Volume 19, Number 4 Spring 2012 Jean Hurrle, Editor

Woods of Wisdom

Newsletter of the Forest Preserve District of the Kankakee River Valley

"All ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants and animals, or collectively, the land ... a land ethic changes the role of Homo Sapiens from conqueror of the land community to plain member and citizen of it... it implies respect for his fellow members, and so also respect for the community as such."

— Aldo Leopold, "Sand County Almanac"

Blue Eyed Grass, A Native Prairie Iris

This group of prairie dwellers is a delicate and charming resident that may escape the eye hidden among the bolder members of the Illinois plant communities. Blue-Eyed Grass is a perennial that is only ½" to 1" tall, with pale green basal leaves only 2-3 mm across that are veined and flat like small iris leaves. The flowers may be white, pale blue or deep violet, with yellow centers.

There are a number of species throughout North America that are called Blue-Eyed Grass, and yet they are not actually grasses, but members of the iris family (Iridaceae).

The different species are very much alike, and can be difficult to tell apart. Prairie Blue-Eyed Grass can have both white and violet flower color; the white variation of Prairie Blue Eyed Grass is very like White Blue Eyed Grass (*Sisyrinchium albidum).* Prairie Blue-Eyed Grass, like most of the family, has a single umbel of flowers between a pair of bracts on a single flowering stalk. *Sisyrinchium albidum* produces two pairs of bracts with two umbels of flowers on each flowering stalk.

The seed capsules split open to release small dark seeds which are disbursed small distances by wind. *Sisyrinchium* can also spread from offshoots of its coarse, fibrous roots.

"As to dredging the river in Indiana,
it will be noticed that God never made a straight river,
and I don't think man can improve on his general plans."

-- Edwin Beardsley

Man's heart away from nature becomes hard.
– Standing Bear

Prairie Blue-Eyed Grass

Sisyrinchium campestre

Photo Credit: *U.S. Fish and Wildlife Service*
USFWS/Sherburne, Minnesota

The Prairie Blue-Eyed Grass is more drought resistant than most of the other Blue-Eyed Grasses found east of the Mississippi. It is found in mesic to dry conditions where there is full sun. It is usually found in high quality habitat such as mesic to dry black soil prairie, sand prairie, hill prairie, savanna, limestone glades, sandy meadows in wooded areas, abandoned fields and along railroad beds.

References:

Illinois Wildflowers. (n.d.). *Prairie Wildflowers of Illinois.* Retrieved April 17, 2012, from URL:
http://www.illinoiswildflowers.info/prairie/plantx/prbe_grassx.htm
Ladd, D., Oberle, F. Et. al. (1995) Tallgrass Prairie Wildflowers, A Field Guide. Helena, Montana: Falcon Publishing, Inc.

Regal Fritillary

Speyeria idalia

Photo courtesy of the Illinois State Museum

The Regal Fritillary butterfly (*Speyeria idalia)* was once common across the native grasslands of North America from the Atlantic coast to the Rocky Mountains. Today, in grasslands east of the Mississippi, this species is in dire straights, in danger of disappearing forever from the landscape. In Illinois, *Speyeria idalia* is classified as threatened, primarily due to population decline as a result of habitat destruction east of the Mississippi River.

The Regal Fritillary is a relatively large, beautifully marked butterfly that is native to the North American grasslands. It is between 2 5/8" and 3 5/8" in size, and looks similar to a Monarch butterfly. The front wings are a burnt orange with blue-black spots and white-dotted black margin. The hind wings have a dark background with two rows of light spots; both rows are cream-white on the female while the male has a cream-white inner row and a rusty orange outer row. The deep olive-brown undersides of the hind wings have many silvery spots, which distinguish the Regal from the Monarch. The female Regal is larger and darker than the male. No other fritillary has the very dark hind wing with white spots on the upper side.

What happened to decimate this especially beautiful and once-abundant species? As with so many of our endangered and extinct species, habitat destruction has resulted in the near-disappearance of the Regal Fritillary. In Illinois, there is less than 1% of its former native prairie remaining, including the host plants which the caterpillars feed on and the adults rely on for nectar. Plants favored by the adults include various milkweeds and thistles. Violets are an important host plant of the Regal Fritillary caterpillar.

