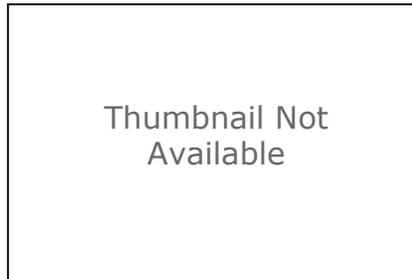


# Potentiometric Surface Map of the Bedrock Aquifers of Warren County, Indiana

## Shapefile



## Tags

Potentiometric surface, static water level, groundwater, water wells, water tables, Warren County, Indiana, USA

## Summary

Display and/or analyses requiring spatial distribution of potentiometric surface elevations in Warren County, Indiana.

## Description

This file is a digital geospatial polyline coverage of the bedrock potentiometric surface elevations mapped for Warren County, Indiana.

## Credits

It is requested that the Indiana Department of Natural Resources, Division of Water be cited in any products generated from this data.

## Use limitations

Acknowledgement of the following agency in products derived from these data: Indiana Department of Natural Resources, Division of Water. This map was compiled by staff of the Indiana Department of Natural Resources, Division of Water using data believed to be reasonably accurate. However, a degree of error is inherent in all maps. This product is distributed "as-is" without warranties of any kind, either expressed or implied. The maps are intended for use only at the published scale. The information on these media is proprietary to the State of Indiana, Indiana Department of Natural Resources, Division of Water. Any copying, adaptation, or distribution of these data without the express written consent of IDNR-DOW is discouraged. It is not recommended that these data be used for purposes other than general estimate of static water level elevations. Site specific conditions may vary considerably from mapped estimates.

## Extent

**West** -87.531517    **East** -87.091692  
**North** 40.459571    **South** 40.127048

## 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 geoscientificInformation

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

PLACE KEYWORDS Warren County, Indiana, USA

THEME KEYWORDS Potentiometric surface, static water level, groundwater, water wells, water tables

*Hide Topics and Keywords ▲*

### Citation ►

TITLE Potentiometric Surface Map of the Bedrock Aquifers of Warren County, Indiana  
CREATION DATE 2015-07-15 00:00:00

EDITION 1  
EDITION DATE 2015-07-15

PRESENTATION FORMATS \* digital map

SERIES  
NAME Bedrock Potentiometric Surface Map  
ISSUE PSM 56-B

#### OTHER CITATION DETAILS

This map was compiled from multiple unpublished work maps based on USGS quadrangles at 1:24,000 scale: Ambia, Attica, Bismarck, Chatterton, Covington, Danville NE, Otterbein, Pine Village, Stone Bluff, Tab, West Lebanon, Westpoint, and Williamsport.

*Hide Citation ▲*

### Citation Contacts ►

RESPONSIBLE PARTY  
INDIVIDUAL'S NAME Glenn E. Grove  
ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water  
CONTACT'S POSITION Resource Assessment Section  
CONTACT'S ROLE originator

#### CONTACT INFORMATION ►

PHONE  
VOICE 317-232-4160  
FAX 317-233-4579

ADDRESS  
TYPE both

DELIVERY POINT 402 W. Washington Street W264  
 CITY Indianapolis  
 ADMINISTRATIVE AREA Indiana  
 POSTAL CODE 46204  
 COUNTRY UNITED STATES  
 E-MAIL ADDRESS [ggrove@dnr.IN.gov](mailto:ggrove@dnr.IN.gov)

#### HOURS OF SERVICE

8:15am - 4:15pm M-F except Government Holidays

[Hide Contact information ▲](#)

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water  
 CONTACT'S ROLE publisher

#### CONTACT INFORMATION ►

##### ADDRESS

DELIVERY POINT Indianapolis, Indiana, USA

[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

\* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.2.2.3552

#### CREDITS

It is requested that the Indiana Department of Natural Resources, Division of Water be cited in any products generated from this data.

