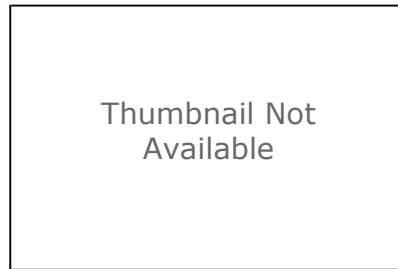


Muskegon Lake AOC Boundary, U.S. EPA Great Lakes National Program Office

Shapefile



Tags

Michigan, Environment, Remediation, Area of Concern, Great Lakes, 020:057

Summary

The main use of the delineated AOC boundaries is for EPA and State governments to locate those sites listed on the U.S. Area of Concerns list in the Great Lakes Water Quality Agreement, or other sites that are in close proximity or may have contributed to the pollution within each AOC. These analyses are completed on a relatively small scale of the areas in and around each AOC. Attributes only include the AOC name and the predominant state in which the AOC is located. The locations of features and boundaries shown on this map are approximate and are intended for planning and visualization purposes only. This is not intended for survey, statistical, engineering, or legal purposes.

Description

This shapefile provides a polygon boundary for the Muskegon Lake AOC. In general, the following steps were taken in developing the shapefile:

1. The previous AOC shapefile was obtained from EPA.
2. Shoreline data from NOAA, called Continually Updated Shoreline Product (CUSP), was downloaded for the full extent of the AOC.
3. A narrative of the AOC was obtained from the State contact and/or taken from the AOC webpage (see narrative below).
4. The AOC shoreline (river and lake as applicable) of the previous shapefile was updated using the data from Step #2.
5. The extent of the AOC was determined from the narrative in Step #3 and/or the extent from the previous boundary and applied.
6. Utilizing aerial imagery (current and historic) and best professional judgement, manual edits to the shoreline were made if significant deviations were apparent due to man-made changes or possible errors.

Narrative: AOC Webpage, 3/22/2021. "The Muskegon Lake AOC includes Muskegon Lake, all of Ruddiman Creek, Ryerson Creek, Four Mile Creek, the north and south branches of the Muskegon River to their juncture with U.S. Highway 31, Bear Creek, Bear Lake and up through an unnamed tributary to Little Bear Creek."

Representatives of both EPA and EGLE reviewed and approved the boundary. In instances where the AOC includes a watershed, those boundaries were delineated from data obtained through EPA's National Hydrography Dataset Plus (NHDPlus) Version 2.1.

Credits

Sources of digital information used in the development of the AOC include: NOAA (<https://www.ngs.noaa.gov/CUSP/>), ESRI World Imagery (http://goto.arcgisonline.com/maps/World_Imagery), Google Earth historic imagery (<https://www.google.com/earth/>), and EPA's NHDPlus Version 2.1 (<https://www.epa.gov/waterdata/get-nhdplus-national-hydrography-dataset-plus-data>).

Use limitations

Any hardcopies utilizing EPA data sets shall clearly indicate their source. The licensee specifically agrees not to misrepresent EPA data sets, nor to imply that changes they made were approved by EPA.

Extent

West -86.340751 **East** -86.202683
North 43.307470 **South** 43.205800

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 inlandWaters, boundaries

* CONTENT TYPE Downloadable Data

EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION No

PLACE KEYWORDS Michigan

THESAURUS'S LANGUAGE English (UNITED STATES)

THESAURUS ►

TITLE EPA Place Names

PUBLICATION DATE 2015-01-31 00:00:00

RESOURCE LOCATION ONLINE

LOCATION

https://ofmpub.epa.gov/sor_internet/registry/termreg/searchandretrieve/taxonomies/search.do?search=&searchString=&taxonomyName=WB%20-%20Geographic%20Locations

NAME Web Taxonomy - Geographic Locations

FUNCTION PERFORMED information

Hide Thesaurus ▲

THEME KEYWORDS Environment, Remediation

THESAURUS ►

TITLE EPA GIS Keyword Thesaurus

PUBLICATION DATE 2007-11-02 00:00:00

RESOURCE LOCATION ONLINE

LOCATION <https://www.epa.gov/geospatial/epa-metadata-technical-specification>

NAME EPA Metadata Technical Specification

FUNCTION PERFORMED information

Hide Thesaurus ▲

THEME KEYWORDS Area of Concern, Great Lakes

THESAURUS ►

TITLE User

PUBLICATION DATE 2020-06-29 00:00:00

[Hide Thesaurus ▲](#)