In the greater Chicago region, important steps are underway to bring the Regal Fritillary back from the brink. Midewin National Tallgrass Prairie is establishing prairie violet in its grassland restoration. Once this host plant is thriving, they will re-introduce the Regal Fritillary to Midewin. Last year, the Peggy Notebaert Nature Museum in Chicago, after many years of effort, finally achieved a major breakthrough when they were successful in hatching out the caterpillars of the Regal Fritillary, and released 30 of the butterflies in the Paintbrush Prairie Nature Preserve, one of the Indian Boundary Prairies just south of Chicago.

References:

Pyle, R.M. *National Audubon Society Field Guide to North American Butterflies*, Chanticleer Press, Inc., New York, 1981.

A Midewin Almanac. Retrieved April 27, 2012. From URL:
www.midewinrestoration.net

North American Butterfly Association. Retrieved April 27, 2012. From URL:
www.naba.org

Illinois Butterflies. Retrieved April 27, 2012. From URL:
www.illinoisbutterflies.com

Stout Blue Eyed Grass, or Narrow Leaved Blue-Eyed Grass

Sisyrinchium angustifolium
Photo credit: W.S. Justice.
Smithsonian Museum

The flowers of Stout Blue-eyed Grass may range from deep blue-violet, pale blue, or white. It is found in many areas throughout Illinois, most commonly in areas with woody vegetations such as floodplain forest, thickets, woodland borders and openings, moist oak savannas, and sloping riverbanks. It prefers grassy areas, because broad-leaved plants tend to crowd it out.

This Year Offers a Number of Choice Viewing Events in Store for North American Sky Watchers

May 20, 2012 - Annular Solar Eclipse

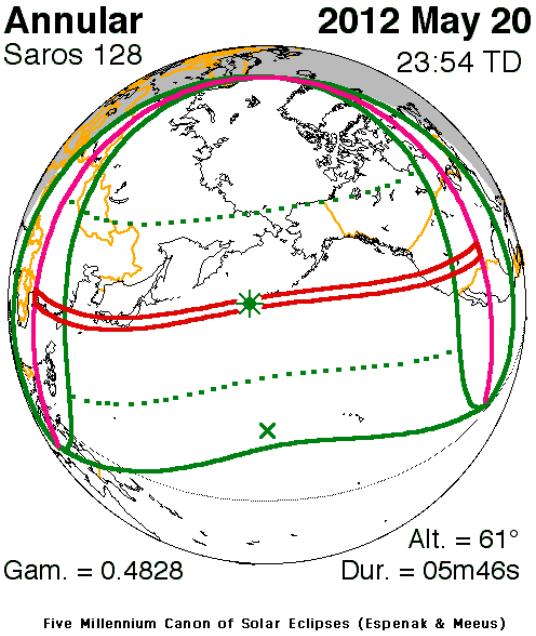
An annular eclipse of the Sun will be visible in the greater Chicago region on May 20, 2012. In Chicago, the sun will be more than 60-percent-eclipsed at sunset. The partial phase in Chicago begins at 7:22 p.m. and the sun will set at 8:09 p.m., before the eclipse is finished. An annular eclipse is where the moon does not obscure the full disk of the sun; only a thin outer ring of the sun can be seen. A partial eclipse is when the Moon obscures only a portion of the Sun.

The path of the annular eclipse will track across northern California, Nevada, Utah, New Mexico and Texas, including Redding, California; Reno, Nevada; and Albuquerque, New Mexico. Perhaps one of the best places to view this eclipse will be the Aleutian Islands, near the point of maximum eclipse.

Always use proper filters for telescopes, special filtered glasses, welder's glasses or use indirect viewing with a pinhole projection. Partial eclipses, annular eclipses, and the partial phases of total eclipses are *never safe to watch without taking special precautions.*

Note that the same precautions are needed for viewing the transit of Venus.

