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Sample Scale Human Footprint Inventory of Alberta (The ABMI 3x7 Human Footprint Inventory): 1999 – 2017.

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Contact Information

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Human Footprint Map

The ABMI defines Human Footprint (HF) as: the temporary or permanent transformation of native ecosystems to support residential, recreational or industrial land uses. Under this definition, HF includes the geographic extent of areas under human use that either have lost their natural cover for extended periods of time (alienating HF; e.g., cities, roads, agricultural land, and surface mines) or whose natural cover is periodically reset to earlier successional conditions by industrial activities (successional HF; e.g., harvest areas and seismic lines).

The Alberta Biodiversity Monitoring Institute (ABMI) tracks the status and trends in HF across the province of Alberta. The ABMI 3x7 km Human Footprint Inventory is a vector polygon layer that describes the spatial distribution of HF collected for a grid of 1,656 sample sites distributed across the province of Alberta from 1999 to 2017 (Image 1).

The ABMI updates 3x7 km human footprint information annually. First dataset was created for 1999 year. HF information has not been mapped for 2000 as there is no imagery coverage available to ABMI for that year. Datasets for years 2002 and 2003 were created based on an imagery mosaic that does not cover entire province therefore these two years are not a part of the public dataset. ABMI will continue to work on missing and uncomplete dataset.

At each of the 1,656 locations, a 3x7 km rectangle was examined at a 1:5,000 scale to delineate all detectible human footprints. All of the features were created and/or verified using a heads-up digitizing of all the human footprint attributes manually interpreted from satellite imagery. Government of Alberta Base Feature Datasets were used as a base layer. This process was conducted for 1999 using Valtus orthorectified aerial imagery, 2001 - 2004 using IRS satellite imagery for each year, 2005-2012 using SPOT 5 satellite imagery for each year, 2013 - 2017 using SPOT6 satellite imagery and also using high resolution orthorectified aerial imagery mosaic provided by Valtus online image service.

IMPORTANT: this version of the ABMI 3x7 km HF inventory does not account for succession (or reclamation) of human footprint, but treats all types of human footprint on the landscape equally. Put another way, “successional” HF (HF in which natural vegetation regenerates after the human use) is treated the same as “alienating” HF (HF types which are maintained permanently with altered vegetation) despite the vegetation recovery that almost certainly will have occurred since the development.

The current dataset does not present age of disturbance or the current habitat/vegetation cover within features such as harvested areas (former cut blocks) or seismic lines.

This product is not error free. We continuously work to improve the accuracy and precision of this product.

This vector polygon layer is updated annually, and new versions will be released accordingly.

The ABMI 3x7 km Human Footprint Inventory is stored in ESRI File Geodatabase (ArcGIS 10.1) format. It contains one High Precision Feature Dataset and 16 Feature Classes.

Coordinate System of HF Feature Dataset (ESRI File Geodatabase)

