

[Hide Metadata Details ▲](#)

Metadata Contacts ►

METADATA CONTACT
INDIVIDUAL'S NAME John Guinotte, PhD
ORGANIZATION'S NAME U.S. Fish and Wildlife Service
CONTACT'S POSITION Fish and Wildlife Biologist
CONTACT'S ROLE point of contact

CONTACT INFORMATION ►
PHONE
VOICE 303-236-4264

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TYPE physical
DELIVERY POINT 134 Union Blvd.
CITY Lakewood
ADMINISTRATIVE AREA CO
POSTAL CODE 80228
COUNTRY US
E-MAIL ADDRESS john_guinotte@fws.gov

[Hide Contact information ▲](#)

METADATA CONTACT
INDIVIDUAL'S NAME Ed Turner
ORGANIZATION'S NAME USFWS - Carlsbad CA Field Office
CONTACT'S POSITION Geographer
CONTACT'S ROLE author

CONTACT INFORMATION ►
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VOICE 760-431-9440 x266

ADDRESS
TYPE physical
DELIVERY POINT 2177 Salk Ave. Suite 250
CITY Carlsbad
ADMINISTRATIVE AREA CA
POSTAL CODE 92008
COUNTRY US
E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

Metadata Maintenance ►

MAINTENANCE

DATE OF NEXT UPDATE 2017-01-31 00:00:00
UPDATE FREQUENCY unknown

[Hide Metadata Maintenance ▲](#)

Metadata Constraints ►

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U.S. Fish and Wildlife Service

Ecological Services

Mountain Prairie Region 6

134 Union Blvd., Lakewood, CO 80228

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[Hide Metadata Constraints ▲](#)

FGDC Metadata (read-only) ▼

NorthAmerican_Wolverine_Current_Range_4_27_17_ECO

Shapefile

Thumbnail Not Available

Tags

wolverine, North American Range, Wolverine, Gulo gulo

Summary

These data represent USFWS constructed Current Range distribution for Wolverine (*Gulo gulo*). Wolverine Current Range in both the Lower 48 and the Northern Territories (Canada and Alaska) within the North American Range.

Description

These data represent USFWS constructed Current Range distribution for Wolverine (*Gulo gulo*). Wolverine Current Range in both the Lower 48 and the Northern Territories (Canada and Alaska) within the North American Range.

The basis for the USFWS current range design originated from the Northwest Territories (NWT) Department of Environment and Natural Resources Species range distribution for Wolverine data. NWT Species range depicted distribution for Wolverine, showing the range (known distribution) as well as areas of increased presence. The data also incorporates the rest of the Canadian distribution, which includes the historical range and areas with unverified observations of wolverine (see COSEWIC 2014 status report for details). NWT range map was originally adapted from NatureServe 2002 and edited in 2008 to fit the COSEWIC (2003) status report and comments from Marsha Branigan (ENR). NWT range map was updated in 2014 for COSEWIC to include range of 'Increased Presence' on the Arctic Islands by Marsha Branigan (NT) and Malik Awan (NU).

The USFWS took the NWT current range polygon representation and refined portions relevant to the Lower 48, based on various data compiled and process performed by John Guinotte, PhD, U.S. Fish and Wildlife Service, Mountain Prairie Region 6, Lakewood, CO. and further edited by Ed Turner, Geographer, U.S. Fish and Wildlife Service, Pacific Southwest Region 8 Carlsbad Field Office.

The USFWS was able to collect and compile various wolverine record data along with obtained modeled habitat information and the efforts allowed for a refined distribution of the range.

Determination of the USFWS North American Wolverine Current Range:

1. Bonnie Fournier, Northwest Territories Department of Environment and Natural Resources, provided a shapefile that included the entire current range of the wolverine in North America. This file included Alaska, Canada, and the continental U.S. (lower 48 states). This data is depicted in Fig 3 of Cosewic (2014).

2. The continental U.S. region of this file was edited in ArcGIS by John Guinotte, USFWS, to reflect updated current range based on several datasets.

a. Wolverine occurrence data: This data included records from USFS NRIS Nationwide wolverine Data pull, Jan 6, 2017 (1995-Present), documented den site locations sources: USFS NRIS wolverine Data pull, California Natural Diversity Database (CNDDB), Inman Wildlife Conservation Society (Bob Inman), Jeff Copeland, Idaho Department of Fish and Game, Washington Department of Fish & Wildlife, camera trap locations (2014-2016) from the state of Wyoming, and trap and release records (2004) from the state of Wyoming (Wildlife Observation System, (WOS_Zone12_captured dataset)).

b. Shapefiles from Inman et al (2013) including Draft modeled polygons for maternal habitat, primary habitat, female dispersal, and male dispersal. Further compared to Inman final modeled habitat to assess USFWS design.

c. A kernel density analysis (also known as a heat map) performed in ArcGIS on all of the occurrence data described in (a) above to identify areas with the highest density of wolverine occurrences.

d. Number of occurrences from a, b, and c totaled 503.

e. U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping.

3. Methods: The current range shapefile for the continental U.S. was created by altering polygons to include the outer extent of the kernel density analysis and as many occurrence records as possible. Inman's data was used as a guide in areas that were not identified as high density in the kernel density analysis, but still contained recent occurrence data. Examples include central/western Oregon, the Sierra Nevada mountains in California and the Rocky Mountains in Colorado and southern Wyoming. Data then combined with the U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping data for review and edit. It was determined that the current range data and observations used in design, trend with the EPA ECO-Region 6.2, Western Cordillera, Northwestern Forested Mountains (Level I) in the lower 48. This trend was overlaid with Inman's final Primary Habitat (PH) Model and it was supportive in design. Due to the trend, we edited through selection retention and removal. We selected and retained the eco-region 6.2 polygon areas in the lower 48 where we had current range design and observation/PH model trend. We removed areas that were small and non-contiguous, not containing the observation trend, or of eco-region classes that would not support habitat typically used by Wolverines; such as, Cold Deserts or Great Plains in the lower 48. It should be noted, that our creation and edits of the current range are limited to the Lower 48 only and these eco-regions could be present in the northern territories of Canada. The resulting current range of the lower 48 exhibits detail that captures the observation schema as noted in 2. a., and seems to follow the Inman PH model in the Northwestern Forested Mountains eco-region. These data contain EPA Eco-Region values.

COSEWIC. 2014. COSEWIC assessment and status report on the Wolverine *Gulo gulo* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 76 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).

Inman, R. M., B.L. Brock, K.H. Inman, S.S. Sartorius, B.C. Aber, B. Giddings, S.L. Cain, M.L. Orme, J.A. Fredrick, B.J. Oakleaf, K.L. Alt, E. Odell, and G. Chapron. 2013. Developing Priorities for Metapopulation Conservation at the Landscape Scale: Wolverines in the Western United States. *Biological Conservation* 166:276–286.