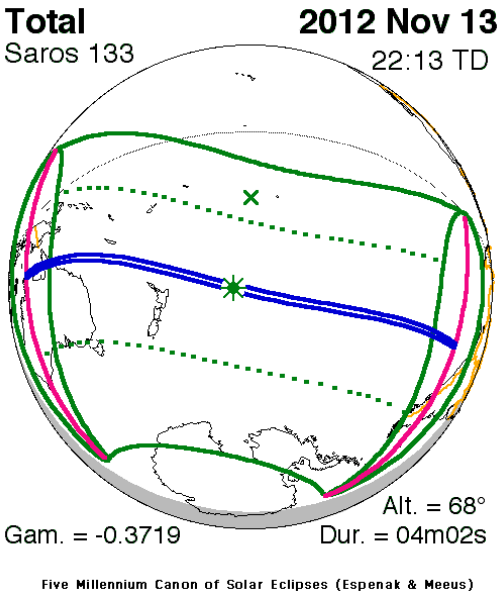
Google "solar eclipse 2012" and the NASA site should come up first, with an interactive Google map of the path of the eclipse in the Northern Hemisphere. Here is a helpful link: **http://eclipse.gsfc.nasa.gov**



Graphics courtesy of National Aeronautics and Space Administration

Total Solar Eclipse - November 13, 2012

This total eclipse will only be visible in the southern hemisphere. For those of us in the Northern Hemisphere who don't want to wait until 2017 to see a total eclipse, and are willing to travel, Australia will be the place to be for viewing this event. Again, Google "total solar eclipse august 2017

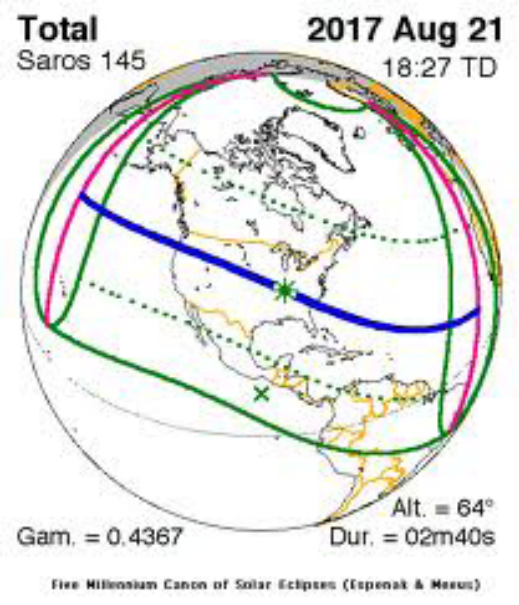


Graphics courtesy of National Aeronautics and Space Administration

Total Solar Eclipse August 17, 2017

This time the eclipse will be fully visible in North America.

http://eclipse.gsfc.nasa.gov/



Graphics courtesy of National Aeronautics and Space Administration

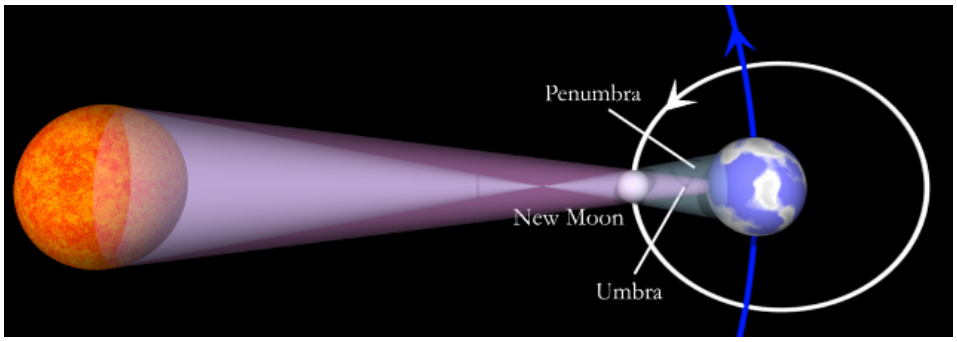
How Does an Eclipse Occur?