#### ARCGIS ITEM PROPERTIES

\* NAME BED\_PSM\_Warren\_Co\_IN  
 \* SIZE 0.685  
 \* LOCATION file://\iotisip01pa\dnrgis\$\!Potentiometric\Warren\1\_Web\_Products\BED\_PSM\_Warren\_Co\_IN.shp  
 \* ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

## Extents ►

#### EXTENT

##### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching  
 \* WEST LONGITUDE -87.531517

\* EAST LONGITUDE -87.091692  
 \* NORTH LATITUDE 40.459571  
 \* SOUTH LATITUDE 40.127048  
 \* EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

\* WEST LONGITUDE 454934.635400  
 \* EAST LONGITUDE 492187.851800  
 \* SOUTH LATITUDE 4441992.479000  
 \* NORTH LATITUDE 4478771.228500  
 \* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

## Resource Points of Contact ►

POINT OF CONTACT

INDIVIDUAL'S NAME Glenn E. Grove  
 ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water  
 CONTACT'S POSITION Resource Assessment Section  
 CONTACT'S ROLE author

CONTACT INFORMATION ►

PHONE

VOICE 317-232-4160  
 FAX 317-233-4579

ADDRESS

TYPE both  
 DELIVERY POINT 402 W. Washington Street W264  
 CITY Indianapolis  
 ADMINISTRATIVE AREA Indiana  
 POSTAL CODE 46204  
 COUNTRY UNITED STATES  
 E-MAIL ADDRESS [ggrove@dnr.IN.gov](mailto:ggrove@dnr.IN.gov)

HOURS OF SERVICE

8:15am - 4:15pm M-F except Government Holidays

[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

## Resource Maintenance ►

RESOURCE MAINTENANCE

UPDATE FREQUENCY not planned

[Hide Resource Maintenance ▲](#)

## Resource Constraints ►

CONSTRAINTS

LIMITATIONS OF USE

Acknowledgement of the following agency in products derived from these data: Indiana Department of Natural Resources, Division of Water. This map was compiled by staff of

the Indiana Department of Natural Resources, Division of Water using data believed to be reasonably accurate. However, a degree of error is inherent in all maps. This product is distributed "as-is" without warranties of any kind, either expressed or implied. The maps are intended for use only at the published scale. The information on these media is proprietary to the State of Indiana, Indiana Department of Natural Resources, Division of Water. Any copying, adaptation, or distribution of these data without the express written consent of IDNR-DOW is discouraged. It is not recommended that these data be used for purposes other than general estimate of static water level elevations. Site specific conditions may vary considerably from mapped estimates.

#### LEGAL CONSTRAINTS

ACCESS CONSTRAINTS other restrictions

#### OTHER CONSTRAINTS

The Indiana Department of Natural Resources, Division of Water has compiled this data set using data believed to be reasonably accurate. However, the Division makes no representation as to the accuracy, completeness, or usefulness of the data or data set. A degree of error is inherent in all maps. This map is intended for use only at the published scale. Reference to any specific commercial product, process, or service does not constitute an endorsement, recommendation, or favoring by the Division. Copyright 2015, Indiana Department of Natural Resources, Division of Water All Rights Reserved Any copying, adaptation, or distribution of these data without the express written consent of the Indiana Department of Natural Resources, Division of Water is discouraged.

[Hide Resource Constraints ▲](#)

## Spatial Reference ►

#### ARCGIS COORDINATE SYSTEM

- \* TYPE Projected
- \* GEOGRAPHIC COORDINATE REFERENCE GCS\_North\_American\_1983
- \* PROJECTION NAD\_1983\_UTM\_Zone\_16N
- \* COORDINATE REFERENCE DETAILS
  - PROJECTED COORDINATE SYSTEM
  - WELL-KNOWN IDENTIFIER 26916
  - X ORIGIN -5120900
  - Y ORIGIN -9998100
  - XY SCALE 450445547.3910538
  - 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 26916
  - WELL-KNOWN TEXT PROJCS["NAD\_1983\_UTM\_Zone\_16N",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["Transverse\_Mercator"],PARAMETER["False\_Easting",500000.0],PARAMETER["False\_Northing",0.0],PARAMETER["Central\_Meridian",-87.0],PARAMETER["Scale\_Factor",0.9996],PARAMETER["Latitude\_Of\_Origin",0.0],UNIT["Meter",1.0],AUTHORITY["EPSG",26916]]