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Credits

USFWS; John Guinotte U.S. Fish and Wildlife Service
Mountain Prairie Region 6, Lakewood, CO.

USFWS; Ed Turner U.S. Fish and Wildlife Service
Pacific Southwest Region 8, Carlsbad Field Office, Carlsbad, CA.

Use limitations

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U.S. Fish and Wildlife Service
Ecological Services
Mountain Prairie Region 6
134 Union Blvd., Lakewood, CO 80228

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Extent

West -180.000000 **East** 180.000000
North 83.578012 **South** 28.669582

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata ►

Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE biota, environment, location

* CONTENT TYPE Downloadable Data

THEME KEYWORDS Wolverine Dens, Lower 48

[Hide Topics and Keywords ▲](#)

Citation ►

* TITLE NorthAmerican_Wolverine_Current_Range_4_27_17_ECO
CREATION DATE 2017-03-10 00:00:00
PUBLICATION DATE 2017-03-10 00:00:00

PRESENTATION FORMATS digital map
FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

[Hide Citation ▲](#)

Citation Contacts ►

RESPONSIBLE PARTY
INDIVIDUAL'S NAME John Guinotte, PhD
ORGANIZATION'S NAME U.S. Fish and Wildlife Service
CONTACT'S POSITION Fish and Wildlife Biologist
CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

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RESPONSIBLE PARTY

INDIVIDUAL'S NAME Ed Turner
 ORGANIZATION'S NAME USFWS - Carlsbad CA Filed Office
 CONTACT'S POSITION Geographer
 CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

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TYPE physical
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 CITY Carlsbad
 ADMINISTRATIVE AREA CA
 POSTAL CODE 92008
 COUNTRY US
 E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)

[Hide Citation Contacts ▲](#)

Resource Details ►

DATASET LANGUAGES English (UNITED STATES)
 DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

STATUS completed
 SPATIAL REPRESENTATION TYPE vector

SUPPLEMENTAL INFORMATION

Determination of the USFWS North American Wolverine Current Range:

1. Bonnie Fournier, Northwest Territories Department of Environment and Natural Resources, provided a shapefile that included the entire current range of the wolverine in North America. This file included Alaska, Canada, and the continental U.S. (lower 48 states). This data is depicted in Fig 3 of Cosewic (2014).

2. The continental U.S. region of this file was edited in ArcGIS by John Guinotte, USFWS, to reflect updated current range based on several datasets.

a. Wolverine occurrence data: This data included records from USFS NRIS Nationwide wolverine Data pull, Jan 6, 2017 (1995-Present), documented den site locations sources: USFS NRIS wolverine Data pull, California Natural Diversity Database (CNDDB), Inman Wildlife Conservation Society (Bob Inman), Jeff Copeland, Idaho Department of Fish and Game, Washington Department of Fish & Wildlife, camera trap locations (2014-2016) from the state of Wyoming, and trap and release records (2004) from the state of Wyoming (Wildlife Observation System, (WOS_Zone12_captured dataset)).

b. Shapefiles from Inman et al (2013) including modeled polygons for maternal habitat, primary habitat, female dispersal, and male dispersal.

c. A kernel density analysis (also known as a heat map) performed in ArcGIS on all of the occurrence data described in (a) above to identify areas with the highest density of wolverine occurrences.

d. Number of occurrences from a, b, and c totaled 503.

e. U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping.

3. Methods: The current range shapefile for the continental U.S. was created by altering polygons to include the outer extent of the kernel density analysis and as many occurrence records as possible. Inman's data was used as a guide in areas that were not identified as high density in the kernel density analysis, but still contained recent occurrence data. Examples include central/western Oregon, the Sierra Nevada mountains in California and the Rocky Mountains in Colorado and southern Wyoming. Data then combined with the U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping data for review and edit. It was determined that the current range data and observations used in design, trend with the EPA ECO-Region 6.2, Western Cordillera, Northwestern Forested Mountains (Level 1) in the lower 48. This trend was overlaid with Inman's final Primary Habitat (PH) Model and it was supportive in design. Due to the trend, we edited through selection retention and removal. We selected and retained the eco-region 6.2 polygon areas in the lower 48 where we had current range design and observation/PH model trend. We removed areas that were small and non-contiguous, not containing the observation trend, or of eco-region classes that would not support habitat typically used by Wolverines; such as, Cold Deserts or Great Plains in the lower 48. It should be noted, that our creation and edits of the current range are limited to the Lower 48 only and these eco-regions could be present in the northern territories of Canada. The resulting current range of the lower 48 exhibits detail that captures the observation schema as noted in 2. a., and seems to follow the Inman PH model in the Northwestern Forested Mountains eco-region. These data contain EPA Eco-Region values.

COSEWIC. 2014. COSEWIC assessment and status report on the Wolverine *Gulo gulo* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 76 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).

Inman, R. M., B.L. Brock, K.H. Inman, S.S. Sartorius, B.C. Aber, B. Giddings, S.L. Cain, M.L. Orme, J.A. Fredrick, B.J. Oakleaf, K.L. Alt, E. Odell, and G. Chapron. 2013. Developing Priorities for Metapopulation Conservation at the Landscape Scale: Wolverines in the Western United States. *Biological Conservation* 166:276-286.

These data were under the original Canadian Lambert Conformal Conic positioning. For North American consistency the newly refined data of the Lower 48 including the NWT Canadian portion were re-projected to North America Lambert Conformal Conic positioning. This placed both the Lower 48 and the Northern Territories (Canada and Alaska) in the same geographic origin.

* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.4.1.5686

CREDITS

USFWS; John Guinotte U.S. Fish and Wildlife Service
 Mountain Prairie Region 6, Lakewood, CO.

USFWS; Ed Turner U.S. Fish and Wildlife Service

Pacific Southwest Region 8, Carlsbad Field Office, Carlsbad, CA.

ARCGIS ITEM PROPERTIES

* NAME NorthAmerican_Wolverine_Current_Range_4_27_17_ECO
 * SIZE 2.981
 * LOCATION file:///\\ifw8csbd-gim.fws.doi.net\\sdata\\stem\\edtemp\\American_wolverine\\FWS_Data\\John_Guinotte\\John_Current_Range\\NorthAmerican_Wolverine_Current_Range_4_27_17_ECO.s
 * ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

Extents ►

EXTENT
 DESCRIPTION
 Lower 48

EXTENT
 GEOGRAPHIC EXTENT
 BOUNDING RECTANGLE
 EXTENT TYPE Extent used for searching
 * WEST LONGITUDE -180.000000
 * EAST LONGITUDE 180.000000
 * NORTH LATITUDE 83.578012
 * SOUTH LATITUDE 28.669582
 * EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM
 * WEST LONGITUDE -3791977.534575
 * EAST LONGITUDE 1629149.874125
 * SOUTH LATITUDE -259062.424788
 * NORTH LATITUDE 5253039.078067
 * EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