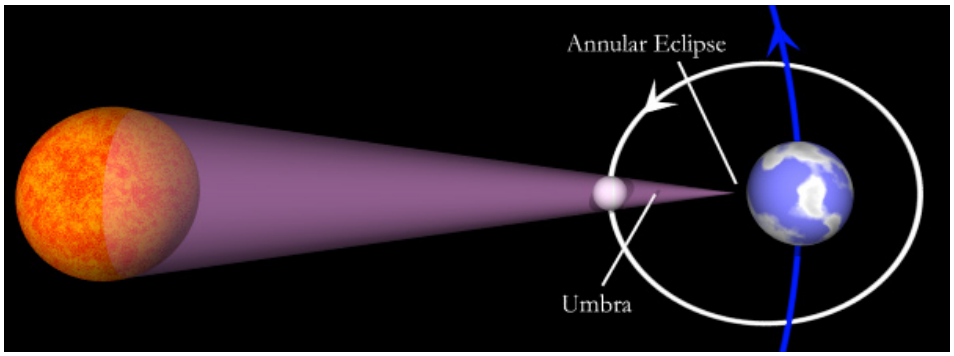
All solar eclipses occur when the Moon passes between the Earth and the Sun, casting a shadow on Earth. The type of eclipse depends on whether the Moon passes directly or partially between Earth and Sun relative to the viewer's position and a number of other factors.

http://www.hermit.org/Eclipse/why_solar.html

[photo here: "diagram.solar.eclipse"]

I DO NOT HAVE THIS ONE





Graphics courtesy of National Aeronautics and Space Administration

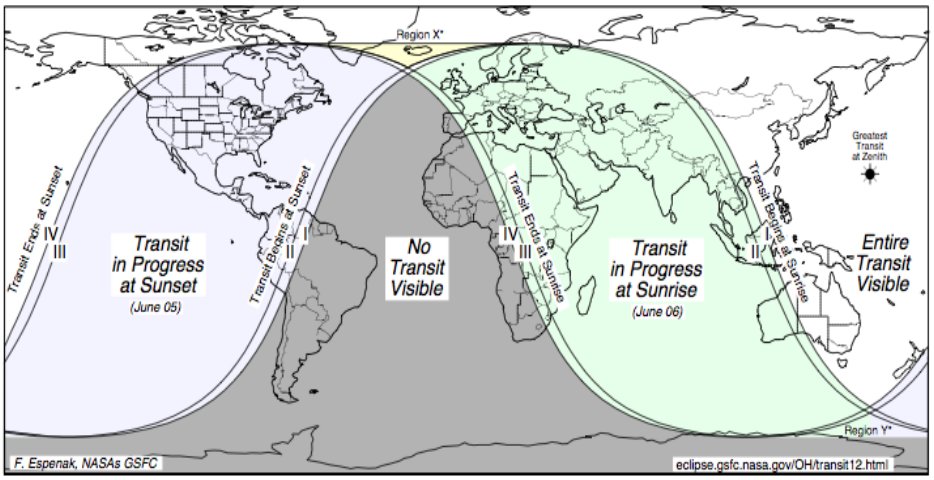
Transit of Venus - June 5, 2012

The transit of Venus has only occurred six times since the discovery of the telescope in the early 1600's. A transit of Venus occurs when Venus crosses in front of the Sun, appearing as a small dark object slowly moving across the face of the Sun. These transits are in intervals of 8, 121.5, 8 and 105.5 years. The next Venus transit won't happen until December 2117.

Select an observation point where you have a clear view of the western horizon; the transit begins with the Sun about 34° altitude above the horizon (90° is directly overhead), so you won't want tall buildings in the way. In Kankakee County, the transit will begin just before sunset as Venus moves into the bright disk of the setting Sun at 5:04 P.M. (17:04:25). By 5:21 P.M. (17:21:54), Venus will have moved into the interior of the disc of the Sun. At 8:21 P.M. the Sun will set, and we will not be able to view the transit any further. However, if you would like to get the maximum view of the full transit, Alaska will provide a great observation point as long as you have a clear horizon to the west.

FIGURE 1

Global Visibility of the Transit of Venus of 2012 June 05/06



* Region X - Beginning and end of Transit are visible, but the Sun sets for a short period around maximum transit.
* Region Y - Beginning and end of Transit are NOT visible, but the Sun rises for a short period around maximum transit.

Graphics courtesy of National Aeronautics and Space Administration

Google "transit of venus 2012" to find more information. The following link was especially helpful for finding local transit times:

http://transitofvenus.nl/wp/where-when/local-transit-times/

Again, always use proper filters for telescopes, special filtered glasses, welder's glasses or use indirect viewing with a pinhole projection. Partial eclipses, annular eclipses, and the partial phases of total eclipses are *never safe to watch without taking special precautions.*

Perseids Meteor Shower - August 12 & 13

This is one of the most dramatic of the annual meteor showers, with up to 50 or more meteors per hour at its peak. The peak is usually August 12 & 13, but you may be able to see some meteors on any clear night between July 23 and August 22. Be sure to find a location away from city lights, so the meteor shower is not obscured by light pollution. The meteor shower radiates from the constellation Perseus, the Hero; look to the northeast in the hours past midnight. Typically, the most meteors are seen in the wee hours before dawn.

