



## Winter 2015

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### Upcoming Events:



- \* Aldo Leopold Day  
March 7
- \* Earth Week Activities  
April 19– 25
- \* Spring Plant Sale  
May 9  
Order form enclosed

Check out the EE Activity Guide for classes and events offered through the year!

[EE Activity Guide](#)

Log on to  
[www.waukeshacountyparks.com](http://www.waukeshacountyparks.com)  
for more information.

## "Just Because" Challenge!

Try a new route home, just because. Serve a new recipe, just because.  
Take a vacation, just because.

If we were to go along in our daily lives always trying something different-just because; we would see how interesting our biography would read, as the script is set down on the page. We take for granted the world which is just a few steps away from us each day. Do you remember all the places and adventures you have been on? Take our "**Just Because**" Challenge and see what new possibilities await you at the Nature Center. Walk down a different trail, sit on a bench and just watch or try a different route from your normal routine- Just Because.

Send us a description of your "Just Because" adventure for publication in the Centerline over the next year. Please keep your submission to under 150 words. We will try to publish as many as we can. "Just Because" adventures can be submitted to the Retzer Nature Center.

Retzer Nature Center  
"Just Because Challenge"  
S14 W28167 Madison Street  
Waukesha WI 53188  
or  
[retzer@waukeshacounty.gov](mailto:retzer@waukeshacounty.gov)





## HEART-WOOD

### THE DOCTRINE OF TRUE COST

Many of today's environmental issues boil down to the relationship between cost and price.

(I know your eyes are glazing over already—but wait! A really simple example will make this relationship clear.)

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Let's say I want to open a restaurant, and I want to sell my food at a really cheap price. In order to do this, I need to cut a lot of corners in my restaurant's operation, so the restaurant is cheap for me to operate. One big corner that I cut is that I decide not to pay to have my garbage picked up. I'll just throw it in the street, thereby saving myself money...and then I'll pass these savings on to my customers, by selling food real cheap.

My customers think they are getting a good deal. But are they? Notice what else is happening. The buildup of garbage in the street is obstructing traffic, so the city has to come and pick it up, and this causes taxes to go up for everyone in the neighborhood. Also, the moldy, rat-infested garbage becomes a source of disease and infection, causing the price of people's healthcare to go up. So... are my customers really getting a good deal? The food is cheap, but they have to pay more for their garbage pick-up and healthcare. Not a good deal after all.

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I know this example is simplistic, but it illustrates the process of externalizing costs. Having my garbage picked up should be one of my costs of running my restaurant, and the prices I charge my customers for the food they buy from me should be high enough to cover this cost. But my low prices don't cover this cost...instead, I externalize this cost, which results in everyone paying for it—in the form of higher taxes and higher healthcare prices. Notice that the 'everyone' that pays is not just my customers (who want to buy my cheap food, after all), but everyone (including folks that would never come to my restaurant).

This example actually illustrates many situations in which the environment is polluted or damaged, and public health is affected. A polluting product is bought at a cheap price, but cleaning up the damage it does to the environment or to people is not covered by its cheap price. The cost of cleaning up the damage is externalized—it has to be cleaned up by everybody, paid for with taxes, or with increased prices for healthcare.

I heard environmentalist Robert Kennedy Jr. speak some years ago, and I will never forget what he said about this. He said: "If the price of things reflects their true cost, then I am not afraid of the free market... because things that are harmful will be expensive, and things that are beneficial will be inexpensive."

\*\*\*

It makes common sense to me that the cost of making something, or doing something, ought to be reflected in the price you pay for it. In fact, it would seem odd if this was not the case. However, looking at the pollution, environmental damage, or effects on human health that are caused by a variety of energy sources, products, and processes, it's obvious that the damage cleanup is not covered by the price. Instead, the cost of damage cleanup has been made an external cost, covered in one way or another by all of us. Problems like soil erosion, groundwater contamination, air and water pollution, acid rain, and climate change represents costs that we all have to pay for, costs that aren't properly included in the price of the things that cause them.