Resource Points of Contact ►

POINT OF CONTACT
 INDIVIDUAL'S NAME John Guinotte, PhD
 ORGANIZATION'S NAME U.S. Fish and Wildlife Service
 CONTACT'S POSITION Fish and Wildlife Biologist
 CONTACT'S ROLE originator

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[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

Resource Maintenance ►

RESOURCE MAINTENANCE
 DATE OF NEXT UPDATE 2017-01-31 01:00:00
 UPDATE FREQUENCY daily

MAINTENANCE CONTACT
 INDIVIDUAL'S NAME John Guinotte, PhD
 ORGANIZATION'S NAME U.S. Fish and Wildlife Service
 CONTACT'S POSITION Fish and Wildlife Biologist

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 ADMINISTRATIVE AREA CO
 POSTAL CODE 80228
 COUNTRY US
 E-MAIL ADDRESS john_guinotte@fws.gov

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[Hide Resource Maintenance ▲](#)

Resource Constraints ►

CONSTRAINTS
 LIMITATIONS OF USE

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U.S. Fish and Wildlife Service

Ecological Services

Mountain Prairie Region 6

134 Union Blvd., Lakewood, CO 80228

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Spatial Reference ►

ARCGIS COORDINATE SYSTEM

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* Type Projected
* GEOGRAPHIC COORDINATE REFERENCE GCS_North_American_1983
* PROJECTION North_America_Lambert_Conformal_Conic
* COORDINATE REFERENCE DETAILS
  PROJECTED COORDINATE SYSTEM
    WELL-KNOWN IDENTIFIER 102009
    X ORIGIN -35214300
    Y ORIGIN -28218500
    XY SCALE 127891215.42584959
    Z ORIGIN -100000
    Z SCALE 10000
    M ORIGIN -100000
    M SCALE 10000
    XY TOLERANCE 0.001
    Z TOLERANCE 0.001
    M TOLERANCE 0.001
    HIGH PRECISION true
    LATEST WELL-KNOWN IDENTIFIER 102009
  WELL-KNOWN TEXT PROJCS["North_America_Lambert_Conformal_Conic",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID
["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION
["Lambert_Conformal_Conic"],PARAMETER["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",-96.0],PARAMETER
["Standard_Parallel_1",20.0],PARAMETER["Standard_Parallel_2",60.0],PARAMETER["Latitude_Of_Origin",40.0],UNIT["Meter",1.0],AUTHORITY["Esri",102009]]
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REFERENCE SYSTEM IDENTIFIER

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DIMENSION horizontal
VALUE 4326
* CODESPACE Esri
* VERSION 4.0.0
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[Hide Spatial Reference ▲](#)

Spatial Data Properties ►

VECTOR ►

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* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only
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GEOMETRIC OBJECTS

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FEATURE CLASS NAME NorthAmerican_Wolverine_Current_Range_4_27_17_ECO
* OBJECT TYPE composite
* OBJECT COUNT 825
```

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ►

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FEATURE CLASS NAME NorthAmerican_Wolverine_Current_Range_4_27_17_ECO
* FEATURE TYPE Simple
* GEOMETRY TYPE Polygon
* HAS TOPOLOGY FALSE
* FEATURE COUNT 825
* SPATIAL INDEX TRUE
* LINEAR REFERENCING FALSE
```

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

Data Quality ►

```
SCOPE OF QUALITY INFORMATION ►
RESOURCE LEVEL dataset
```

[Hide Scope of quality information ▲](#)

[Hide Data Quality ▲](#)

Geoprocessing history ►

PROCESS

PROCESS NAME
DATE 2017-03-23 11:26:52
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField canada_current_range_fix FeatureNam "Wolverine - Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-03-23 11:28:40
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField canada_current_range_fix Species "Wolverine" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-03-23 11:28:51
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField canada_current_range_fix Scientific "Gulo gulo" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-03-23 11:29:00
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField canada_current_range_fix Range_Type "Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-03-23 12:43:59
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\Project
COMMAND ISSUED
Project Wolverine_Current_Range
S:\stem\edstemp\American_wolverine\FWS_Data\John_Guinotte\John_Current_Range\Wolverine_Current_Range_NALAM.shp PROJCS
['North America Lambert Conformal Conic',GEOGCS['GCS North American 1983',DATUM['D North American 1983',SPHEROID
['GRS 1980',6378137.0,298.257222101]],PRIMEM['Greenwich',0.0],UNIT['Degree',0.0174532925199433]],PROJECTION
['Lambert Conformal Conic'],PARAMETER['False_Easting',0.0],PARAMETER['False_Northing',0.0],PARAMETER['Central_Meridian',-96.0],PARAMETER
['Standard_Parallel_1',20.0],PARAMETER['Standard_Parallel_2',60.0],PARAMETER['Latitude_Of_Origin',40.0],UNIT['Meter',1.0]] # PROJCS
['Canada Lambert Conformal Conic',GEOGCS['GCS North American 1983',DATUM['D North American 1983',SPHEROID
['GRS 1980',6378137.0,298.257222101]],PRIMEM['Greenwich',0.0],UNIT['Degree',0.0174532925199433]],PROJECTION
['Lambert Conformal Conic'],PARAMETER['False_Easting',0.0],PARAMETER['False_Northing',0.0],PARAMETER['Central_Meridian',-96.0],PARAMETER
['Standard_Parallel_1',50.0],PARAMETER['Standard_Parallel_2',70.0],PARAMETER['Latitude_Of_Origin',40.0],UNIT['Meter',1.0]]
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:29:45
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 FeatureNam "Wolverine - Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:29:58
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 Species "Wolverine" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:30:10
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 Scientific "Gulo gulo" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:30:23
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 Range_Type "Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:34:47
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV NA_L2NAME "No Data" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2017-04-17 14:35:00
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV NA_L2NAME "NO DATA" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-17 14:35:05
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NA_CEC_Eco_Level2_WOLV NA_L1NAME "NO DATA" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-18 14:06:27
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "KEEP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-18 14:07:08
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "DROP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-18 14:07:37
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "DROP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-18 14:07:58
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "DROP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-18 14:14:06
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "KEEP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-18 14:38:05
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "DROP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-18 14:38:41
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "DROP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-18 14:39:15
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "KEEP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-27 14:16:44
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "KEEP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-27 14:17:53
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "KEEP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
 DATE 2017-04-27 18:19:14
 TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
 COMMAND ISSUED
 CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO Keep_Drop "DROP" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

[Hide Geoprocessing history ▲](#)

Distribution ▶

DISTRIBUTION FORMAT
 * NAME **Shapefile**

TRANSFER OPTIONS
 * TRANSFER SIZE **2.981**

[Hide Distribution](#) ▲

Fields ▶

DETAILS FOR OBJECT **NorthAmerican_Wolverine_Current_Range_4_27_17_ECO** ▶

* TYPE **Feature Class**
 * ROW COUNT **825**

DEFINITION
Animal Species Diversity Database

DEFINITION SOURCE
Idaho Fish and Wildlife Information System

FIELD FID ▶

* ALIAS **FID**
 * DATA TYPE **OID**
 * WIDTH **4**
 * PRECISION **0**
 * SCALE **0**
 * FIELD DESCRIPTION
Internal feature number.