Although one can see several meteors an hour on a clear night away from light pollution, there are several times a year when it is possible to see a much greater concentration of meteors. Some of the best meteor showers are the Quadrantids between December 28 and January 3; the Lyrids from April 16 to 25; the Eta Aquarids from Halley's comet, from April 19 to May 28; the Orionids, also from Halley's Comet, between October 2 and November 7; Leonids, between November 14 and 21; and the Geninids, between December 7 and 17. These celestial events are called meteor showers, which are swarms of small particles, resulting in dozens of meteors every hour. A meteor shower occurs when the Earth passes through a region of space with a greater than usual amount of interplanetary debris, such as particles left by a disintegrating comet on its path around the sun. Sand to boulder sized particles are called meteoroids when they are out in space. As Earth passes through a region of space containing a high number of these particles, perspective makes it appear as if they are radiating from a central point in space. The Perseids appear to radiate from a central region, called the radiant, in the constellation Perseus. Once a particle enters Earth's atmosphere, it is called a meteor, also known as a "shooting star" or "falling star". Most are smaller than a grain of sand, and so disintegrate without ever hitting Earth's surface. The glow of the meteor trail is caused by the incineration of the meteor when it enters the atmosphere, lasting anywhere from a quick flash to several seconds. If a particle does reach Earth's surface and survives disintegration, then it is called a meteorite, and is much prized among collectors.

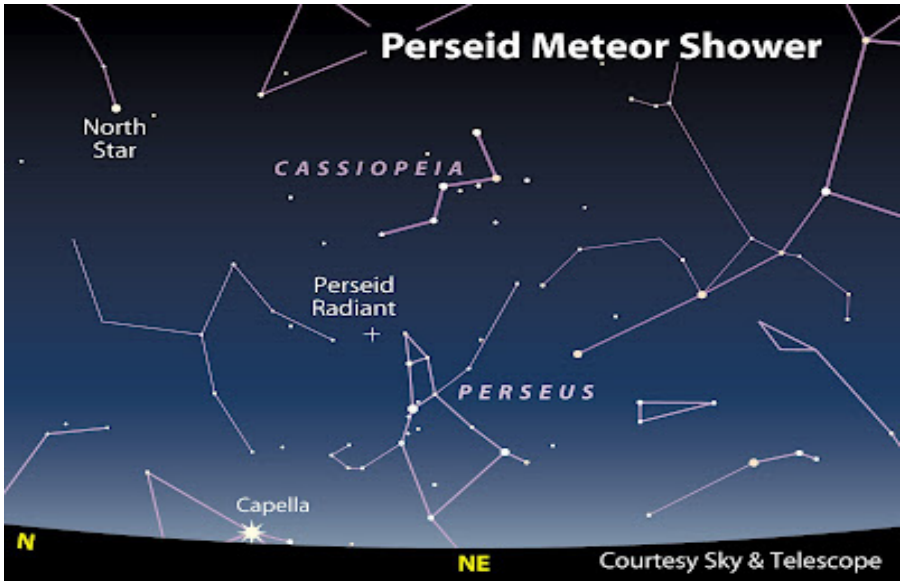


Image courtesy of Sky and Telescope Magazine

References:

Astronomy Calendar of Celestial Events for Calendar Year 2012. *Sea and Sky.* Retrieved April 24, 2012. From URL: **http://www.seasky.org/**

Meteors and meteor showers. *Astronomy.* Retrieved April 24, 2012. From URL: **http://www.astronomy.com/**

Eye Safety During Solar Eclipses and Venus Transit

Article by Fred Espenak. "Eye Safety During Solar Eclipses", *NASA Eclipse Website.* Retrieved April 22, 2012. From URL: **http://eclipse.gsfc.nasa.gov/**

