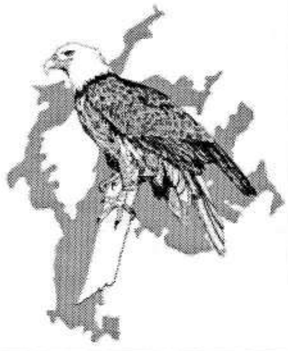
Turtle Flambeau Flowage and Trude Lake

PROPERTY OWNERS' ASSOCIATION, INC.

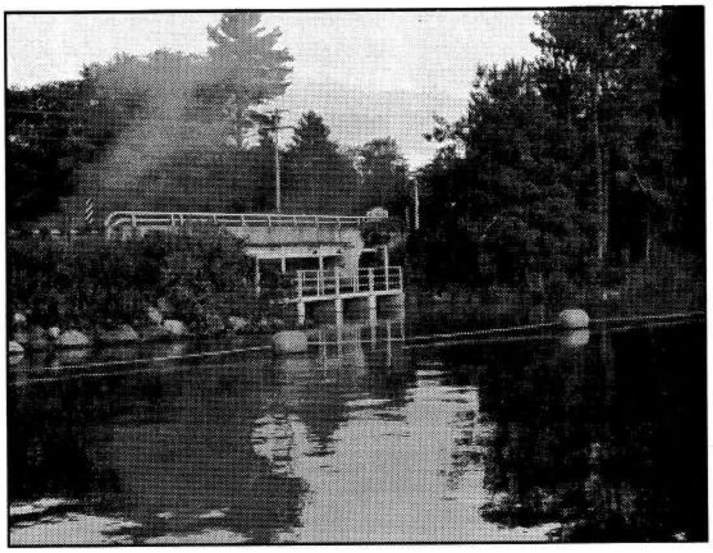


Fall-Winter 2006

--- Rest Lake Dam - Managing The Flow ---

By Terry Daulton

For those who have been following the controversy about the Rest Lake Dam in Manitowish Waters, this may seem like a never ending dispute. The Association has been participating in some of the meetings and planning sessions related to this issue. At our recent fall meeting we received an update from the Friends of the Manitowish River.



Currently the dam is operated under a 1939 agreement between the then Public Service Commission and the Chippewa and Flambeau Improvement Company (CFIC). The CFIC continues to own and operate the dam and it is currently regulated under the authority of the DNR. On paper, the management regime includes a 5 foot winter level on the chain, with water being raised to a minimum of 7.3' at breakup or April 15th. From that time until July, the levels are held at 7.3'-8.6'. From July until September 1, the levels should go no lower than 7.3' and then September to November they can be lowered to 5'. In addition the chain is to be lowered no more than 2 inches per day, and a minimum flow rate of 50 cubic feet per second should be maintained. It should be noted that many of the existing provisions listed in the 1939 operating order are not being complied with today.

Sound complicated? Well, it is particularly complex when you consider differences in snow depth, spring melt rates, summer rainfall, and how these natural factors combine with human wants and traditions. In the past some issues that have arisen affect both upstream and downstream residents and ecosystems.

Like most people who live on a lake, people on the Chain prefer water levels to stay high during summer boating and tourist seasons. However, they also have enjoyed the lowering of water levels in fall to keep docks and boathouses high and dry and safe from ice damage. In addition, their property has been safe from ice damage in early spring as the lake has remained low until damaging ice sheets have broken up. While most lakeshore residents in Wisconsin are used to removing docks and repairing the damages done by forces of winter, there has been little need to address these issues on the Chain and residents have not needed to plan for ice in building and maintaining shoreline facilities. Chain residents also complain that summer minimum water levels can reduce their ability to move from lake to lake in dry years and can greatly impact tourism and local economies.