#### REFERENCE SYSTEM IDENTIFIER

- \* VALUE 26916

- \* CODESPACE EPSG
- \* VERSION 8.2.6

[Hide Spatial Reference ▲](#)

## Spatial Data Properties ►

VECTOR ►

- \* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

GEOMETRIC OBJECTS

- FEATURE CLASS NAME BED\_PSM\_Warren\_Co\_IN
- \* OBJECT TYPE composite
- \* OBJECT COUNT 73

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ►

- FEATURE CLASS NAME BED\_PSM\_Warren\_Co\_IN
- \* FEATURE TYPE Simple
- \* GEOMETRY TYPE Polyline
- \* HAS TOPOLOGY FALSE
- \* FEATURE COUNT 73
- \* 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 ▲](#)

DATA QUALITY REPORT - COMPLETENESS OMISSION ►

- DIMENSION horizontal

MEASURE DESCRIPTION

In conducting the mapping, the author(s) evaluated hundreds of water well records, especially those having relatively complete information on well location, static water level, well depth, ground elevation, and lithology. There were areas in the county with sparse information because of lack of well records or incomplete records.

[Hide Data quality report - Completeness omission ▲](#)

DATA QUALITY REPORT - QUANTITATIVE ATTRIBUTE ACCURACY ►

- DIMENSION horizontal

MEASURE DESCRIPTION

The mapping was conducted after a thorough documentation of well locations and water well record details.

[Hide Data quality report - Quantitative attribute accuracy ▲](#)

#### DATA QUALITY REPORT - ABSOLUTE EXTERNAL POSITIONAL ACCURACY ►

##### MEASURE DESCRIPTION

The locations of many wells were field checked and the locations posted on 7.5 minute topographic maps. Visual confirmation of wells was not always possible. Many locations were based only on the street address, driving directions, or other location information provided on the well record.

[Hide Data quality report - Absolute external positional accuracy ▲](#)

[Hide Data Quality ▲](#)

## Lineage ►

#### PROCESS STEP ►

##### DESCRIPTION

Data were selected by careful evaluation of water well records to determine if the wells were field located and if they contained complete and reasonable information.

[Hide Process step ▲](#)

#### PROCESS STEP ►

##### DESCRIPTION

After selection of water well records was complete, specific well data and other maps and reports were considered in the mapping process. For example, ground elevation, static water level, well depth, aquifer top and bottom elevation and lithology were obtained from well records. Other maps and reports included regional potentiometric surface elevations, hydrogeologic settings, groundwater availability, bedrock topography, and surface topography.

[Hide Process step ▲](#)

#### PROCESS STEP ►

##### DESCRIPTION

A polyline coverage was created using the heads-up method and attributed by Glenn E. Grove. Attribute definitions are described below.

[Hide Process step ▲](#)

**SOURCE DATA** ▶

## DESCRIPTION

Water well records from the IDNR-DOW well record database; USGS topography maps; various consultant geotechnical reports

**SOURCE CITATION** ▶

TITLE Potentiometric Surface Map of the Bedrock Aquifers of Warren County, Indiana  
 PUBLICATION DATE 2015-07-15 00:00:00

EDITION 1

## SERIES

NAME Bedrock Potentiometric Surface Map  
 ISSUE PSM 56-B

## RESPONSIBLE PARTY

INDIVIDUAL'S NAME Glenn E. Grove  
 ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water  
 CONTACT'S POSITION Resource Assessment Section  
 CONTACT'S ROLE originator

## RESPONSIBLE PARTY

ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water  
 CONTACT'S ROLE publisher

