Gathering Waters Land Trust Decision Tool V2 User Guide

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Overview

Land trusts are dedicated to protecting and stewarding private lands with high ecological value. Their work involves making decisions about which lands to protect. They also need to prioritize stewardship efforts to yield the greatest benefit. Many trusts use GIS (geographical information system) technology to map their existing holdings, identify and prioritize potential protection opportunities, and to plan, manage and track results of stewardship opportunities. GIS helps them understand and assess their many potential opportunities for protection and stewardship and make better decisions about applying their resources.

Gathering Waters created a "decision tool" that can be used by all member land trusts. It incorporates dozens of data values about all parcels in the state that are at least 1 acre in size, over 1.6 million. The tool allows trust staff and others to easily filter parcels based on criteria that are important to them, e.g., size, climate resilience, land cover, proximity to existing protected lands, several environmental factors, and many more. Parcels that pass the desired criteria can then be exported to spreadsheets for outreach and follow-up efforts.

You can access the Decision Tool V2 here: http://tinyurl.com/4e6nnats

If you need access to the Decision Tool, please email Charlie Carlin at charles@gatheringwaters.org.

Parcels have also been aggregated into "Targets." Targets are defined as those parcels with the same tax bill address and are within 400' of each other. Targets are intended to make it easier and quicker to find large, high-quality blocks of land for proactive outreach. See [Significant V2 Enhancements](#) for more information about Targets.

The tool also allows users to track outreach efforts based on parcels and targets. This includes tracking the status of effort for a specific parcel, and the results of that effort. Effort and results can also be presented in a summary dashboard for managing outreach success.

V2 is the second version of the Decision Tool. It utilizes Esri Web AppBuilder technology, which operates within the ArcGIS Online platform.

The Decision Tool is made possible by the existence of a GIS layer of all parcels across Wisconsin, approximately 3.6 million. State statutes direct the layer be administered by the Wisconsin Department of Administration, and defines a funding mechanism to support its maintenance. It is produced and annually updated by the State Cartographer's Office (SCO) at UW-Madison. The statewide parcel layer is aggregated from the 72 counties. Counties, in turn, aggregate their data from local units of government. The parcel layer is produced based on "best available data" from the 72 counties. As such, the parcel data available in the Decision Tool is of variable quality and currency. For more information on assessment data, in particular property tax classes, go to [Wisconsin Statewide Parcel Map Tax Classifications](#) in this document.

For more information on the statewide parcel layer visit these links:

- [Final Report: Version 9 Statewide Parcel Map Database Project (July 26, 2023)](#)
- [Attribute Scheme -- Version 9 Statewide Parcel Map Database Project](#) Includes detailed descriptions of all fields included in the current parcel layer.

It is important to know that Statewide Parcel Layer assessment and property tax class data used in the Decision Tool are not reported consistently across counties, or even across municipalities within counties. The data vary in completeness (some values are not reported by all municipalities and counties), accuracy (assessment tax classes and values are reported and interpreted differently by the various local assessors), and currency (e.g., frequency of assessments). Currency is also affected by tax law. The parcel map is created once per year, based on the year-end tax roll, which is used to generate tax bills. It takes about six months for the SCO to compile the 72 counties parcel data for current tax bills (based on the previous year's year-end tax roll). For more complete and current assessment data in specific local areas, view the following document, and refer to the links on page 4:

- [Attribute Scheme -- Version 9 Statewide Parcel Map Database Project](#)
  Includes detailed descriptions of all fields included in the current parcel layer.

For a detailed description of the two property class fields used in the Decision Tool, go to [Wisconsin Statewide Parcel Map Tax Classifications.](#)

Significant V2 Enhancements

-- All Wisconsin parcels > 1 acre in size are included for filtering.

-- In addition to filtering parcels, V2 also supports filtering "**targets**." Targets are aggregations of parcels based on landowner. Tax bill address is used as a surrogate for owner name as owner name can change within a "household." And a business entity may have multiple subsidiaries it manages. Also, owner name isn't always present in the parcel layer. Parcels with the same mailing address, and are within 400 ft of each other, are aggregated into one target. Even when parcels are held by the same owner, and are within 400 ft of each other, **multiple targets may still be created.** This can result from the tax bill address being recorded differently on different deeds, or simple misspellings in the tax bill address.

-- WI DNR WISCLAND Version 2 land cover data is attached to each parcel. The approximate number of acres for each of up to 16 classes of land cover are included.

-- Changes and additions to filters:
   > Filters are provided for parcels **and targets**.
   > The number of explicit filters is greatly expanded. Filters for targets are now organized into categories that can be expanded and closed. Here are the filters available in V2, listed in their categories. Each filter category can be opened and closed to help make navigating easier.