Downstream – there are far fewer residents but they also have

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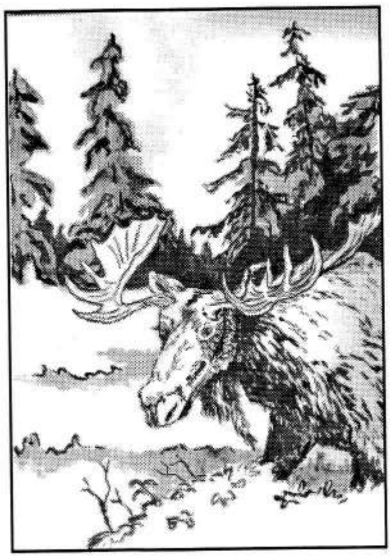
Inside this Issue

And More!

--- Moose Tracks - Past and Present ---



Perhaps you heard rumors about moose sightings on the Flowage this fall. It is reported that tracks were seen on Big Island in early September by hunters and boaters. TFF DNR crew could not find tracks later on. There was also a report of a moose sighting on the Flowage shore at about the same time as a report of a bull with a 40" rack in a timber sale on County FF. Well – apparently moose sightings were also reported in 1916.

A recent "From Times Past" column from the Park Falls Herald shared the following account.

1916 - Sept - 29 - Chas. Comiskey, well known baseball magnate, and owner of the Chicago White Sox, yesterday suffered the loss of another moose with which he had stocked his park at Trude Lake. The animal strayed from the lake the other morning through the big gate which had been left open by some careless visitor to the big game preserve. The moose was later shot by a boy, who was looking for his father's cattle, after the moose confronted him.

Continue from Page 1

complaints. They are often subjected to extreme flooding events when drawdowns exceed the ability of the river to contain the flow. They also express concerns that during dry periods, the flow rate in the river reduces navigation as well as impacts habitats.

The DNR has expressed concerns over sturgeon reproduction in the river, impacts of low flow on other aquatic organisms in the river, movement of fish from the river into the Chain. In particular the apparent inability of sturgeon to spawn in the rapids above Benson Lake-(downstream from the dam) has become a pivotal and divisive issue. In drought years, sturgeon have actually been stranded on the rapids when water levels dropped and required manual rescue to return the fish to deeper water. There is also concern that the low levels affect the ability of sturgeon eggs to survive.

The DNR has put forth a recommendation to set minimum flow rates of 50 cubic feet per second (cfs). In reality, they are simply suggesting a strict adherence to the 1939 rules. In past years, flow rates have periodically dropped below the required minimums in order to maintain a higher summer lake level (8'.4"-8'.6") for the chain.

In order to insure secure water levels on the Chain, the DNR has suggested a less drastic drawdown in fall and an earlier but slower fill rate in spring. This would help insure that there is adequate water going into the boating season. However, this has upstream users concerned for the protection of property and docks from ice damage. In addition, during a severe drought year, upstream residents fear maintaining a minimum flow rate will reduce chain water level and may prevent boating between lakes.

The "Friends of the Manitowish River", a citizen group formed from downstream residents and citizens concerned about the river, wish that the DNR proposal went further to protect river ecosystems and moderate the flow patterns. So in many ways the current DNR recommendations are a compromise solution.

What does this mean for the Turtle Flambeau Flowage? It is clear that we depend on water from the Manitowish to feed the levels in the Flambeau River. It is also true that as connected ecosystems, the health of what occurs upstream is important to us down below. Perhaps most fundamentally at issue is the balance we draw between human needs and desires and our ultimate responsibility to our rivers and lakes as stewards. As our fall meeting, a motion to write a letter in support of the current DNR proposal was unanimously passed by the over 60 members in attendance. The Manitowish Chain has opted to fight the current proposal and are currently engaging legal counsel. Our letter may show that there is support for a balanced approach to the Rest Lake Dam management and to protecting both the upstream and downstream ecology of this important river system.

If you would like to get additional information on this issue or write your own letter to the DNR, you can visit the following web site for details. http://dnr.wi.gov/org/gmu/upwis/restlakedam/issuepaper.html

--- President's Letter ---

Every day is special to me, especially since I live on the Turtle Flambeau Flowage. Thirty years ago we moved from the Chicago area. We knew it would be a big change, but we didn't know that it was the beginning of a wonderful adventure.