A brighter future for our environment, and for all of us who depend on it, can come about if our ways of using the environment have a price that reflects their true cost. This requires honesty and fairness in pricing, and making those who sell us things include all the costs in the prices they charge. Any costs they don't include will have to be paid by all of us. But if all the costs are included in the price, then things that are harmful will tend to be more expensive, and things that are beneficial will tend to be cheaper. That sounds like a good deal to me.

\*\*\*

It's useful to look at different things we buy and use, and different problems we face with pollution, environmental damage, and human health...Does the price charged for things reflect the true cost to clean up and fix the mess they make, or is somebody getting away with externalizing costs that all of us wind up having to pay?

Larry

**Aldo Leopold  
Weekend**

**Saturday, March 7  
Free Program**

**9-11am**

**Reading Selections from Leopold's  
*Sand County Almanac***

**1-3pm  
Hike**

***Reading the Landscape***

**Winter Wildlife on Snowshoes**

**Saturdays**

**February 14, 21, 28**

**Times: 9-11 am & 1-3 pm**

**Fee: \$5 per person (includes snowshoe rental)**

**Upcoming Events**





## The Retzer Plant Sale - Your Thoughts

Richard Bautz.

### NEW THIS SPRING...

### RETZER PLANT SALES WILL BE OPERATED BY PRE-ORDER AND PRE-PAY!

Past customers will receive an email message soon, with instructions for pre-ordering native plants. 30 species of native plants will be available. All new plants will be in 2 1/2 inch pots.

There will also be a limited number of over-wintered plants available, in 1-gallon pots. These will not be available by pre-order, but will be sold on plant sale day on a first-come, first-served basis.

YOUR COMMENTS ARE WELCOME.

We wish to thank the many people who purchased native plants during our spring and fall plant sales over the past years. We would like your opinion on what you would like Retzer Plant sales to become in the future.

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Retzer Nature Center was one of the state's first Nature Center to begin selling native plants (back in the 1970's), and has cultivated a loyal group of native plant aficionados. It has been a pleasure to serve our customers with both plants and practical advice on incorporating native plant species into their home gardens, and farm landscapes. The Retzer nursery staff consists of two half-time positions, and now our duties will be shifting to the higher priorities of land management and seed production for County-wide park system - Landscape restoration. Additionally, the loss of the Retzer barn greatly reduces the nurseries' storage space, and eliminates our ability to overwinter plants. Spring divisions of overwintered plants had greatly increased our ability to produce large weed-free potted plants. As circumstances reduce the operating efficiency of the nursery operations, adjustments must be made. Again, we would like to hear from you about what you wish to see for the future of the Retzer Plant Sales.

In conversations with sale patrons, we hear requests for greater plant diversity, more shade tolerant plants, more spring ephemerals like bloodroot, hepatica, cut-leaf toothwort, twinleaf, etc., shrubs like hazelnut, witch-hazel, prairie rose, etc., and selections of woodland plants like sassafras, hog peanut, a variety of ferns, etc., also prairie plants that do not grow six feet tall.

As an alternative to the traditional plant sales, we will utilize pre-payment for plants you select in advance and then pick up here at Retzer on the traditional Plant sale day, the Saturday before Mother's Day.

Please let us know what direction you would like to see for future Plant Sales, and email your response to: [rbautz@waukeshacounty.gov](mailto:rbautz@waukeshacounty.gov)

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Link to [Online and Mail-in Order Forms](#)

Mail-in Order form is included in this publication and/or available at the Nature Center.