THEME KEYWORDS 020:057

THESAURUS ►

TITLE Federal Program Inventory
PUBLICATION DATE 2013-09-16 00:00:00

RESOURCE LOCATION ONLINE

LOCATION <https://www.performance.gov/federalprograminventory>
NAME Federal Program Inventory
FUNCTION PERFORMED information

[Hide Thesaurus ▲](#)

[Hide Topics and Keywords ▲](#)

Citation ►

TITLE Muskegon Lake AOC Boundary, U.S. EPA Great Lakes National Program Office
PUBLICATION DATE 2021-03-02

PRESENTATION FORMATS digital map

[Hide Citation ▲](#)

Resource Details ►

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

SPATIAL REPRESENTATION TYPE vector

* PROCESSING ENVIRONMENT Version 6.2 (Build 9200) ; Esri ArcGIS 10.7.0.10450

CREDITS

Sources of digital information used in the development of the AOC include: NOAA (<https://www.ngs.noaa.gov/CUSP/>), ESRI World Imagery (http://goto.arcgisonline.com/maps/World_Imagery), Google Earth historic imagery (<https://www.google.com/earth/>), and EPA's NHDPlus Version 2.1 (<https://www.epa.gov/waterdata/get-nhdplus-national-hydrography-dataset-plus-data>).

ARCGIS ITEM PROPERTIES

* NAME AOC_MI_MuskegonLake_2021
* SIZE 0.133
* LOCATION file://\F4040-DK8QYM2-L\C\$\Users\Justin.Telech\Documents\Legacy\AOC boundary work\Muskegon Lake\Finalized\AOC_MI_MuskegonLake_2021.shp
* ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

Extents ►

EXTENT

DESCRIPTION

The Muskegon Lake AOC was designated an AOC in 1987.

TEMPORAL EXTENT

BEGINNING DATE 1987-01-01 00:00:00

ENDING DATE

INDETERMINATE DATE unknown

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

* WEST LONGITUDE -86.340751

* EAST LONGITUDE -86.202683

* NORTH LATITUDE 43.307470

* SOUTH LATITUDE 43.205800

* EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* WEST LONGITUDE -86.340751

* EAST LONGITUDE -86.202683

* SOUTH LATITUDE 43.205800

* NORTH LATITUDE 43.307470

* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)**Resource Points of Contact ►**

POINT OF CONTACT

INDIVIDUAL'S NAME Mark Loomis

ORGANIZATION'S NAME U.S. Environmental Protection Agency Great Lakes National Program Office

CONTACT'S POSITION Federal AOC Taskforce Lead

CONTACT'S ROLE publisher

CONTACT INFORMATION ►

ADDRESS

DELIVERY POINT 77 W. Jackson Blvd G-17J

CITY Chicago

ADMINISTRATIVE AREA IL

POSTAL CODE 60604

COUNTRY US

E-MAIL ADDRESS Loomis.Mark@Epa.gov[Hide Contact information ▲](#)[Hide Resource Points of Contact ▲](#)**Resource Maintenance ►**

RESOURCE MAINTENANCE

UPDATE FREQUENCY as needed

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

CONSTRAINTS

LIMITATIONS OF USE

Any hardcopies utilizing EPA data sets shall clearly indicate their source. The licensee specifically agrees not to misrepresent EPA data sets, nor to imply that changes they made

were approved by EPA.