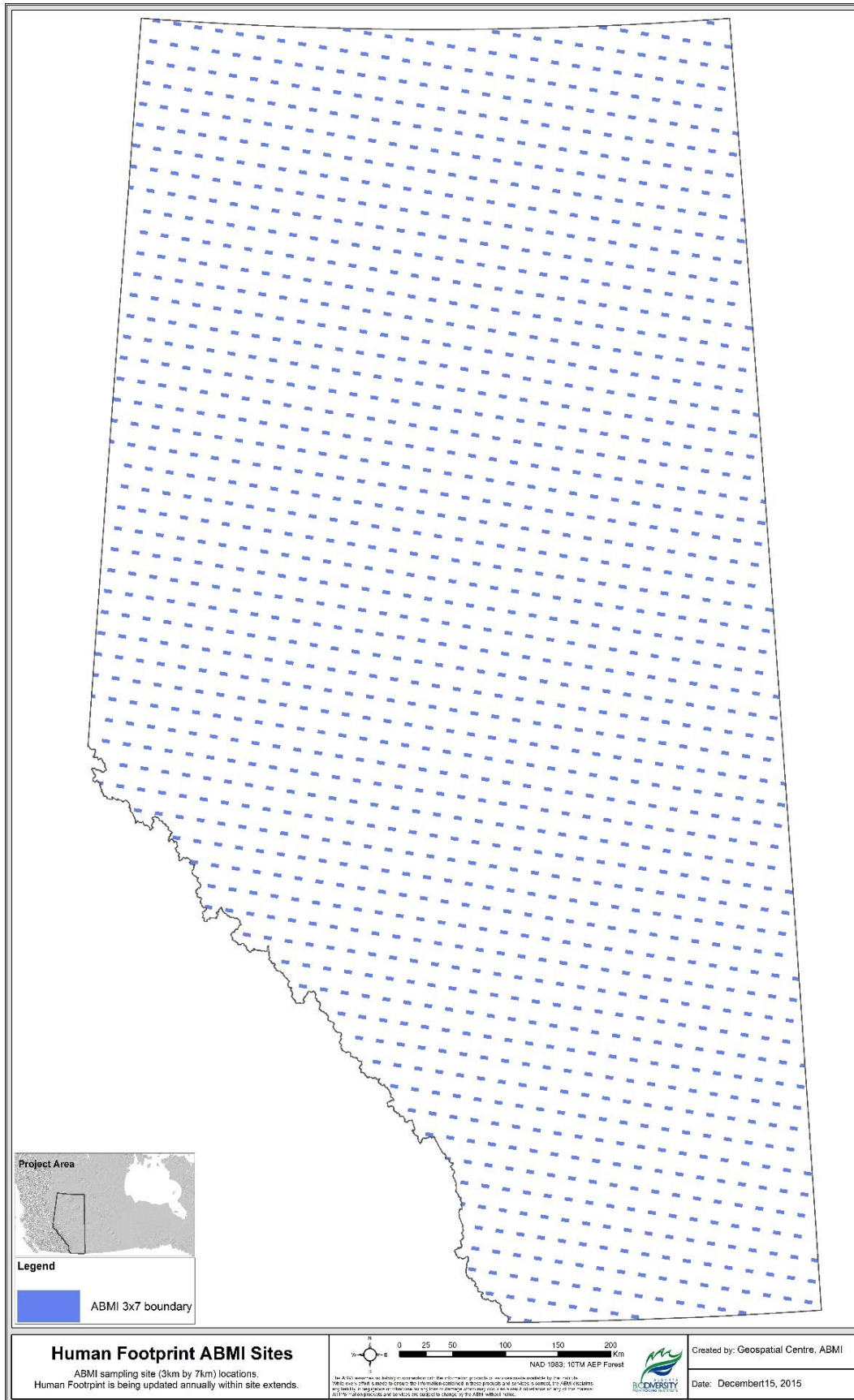
Datum: North American 1983
Projection: Transverse Mercator
Coordinate System: 10TM AEP Forest
Well known ID: 3400; Authority: EPSG
False Easting: 500000.0
False Northing: 0.0
Central Meridian: -115.0
Scale Factor: 0.9992
Latitude of Origin: 0.0
Linear Unit: Meter (1.0)

Sample Scale Human Footprint Inventory of Alberta (The ABMI 3x7 Human Footprint Inventory) is currently being integrated into Provincial Scale Human Footprint Inventory (HFI).

Detailed description of mandatory attributes: [FEATURE_TY], [SOURCE] and [YEAR] is available in document "HFI2016_Metadata.pdf" available at:

<http://abmi.ca/home/data-analytics/da-top/da-product-overview/GIS-Land-Surface/HF-inventory.html>

Image 1: ABMI sampling site (3km by 7km) locations.



Data References

Title	Association Type	Location/Reference
Alberta Vegetation Inventory (AVI)	Source	Government of Alberta, 2016. Data provided by Alberta Human Footprint Mapping Project (AHFMP), https://open.alberta.ca/opendata/ahfmp
Grassland Vegetation Inventory (GVI)	Source	Government of Alberta, 2016. Data provided by Alberta Human Footprint Mapping Project (AHFMP), https://open.alberta.ca/opendata/ahfmp
Primary Land and Vegetation Inventory (PLVI)	Source	Government of Alberta, 2016. Data provided by Alberta Human Footprint Mapping Project (AHFMP), https://open.alberta.ca/opendata/ahfmp
Alberta Human Footprint Mapping Project (AHFMP)	Source	Government of Alberta, 2016. Data provided by Alberta Human Footprint Mapping Project (AHFMP), https://open.alberta.ca/opendata/ahfmp
Reclamation Information System (RIS)	Source	Government of Alberta, 2016. Data provided by Alberta Human Footprint Mapping Project (AHFMP), https://open.alberta.ca/opendata/ahfmp
Government of Alberta (SRDSPT)	Source	Government of Alberta, 2016. Data provided by Alberta Human Footprint Mapping Project (AHFMP), https://open.alberta.ca/opendata/ahfmp
Digitally Integrated Dispositions (DIDs)	Source	Government of Alberta, 2016. Data provided by Alberta Human Footprint Mapping Project (AHFMP), https://open.alberta.ca/opendata/ahfmp
Alberta Vegetation Inventory Enhanced (AVIE)	Source	Government of Alberta, 2016. Data provided by Alberta Human Footprint Mapping Project (AHFMP), https://open.alberta.ca/opendata/ahfmp
Special Areas (SPAREA)	Source	The Special Areas; specialareas.ab.ca
Land Use Classification in the Special Areas of Alberta	Source	Publication No. 731; technical Bulletin No.39; Issued: February. 1942
SPOT6 Satellite Imagery 2017	Source	Alberta Environment and Sustainable Resource Development, 2017. <i>Informatics Branch, 1.5 m Color SPOT 6 Mosaic</i> . Retrieved from http://environment.alberta.ca/
Valtus Orthophoto Mosaic	Reference	Alberta Environment and Parks, 2016. <i>Informatics Branch</i>
IRS Satellite	Reference	Alberta Environment and Parks, 2016. <i>Informatics Branch</i>
Base Features (BASEFE)	Source	Government of Alberta, 2016. Open Data License, Retrieved from http://www.altalis.com/products/base/20k_base_features.html
Google Maps	Reference	https://maps.google.ca
Google Earth Engine-Google Time-lapse	Reference	https://earthengine.google.com/timelapse/
Alberta Recycling Management Authority	Reference	http://www.albertarecycling.ca/collection-site-search-results
City of Calgary	Source	https://data.calgary.ca/Base-Maps/Land-Use-Polygons/gbpb-ymc5/about