# THE LAST PRAIRIE



## Antigo Silt Loam (Soils Part Two)

First discovered in northcentral Wisconsin, Antigo Silt Loam is our state soil. Bet you were just thinking “I know our state bird (American Robin), dog (Water Spaniel), flower (Wood Violet), mineral (Galena), tree (Sugar Maple), and fossil (Trilobite), but do we have a state soil?” If that is what you were thinking, your knowledge of Wisconsin state symbols has improved. Don’t worry, it doesn’t end there. We also have a state song, dance, animal, wildlife animal, domestic animal, insect, rock, seal, beverage, fruit, and peace symbol. Back to the soil; if memory serves, it is one of the best agricultural mediums in the state with excellent **tilth** (a recently discovered word meaning readily tillable and suitability for sowing seeds). Glaciers deposited sand and gravel, which makes up the subsoil, and subsequent winds placed 2-3 feet of **loess** (very fine windblown sediment) on top. Eventually, forest covered this particular soil, adding organic matter over the years. The result is a nutrient-rich, but relatively well-drained substrate over mostly level ground.

Welcome to soils part two (for part one, check the Fall Centerline way back in 2010—part one handles a lot of basic soil descriptions and definitions that will not be repeated in this article). The designation ‘Antigo Silt Loam’ is the most definitive and descriptive name for a soil; called a **type**. This is similar (sort of) to the genus and species for an organism. It begins with the soil **series** (Antigo) and adds ‘Silt Loam’ to make a specific type. A soil series always has a geographical designation (like the city or town where it was first identified), and can have more than one soil type (loam and silt loam are sometimes found in a given series).

A soil type has a diagnostic soil profile. A competent soil scientist can accurately identify a specific type even after plowing and erosion. There are two things that move very slowly with soil; formation and change. First, soils are not made overnight; it takes time to stabilize the small, inorganic particles. Sometimes, they help to stabilize themselves with intrinsic properties (clay), but it is the organic matter and especially living plants that prevent erosion. The resulting profile takes several years to show. Second, once the vegetation permanently alters (fire suppression, clearcutting, farming), the original profile remains identifiable for long afterwards (Hole 1976). This long **pedologic lag** is a huge help to ecologists when looking at extremely degraded areas because an accurate soil survey reveals the original (since the most recent ice age) vegetation. The ecologist can then make a more-informed decision about current vegetation management.

Now, let’s take a closer look at Retzer Nature Center. By closer, I mean we will describe the soil series. No, we’re not going to get into all the soil types, don’t be silly—we are not writing a book and the following will have plenty of detail. All the soils you walk on at Retzer (and some you probably don’t) are listed below in alphabetical order. The color in bold following the name corresponds to the Retzer Soil Map (yes, there is a Retzer Soil Map, created by us). For simplicity’s sake, we combined all types and phases both on the map and in the descriptions. For instance, the Hochheim soils we have here range from eroded to severely eroded. The descriptions only include the ‘other’ and ‘setting’ sections from Hole (1976), which takes on a conversational tone. By comparison, here is a quick example of other details available in the text if you wish to research further. Brill is a Wisconsin forest soil. Again, this is just for your information to give you an idea of one full soil description; please don’t expect to understand everything about soil properties after this article. Explanations are in italics.

**Brill:** *Typic Glossoboralf (Typic=typical or usual / Glosso refers to 'gloss', which means 'tonguing'= extensions of the soil peds or horizons / bor refers to 'boric' which means cool temperature / alf means the soil is an 'Alfisol', which is a soil order containing forested soils), fine silty (silt contains mineral grains from 0.5 to 0.002mm in diameter) over sandy or sandy-skeletal (skeletal material contains more than 35% particles greater than 2mm diameter), mixed, frigid (at a depth of 50cm, soil mean annual temperature is less than 8°C/47°F) (Gray-Brown Podzolic soil humus produces a textural horizon within 50cm of soil surface—forest soils); moderately well drained (refers to speed at which water is removed from the soil surface by the soil itself); solum (the solum contains both A and B horizons; C is not included) is 20 to 42 in. of silty material overlying acid (pH less than 7.0) sand and gravel (mineral particles 2mm to 75mm diameter) glacial outwash. Horizons: O1, O2, A1, Bir, A'2, B&A, B'2t, IIB'3t, IIC (all variations on soil horizons—too detailed to define here).*

Right after all of that comes those other sections we mentioned. So... take a break, take some aspirin for that headache, and take a look at the nicer, friendlier descriptions about the Retzer soils. The following is word-for-word from Hole (1976) unless in italics or otherwise specified.