   > Easily-understandable labels and data entry hints were added for all filters

-- An easy-to-read popup is provided for all layers.

-- The following fields are provided to help trusts track and manage their priorities and engagement efforts. These fields can be edited in the Decision Tool app.

   > Context: intended to provide for identifying parcels that are in a specific trust's service area. This field is NOT useful for trusts with overlapping service areas.
   > Status: the current status of outreach efforts. Could also be used to track stewardship status.
   > Priority: level of importance of a parcel to the trust
   > Contact: name of appropriate contact for the parcel, e.g., the landowner

> ContEmail: email address of the Contact
> ContPhone: phone number of the Contact
> AssignedTo: the name of a a trust person managing effort related to the parcel
> NextStep: type of action to be taken next with the parcel
> TargetDate: planned date for completing the next step
> Note: a short text note (up to 255 characters) related to the parcel

Understanding Filters and their Use

Note: Several layers available in the Decision Tool capture multiple protection interests in the same parcel and target. For instance, some parcels are captured as a fee land trust holding (GW Member Holdings layer), as a DNR easement (DNR Managed Land layer), and in Private Conservation Land (PAS US) layer. See Parcels with Protection Interests in Multiple Layers below for more information.

*Note: In the filters various criteria "hints" use the term "touches." This means a parcel or target is **adjacent to** or **in any way overlaps** a feature in a particular layer, like SNAs. Within the Decision Tool any feature **within 100 ft is considered to be touching**. This is to accommodate variability between layers in feature placement accuracy and variance in geographic alignment.*

- Basic:
  - County
  - Focus Area (priority areas defined by individual trusts)
  - Size (acres), minimum and/or maximum
  - Touches ANY existing protected area
- Tax Class of Property (Note: it is important to carefully choose which classes to include and exclude. It is possible to have conflicting choices that will produce confusing results or result in no parcels or targets being selected.)
  - Property Classes to **include** (pick list)
  - Property Classes to **exclude** (pick list)
  - Auxiliary Property Classes to **include** (pick list)
  - Auxiliary Property Classes to **exclude** (pick list)
- TNC Resilient and Connected Network
  - Touches a Recognized Biodiversity
  - Resilience minimum, maximum (note: both are NOT needed)
  - Local Connectedness minimum, maximum (note: both are NOT needed)
- Existing Protected Areas (managed by the following entities)
  For each layer tested, does the parcel/target touch a feature in that layer:
  - DNR SNA
  - DNR Managed Land
  - USFS

- o COE
- o FWS
- o NPS
- o NRCS
- o Other federal land
- o BCPL
- o County Forests
- o Municipal conservation land (PAD US)
- o GW member trusts
- o Private conservation groups
- o Any Stewardship-funded lands open for public access
- Environmental
  - o *The following two criteria are derived based on layers that can be viewed by turning on the DNR Waters layer group in the Decision Tool.*
    - ▪ Shoreline length: minimum, maximum (both are NOT required) Note: This value is an approximation of shoreline length in open waters, as captured in Wisconsin DNR's hydrologic data layers. Shoreline length is calculated for any Open Water features. This includes "double-line streams" i.e., streams that are wide enough to be mapped as polygons. Length is derived using GIS spatial analysis. The resulting values are best used to compare the relative shoreline length across various parcels/targets. This is due to the limits of analytical methods, the extreme variation in the shapes and sizes of shorelines, and varying policies for capturing parcel edges (parcel edges following shorelines, accuracy of mapped lines, etc.) Note: Values are most useful when the shoreline is at or near a parcel edge. Shoreline lengths for water bodies or waterbody parts that are enclosed within parcels are less reliable.
    - ▪ Stream length: minimum, maximum (both are NOT required) Similar to shoreline length, stream length is determined for streams that intersect with parcels/targets. It is calculated only for "single-line stream," i.e., streams that are mapped as a line feature. As with shoreline lengths, stream lengths are best used as a means to compare stream length associated with a parcel/target. Note that stream length is only calculated for streams of Strahler Order >= 2.
  - o For each layer tested, does the parcel/target touch an area in that layer:
    - ▪ DNR Project Areas
    - ▪ Trust for Public Land Priority Park Areas
    - ▪ DNR Streams/Rivers COA
    - ▪ DNR Lakes/Open Waters COA
    - ▪ DNR Outstanding and Exceptional Lakes

- ▪ DNR Outstanding and Exceptional Streams/Rivers
- ▪ DNR Wild Rice Streams
- ▪ DNR Wild Rice Lakes
- ▪ DNR Sensitive Lake Area
- ▪ Important Bird Area
- ▪ SEWRPC Primary Environmental Corridors
- ▪ SWWRPC Priority Areas (not currently used)
- ▪ Focus Areas (not currently used)
- • Community Equity
  - o Tribal areas: does the parcel/target touch a tribal area
  - o Justice40 Census Tracts: does the parcel/target touch a Census tract eligible based on partial or full criteria under the White House Climate and Economic Justice assistance initiative

Descriptions of Layers included in the V2 web map

Basic Layers

-- Counties: county boundaries derived from WI DNR public map service

-- **V2 Parcel Labels**: text labels for parcels: owner name, acreage. By default labels will not turn on until zoomed into the "neighborhood" scale.