* DESCRIPTION SOURCE
Esri

* DESCRIPTION OF VALUES
Sequential unique whole numbers that are automatically generated.

[Hide Field FID](#) ▲

FIELD Shape ▶

* ALIAS **Shape**
 * DATA TYPE **Geometry**
 * WIDTH **0**
 * PRECISION **0**
 * SCALE **0**
 * FIELD DESCRIPTION
Feature geometry.

DESCRIPTION SOURCE
ESRI

DESCRIPTION OF VALUES
Coordinates defining the features.

[Hide Field Shape](#) ▲

FIELD FeatureNam ▶

* ALIAS **FeatureNam**
 * DATA TYPE **String**
 * WIDTH **254**
 * PRECISION **0**
 * SCALE **0**
 * FIELD DESCRIPTION
Wolverine - Range

[Hide Field FeatureNam](#) ▲

FIELD Species ▶

* ALIAS **Species**
 * DATA TYPE **String**
 * WIDTH **254**
 * PRECISION **0**
 * SCALE **0**
 * FIELD DESCRIPTION
Wolverine

[Hide Field Species](#) ▲

FIELD Scientific ▶

* ALIAS **Scientific**
 * DATA TYPE **String**
 * WIDTH **254**
 * PRECISION **0**
 * SCALE **0**
 * FIELD DESCRIPTION
Gulo gulo

[Hide Field Scientific](#) ▲

FIELD Range_Type ►

* ALIAS Range_Type
 * DATA TYPE String
 * WIDTH 254
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 Range

[Hide Field Range_Type ▲](#)

FIELD NA_L2CODE ►

* ALIAS NA_L2CODE
 * DATA TYPE String
 * WIDTH 20
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 EPA Eco-Region numeric code.

[Hide Field NA_L2CODE ▲](#)

FIELD NA_L2NAME ►

* ALIAS NA_L2NAME
 * DATA TYPE String
 * WIDTH 100
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 Name for Level II Ecoregion (North America)

[Hide Field NA_L2NAME ▲](#)

FIELD NA_L1NAME ►

* ALIAS NA_L1NAME
 * DATA TYPE String
 * WIDTH 100
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 Name for Level I Ecoregion (North America)

[Hide Field NA_L1NAME ▲](#)

FIELD Keep_Drop ►

* ALIAS Keep_Drop
 * DATA TYPE String
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 USFWS generated code to aid in the editing process when choosing to keep or drop various areas contained within the first cut design of the current range. All "keep" value will process forward.

[Hide Field Keep_Drop ▲](#)

[Hide Details for object NorthAmerican_Wolverine_Current_Range_4_27_17_ECO ▲](#)

[Hide Fields ▲](#)

Metadata Details ►

METADATA LANGUAGE English (UNITED STATES)
 METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset
 SCOPE NAME * dataset

* LAST UPDATE 2017-05-03

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0
 METADATA STYLE FGDC CSDGM Metadata
 STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2017-04-27 18:21:37
 LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-05-03 16:08:26

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes
 LAST UPDATE 2017-05-03 16:08:26

[Hide Metadata Details ▲](#)

Metadata Contacts ►

METADATA CONTACT
 INDIVIDUAL'S NAME John Guinotte, PhD

ORGANIZATION'S NAME U.S. Fish and Wildlife Service
 CONTACT'S POSITION Fish and Wildlife Biologist
 CONTACT'S ROLE point of contact

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METADATA CONTACT

INDIVIDUAL'S NAME Ed Turner
 ORGANIZATION'S NAME USFWS - Carlsbad CA Filed Office
 CONTACT'S POSITION Geographer
 CONTACT'S ROLE author

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[Hide Metadata Contacts ▲](#)

Metadata Maintenance ►

MAINTENANCE

DATE OF NEXT UPDATE 2017-01-31 00:00:00
 UPDATE FREQUENCY unknown

[Hide Metadata Maintenance ▲](#)

Metadata Constraints ►

CONSTRAINTS

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U.S. Fish and Wildlife Service

Ecological Services

Mountain Prairie Region 6

134 Union Blvd., Lakewood, CO 80228

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[Hide Metadata Constraints ▲](#)

FGDC Metadata (read-only) ▼

NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own

Shapefile

Thumbnail Not Available

Tags

wolverine, North American Range, Wolverine, Gulo gulo

Summary

These data represent USFWS constructed Current Range distribution for Wolverine (*Gulo gulo*). Wolverine Current Range in both the Lower 48 and the Northern Territories (Canada and Alaska) within the North American Range.

Description

These data represent USFWS constructed Current Range distribution for Wolverine (*Gulo gulo*). Wolverine Current Range in both the Lower 48 and the Northern Territories (Canada and Alaska) within the North American Range.

The basis for the USFWS current range design originated from the Northwest Territories (NWT) Department of Environment and Natural Resources Species range distribution for Wolverine data. NWT Species range depicted distribution for Wolverine, showing the range (known distribution) as well as areas of increased presence. The data also incorporates the rest of the Canadian distribution, which includes the historical range and areas with unverified observations of wolverine (see COSEWIC 2014 status report for details). NWT range map was originally adapted from NatureServe 2002 and edited in 2008 to fit the COSEWIC (2003) status report and comments from Marsha Branigan (ENR). NWT range map was updated in 2014 for COSEWIC to include range of 'Increased Presence' on the Arctic Islands by Marsha Branigan (NT) and Malik Awan (NU).

The USFWS took the NWT current range polygon representation and refined portions relevant to the Lower 48, based on various data compiled and process performed by John Guinotte, PhD, U.S. Fish and Wildlife Service, Mountain Prairie Region 6, Lakewood, CO. and further edited by Ed Turner, Geographer, U.S. Fish and Wildlife Service, Region 8 Carlsbad Field Office.

The USFWS was able to collect and compile various wolverine record data along with obtained modeled habitat information and the efforts allowed for a refined distribution of the range.

Determination of the USFWS North American Wolverine Current Range:

1. Bonnie Fournier, Northwest Territories Department of Environment and Natural Resources, provided a shapefile that included the entire current range of the wolverine in North America. This file included Alaska, Canada, and the continental U.S. (lower 48 states). This data is depicted in Fig 3 of Cosewic (2014).