Some quick notes:

**Argillans:** clay skins or coatings composed mostly of clay on the surfaces of blocky peds and stones in the sub-soil.

**CaCo:** Calcium Carbonate mostly from the dolomitic limestone Niagara Escarpment bedrock here.

**Hydric:** The soil is water-saturated without oxygen for at least 8 days of the year. A term used in soils and especially official wetland delineations.

**Mottled:** Somewhat spotted appearance, as in the case of soil that shows splotches of rust and gray colors. Mottling in most of the soils in Wisconsin indicates that natural drainage is restricted, or that the water table rises to or near the surface periodically.

**Solum:** includes both the A and B horizons, usually to state composition, or depth in cm/in.

Catena numbers show the soil is part of a repeating sequence (soil bodies in WI show repeating patterns called catenas or toposequences—explained further on Hole page 180).

Some abbreviations: ann=annual, bd. ft.=board feet, bu=bushel, estab=established, ppt=precipitation,

**\*\*(See Reference map on page 9 for soil locations at Retzer)\*\***

1. **Brookston (Gold):** Part of the B2t horizon is developed in the glacial till; some stones and sand may be present throughout the solum. Setting: On slopes of 0 to 3% gradient in depressions in glacial till plains; original vegetation was lowland hardwoods and sedge meadows; now largely cleared, drained, and used for corn, soybeans, leguminous forage crops, and pasture; mean ann. soil temp. 48-49°F, mean ann. ppt. 31 in. Estab., White Co., Ind., 1915; Milfred and Hole, 1970; Steingraeber and Reynolds, 1971; where artificially drained, 65 bu. oats; not suitable for timber production; catena no. 52.
2. **Casco (Brown):** A silt mantle less than 12 in. thick may be present; the maximum development of the B2t horizon is commonly at the bottom of the solum; clay films (argillans) are prominent in the B2t. Setting: Slope gradients range from 1% on outwash plains to 45% in kettle moraines and on eskers; original vegetation was somewhat open oak-hickory forest, and hilly land is still this way; most of the land has been cleared, however, and is in pasture or cropped to corn, small grains, alfalfa; mean ann. ppt. 31 in. Estab., Fairfield Co., O., 1956; Milfred and Hole, 1970; Link and Demo, 1970; Haszel, 1971; Steingraeber and Reynolds, 1971; 55 bu. oats; 300-375 bd. ft. white pine; catena no. 77.