-- V2 Parcels: parcels derived from V8 of the Wisconsin Statewide Parcel Map. Parcels were filtered out that are: (a) less than one acre in size; (b) not typical ownership parcels (water, road rights of way, etc.); (c) where more then 2 owners have interests in an identical parcel geometry, e.g., condominiums. There are numerous other anomalies in the parcel data where it was impractical to develop criteria to filter them out. Some examples are (a) parcels that are entirely in open water, (b) where collections of ROW in a city/village/town boundary is merged into a large interconnected "parcel"; (c) where a parcel is tagged with apparently conflicting Property Classes and/or Auxiliary Property Classes, e.g., PROPCLASS = 1 (residential) and AUXCLASS = X1 (federal government).

-- V2 Targets: This layer is derived from V2_Parcels based. Each target is the aggregation of all the parcels with the same tax bill address into a multi-part polygon feature. NOTE: A target may not include all parcels owned by a given owner in a county. Two reasons this can happen are (1) the owner name isn't present in the parcel layer; (2) the tax bill address is not consistently recorded in the various deeds held by a given owner.

Community Equity Layers

-- **Justice40 Tracts Nov 2022**: In Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad, President Biden directed the White House Council on Environmental Quality (CEQ) to develop a geospatial mapping tool to identify disadvantaged communities that face burdens. These communities have been marginalized by society, overburdened by pollution, and underserved by infrastructure and other basic services. The initiative is sometimes referred to as the "Justice40 Initiative." This layer contains census tracts with many fields of data to support the "Climate and Economic Justice Screening Tool" related to Justice40. One column in that layer depicts whether the tract is considered "disadvantaged," either fully or partially and thus is eligible for federal grant funds related to the initiative. For more information on how the data were derived, visit "Climate and Economic Justice Screening Tool, Technical Support Document." This layer is hosted in the Esri Living Atlas. For more information, on this and other Living Atlas resources related to Justice40, see this Esri blog post. For detailed information on the fields in Justice40 layer, view the layer description, and the attribute table (click on **Fields** in the upper right to view the fields list with descriptions of each field.

-- Ceded Territory: Represents Ojibwa ceded territories within Wisconsin as set by various treaties and court decisions. This layer was compiled by Wisconsin DNR in 2014. See the link for further details.

-- Tribal Land: a map service hosted by WI DNR. This shows all tribal boundaries in Wisconsin. It does not portray specific lands owned by tribes, tribal members, or lands held by the U.S. Government for the tribes or tribal members. For that information refer to the V1 Parcels layer or the Statewide Parcels layer for that information.

Climate Resilience & Biodiversity Layers

 -- TNC Resilient and Connected Landscapes (Recognized Biodiversity, Resilient Sites, Local Connectedness): The Nature Conservancy has for several years been working on a project to characterize landscapes and waterways for climate resilience. To date, terrestrial characterizations have been produced, which include layers that can be used in GIS. (Aquatic layers are in process.)

For this project, per the guidance of Nick Miller, former TNC Wisconsin Chapter Director of Science and Strategy, we are utilizing two of the layers: Resilient Sites and Local Connectedness. Both layers model a wide range of factors to produce a single score that falls along a bell curve of occurrence. That means "average" scores occur more frequently, and very high scores, as well as very low scores, occur less frequently. Scores in both layers range from about -3,000 to 3,000 with 0 being "average." Note that both layers were created as a "raster" or "grid" layer of 30m x 30m cells. Those cells have been transformed and averaged for each of the 1.6M parcels provided in this tool.

Nick advised us to prioritize lands with "above average" scores, which is 500 or greater. Also, scores are adjusted for regional context. So an abandoned agricultural field may get a higher score in southern Wisconsin where ag is dominant than it would amid healthy hardwood forest in the northern part of the state. And, "average" or even below average is not "bad." Scores need to be considered into the context and objectives of each organization. A trust that works in areas where the likely protection opportunities are lands that are known to need restoration, should not be deterred from considering a property that is "below average."