Alberta Environment and Sustainable Resource Development	Reference	Alberta Environment and Sustainable Resource Development, 2014. <i>Informatics Branch, 1.5 m Colour SPOT 6 Mosaic</i> . Retrieved from http://environment.alberta.ca/
Hricko	Reference	Hricko, B., n.d. <i>ABMI Human Footprint Image</i> . Unpublished photograph.
Valtus Imagery Services	Reference	Valtus Imagery Services, 2010. <i>Valtus Imagery</i> . Retrieved from http://www.valtus.com/
Valtus Imagery Services	Reference	Valtus Imagery Services, 2011. <i>Valtus Imagery</i> . Retrieved from http://www.valtus.com/
Valtus Imagery Services	Reference	Valtus Imagery Services, 2012. <i>Valtus Imagery</i> . Retrieved from http://www.valtus.com/
Valtus Imagery Services	Reference	Valtus Imagery Services, 2013. <i>Valtus Imagery</i> . Retrieved from http://www.valtus.com/
Valtus Imagery Services	Reference	Valtus Imagery Services, n.d. <i>Valtus Imagery</i> . Retrieved from http://www.valtus.com/
Venskaitis	Reference	Venskaitis, S., n.d. <i>Human Footprint Image</i> . Unpublished photograph.
Williams	Reference	Williams, E., n.d. <i>ABMI Human Footprint Image</i> . Unpublished photograph.
<i>Quality Farm Dugouts (3rd Edition)</i>	Reference	http://www1.agric.gov.ab.ca/\$department/deptdocs.nsf/all/agdex15866
Alberta Vegetation Inventory Standards and Data Model Documents	Reference	https://www.agriculture.alberta.ca/app21/forestry/page?cat1=Vegetation%20Inventory%20Standards
Grassland Vegetation Inventory Standards	Reference	https://geodiscover.alberta.ca/geoportal/catalog/search/resource/details.page?uuid=%7BD3AB9031-8EC0-4589-9335-C1E50AE05992%7D
Primary Land and Vegetation Inventory Standards	Reference	https://geodiscover.alberta.ca/geoportal/catalog/search/resource/details.page?uuid=%7BF640CD9D-C232-481D-9CFF-7A7B66E51E49%7D
road_album_2.ppt	Reference	Government of Alberta document, provided by Alberta Human Footprint Mapping Project (AHFMP)
Alberta Transportation Guide to Reclaiming Borrow Excavations – 2013 Edition	Reference	www.transportation.alberta.ca/Content/docType245/Production/borrowguide.pdf
AHFMP_Footprint Data Manual.docx	Reference	Government of Alberta document, provided by Alberta Human Footprint Mapping Project (AHFMP),
AHFMP - Road Processing 2014 Footprint.pdf	Reference	Government of Alberta document, provided by Alberta Human Footprint Mapping Project (AHFMP),
AHFMP - Well Pad User Guide 2014 Footprint.pdf	Reference	Government of Alberta document, provided by Alberta Human Footprint Mapping Project (AHFMP)
AHFMP - Well Pad Procedures for 2014 Footprint.pdf	Reference	Government of Alberta document, provided by Alberta Human Footprint Mapping Project (AHFMP)

AHFMP - Well Pad User Guide 2014 Footprint.pdf	Reference	Government of Alberta document, provided by Alberta Human Footprint Mapping Project (AHFMP)
AHFMP_Cultivation_User_Guide_Footprint_HFI_2014FTv2.pdf	Reference	Government of Alberta document, provided by Alberta Human Footprint Mapping Project (AHFMP)
AHFMP_Cultivation_User_Guide_HFI_2014.pdf	Reference	Government of Alberta document, provided by Alberta Human Footprint Mapping Project (AHFMP)
ISO 19131_AAFC_Annual_Crop_Inventory_Data_Product_Specifications.pdf	Reference	Agriculture and Agri-Food Canada (AAFC); AAFC Crop Inventory, 2014
AHFMP - Seismic User Guide 2014 Footprint Ver3.docx	Reference	Government of Alberta document, provided by Alberta Human Footprint Mapping Project (AHFMP)
AAFC Annual Crop Inventory Data	Source	http://www.agr.gc.ca/atlas/data_donnees/agr/annualCropInventory/tif/