The Sun can be viewed safely with the naked eye only during the few brief seconds or minutes of a total solar eclipse. Venus transits, partial eclipses, annular eclipses, and the partial phases of total eclipses are *never safe to watch without taking special precautions*. Even when 99% of the Sun's surface is obscured during the partial phases of a total eclipse, the remaining photospheric crescent is intensely bright and cannot be viewed safely without eye protection [Chou, 1981; Marsh, 1982]. **Do not attempt to observe the partial or annular phases of any eclipse with the naked eye. Failure to use appropriate filtration may result in permanent eye damage or blindness!**

Generally, the same equipment, techniques and precautions used to observe the Sun outside of eclipse are required for annular eclipses and the partial phases of total eclipses [Reynolds & Sweetsir, 1995; Pasachoff & Covington, 1993; Pasachoff & Menzel, 1992; Sherrod, 1981]. The safest and most inexpensive of these methods is by projection, in which a pinhole or small opening is used to cast the image of the Sun on a screen placed a half-meter or more beyond the opening. Projected images of the Sun may even be seen on the ground in the small openings created by interlacing fingers, or in the dappled sunlight beneath a leafy tree. Binoculars can also be used to project a magnified image of the Sun on a white card, but you must avoid the temptation of using these instruments for direct viewing.

The Sun can be viewed directly only when using filters specifically designed for this purpose. Such filters usually have a thin layer of aluminum, chromium or silver deposited on their surfaces that attenuates ultraviolet, visible, and

(continued on page 6)

(continued from page 6)

infrared energy. One of the most widely available filters for safe solar viewing is a number 14 welder's glass, available through welding supply outlets. More recently, aluminized mylar has become a popular, inexpensive alternative. Mylar can easily be cut with scissors and adapted to any kind of box or viewing device. A number of sources for solar filters are listed below. No filter is safe to use with any optical device (i.e. - telescope, binoculars, etc.) unless it has been specifically designed for that purpose. Experienced amateur and professional astronomers may also use one or two layers of completely exposed and fully developed black-and-white film, provided the film contains a silver emulsion. Since all developed color films lack silver, they are always unsafe for use in solar viewing.

Unsafe filters include color film, some non-silver black and white film, medical x-ray films with images on them, smoked glass, photographic neutral density filters and polarizing filters. Solar filters designed to thread into eyepieces which are often sold with inexpensive telescopes are also dangerous. They should not be used for viewing the Sun at any time since they often crack from overheating. Do not experiment with other filters unless you are certain that they are safe. Damage to the eyes comes predominantly from invisible infrared wavelengths. The fact that the Sun appears dark in a filter or that you feel no discomfort does not guarantee that your eyes are safe. Avoid all unnecessary risks. Your local planetarium or amateur astronomy club is a good source for additional information.

In spite of these precautions, the total phase of an eclipse can and should be viewed without any filters whatsoever. The naked eye view of totality is completely safe and is overwhelmingly awe-inspiring!

References:

Chou, B. R., "Safe Solar Filters," *Sky and Telescope*, August 1981, p. 119.

Marsh, J. C. D., "Observing the Sun in Safety," *J. Brit. Ast. Assoc.*, 1982, 92, 6.

Pasachoff, J. M., and Covington, M., *Cambridge Guide to Eclipse Photography*, Cambridge University Press, Cambridge and New York, 1993.

Pasachoff, J. M. *Field Guide to the Stars and Planets*, 4th edition, Houghton Mifflin, Boston, 2000.

Golub, L. and Pasachoff, J. M. *Nearest Star: The Exciting Science of Our Sun*, Harvard University Press, 2001.

Reynolds, M. D. and Sweetsir, R. A., *Observe Eclipses*, Astronomical League, Washington, DC, 1995.

Sherrod, P. C., *A Complete Manual of Amateur Astronomy*, Prentice-Hall, 1981.

Keep a used car or get a hybrid or electric car – which is the best for the environment?

There are a number of considerations in making this decision. There are two basic considerations in making this decision. The first consideration, and the one that directly financially impacts the buyer, is a simple cost comparison, as well as the value of the actual savings in number of gallons of gas used over the time the car is in your possession. The second, somewhat less obvious consideration is the overall carbon "footprint" of a vehicle, including the cost of manufacture of the car, the driver's driving habits, and the cost of disposal of the materials once the car and its components are finally junked.