  > **Recognized Biodiversity**: To identify areas of high biodiversity value TNC compiled the results of two sets of intensive, multi-year studies on the locations of exemplary habitats and rare species populations: 1) Ecoregional Plans from The Nature Conservancy and Nature Conservancy of Canada, and 2) Conservation Opportunity Area maps developed as part of State Wildlife Action Plans (SWAPs) or similar state-based biodiversity assessments. TNC assessed how well these two sets of maps represented the full suite of geophysical settings. In cases where specific geophysical settings were not well represented in these mapped priorities, TNC supplemented these maps with known occurrences of rare species and communities (NatureServe element occurrences, or EOs) when available; otherwise, for those settings, TNC identified the largest areas of very high estimated resilience within the relevant ecoregion. TNC also supplemented these maps by including lands secured from conversion to development under protected GAP1 or GAP 2 level management for nature conservation. This was an important step because in some of the TNC Ecoregional portfolios already protected land (such as Yosemite National Park) were excluded from the portfolio map to focus on new protection. TNC added all GAP1 and 2 secured lands to the recognized biodiversity values areas given their primary management goals to maintain high quality habitat, natural processes, and thriving species populations. GAP 1 managed lands have as their intent "Nature conservation, with little human interference". Examples include Research Natural Areas (RNA), Wilderness Areas and Wilderness Study areas, Forever Wild easements, and some TNC preserves where TNC controls management. GAP 2 lands have as their intent "Nature conservation, with heavy management where needed". Examples include National Wildlife Refuges, Areas of Critical Environmental Concern, some National Park land or National Monuments, US Forest Service Special Interest Areas, and some TNC conservation easement lands and preserves.

The final Recognized Biodiversity Value dataset is a 30m raster which includes the following four values:

1: Ecoregion-based
2: Ecoregion- and State-based
3: State-based

4: Additional Habitat and Species Areas, not already included in the above categories of Ecoregion or State-based

> **Resilience**: It is important to know that the term resilience as used here does NOT infer that the site and its characteristics are resistant to climate change. What it does mean is that the site has rich biological potential that is anticipated to be sustained despite climate change. To use a simple and overstates analogy, say a northern hardwood forest may be displaced by a sycamore woods. But that sycamore woods is anticipated to be healthy and vibrant.

> **Local Connectedness:** Similar to Resilience, a high Local Connectedness score does not infer the area provides a high-quality pathway for a species to migrate from one local to another as climate change occurs. A high score does suggest that species living in the area have favorable conditions for their daily and annual movement needs.

Existing Protected Areas Layers

-- [SNAs](): developed and maintained by WI DNR

Parcels with Protection Interests in Multiple Layers

Note: The following five layers capture different views of conserved lands, but which have inherent redundancy between them. The same land is captured in as many as four different layers. An example: TNC holds multiple areas in Door County in fee so are captured in the Gathering Waters member trust holdings (layer 1). The purchase of some of those lands are open to the public and were funded by Stewardship (layer 2). And DNR has an easement on some of those lands so are captured in the DNR Managed Lands layer (layer 3). Some are also captured in the PAD US Private Conservation layer (layer 4). Be aware that these duplications do occur.

With the variety of layers and colors used to symbolize them, it may not be possible to see all the relationships amongst interest holders for a given parcel or target when multiple interest layers are turned on. To best understand how interests overlay, zoom into specific parcels or targets of interest. Click on the map to view the popups of the interests that overlay that point. Then turn the various layers on and off to see how the interests overlap.

It is important to note that for a given target, overlapping interests may vary across the target. Targets are created by merging parcels when then share the same tax bill address, and are close to each other (within 400 ft).

-- [Gathering Waters Member Holdings:]() This layer contains all the "holdings" (whether fee, easement, or other class of ownership) of Gathering Waters

member land trusts. This layer is maintained by Gathering Waters as a service to member land trusts.

-- Open Stewardship-Funded Land This layer contains lands that were funded by the Knowles-Nelson Stewardship Program, and are open to public access.

-- Municipal Conservation Land (PAD US): This is a Wisconsin extract of the PAD US dataset of "municipal" conservation lands. Despite its name, many of these lands are county owned lands. For more information on the data, including sources and methods of compilation, click on the layer name.

-- Private Conservation Land (PAD US): This is a Wisconsin extract of the PAD US dataset of private conservation lands. For more information on the data, including sources and methods of compilation, click on the layer name. Note this layer contains does contain trust lands, but a limited subset of them. But it also contains other lands, e.g., some environmental education centers and other private lands.

-- DNR Managed Lands: All lands managed by WI DNR, including state natural areas. NOTE: Updates on this layer lag a bit from the "real time" layer maintained by Lands and Facilities staff. The advantage to the layer included with this app is that lands are "aggregated" from individual parcels that make up a managed unit into one logical feature. So the noted acreage represents the entire feature.