*Hide Source citation* ▲

*Hide Source data* ▲

*Hide Lineage* ▲

**Distribution** ▶**DISTRIBUTOR** ▶

## CONTACT INFORMATION

INDIVIDUAL'S NAME Glenn E. Grove  
 ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water  
 CONTACT'S POSITION Resource Assessment Section  
 CONTACT'S ROLE distributor

## CONTACT INFORMATION ▶

## PHONE

VOICE 317-232-4160  
 FAX 317-233-4579

## ADDRESS

TYPE both  
 DELIVERY POINT 402 W. Washington Street W264  
 CITY Indianapolis  
 ADMINISTRATIVE AREA Indiana  
 POSTAL CODE 46204  
 COUNTRY UNITED STATES  
 E-MAIL ADDRESS [ggrove@dnr.IN.gov](mailto:ggrove@dnr.IN.gov)

## HOURS OF SERVICE

8:15am - 4:15pm M-F except Government Holidays

[Hide Contact information ▲](#)[Hide Distributor ▲](#)

## DISTRIBUTION FORMAT

\* NAME Shapefile

## TRANSFER OPTIONS

\* TRANSFER SIZE 0.685

## ONLINE SOURCE

LOCATION <http://www.in.gov/dnr/water/7256.htm>[Hide Distribution ▲](#)**Fields ►**DETAILS FOR OBJECT [BED\\_PSM\\_Warren\\_Co\\_IN ►](#)

\* TYPE Feature Class

\* ROW COUNT 73

## DEFINITION

polyline

## DEFINITION SOURCE

ESRI

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 STATIC\_E ►

- \* ALIAS static\_e
- \* DATA TYPE SmallInteger
- \* WIDTH 4
- \* PRECISION 4
- \* SCALE 0
- FIELD DESCRIPTION  
Potentiometric surface in feet
- DESCRIPTION SOURCE  
IDNR

*Hide Field STATIC\_E ▲*

*Hide Details for object BED\_PSM\_Warren\_Co\_IN ▲*

*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 2015-07-24

#### 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 2015-07-14 14:56:25  
LAST MODIFIED IN ARCGIS FOR THE ITEM 2015-07-24 11:42:54

#### AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes  
LAST UPDATE 2015-07-24 11:42:54

#### ITEM LOCATION HISTORY

ITEM COPIED OR MOVED 2015-05-19 08:07:22  
 FROM \\iotisip01pa.state.in.us\dnrgis\$!\Potentiometric\Warren\6\_Reviews\review files\warren\_bed\_review\_2  
 TO \\iotisip01pa.state.in.us\dnrgis\$!\Potentiometric\Warren\3\_Working\warren\_bed\_review\_2

[Hide Metadata Details ▲](#)

## Metadata Contacts ►

### METADATA CONTACT

INDIVIDUAL'S NAME Glenn E. Grove  
 ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water  
 CONTACT'S POSITION Resource Assessment Section  
 CONTACT'S ROLE point of contact

### CONTACT INFORMATION ►

PHONE  
 VOICE 317-232-4160  
 FAX 317-233-4579

### ADDRESS

TYPE both  
 DELIVERY POINT 402 W. Washington Street W264  
 CITY Indianapolis  
 ADMINISTRATIVE AREA Indiana  
 POSTAL CODE 46204  
 COUNTRY UNITED STATES  
 E-MAIL ADDRESS [ggrove@dnr.IN.gov](mailto:ggrove@dnr.IN.gov)

### HOURS OF SERVICE

8:15am - 4:15pm M-F except Government Holidays

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

## Metadata Maintenance ►

### MAINTENANCE

UPDATE FREQUENCY not planned

[Hide Metadata Maintenance ▲](#)

## Metadata Constraints ►

### LEGAL CONSTRAINTS

ACCESS CONSTRAINTS other restrictions

### OTHER CONSTRAINTS

Access constraints: This metadata file is intended to accompany the subject geospatial set. This file may be updated, and the most recent version is available by contacting the IDNR Division of Water.

[Hide Metadata Constraints ▲](#)

**FGDC Metadata (read-only) ▼**