3. **Casco-Rodman Complex (Red):** A **complex** can be several soils so closely intermingled that they cannot be shown separately on a map at the scale being used. The Casco description is above at number 2. We list Rodman here as it does not occur singly at Retzer. **Rodman:** On eskers, kames, and other glacial outwash deposits with slope gradients of 0 to 45%; the original oak savanna remains undisturbed in many areas, but is pastured in others; mean ann. soil temp. 45°F, mean ann. ppt. 31 in. Estab., Jefferson Co., N.Y., 1911; Whitson et al., 1917; Gaikawad and Hole, 1965; Milfred and hole, 1970; Schmude, 1971; not suitable for oats or pine; catena no. 78.
4. **Fox (Light Green):** The B2 horizon adjacent to the underlying sand and gravel is commonly highest in clay content and called the “beta” B; a horizontal banding has been observed in the solum as high as the uppermost subhorizon of the B horizon. Setting: On level and hilly glacial outwash deposits of glacio-fluvial plains and kettle moraines, with slope gradients ranging from 0 to 40%; original vegetation was oak savanna; much has been altered in hilly areas by grazing, and on less sloping land by clearing and cultivation for production of hay, small grains, and corn; mean ann. soil temp. 47°F, mean ann. ppt. 32 in. Estab., Columbia Co., Wis., 1911; Milfred and Hole, 1970; Haszel, 1971; 60 bu. oats; 325-400 bd. ft. red pine; 400-450 bd. ft. white pine; catena no. 76.
5. **Hochheim (Green):** At unplowed sites a 3-in. A2 horizon is commonly present; the gravelly loam to sandy loam glacial till has a CaCo equivalent of 40 to 60%. Setting: On slopes of 2 to 30% gradient on drumlins and moraines; the original vegetation of southern mesic forest has nearly all been replaced by fields of hay, small grains, and corn, and by pasture; mean ann. soil temp. 47°F, mean ann. ppt. 32 in. Proposed, Dodge Co., Wis., 1955; Milfred and Hole, 1970; Schmude, 1971; 65 bu. oats; 400-450 bd. ft. white pine; catena no. 63.
6. **Houghton (Gray):** Structure of upper solum is massive, breaking to coarse granular (*describing soil ped structure*), and of lower solum is massive, breaking to thick platy. Setting: In bogs in depressions in glacial landscapes; slope gradients are 0 to 5%; original vegetation of marsh grasses, sedges, reeds, buttonbrush, and cattails has been replaced over about a third of the area by pasture or truck crops—onions, lettuce, potatoes, celery, carrots, mint, lawn grass, sweet corn; mean ann. temp. 46°F, mean ann. ppt. 30 in. Estab., Roscommon Co., Mich., 1924; not suitable for oats or pine; catena no. 51.
7. **Lamartine (Light Purple):** The soil is mottled. Setting: On nearly level to gently sloping areas on footslopes or on broad ridges in glacial moraine landscapes, on slopes of 1 to 12% gradient; the original vegetation of southern mesic forest and oak savanna is almost entirely replaced by fields of hay, small grains, and corn; mean ann. soil temp. 46°F, mean ann. ppt. 30 in. Proposed, Dodge Co., Wis., 1953; Milfred and Hole, 1970; Steingraeber and Reynolds, 1971; 65 bu. oats; not suitable for pine; catena no. 51.
8. **Matherton (Beige):** Tongues of B2 horizon extend as much as 2 ft. down into the IIC horizon. Setting: On glacial outwash plains and terraces with slope gradients of 0 to 6%; the original cover of swamp hardwoods and oak savanna has been largely replaced by fields of hay, small grains, soybeans, and corn, and some pasture; mean ann. soil temp. 47°F, mean ann. ppt. 32 in. Estab., McHenry Co., Ill., 1960; Hole, 1956b; Milfred and Hole, 1970; Haszel, 1971; Steingraeber and Reynolds, 1971; 65 bu. oats; 325-400 bd. ft. red pine; 400-450 bd. ft. white pine; catena no. 76.