2. The continental U.S. region of this file was edited in ArcGIS by John Guinotte, USFWS, to reflect updated current range based on several datasets.

a. Wolverine occurrence data: This data included records from USFS NRIS Nationwide wolverine Data pull, Jan 6, 2017 (1995-Present), documented den site locations sources: USFS NRIS wolverine Data pull, California Natural Diversity Database (CNDDB), Inman Wildlife Conservation Society (Bob Inman), Jeff Copeland, Idaho Department of Fish and Game, Washington Department of Fish & Wildlife), camera trap locations (2014-2016) from the state of Wyoming, and trap and release records (2004) from the state of Wyoming (Wildlife Observation System, (WOS_Zone12_captured dataset)).

b. Shapefiles from Inman et al (2013) including Draft modeled polygons for maternal habitat, primary habitat, female dispersal, and male dispersal. Further compared to Inman final modeled habitat to assess USFWS design.

c. A kernel density analysis (also known as a heat map) performed in ArcGIS on all of the occurrence data described in (a) above to identify areas with the highest density of wolverine occurrences.

d. Number of occurrences from a, b, and c totaled 503.

e. U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping.

3. Methods: The current range shapefile for the continental U.S. was created by altering polygons to include the outer extent of the kernel density analysis and as many occurrence records as possible. Inman's data was used as a guide in areas that were not identified as high density in the kernel density analysis, but still contained recent occurrence data. Examples include central/western Oregon, the Sierra Nevada mountains in California and the Rocky Mountains in Colorado and southern Wyoming. Data then combined with the U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping data for review and edit. It was determined that the current range data and observations used in design, trend with the EPA ECO-Region 6.2, Western Cordillera, Northwestern Forested Mountains in the lower 48. This trend was overlaid with Inman's final Primary Habitat (PH) Model and it was supportive in design. Due to the trend, we edited through selection retention and removal. We selected and retained the eco-region 6.2 polygon areas in the lower 48 where we had current range design and observation/PH model trend. We removed areas that were small and non-contiguous, not containing the observation trend, or of eco-region classes that would not support habitat typically used by Wolverines; such as, Cold Deserts or Great Plains in the lower 48. It should be noted, that our creation and edits of the current range are limited to the Lower 48 only and these eco-regions could be present in the northern territories of Canada. The resulting current range of the lower 48 exhibits detail that captures the observation schema as noted in 2. a., and seems to follow the Inman PH model in the Northwestern Forested Mountains eco-region. Data dissolved to remove all individual polygons and result in the area to represent the overall current range spanning the lower 48 and the northern territories of Canada and Alaska. Data was then limited to remove the Canadian area for States and ownership values. Resulting current range, less Canada was combined with the 2015 U.S. Census Bureau's State boundaries and the April 2015 Bureau of Land Management BLM, Surface Management Agency (SMA) land ownership data. Following the data combination, various slivers along the US Canadian border contained no state or ownership information and those were not calculated. In addition, various areas within the lower 48 lacked ownership value and following visual checks some sites, it is possible that areas could be in-holdings within US Forest Service proclamation boundaries, but due to limitations of a contiguous lower 48 ownership data we chose to leave those with no owner value. After data was combined with BLM SMA it was projected back to North America Lambert Conformal Conic to maintain constancy with all current range data. For ownership calculations, added "FWS_Own_Co" field to the attribute table along with "Acres" and "Hectares". Calculated Acres and Hectares as double values for each portion of range.

FWS_Own_Co code was classed as follows:

DOI, OTHFE (Other Federal Agencies), USDA, etc all federal types = Federal Lands

PVT = Private Lands

LG = Local Government

ST = State Lands

UND = Undetermined

99 = NO CODE * Note these areas "99" have no coding within the SMA system.

COSEWIC. 2014. COSEWIC assessment and status report on the Wolverine *Gulo gulo* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 76 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).

Inman, R. M., B.L. Brock, K.H. Inman, S.S. Sartorius, B.C. Aber, B. Giddings, S.L. Cain, M.L. Orme, J.A. Fredrick, B.J. Oakleaf, K.L. Alt, E. Odell, and G. Chapron. 2013. Developing Priorities for Metapopulation Conservation at the Landscape Scale: Wolverines in the Western United States. *Biological Conservation* 166:276–286.

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Credits

USFWS; John Guinotte U.S. Fish and Wildlife Service
Mountain Prairie Region 6, Lakewood, CO.

USFWS; Ed Turner U.S. Fish and Wildlife Service
Pacific Southwest Region 8, Carlsbad Field Office, Carlsbad, CA.

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U.S. Fish and Wildlife Service

Ecological Services

Mountain Prairie Region 6

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Extent

West -179.650663 **East** -104.702469
North 77.135417 **South** 28.669582

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata ►

Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE biota, environment, location

* CONTENT TYPE Downloadable Data

THEME KEYWORDS Wolverine Dens, Lower 48

[Hide Topics and Keywords ▲](#)

Citation ►

* TITLE NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own
CREATION DATE 2017-03-10 00:00:00
PUBLICATION DATE 2017-03-10 00:00:00

PRESENTATION FORMATS [digital map](#)
 FGDC GEOSPATIAL PRESENTATION FORMAT [vector digital data](#)

[Hide Citation](#) ▲

Citation Contacts ►

RESPONSIBLE PARTY

INDIVIDUAL'S NAME [John Guinotte, PhD](#)
 ORGANIZATION'S NAME [U.S. Fish and Wildlife Service](#)
 CONTACT'S POSITION [Fish and Wildlife Biologist](#)
 CONTACT'S ROLE [point of contact](#)

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RESPONSIBLE PARTY

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 ORGANIZATION'S NAME [USFWS - Carlsbad CA Filed Office](#)
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 CONTACT'S ROLE [point of contact](#)

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 E-MAIL ADDRESS ed_turner@fws.gov

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[Hide Citation Contacts](#) ▲

Resource Details ►

DATASET LANGUAGES [English \(UNITED STATES\)](#)
 DATASET CHARACTER SET [utf8 - 8 bit UCS Transfer Format](#)

STATUS [completed](#)
 SPATIAL REPRESENTATION TYPE [vector](#)

SUPPLEMENTAL INFORMATION

Determination of the USFWS North American Wolverine Current Range:

1. Bonnie Fournier, Northwest Territories Department of Environment and Natural Resources, provided a shapefile that included the entire current range of the wolverine in North America. This file included Alaska, Canada, and the continental U.S. (lower 48 states). This data is depicted in Fig 3 of Cosewic (2014).

2. The continental U.S. region of this file was edited in ArcGIS by John Guinotte, USFWS, to reflect updated current range based on several datasets.

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b. Shapefiles from Inman et al (2013) including modeled polygons for maternal habitat, primary habitat, female dispersal, and male dispersal.

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d. Number of occurrences from a, b, and c totaled 503.

e. U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping.