This past summer has been filled with many activities and projects that your lake members have been involved in. The fish cribs that were built last winter were placed near Four Mile Creek. The spring walleye watch was another special event. Those who have never experienced the walleye spawn can't imagine the wonders of watching those beautiful fish gathering at Lake of the Falls on a cool spring evening. It's a magic time!

Our association was involved with the hunt for purple loosestrife again. Our shorelines have few areas where the plant has been found growing. This is a fortunate fact, as we are surrounded by many lakes and wetlands where loosestrife has invaded and disrupted the native ecosystems.

We also tackled other exotic species like rusty crayfish, Eurasian milfoil and spiny water flea. The boat landings were staffed by our members who provided education to boaters and visitors. They showed how to clean invasive plants and animals from boats, bilges, and bait buckets before launch or take out. They also shared identification methods and brochures.

Are we doing enough to keep these waters beautiful and clean? I'm not sure, but the challenge of caring for the water and shoreline is worth all our energy and attention. My big thanks go to all who gave time and energy to keep the Flowage unique and special. We do have a treasure that needs our special care -- my hope is that we all really do care.

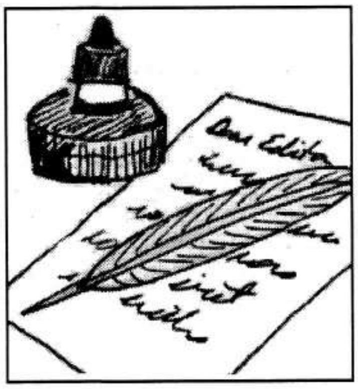
Marianne Brown

--- Join The Fish Crib Crew ---

If you are looking for some energizing and fun winter activity this year, why not join us for the 2007 Fish Crib construction project? As in past years, we will be working with the DNR to put together and place the fish cribs. This year we have ordered 15 cords of wood from a logging job on Big Island. The wood last year was excellent for our project and we are expecting the same quality this year. The plan is to place some of the completed cribs in Merkle Lake with the remainder to various other flowage locations. Arnie Popp is in charge of contacting the work crew to drill the logs as soon as the wood is available. This will probably be in mid-December. Arnie has promised to make his fish crib soup and there will be sweets and coffee to keep the crew happy and warm. The construction of the cribs will be in early January, depending on ice and temperatures.

If you are interested in helping with the project, you can contact either Arnie at 715-476-3530 or Kal Patzer at 715-583-2274. You can also email Kal at: **kjpatzer@centurytel.net.**

--- Flowage Historical Book Proposed ---



Association member, Mike Hittle, has proposed the formation of a committee to investigate and begin the writing of a Flowage history book. Hittle, a retired professor from Lawrence University, has offered to write the book and shepherd its publication. He is looking for people who have information, photos, or great stories of the Flowage. He is also looking for people who might be interested in being part of the committee to work on the project.

The book is envisioned as similar to the Pike Lake historical book. The current idea is that the association would pay for initial printing and would receive any profits from book sales. At present, estimates of possible costs are being investigated and an initial group has formed to brainstorm.

If you are interested in this project, you can contact Mike at 476-2709, or an association board member.

Turtle Flambeau Flowage Scenic Waters Area Wildlife Surveys, 1980 – 2006

Bruce Bacon –
Wildlife Biologist, Mercer

In 1980, John Olson and Jeff Wilson, Mercer DNR wildlife staff, began a long-term evaluation of bird populations on the Turtle Flambeau Flowage (TFF). The original goal was to evaluate the common loon population and compare that data to the statewide information. Even so, detailed information on eagle, osprey and waterfowl sightings were recorded. This was seen as an opportunity to evaluate a survey technique useful on large bodies of water. There was also concern on the impact of periodic drawdowns and their timing on loons and other wildlife, especially waterbirds.

By the late 1980's the TFF was noted for "the largest concentration of breeding pairs of bald eagles, osprey and loons in Wisconsin." Eagles have continued to increase and loons are also doing very well. The breeding osprey population has declined dramatically and is the focus of additional research on the TFF.