While there is likely a savings in the number of gallons of gas used, especially if most of the driving is city driving, recent calculations on the Edmunds website show that in most cases the average driver will need to keep a hybrid car for at least 5-8 years before realizing any dollar savings. In most cases, the lag time before break-even in cost is due to the higher sticker price, and does not include higher maintenance costs or replacement of expensive parts such as the battery. Edmund's lists a few exceptions in their article (see references at the end of this article). The calculations are based on an average of 12,000 to 15,000 miles per year, in city driving conditions. Beginning in ownership year 6-9 for most vehicles, the driver will begin to realize some savings due to using less fuel. However, the break-even point is extended further out if the majority of the driving is highway miles, or if there are lower than average miles driven per year. For the driver who drives mostly highway miles where the hybrid engine has less of a role to play, especially with long commutes, the better choice would be a car with a fuel efficient gas engine. There are several vehicles that will get close to 40 mpg on the highway, within a few mpg of similar-size hybrids, but cost thousands of dollars less.

The other, less obvious consideration is the overall carbon footprint. For those who buy a new car every 2-4 years, according to research done by Toyota, up to 28% of a vehicle's total lifetime carbon emissions occur during the manufacturing process and transport of each new vehicle. Seikei University did a similar analysis and calculated pre-purchase carbon emissions at 12%. If you already have a car, it has already consumed its pre-purchase emissions, and the remaining carbon footprint, plus the impact of its disposal once it goes to the junkyard. If you simply sell your vehicle to another driver, you are not reducing collective emissions, because the car will continue to be driven. If your vehicle is relatively fuel efficient for its usage type, then you will be ahead both personal dollar-wise and also overall carbon footprint will be less than if you purchase a new vehicle with better fuel efficiency.

There are a few other factors to consider. The complex electronics of the hybrid will require a mechanic whose training is updated to the latest electronic and computer technology; you may not be able to take this one to your neighborhood garage. In addition, while the specialty battery in a hybrid is now

typically under a warranty for 100,000 miles, when it does need replacing it is not cheap. Most significant for drivers whose driving is mostly highway, especially for those with long commutes where gas savings really make a difference the hybrid will be running on gas and there is little fuel savings over conventional engines.

For additional information visit the links listed below. Both Edmunds and Scientific American have useful calculation tables and additional references on their sites.

References:

Montoya, R. (02/22/2012). Why hybrids and diesels don't always save you money. *Edmunds.* Retrieved April 22, 2012. From URL: http://www.edmunds.com/

When Used Cars Are More Eco-friendly Than New Cars. *Scientific American*. (01/14/2009). Retrieved April 22, 2012. From URL: http://www.scientificamerican.com/

Squatriglia, C. (05/13/2008). Go Green — Buy a Used Car. It's Better Than a Hybrid. *Wired.* Retrieved April 22, 2012. From URL: http://www.wired.com

Michael Sakowski. (n.d.). How Do Hybrid Cars Work? - Should I Buy a Hybrid Car? *Save Household Energy – Saving Energy One Household At A Time*. Retrieved April 22, 2012. From URL: http://www.savehouseholdenergy.com/

FOREST PRESERVE SITES

Shannon Bayou Environmental Education Center and Administrative Office

This 46-acre preserve is located at 3301 Waldron Road in Aroma Park, along the Kankakee River. The Center provides space for programs about natural history, ecology and preservation of open space in the Kankakee River Valley. The walking trail area features plantings of many native trees and plants, including native tallgrass prairie species, a butterfly garden of native plants. The site includes ¾ mile asphalt and fine gravel walking trail, a picnic shelter, and picnic tables.

3301 Waldron Road
Aroma Park, IL 60910
41° 04' 47.61" N
87° 48' 44.31" W

Waldron Arboretum

Located 1.1 miles south of I-57 on Waldron Road, this site was once a landscape nursery. On this 90 acre site there is a fine gravel hiking trail suitable for bicycling and cross country skiing. The trail winds through 30 acres of woods, including a small prairie restoration area. In the winter of 2008, the District acquired an additional 60 acre parcel which had been primarily in agriculture. Future development plans are pending based on the districts needs and funds available through federal and state grants.