9. **Ogden (Light Blue):** *Not listed in Soils of Wisconsin properties (not all soil series are described in detail). Ogden is a hydric muck soil with a lot of organic matter and very little slope. Depth to water table is listed as 0 inches. High risk of wet basement, but listed as a prime agricultural soil if drained.*
10. **Open Water (Blue):** It is water and it is open; find a skipping stone.
11. **Palms (Light Gray):** Woody fragments may be present. Setting: In depressions in glacial drift landscapes; the original vegetation of sedges, reeds, and grasses, with some swamp hardwoods, is largely unaltered, but some areas have been drained and are used for pasture or production of truck crops; mean ann. soil temp. 46°F, mean ann. ppt. 31 in. Estab., Sanilac Co., Mich., 1955; Haszel, 1971; not suitable for oats or pine; catena no. 50.
12. **Pella (Purple):** A calcareous variant has snail shells in the A1 horizon; white seams of calcite coat surfaces of prismatic peds in the IIB2g and IIC. Setting: On level glacial lake plains with slopes of 0 to 2% gradient; the original vegetative cover of swamp hardwoods and wet prairie has been largely replaced, after drainage, by fields of hay, small grains, and corn, and by pasture; mean ann. soil temp. 47°F, mean ann. ppt. 32 in. Estab., Ford Co., Ill., 1929; see Elba in Soil Conservation Service, 1967a; Milfred and Hole, 1970; Steingraeber and Reynolds, 1971; Haszel, 1971; 65 bu. oats; not suitable for pine; catena no. 47.
13. **Pistakee (Orange):** *Not listed in Soils of Wisconsin properties (not all soil series are described in detail). Pistakee is a low silt loam in our area with hydric inclusions (portions of this soil are 'hydric' and would be identified in a wetland delineation). Very little slope of 0 to 5%. Depth to water table is 12 to 36 inches with high risk of wet basement. Prime agricultural soil if drained.*
14. **Sebewa (Blue-Gray):** *Not listed in Soils of Wisconsin properties (not all soil series are described in detail). This is also a silt loam, but a little lower and wetter than Pistakee; the entire series is hydric. Depth to water table is 0 inches with very high risk of wet basement. Slopes are 0 to 2% and the soil is prime agricultural if drained.*
15. **St. Charles (Black):** *Not listed in Soils of Wisconsin properties (not all soil series are described in detail). A well-drained, non-hydric silt loam with an average depth to the water table over 60 inches. No limitations to build-ings and low risk of wet basement. A prime agricultural soil. St. Charles comprises less than 1% of Retzer Na-ture Center acreage.*
16. **Theresa (Dark Red):** Very dark brown (10YR 2/2—a Munsell Soil Color System value) clay films and organic stains occur on ped surfaces of the IIB2 horizon; till appears “fluffy” and yellowish. Setting: On glacial moraines with slope gradients of 0 to 12%; the original southern mesic forest is largely replaced by fields of hay, small grains, and corn, and by pasture; mean ann. soil temp. 47°F, mean ann. ppt. 32 in. Proposed, Dodge Co., Wis., 1955; Milfred and Hole, 1970; Link and Demo, 1970; Parker, Kurer, and Steingraeber, 1970; Schmude, 1971; Steingraeber and Reynolds, 1971; 65 bu. oats; 300-350 bd. ft. red pine; 350-400 bd. ft. white pine; catena no. 62.



## ON BOARD WITH THE FRIENDS

### Music Under the Stars

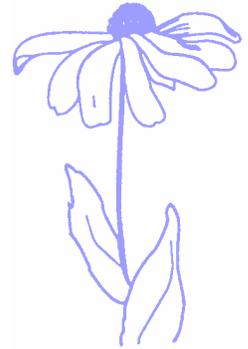
In May the Friends of Retzer will hold the first "Music Under the Stars" concert. The date is Thursday May 21st and will be held from 7-9 PM. Our featured performer, Katie Dahl, is a Wisconsin singer and songwriter who performs her own music, richly steeped in the folk tradition.

Her powerful alto voice and the easy humor of her performances have earned her numerous awards. We are in the planning stage of this event, but want you to be sure and mark the date on your calendar. Members of the Friends can attend at a reduced price from the general public.

### **New backgrounds surrounding the Prairie Underground Exhibit!**



**Give a gift the whole family will  
enjoy!**



**Friends of  
Retzer Nature Center  
Membership**

Members enjoy free admission to the best Family Events in Waukesha County.

Wild Winter Night February 7, 2015 6 - 9am

Apple Harvest Festival September 19, 2015 9am - 5pm

Howl O Ween October 16, 2015 6 - 9pm

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Additional Free Family Events :

Waukesha JanBoree January 18, 2015 10am - 4pm

Earth Day Celebration April 19 - 25, 2015

See the Waukesha County website for more information on all these events and more.

Stop by Retzer Nature Center for a membership brochure or  
join online at [www.friendsofretzer.org](http://www.friendsofretzer.org)



# RETZER NATURE CENTER

WAUKESHA COUNTY PARKS & LAND USE

S14W28167 MADISON STREET

WAUKESHA, WI 53188

**Return Service Requested**

## Friends of Retzer Nature Center

The Friends of Retzer Nature Center is a registered, 501 (c)3, organization dedicated to encouraging, perpetuating, and promoting the work of conservation and natural resource education.

The organization seeks the involvement of the community in the form of financial and volunteer support to work toward the continued growth and improvement of Retzer Nature Center. If you would like to become a member or view some of our projects and activities, please visit our web site at <http://FriendsOfRetzer.org>.