[Hide Resource Constraints ▲](#)

Spatial Reference ►

ARCGIS COORDINATE SYSTEM

- * TYPE Geographic
- * GEOGRAPHIC COORDINATE REFERENCE GCS_North_American_1983
- * COORDINATE REFERENCE DETAILS
 - GEOGRAPHIC COORDINATE SYSTEM
 - WELL-KNOWN IDENTIFIER 4269
 - X ORIGIN -400
 - Y ORIGIN -400
 - XY SCALE 11258999068426.238
 - Z ORIGIN -100000
 - Z SCALE 10000
 - M ORIGIN -100000
 - M SCALE 10000
 - XY TOLERANCE 8.9831528411952133e-09
 - Z TOLERANCE 0.001
 - M TOLERANCE 0.001
 - HIGH PRECISION true
 - LEFT LONGITUDE -180
 - LATEST WELL-KNOWN IDENTIFIER 4269
 - WELL-KNOWN TEXT 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],AUTHORITY["EPSG",4269]]

REFERENCE SYSTEM IDENTIFIER

- DIMENSION horizontal
- VALUE 4269
- * CODESPACE EPSG
- * VERSION 6.12(3.0.1)

[Hide Spatial Reference ▲](#)

Spatial Data Properties ►

VECTOR ►

- * LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

GEOMETRIC OBJECTS

- FEATURE CLASS NAME AOC_MI_MuskegonLake_2021
- * OBJECT TYPE composite
- * OBJECT COUNT 1

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ►

- FEATURE CLASS NAME AOC_MI_MuskegonLake_2021
- * 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 ▲](#)

Lineage ►

LINEAGE STATEMENT
 This shapefile supersedes the previous version, AOC_MI_MUSKEGONLAKE.shp

[Hide Lineage ▲](#)

Distribution ►

DISTRIBUTION FORMAT
 * NAME **Shapefile**
 VERSION **2021**

TRANSFER OPTIONS
 TRANSFER SIZE **0.012**

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT [AOC_MI_MuskegonLake_2021](#) ►

* TYPE **Feature Class**
 * ROW COUNT **1**

DEFINITION
 The AOC extent and other possible applicable areas

DEFINITION SOURCE
 U.S. EPA Great Lakes National Program Office

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 Name ▶

- * ALIAS Name
- * DATA TYPE String
- * WIDTH 50
- * PRECISION 0
- * SCALE 0
- FIELD DESCRIPTION
Feature name
- DESCRIPTION SOURCE
U.S. EPA Great Lakes National Program Office
- LIST OF VALUES
VALUE AOC Name
DESCRIPTION The AOC name is the official name given by the U.S. EPA Great Lakes National
ENUMERATED DOMAIN VALUE DEFINITION SOURCE U.S. EPA Great Lakes National Program Office

[Hide Field Name ▲](#)

FIELD State ▶

- * ALIAS State
- * DATA TYPE String
- * WIDTH 2
- * PRECISION 0
- * SCALE 0
- FIELD DESCRIPTION
Location of feature as 2-character state code
- DESCRIPTION SOURCE
U.S. EPA Great Lakes National Program Office
- LIST OF VALUES
VALUE 2-character state code
DESCRIPTION State postal code
ENUMERATED DOMAIN VALUE DEFINITION SOURCE U.S. EPA Great Lakes National Program Office

[Hide Field State ▲](#)

[Hide Details for object AOC_MI_MuskegonLake_2021 ▲](#)

[Hide Fields ▲](#)

Metadata Details ►

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

METADATA IDENTIFIER E684F785-3782-4FA4-A450-74A262230F6D

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

LAST UPDATE 2021-03-22

ARCGIS METADATA PROPERTIES
 METADATA FORMAT ArcGIS 1.0
 METADATA STYLE EPA Metadata Specification NAP ISO19115 2003
 STANDARD OR PROFILE USED TO EDIT METADATA NAP

CREATED IN ARCGIS FOR THE ITEM 2021-03-22 19:15:00
 LAST MODIFIED IN ARCGIS FOR THE ITEM 2021-03-23 15:57:45

AUTOMATIC UPDATES
 HAVE BEEN PERFORMED Yes
 LAST UPDATE 2021-03-23 15:57:45

[Hide Metadata Details ▲](#)

Metadata Contacts ►

METADATA CONTACT
 INDIVIDUAL'S NAME Justin Telech
 ORGANIZATION'S NAME GDIT
 CONTACT'S POSITION Environmental Scientist
 CONTACT'S ROLE author

CONTACT INFORMATION ►
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 POSTAL CODE 27709
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 E-MAIL ADDRESS justin.telech@gdit.com

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

Metadata Maintenance ►

MAINTENANCE
 UPDATE FREQUENCY as needed

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FGDC Metadata (read-only) ▼