-- Board of Commissioners of Public Lands: a map service hosted by WI DNR

-- U.S. Forest Service Lands: a map service hosted by WI DNR

-- U.S. Army Corps of Engineers Lands: a map service hosted by WI DNR that contains lands that are owned/administered the COE.

-- National Park Service boundaries: a map service hosted by WI DNR

-- U.S. Fish and Wildlife Service lands: a map service hosted by WI DNR

-- NRCS program-enrolled lands: a map service hosted by WI DNR

-- Other Federal land: Miscellaneous lands held or managed by the U.S. Army, USGS, etc. Hosted map service by WI DNR

-- County forest lands

Environmental Layers

-- Land Legacy Points: This layer contains the point locations and basic attributes for all the points that appear on maps in the DNR Land Legacy Report.

-- DNR Project Areas: This layer contains data used for planning purposes. The features in this encompass many DNR Managed Lands areas. But they also contain areas where DNR is considering future conservation efforts.

-- Trust for Public Lands Priority Park Areas: TPL developed the ParkServe database to help local communities, even small ones, understand where placing a new park can have the most impact for those who can benefit most from them. The ParkServe database maintains an inventory of parks for every urban area in the U.S., including Puerto Rico. This includes all incorporated and Census-designated places that lie within any of the country's 3,000+ census-designated urban areas. This totals to over 15,000 cities, towns, or villages included in the database, which represents about 75% of the U.S. population.

-- Conservation Opportunity Areas: Terrestrial and Lakes: developed and maintained by WI DNR.

-- Conservation Opportunity Areas: Stream and River: developed and maintained by WI DNR.

-- DNR O&E Lakes: Wisconsin's Outstanding and Exceptional Lakes.

-- DNR O&E Rivers and Streams: Wisconsin's Outstanding and Exceptional Rivers and Streams.

-- DNR Wild Rice Lakes: Waterbodies the WI Dept. of Natural Resources (WI DNR) and the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) have identified as having wild rice present.

-- DNR Wild Rice Rivers and Streams: Streams/Rivers the WI Dept. of Natural Resources (WI DNR) and the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) have identified as having wild rice present.

-- DNR Sensitive Areas of Lakes: Areas of Special Natural Resources Interest (ASNRI) include designated state natural areas (Subsection 23.27 to 23.29, Wis. Stats.), designated trout streams (Chapter NR 1.02(7), Wis. Adm. Code), waters or portions of waters inhabited by any endangered, threatened, special concern species or unique ecological communities identified in the Natural Heritage Inventory (Section 281.15, Wis. Stats.), wild rice waters (identified by WDNR and Great Lakes Indian Fish and Wildlife Commission), federal or state waters designated as wild or scenic rivers (Sections 30.26 and 30.27, Wis. Stats.), waters in ecologically significant coastal wetlands along Lakes Michigan and Superior as identified in the Coastal Wetlands of Wisconsin (WDNR-CMP project), waters in

areas identified in a special area management plan (SAMP) or special wetland inventory study (SWIS) (Chapter NR 103.04, Wis. Adm. Code).

-- [Important Bird Areas](#): maintained by WI DNR for the Wisconsin Bird Partnership.

-- [SEWRPC Natural Areas](#): SEWRPC has placed a high priority on the identification, protection, and wise use of the natural resources of the Region. The Commission in 1997 undertook the preparation of a regional natural areas and critical species habitat protection and management plan. That plan, presented in this report, is the product of almost 10 years of intensive planning work conducted under the guidance of a Technical Advisory Committee comprised of individuals particularly knowledgeable about the natural areas and critical species habitats of the Region. Among the results of that effort was a through an extensive inventory effort, including this natural areas layer. Note that SEWRPC is in the process of updating this layer, and much other data and information related to the original project. This effort is expected to be completed in 2024. Click on the layer name to view extensive information on the project.

-- [SEWRPC Environmental Corridors](#): SEWRPC has mapped the key elements of the natural resource base of the Southeastern Wisconsin Region: lakes, streams, and associated shorelands and floodlands; wetlands; woodlands; wildlife habitat areas; areas of rugged terrain and high-relief topography; wet, poorly drained, and organic soils; and remnant prairies. In addition, SEWRPC has mapped such natural resource-related features as existing and potential park sites, sites of historic and archaeological value, areas possessing scenic vistas or viewpoints, and areas of scientific value. These inventories have resulted in the delineation of [environmental corridors](#), which are broadly defined as linear areas in the landscape containing concentrations of these significant natural resource and resource-related features. The delineation process is technically defined in this [article](#).

-- NWLT Old Growth Patches: This layer was developed by Northwoods Land Trust to capture known patches of old growth across their 7-county area of work. For more information contact Kari Kirschbaum at NWLT.