3. Methods: The current range shapefile for the continental U.S. was created by altering polygons to include the outer extent of the kernel density analysis and as many occurrence records as possible. Inman's data was used as a guide in areas that were not identified as high density in the kernel density analysis, but still contained recent occurrence data. Examples include central/western Oregon, the Sierra Nevada mountains in California and the Rocky Mountains in Colorado and southern Wyoming. Data then combined with the U.S. Environmental Protection Agency Office of Research & Development (ORD), 2010-05-01, NA_CEC_Eco_Level2, 50 Level II Eco-regions mapping data for review and edit. It was determined that the current range data and observations used in design, trend with the EPA ECO-Region 6.2, Western Cordillera, Northwestern Forested Mountains in the lower 48. This trend was overlaid with Inman's final Primary Habitat (PH) Model and it was supportive in design. Due to the trend, we edited through selection retention and removal. We selected and retained the eco-region 6.2 polygon areas in the lower 48 where we had current range design and observation/PH model trend. We removed areas that were small and non-contiguous, not containing the observation trend, or of eco-region classes that would not support habitat typically used by Wolverines; such as, Cold Deserts or Great Plains in the lower 48. It should be noted, that our creation and edits of the current range are limited to the Lower 48 only and these eco-regions could be present in the northern territories of Canada. The resulting current range of the lower 48 exhibits detail that captures the observation schema as noted in 2. a., and seems to follow the Inman PH model in the Northwestern Forested Mountains eco-region. Data dissolved to remove all individual polygons and result in the area to represent the overall current range spanning the lower 48 and the northern territories of Canada and Alaska. Data was then

limited to remove the Canadian area for States and ownership values. Resulting current range, less Canada was combined with the 2015 U.S. Census Bureau's State boundaries and the April 2015 Bureau of Land Management BLM, Surface Management Agency (SMA) land ownership data. Following the data combination, various slivers along the US Canadian border contained no state or ownership information and those were not calculated. In addition, various areas within the lower 48 lacked ownership value and following visual checks some sites, it is possible that areas could be in-holdings within US Forest Service proclamation boundaries, but due to limitations of a contiguous lower 48 ownership data we chose to leave those with no owner value. After data was combined with BLM SMA it was projected back to North America Lambert Conformal Conic to maintain constancy with all current range data. For ownership calculations, added "FWS_Own_Co" field to the attribute table along with "Acres" and "Hectares". Calculated Acres and Hectares as double values for each portion of range.

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Inman, R. M., B.L. Brock, K.H. Inman, S.S. Sartorius, B.C. Aber, B. Giddings, S.L. Cain, M.L. Orme, J.A. Fredrick, B.J. Oakleaf, K.L. Alt, E. Odell, and G. Chapron. 2013. Developing Priorities for Metapopulation Conservation at the Landscape Scale: Wolverines in the Western United States. *Biological Conservation* 166:276–286.

These data were under the original Canadian Lambert Conformal Conic positioning. For North American consistency the newly refined data of the Lower 48 including the NWT Canadian portion were re-projected to North America Lambert Conformal Conic positioning. This placed both the Lower 48 and the Northern Territories (Canada and Alaska) in the same geographic origin.

* **PROCESSING ENVIRONMENT** Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.4.1.5686

CREDITS

USFWS; John Guinotte U.S. Fish and Wildlife Service
 Mountain Prairie Region 6, Lakewood, CO.

USFWS; Ed Turner U.S. Fish and Wildlife Service
 Pacific Southwest Region 8, Carlsbad Field Office, Carlsbad, CA.

ARCGIS ITEM PROPERTIES

* **NAME** NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own
 * **SIZE** 147.797
 * **LOCATION** file:///\\ifw8csbd-gim.fws.doi.net\\sdata\\stem\\edstemp\\American_wolverine\\FWS_Data\\John_Guinotte\\John_Current_Range\\Owner_Work\\NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own.aprx
 * **ACCESS PROTOCOL** Local Area Network

[Hide Resource Details ▲](#)

Extents ►

EXTENT

DESCRIPTION
 Lower 48

VERTICAL EXTENT

* **MINIMUM VALUE** 0.000000
 * **MAXIMUM VALUE** 0.000000

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching
 * **WEST LONGITUDE** -179.650663
 * **EAST LONGITUDE** -104.702469
 * **NORTH LATITUDE** 77.135417
 * **SOUTH LATITUDE** 28.669582
 * **EXTENT CONTAINS THE RESOURCE** Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* **WEST LONGITUDE** -3791977.534575
 * **EAST LONGITUDE** -726407.511623
 * **SOUTH LATITUDE** -259062.424788
 * **NORTH LATITUDE** 4336794.389415
 * **EXTENT CONTAINS THE RESOURCE** Yes

[Hide Extents ▲](#)

Resource Points of Contact ►

POINT OF CONTACT

INDIVIDUAL'S NAME John Guinotte, PhD
ORGANIZATION'S NAME U.S. Fish and Wildlife Service
CONTACT'S POSITION Fish and Wildlife Biologist
CONTACT'S ROLE originator

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[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

Resource Maintenance ►

RESOURCE MAINTENANCE
 DATE OF NEXT UPDATE **2017-01-31 01:00:00**
 UPDATE FREQUENCY **daily**

MAINTENANCE CONTACT
 INDIVIDUAL'S NAME **John Guinotte, PhD**
 ORGANIZATION'S NAME **U.S. Fish and Wildlife Service**
 CONTACT'S POSITION **Fish and Wildlife Biologist**

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Resource Constraints ►

CONSTRAINTS

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[Hide Resource Constraints ▲](#)

Spatial Reference ►

ARCGIS COORDINATE SYSTEM

* TYPE **Projected**
 * GEOGRAPHIC COORDINATE REFERENCE **GCS_North_American_1983**
 * PROJECTION **North_America_Lambert_Conformal_Conic**
 * COORDINATE REFERENCE DETAILS

PROJECTED COORDINATE SYSTEM

WELL-KNOWN IDENTIFIER **102009**
 X ORIGIN **-35214300**
 Y ORIGIN **-28218500**
 XY SCALE **127891215.42584959**
 Z ORIGIN **-100000**
 Z SCALE **10000**
 M ORIGIN **-1000000**
 M SCALE **10000**
 XY TOLERANCE **0.001**
 Z TOLERANCE **0.001**
 M TOLERANCE **0.001**
 HIGH PRECISION **true**

LATEST WELL-KNOWN IDENTIFIER **102009**

WELL-KNOWN TEXT **PROJCS["North_America_Lambert_Conformal_Conic",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert_Conformal_Conic"],PARAMETER["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",-96.0],PARAMETER["Standard_Parallel_1",20.0],PARAMETER["Standard_Parallel_2",60.0],PARAMETER["Latitude_Of_Origin",40.0],UNIT["Meter",1.0],AUTHORITY["Esri",102009]]**

REFERENCE SYSTEM IDENTIFIER

DIMENSION **horizontal**
 VALUE **4326**
 * CODESPACE **Esri**
 * VERSION **4.0.0**

[Hide Spatial Reference ▲](#)