The 327 mile TFF shoreline is divided into six routes. The goal is to survey as much of the TFF's 13,849 acres of water as possible in a single morning and get as complete a count of loons and waterfowl as possible. The survey is run in June to facilitate counting loon chicks and waterfowl broods as a measure of productivity. The survey was run annually through 1990, providing 11 years of "baseline" data. In 1990 it was changed to every 5 years to coincide with the LoonWatch five-year statewide loon survey. Starting in 2000 the survey was used to help generate a complete bird list for the TFF.

The surveys are staffed by current and past DNR employees, news media folks, and in recent years, observers with keen songbird identification skills. Survey participants are asked to camp out the evening before so everyone is on site at 4:30AM. Boats leave the campsite around 5:00AM. Survey participants arrive back at the campsite between 11:30 and 13:00.

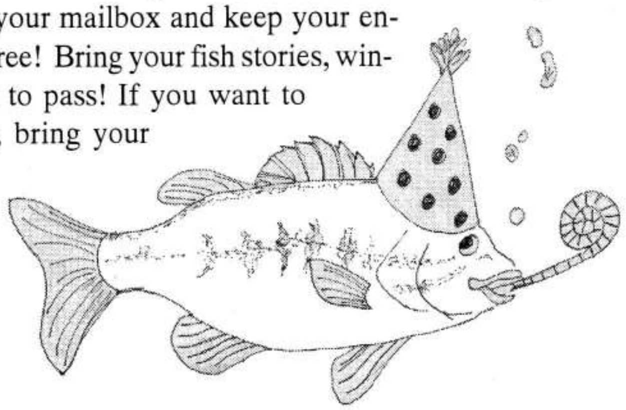
Common Loon

This year the number of loons remained high although the number of chicks (2) observed is the lowest since 1981. 2006 was also a very poor year for loon production in other parts of northern Wisconsin.

Since the first surveys, it was noted that the TFF has a high number of un-

Mark Your Calendar - Cabin Fever Party

TFF Cabin Fever Party is scheduled for Sunday afternoon, January 14th, at the Mercer Community Center. The party will start at 1 pm and we will have potluck dinner, music and door prizes! Look for a flyer in your mailbox and keep your engagement calendar free! Bring your fish stories, winter tales and a dish to pass! If you want to bring beer or wine, bring your own as we are not allowed to provide alcoholic beverages in the community center.



Flowage Ranger Available To Help

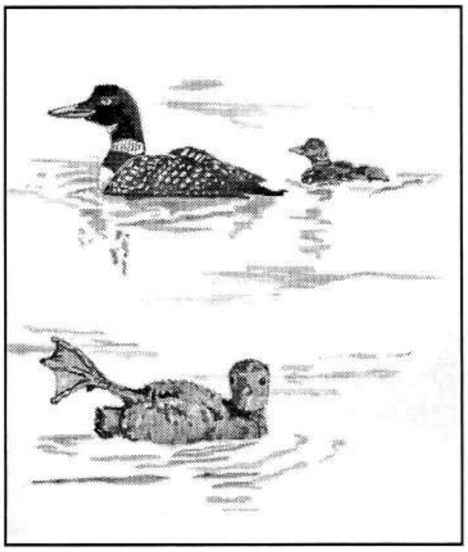
Dennis O'Brien is our local DNR Flowage Ranger and is available to help with enforcement and visitor education issues. If you see a violation of boating or game laws, or have a concern about visitor or resident activities, you can contact Dennis at his cell phone number, 715-776-6785.

paired adult loons, especially when compared to smaller lakes statewide. The breeding population has maintained itself at a high number of territorial pairs. The number of chicks per adult loon on the TFF is lower then statewide, probably due to the large number of unpaired loons present. In some years the number of chicks per breeding pair has exceeded the statewide average. Other years the chick production has been poorer, probably reflecting differences in water level fluctuations caused by the timing of ice-out each spring.

In several years there was additional loon research occurring on the TFF and we were able to compare the wildlife survey results to that of more intense survey work. The wildlife survey compared favorably to the more intense survey work in counting total loons and finding loon chicks. The one day survey always missed a chick or two but came close considering the total acreage being covered in 7 hours.