-- NWLT Wild Lakes: NWLT also supplied this layer. It was apparently developed many years ago by WI DNR. For more information contact Kari Kirschbaum at NWLT.

-- Focus areas: The Decision Tool can accommodate priority areas defined by individual land trusts. This results in an additional layer being added to the map to view those areas. Also, parcels and targets are tagged if they are close to one of these areas. A criteria is available in the "Basic" group to filter parcels and targets by focus areas. As of January, 2024, layers and tags have been added for Landmark Conservancy, Northwoods Land Trust, and Mississippi Vally Conservancy. The layers for these focus areas are:

> LC Focus Areas (Landmark Conservancy)
> MVC Priority Areas (Mississippi Valley Conservancy)
> NWLT Focus Areas (Northwoods Land Trust)

Other Context Layers

-- USA Flood Hazard Zones: This feature layer displays Flood Hazard Areas from the Flood Insurance Rate Map created by the Federal Emergency Management Agency. From Esri Living Atlas of the World.

-- Forest Tax Law Orders: Tax Law Orders are a generalized point representation of lands enrolled in the Wisconsin Managed Forest and Forest Crop Law Programs, collectively referred to as Tax Law Layers.   Points are located at the center point of each 40-acre quarter-quarter section in which land is enrolled. Points do not identify specific enrollment location. Acreage enrolled from fractional or government lots are located either to the most approximate QQ, Q or S as possible. (Enrolled parcels are represented by the PLSS shape they lie within; however, the actual size of the enrolled property may be as small as 0.1 acres). The GIS layer was last updated March 15, 2023 to reflect conditions as of January 1, 2023. Corrections are made to the data throughout the year that may not be reflected in this snapshot.

-- DNR Land Cover Layers: A group layer with four sub-layers: Land Type Associations (USFS); Original Vegetation Cover; Omernick Ecoregions; Ecological Landscapes.

-- DNR Priority Watersheds: Priority Watersheds ranked from least (1) to greatest (9) priority.

-- Statewide Parcel-V9: Contains all 3.6M parcels in the current Statewide Parcel Map. Provided for context.

-- Potential Ephemeral Ponds: Data collected through the Wisconsin Ephemeral Ponds Project – a project focused on utilizing citizen monitors to identify ephemeral ponds primarily in south-east Wisconsin counties. Data was primarily collected between 2007 and 2012.

-- Potentially Restorable Wetlands: Locations of the calculated PRWs across the state of Wisconsin. These PRWs are calculated, and so field verification is recommended.

-- North Country Trail: Existing Off-Road and On-Road route centerline segments of the North Country National Scenic Trail (NOCO), GCS North American 1983. Data is GPSd, digitized, or sourced from third-party data sets. Not for use at scales greater than 1:24,000.

-- USA Soils Map Units: This feature layer displays the soils of the United States and associated territories derived from the SSURGO dataset. Soil map units are the basic geographic unit of the Soil Survey Geographic Database (SSURGO). The SSURGO dataset is a compilation of soils information collected over the last century by the Natural Resources Conservation Service (NRCS). Map units delineate the extent of different soils. Data for each map unit contains descriptions of the soil's components, productivity, unique properties, and suitability interpretations. Much more detailed information is available at the link above. **Note**: This is a very detailed layer it contains over 36,000,000 records and dozens of fields. It can take a long time for initial display at the initial extent. Avoid adjusting the visible scale to be viewable across a wider area than set by default. (Esri Living Atlas)

-- DNR Waters: A group layer with three sub-layers: Intermittent Streams; Streams and Rivers; Lakes and Open Waters.

-- WISCLAND Version 2: This layer contains Version of 2 of Wisconsin DNR's WISCLAND Land Cover data, at Level 2. WISCLAND is a raster representation of the land cover throughout the state of Wisconsin as of 2016. The dataset is primarily derived from remote sensing imagery acquired by the Landsat 5, 7, and 8 satellites between 2010 and 2014. Land cover was classified via supervised classification at the native 30 m resolution. The map has a two acre minimum mapping unit, meaning that the smallest feature depicted in the map is approximately nine pixels in size. The land cover data are best utilized at approximate map scales of 1:48,000 to 1:500,000, and at no less than a 2 acre minimum mapping unit (MMU). Overall accuracy for the Level 2 classification is estimated at 86% across all classes. Like the TNC Resilient and Connected Landscape layers, it was transformed and summarized for each of the 1.6M parcels provided in the decision tool. Four levels of detail are available in WISCLAND. Level 2 (2nd-lowest level of detail) was determined to be the most useful for this project. There are 16 classes in Level 2. For each parcel, the approximate total acres for each class is available. In the map popup the number of acres is shown for each class, along with a simple color-coded bar chart. The 16 classes for WISCLAND Level 2 are:

   > Developed, High Intensity
   > Developed, Low Intensity
   > Crop Rotation
   > Cranberries
   > Forage Grassland
   > Idle Grassland
   > Coniferous Forest
   > Broad-leaved Deciduous Forest
   > Mixed Deciduous/Coniferous Forest
   > Open Water
   > Floating Aquatic Herbaceous Vegetation
   > Emergent/Wet Meadow

> Lowland Scrub/Shrub
> Forested Wetland
> Barren
> Shrubland

For estimates of class and regional accuracy, and detailed information on the map production, classification scheme, and class descriptions, see the Wiscland 2 User Guide. Hosted bu Wisconsin DNR.

-- PLSS & MCDs: This group layer contains four sublayers: Townships; Sections; Quarter-Quarter Sections; Cities and Villages. Hosted by Wisconsin DNR.

-- Wetland Indicators: The Wetland Indicators Map shows soils mapped by the USDA Natural Resources Conservation Service in the drainage classes of somewhat poorly, poorly and very poorly drained soils. Soils mapped within these drainage classes are soil types typically found within areas designated as wetlands. Therefore, this map layer can be used to identify potential wetlands. Hosted by Wisconsin DNR.

-- Wisconsin Wetland Inventory: This group layer contains various sublayers that present Wisconsin DNR's wetlands inventory. Included is a characterization of that inventory according to National Wetlands Inventory standards. This version of the wetland service for the Wisconsin Wetland Inventory (WWI) displays data prepared using classic methods including the analysis of high altitude imagery in conjunction with soil surveys, topographic maps, previous wetland inventories and field work, as well as newer data captured using LiDAR and high-resolution imagery. The newer wetland and surface water features are mapped at a nominal scale of 1:2000 in order to meet or exceed the National Wetland Inventory (NWI) standards as set in FGDC's Wetland Mapping Standard (2009) and "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 2013). Hosted by Wisconsin DNR.

-- UGSG Watersheds: This map service contains hydrologic units from HUC 2 – HUC 16. Note HUCs 14 & 16 don't apply to Wisconsin. The various HUC level appropriate for the current map scale will automatically appear as you zoom in and out. Hosted by USGS.

-- USA SSURGO – Farmland Class: The Farmland Protection Policy Act, part of the 1981 Farm Bill, is intended to limit federal activities that contribute to the unnecessary conversion of farmland to other uses. The law applies to construction projects funded by the federal government such as highways, airports, and dams, and to the management of federal lands.

As part of the implementation of this law, the Natural Resources Conservation Service identifies high quality agricultural soils as prime farmland, unique farmland, and land of statewide or local importance. Each category may contain one or more

limitations such as Prime Farmland if Irrigated. For more information of farmland classification see the National Soil Survey Handbook. From Esri [Living Atlas of the World](#).

-- [USA Cropland](#): USA Cropland is a **time-enabled imagery layer** of the USDA Cropland Data Layer dataset from the National Agricultural Statistics Service (NASS). The time series shows the crop grown during every growing season in the conterminous US since 2008. Use the time slider to select only one year to view or analyze. Press play to see each growing season displayed sequentially in an animated map.

The USDA is now serving the Cropland Data Layer in their own application called [CroplandCros](#) which allows selection and display of a single product or growing season. This application will eventually replace their popular [CropScape](#) application.

When this layer is turned on a time slider will appear at the bottom of the map. The controls in the time slider will enable viewing crop cover from year to year in the period 2008-2023. You an animate the viewing the data over the years by touching the arrow to the left of the timeline. To move the time window back and forth use the arrow buttons to the right of the time slider.

Aerial Imagery

The map provides three sources of aerial imagery. Together they provide a range of options to support various situations and needs. Experiment with viewing each layer to best fit your own needs.

-- USDA NAIP Imagery: Produced by an ongoing USDA national aerial imagery program.

-- WI DNR Leaf-Off Imagery: WI DNR aggregates the most current imagery from counties for entire state. Leaf-on and Leaf-off imagery are collected. Because this imagery appears slowly, it was decided to only offer the leaf-off version. It provides a good context alternative to the two other layers which mostly provide leaf-on imagery.

-- Esri World Imagery: literally, a worldwide layer of imagery. This layer is constantly being updated and improved as better and more current imagery becomes available.

 -- Basemaps. ArcGIS Online provides a range of basemaps to serve as general context for the more directly informative layers. But basemaps can be very useful for understanding the local environment. Whereas imagery can be most useful for

understanding details in very small areas, basemaps can be valuable for landscape- and regional-scale viewing as well as larger areas. But some basemaps today provide amazing details that can be informative at the parcel level. Esri's "Terrain with Labels" basemap is provided as the default basemap. It provides light terrain shading, place names and road names, without being too intrusive. Experiment with the basemap picker to learn which basemap is most useful for you and when.