Spatial Data Properties ►

VECTOR ►

* LEVEL OF TOPOLOGY FOR THIS DATASET **geometry only**

GEOMETRIC OBJECTS

FEATURE CLASS NAME **NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own**
 * OBJECT TYPE **composite**
 * OBJECT COUNT **49079**

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ►

FEATURE CLASS NAME **NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own**
 * FEATURE TYPE **Simple**
 * GEOMETRY TYPE **Polygon**
 * HAS TOPOLOGY **FALSE**
 * FEATURE COUNT **49079**
 * SPATIAL INDEX **FALSE**
 * LINEAR REFERENCING **TRUE**

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

Data Quality ►

SCOPE OF QUALITY INFORMATION ►

RESOURCE LEVEL **dataset**

[Hide Scope of quality information ▲](#)

[Hide Data Quality ▲](#)

Geoprocessing history ►

PROCESS

PROCESS NAME
 DATE **2017-03-23 11:26:52**
 TOOL LOCATION **c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField**
 COMMAND ISSUED
 CalculateField canada_current_range_fix FeatureNam "Wolverine - Range" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA **No**

PROCESS

PROCESS NAME
 DATE **2017-03-23 11:28:40**
 TOOL LOCATION **c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField**
 COMMAND ISSUED
 CalculateField canada_current_range_fix Species "Wolverine" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA **No**

PROCESS

PROCESS NAME
 DATE **2017-03-23 11:28:51**
 TOOL LOCATION **c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField**
 COMMAND ISSUED
 CalculateField canada_current_range_fix Scientific "Gulo gulo" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA **No**

PROCESS

PROCESS NAME
 DATE **2017-03-23 11:29:00**
 TOOL LOCATION **c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField**
 COMMAND ISSUED
 CalculateField canada_current_range_fix Range_Type "Range" VB #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA **No**

PROCESS

PROCESS NAME
 DATE **2017-03-23 12:43:59**
 TOOL LOCATION **c:\program files (x86)\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management Tools.tbx\Project**
 COMMAND ISSUED
 Project Wolverine_Current_Range
 S:\stem\edstemp\American_wolverine\FWS_Data\John_Guinotte\John_Current_Range\Wolverine_Current_Range_NALAM.shp PROJCS
 ['North America Lambert Conformal Conic',GEOGCS['GCS North American 1983',DATUM['D North American 1983',SPHEROID
 ['GRS 1980',6378137.0,298.257222101]],PRIMEM['Greenwich',0.0],UNIT['Degree',0.0174532925199433]],PROJECTION
 ['Lambert_Conformal_Conic'],PARAMETER['False_Easting',0.0],PARAMETER['False_Northing',0.0],PARAMETER['Central_Meridian',-96.0],PARAMETER
 ['Standard_Parallel_1',20.0],PARAMETER['Standard_Parallel_2',60.0],PARAMETER['Latitude_Of_Origin',40.0],UNIT['Meter',1.0]] # PROJCS
 ['Canada Lambert Conformal Conic',GEOGCS['GCS North American 1983',DATUM['D North American 1983',SPHEROID
 ['GRS 1980',6378137.0,298.257222101]],PRIMEM['Greenwich',0.0],UNIT['Degree',0.0174532925199433]],PROJECTION
 ['Lambert_Conformal_Conic'],PARAMETER['False_Easting',0.0],PARAMETER['False_Northing',0.0],PARAMETER['Central_Meridian',-96.0],PARAMETER
 ['Standard_Parallel_1',50.0],PARAMETER['Standard_Parallel_2',70.0],PARAMETER['Latitude_Of_Origin',40.0],UNIT['Meter',1.0]]
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA **No**

PROCESS

```

PROCESS NAME
DATE 2017-04-17 14:29:45
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 FeatureNam "Wolverine - Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-17 14:29:58
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 Species "Wolverine" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-17 14:30:10
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 Scientific "Gulo gulo" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-17 14:30:23
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_13_17 Range_Type "Range" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-17 14:34:47
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV NA_L2NAME "No Data" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-17 14:35:00
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV NA_L2NAME "NO DATA" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-17 14:35:05
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV NA_L1NAME "NO DATA" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:06:27
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:07:08
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:07:37
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:07:58
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:14:06
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NA_CEC_Eco_Level2_WOLV Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

```

PROCESS

```

PROCESS NAME
DATE 2017-04-18 14:38:05

```

```

TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-18    14:38:41
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-18    14:39:15
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-27    14:16:44
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-27    14:17:53
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO_BackUp Keep_Drop "KEEP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-27    18:19:14
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_18_17_ECO Keep_Drop "DROP" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-28    10:49:10
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 NAME "Alaska" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-28    10:50:27
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 NAME "Alaska" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-28    10:50:38
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 NAME "Alaska" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-28    10:50:55
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 NAME "Alaska" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-28    10:51:16
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 NAME "Canada" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-28    10:51:44
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 NAME "Alaska" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA    No

```

PROCESS

```

PROCESS NAME
DATE    2017-04-28    10:52:28
TOOL LOCATION    c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED

```

```
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 NAME "Alaska" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 10:53:06
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 NAME "Canada" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 11:14:52
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 Zone "Lower 48" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 11:15:06
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_States_4_27_17 Zone [NAME] VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 12:19:40
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_GCS83_SMA_Own ADMIN_DEPT 99 VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 12:19:54
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_GCS83_SMA_Own ADMIN_UNIT 99 VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 12:20:04
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_GCS83_SMA_Own ADMIN_UN_1 99 VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 12:20:17
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_GCS83_SMA_Own FWS_Own_Co "NO CODE" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 12:24:07
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own ADMIN_DEPT 99 VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 12:24:12
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own ADMIN_AGEN 99 VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 12:24:16
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own ADMIN_UNIT 99 VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 12:24:20
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own ADMIN_UN_1 99 VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

PROCESS