2755 Waldron Road
Aroma Park, IL 60910
41° 05' 36.28" N
87° 49' 26.51" W

Gar Creek Trail and Prairie Restoration

Approximately 85 acres, this site is located about one-half mile east of Route 45 on River Road adjacent to Kankakee Community College. The 16-acre restored tall grass prairie was planted in 1992. A 2.5 mile trail, suitable for hiking, bicycling, and cross country skiing, begins at the prairie, winds along Gar Creek, through oak woodland, and down to the banks of the Kankakee River. At the river's edge, the trail connects with the Kankakee River Front Trail project, which starts at Splash Valley, runs past K.C.C. and the forest preserve, and will soon run thru the City of Kankakee connecting with the Perry Farm Trails.

501 River Road
Kankakee, IL 60901
41° 05' 30.84" N
87° 51' 32.78" W

Aroma Land and Water Preserve

One of the best sites in the area for woodland wildflowers, this 133 acre site is located on Hieland Road, 1.4 miles south of Highway 17 East. A 1.2 mile walking trail winds through several different types of natural areas, including high quality forest, prairie, and wetland ecosystems. It also has nearly ¼ mile of Kankakee River frontage, and the associated floodplain forest. There is ample parking in the parking lot on Hieland Road, and a playground maintained by the Kankakee: Valley Park District: or children.

In 2008, the District added a 30-acre piece of property adjacent to the Aroma Land and Water Reserve (Aroma LWR). This area has been seeded back to prairie species indicative of the dry sand prairie found within the current preserve. The Forest Preserve mows a loop trail that branches off the existing 1 ¼ mile trail through this 30 acre addition to the Aroma Land and Water Preserve. In the summer of 2011, 49.5 acres of mixed pine and hardwood forest was added. Approximately 40 percent of the Aroma Preserve is a wetland and lies within the flood plain of the Kankakee River. In the spring, the wet oak forest gives a spectacular wildflower display while the wetland and sand prairie are the most colorful in the summer.

1180 South. Hieland Road
St. Anne, IL 60964
41° 06' 02.90" N
87° 45' 24.08" W

Limestone Reforestation Site

This site is a 30 acre preserve and reforestation site.

County Road 3750 West
Kankakee, Illinois 60901
41° 08' 38.96" N
87° 56' 51.08" W

Zeedyk Meadows

This is our newest Forest Preserve site, consisting of four acres of trees and grasses.

6500 Warren Street
St. Anne, Illinois
41° 06' 24.92" N
87° 44' 35.77" W

Strasma Grove

Nestled in a neighborhood on Duane Boulevard in Kankakee, this site is 2 acres of mature native trees.

1600 Block of E. Duane Boulevard
Kankakee, Illinois 60901
41° 06' 28.33" N
87° 50' 43.56" W

Kankakee River Valley Forest Preserve District
1301 Waldron Road • P.O. Box 13
Aroma Park, Illinois 60910
815-935-5630

web address: www.krvfpd.org
e-mail: dale@krvfpd.org

Return Service Requested

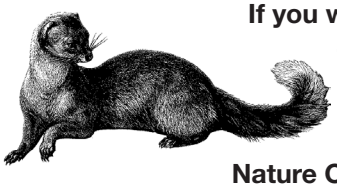
PRSRT STD
U.S. POSTAGE
PAID
60901
Permit No. 11

ON TRAIL...

Call Jean Hurrle at 815-549-9072 for information on times and dates for current programs at your forest preserve. Spring and summer programs include moonlight hikes, wildflower and native prairie walks, and animal tracking. You can also find our programs advertised in the Daily Journal and WVLI radio, or check out "programs" on our website: http://www.krvfpd.org

But when I consider that the nobler animals have been exterminated here - the cougar, panther, lynx, wolverine, wolf, bear, moose, deer, the beaver, the turkey, etc., etc. - I cannot but feel as if I lived in a tamed, and as it were, emasculated country… I listen to a concert in which so many parts are wanting… for instance, thinking that I have here the entire poem, and then, to my chagrin, I hear that it is but an imperfect copy that I possess and have read, that my ancestors have torn out many of the first leaves and grandest passages.

- Henry David Thoreau, Journal, 1856



If you would like to subscribe to this free newsletter, or submit an article, contact the Nature Center at 815-935-5630