Wisconsin Statewide Parcel Map Taxation Classifications

The Decision Tool leverages two fields in the parcel layer that are also defined in state statutes: Class of Property and Auxiliary Class of Property. The values of these fields can be viewed in the Decision Tool for individual parcels. These fields can also be used as powerful filtering criteria to create view parcels of interest. The Decision Tool is intended to make viewing and using these fields as straight-forward and easy-to-understand as practical. But the values of the fields, and their source, currency, completeness and accuracy varies substantially across parcels. Along with assessment value fields (which are also available in the Decision Tool) these fields are typically maintained by local assessors. Following are descriptions of the Class or Property and Auxiliary Class of Property Fields (quoted from the document referenced above this paragraph.)

PROPCLASS (Class of Property) [Standardized Domains] {TEXT:150 CHAR}

-- The General class of for taxable real estate, as specified in Wisconsin s. 70.32(2)(a).
-- Wisconsin law requires assessors to classify land on the basis of use. Sometimes this involves a judgment of the predominant use. There are eight statutory classifications for real property.
-- Domains should either match the 8 classes listed as PROPCLASS domains for taxable properties, or have a <Null> value for PROPCLASS and a value in AUXCLASS field for tax exempt/special properties (with the exception of non-parcel features, designated as such in PARCELID field).
-- Multiple values. If more than one class exists for a parcel, each class is listed in PROPCLASS delimited by commas, as in:

> 1,3,4
> 3,4,5M

    List each class once only. No duplicate values. No spaces in between values.

-- If the native data contains a preceding "G" in front of the numeric ID, this "G" should be omitted ("3" not "G3")
-- Native PROPCLASS domains that do not exactly match standard schema domains

should be standardized to match standard PROPCLASS domain
-- PROPCLASS accepted domains and definitions for "General – Taxable Real Estate":

1 Residential
2 Commercial
3 Manufacturing
4 Agricultural
5 Undeveloped
5M Agricultural forest
6 Productive Forest Land
7 Other

AUXCLASS (Auxiliary Class of Property) [Standardized Domains] {TEXT:150 CHAR}

-- This field contains domains for properties classified in the tax roll as tax exempt or special, and domains that are listed in the native dataset as a class of property that does not fit those specified in s. 70.32(2)(a).

> EXEMPT – defined as federal, state, county, and other tax exempt
> SPECIAL – designating Private Forest Cropland, Managed Forest Land, and County Forest Crop property

-- Standard domains apply to properties in the EXEMPT and SPECIAL classifications.
-- Domains should either match those listed as AUXCLASS domains, or have a <Null> value for AUXCLASS and a value in PROPCLASS field (with the exception of non-parcel features, designated as such in PARCELID field).
-- Any native domains other than those listed within the standard EXEMPT/SPECIAL fields should be standardized to match standard PROPCLASS/AUXCLASS domains.
-- Multiple values. If multiple classes exist for a parcel, each is listed in AUXCLASS, delimited by commas, as in:

> X1,W3,X4
> X3,W5

List each class once only. No duplicate values. No spaces in between values.

-- AUXCLASS EXEMPT accepted domains and definitions for "Exempt from General Property Taxes":

> X1 Federal
> X2 State
> X3 County (county exempt lands are X3 in AUXCLASS, with exception of County Forest Crop Land, which is instead W4)
> X4 Other exempt

-- AUXCLASS SPECIAL accepted domains and definitions for Special – FCL, MFL and County Forest Crop Land:

> W1 Forest Cropland Before 01/01/1972
> W2 Forest Cropland After 12/31/1971
> W3 Forest Cropland Special
> W4 County Forest Crop Land
> W5 MFL Entered After 2004 Open
> W6 MFL Entered After 2004 Closed
> W7 MFL Entered Before 2005 Open
> W8 MFL Entered Before 2005 Closed
> W9 MFL Ferrous Mining

-- AUXCLASS <NULL>:

<NULL> Non-parcel features in some cases may be null in AUXCLASS

-- AUXCLASS FOR PARCELS ASSESSED WITH OTHER PARCELS:

AW or AWO Used to designate parcels "assessed with" other parcels under s. 70.23(2).

An AW or AWO in AUXCLASS explains why these records might lack valuation-related (assessor-assigned) data that occurs in these attribute fields:

CNTASSDVALUE, LNDVALUE, IMPVALUE, MFLVALUE, ESTFMKVALUE, NETPRPTA, GRSPRPTA, PROPCLASS, AUXCLASS, ASSDACRES.