```
PROCESS NAME
DATE 2017-04-28 12:24:37
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.4\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own FWS_Own_Co "NO CODE" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No
```

[Hide Geoprocessing history ▲](#)

Distribution ►

DISTRIBUTION FORMAT
* NAME Shapefile

TRANSFER OPTIONS
* TRANSFER SIZE 147.797

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT [NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own](#) ►

* TYPE Feature Class
* ROW COUNT 49079

DEFINITION
Animal Species Diversity Database

DEFINITION SOURCE
Idaho Fish and Wildlife Information System

FIELD FID ►

* ALIAS FID
* DATA TYPE OID
* WIDTH 4
* PRECISION 0
* SCALE 0
* FIELD DESCRIPTION
Internal feature number.

* DESCRIPTION SOURCE
Esri

* DESCRIPTION OF VALUES
Sequential unique whole numbers that are automatically generated.

[Hide Field FID ▲](#)

FIELD Shape ►

* ALIAS Shape
* DATA TYPE Geometry
* WIDTH 0
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION
Feature geometry.

DESCRIPTION SOURCE
ESRI

DESCRIPTION OF VALUES
Coordinates defining the features.

[Hide Field Shape ▲](#)

FIELD FID_NorthA ►

* ALIAS FID_NorthA
* DATA TYPE Integer
* WIDTH 10
* PRECISION 10
* SCALE 0

[Hide Field FID_NorthA ▲](#)

FIELD FeatureNam ►

* ALIAS FeatureNam
* DATA TYPE String
* WIDTH 254
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION
Wolverine - Range

[Hide Field FeatureNam ▲](#)

FIELD Species ►

* ALIAS Species
* DATA TYPE String
* WIDTH 254
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION
Wolverine

[Hide Field Species ▲](#)

FIELD Scientific ►

* ALIAS Scientific
 * DATA TYPE String
 * WIDTH 254
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 Gulo gulo

[Hide Field Scientific ▲](#)

FIELD Range_Type ►

* ALIAS Range_Type
 * DATA TYPE String
 * WIDTH 254
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 Range

[Hide Field Range_Type ▲](#)

FIELD NAME ►

* ALIAS NAME
 * DATA TYPE String
 * WIDTH 100
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 State Name,

[Hide Field NAME ▲](#)

FIELD Zone ►

* ALIAS Zone
 * DATA TYPE String
 * WIDTH 25
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 Lower 48 or Alaska

[Hide Field Zone ▲](#)

FIELD ADMIN_DEPT ►

* ALIAS ADMIN_DEPT
 * DATA TYPE String
 * WIDTH 5
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 SMA code as listed in FWS_Owner_CO

[Hide Field ADMIN_DEPT ▲](#)

FIELD ADMIN_AGEN ►

* ALIAS ADMIN_AGEN
 * DATA TYPE String
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 Federal or otehr agency listed

[Hide Field ADMIN_AGEN ▲](#)

FIELD ADMIN_UNIT ►

* ALIAS ADMIN_UNIT
 * DATA TYPE String
 * WIDTH 100
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION
 Name of Agency

[Hide Field ADMIN_UNIT ▲](#)

FIELD ADMIN_UN_1 ►

* ALIAS ADMIN_UN_1
 * DATA TYPE String
 * WIDTH 42
 * PRECISION 0
 * SCALE 0

[Hide Field ADMIN_UN_1 ▲](#)

FIELD Shape_Leng ►

* ALIAS Shape_Leng

* DATA TYPE Double
 * WIDTH 19
 * PRECISION 0
 * SCALE 0

[Hide Field Shape_Leng ▲](#)

FIELD Shape_Area ►

* ALIAS Shape_Area
 * DATA TYPE Double
 * WIDTH 19
 * PRECISION 0
 * SCALE 0
 * FIELD DESCRIPTION
 Area of feature in internal units squared.
 * DESCRIPTION SOURCE
 Esri
 * DESCRIPTION OF VALUES
 Positive real numbers that are automatically generated.

[Hide Field Shape_Area ▲](#)

FIELD FWS_Own_Co ►

* ALIAS FWS_Own_Co
 * DATA TYPE String
 * WIDTH 25
 * PRECISION 0
 * SCALE 0
 * FIELD DESCRIPTION
 FWS_Own_Co code was classed as follows:
 DOI, OTHFE (Other Federal Agencies), USDA = Federal Lands
 PVT = Private Lands
 LG = Local Government
 ST = State Lands
 UND = Undetermined
 99 = NO CODE * Note these areas "99" have no coding within the SMA system.

[Hide Field FWS_Own_Co ▲](#)

FIELD Acres ►

* ALIAS Acres
 * DATA TYPE Double
 * WIDTH 19
 * PRECISION 0
 * SCALE 0
 * FIELD DESCRIPTION
 Double

[Hide Field Acres ▲](#)

FIELD Hectares ►

* ALIAS Hectares
 * DATA TYPE Double
 * WIDTH 19
 * PRECISION 0
 * SCALE 0
 * FIELD DESCRIPTION
 Double

[Hide Field Hectares ▲](#)

[Hide Details for object NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_Own ▲](#)

[Hide Fields ▲](#)

Metadata Details ►

METADATA LANGUAGE English (UNITED STATES)
 METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset
 SCOPE NAME *dataset

* LAST UPDATE 2017-05-03

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0
 METADATA STYLE FGDC CSDGM Metadata
 STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2017-04-28 12:21:20
 LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-05-03 16:56:25

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes
 LAST UPDATE 2017-05-03 16:55:26

ITEM LOCATION HISTORY

ITEM COPIED OR MOVED 2017-05-03 14:22:26

FROM

S:\stem\edstemp\American_wolverine\FWS_Data\John_Guinotte\John_Current_Range\NorthAmerican_Wolverine_Current_Range_4_27_17_NO_CANADA_SMA_(
To \\ifw8csbd-
gim.fws.doi.net\sdata\stem\edstemp\American_wolverine\FWS_Data\John_Guinotte\John_Current_Range\Owner_Work\NorthAmerican_Wolverine_Current_Rang

[Hide Metadata Details ▲](#)**Metadata Contacts ►**

METADATA CONTACT

INDIVIDUAL'S NAME John Guinotte, PhD
ORGANIZATION'S NAME U.S. Fish and Wildlife Service
CONTACT'S POSITION Fish and Wildlife Biologist
CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

PHONE

VOICE 303-236-4264

ADDRESS

TYPE physical
DELIVERY POINT 134 Union Blvd.
CITY Lakewood
ADMINISTRATIVE AREA CO
POSTAL CODE 80228
COUNTRY US
E-MAIL ADDRESS john_guinotte@fws.gov

[Hide Contact information ▲](#)

METADATA CONTACT

INDIVIDUAL'S NAME Ed Turner
ORGANIZATION'S NAME USFWS - Carlsbad CA Filed Office
CONTACT'S POSITION Geographer
CONTACT'S ROLE author

CONTACT INFORMATION ►

PHONE

VOICE 760-431-9440 x266

ADDRESS

TYPE physical
DELIVERY POINT 2177 Salk Ave. Suite 250
CITY Carlsbad
ADMINISTRATIVE AREA CA
POSTAL CODE 92008
COUNTRY US
E-MAIL ADDRESS ed_turner@fws.gov

[Hide Contact information ▲](#)[Hide Metadata Contacts ▲](#)**Metadata Maintenance ►**

MAINTENANCE

DATE OF NEXT UPDATE 2017-01-31 00:00:00
UPDATE FREQUENCY unknown

[Hide Metadata Maintenance ▲](#)**Metadata Constraints ►**

CONSTRAINTS

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U.S. Fish and Wildlife Service

Ecological Services

Mountain Prairie Region 6

134 Union Blvd., Lakewood, CO 80228

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[Hide Metadata Constraints ▲](#)**FGDC Metadata (read-only) ▼**