Osprey

In the early 1980's the survey reflected the increases in osprey as the artificial nest program began and increasing numbers of osprey used the platforms. The use of platforms both increased nest success and numbers



of local osprey and increased the ability to count osprey. The majority of new platforms on the TFF were erected by 1983. Only replacement platforms were put up after that.

The TFF wildlife survey underestimates the breeding population. Some platform and/or natural nests are not visible from the water. Some chicks in the nests are not visible from the water. Both adults are not always present at a nest. It is very apparent the aerial osprey survey is necessary to get an accurate count of breeding osprey and chick production.

Bald Eagle

The same survey difficulties encountered with osprey apply to eagles.

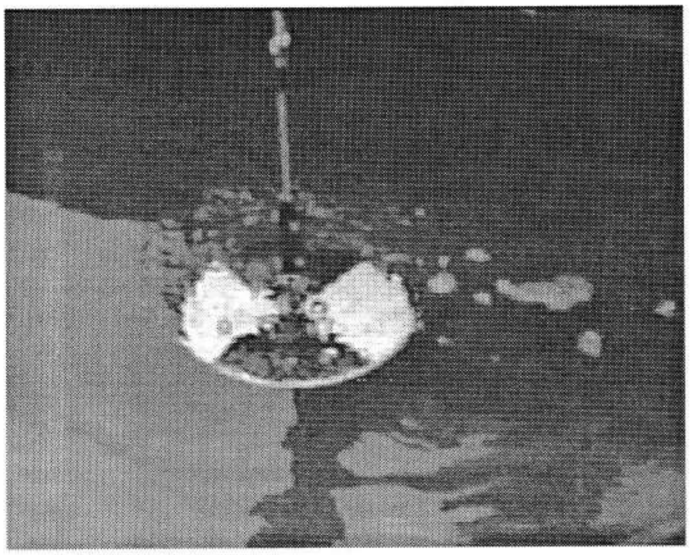
Participants in 2006: Bruce Bacon, John Bates, Luke Breitenbach, Marie Ericksen, Jim Evrard, Tim Fitzgerald, Dan Haskel, Roger Jasinski, Randy Jurewicz, Pat Kaiser, Dave Linderud, Bruce Moss, Diane O'Krongly, Dave Lindsley, Jim Paruk, Karl Pilch, Amber Roth, Fred Strand, Jeff Wilson, Trent Leaf, Jason Ihlenfeldt.

--- Top To Bottom ---
Water Testing On the Flowage

By Jim Leever

Let me start by saying I'm one of 1,200 volunteers in a state wide DNR program testing water in more than 900 lakes. Water testing is an important part of the State of Wisconsin's commitment to the protection of our natural resources, and preservation of water quality on the Flowage is a significant part of our Association's mission of stewardship.

Water testing is conducted monthly from "ice-out" through October, in the deepest part of the Flowage, the 50 foot hole in Baraboo just off the Springstead Landing. The testing consists of two parts: *(1)* tests that measure the amount of nutrients in the water (too little and plant life is threatened, too much and we create unwanted quantities of weeds and algae), and *(2)* a test for the amount of dissolved oxygen in the water (a necessary ingredient for aquatic survival).



Nutrients

The amount of nutrients in the water is measured on a scale called the Trophic State Index (TSI). This scale ranges from 0 to 100. A low nutrient lake would have an Index value near 0, a high nutrient lake would have an Index value nearer to 100. The TSI for the Flowage is in the low 50's. This puts us on the edge of a water condition called "eutrophic," which is characterized by decreased clarity, oxygen depleted bottom, and some areas of plant overgrowth. Our phosphorus level averaged 25 parts per billion (ppb) in 2005. If our concentration of phosphorus were to increase to more than 30 ppb, we would be at risk for noticeably greater algae bloom. This, of course, would be an undesirable and unhealthy condition. We seem to be holding at the present TSI level, which is acceptable; but we must be vigilant. One important way to be be proactive is by avoiding the use of lawn fertilizers containing phosphorus that runs off into the water.

Dissolved Oxygen

You would think that any creature that lives in an environment commonly referred to as "H-2-O" (2 parts hydrogen, 1 part oxygen) would not have a problem with lack of oxygen. Not so! An atom of water is not easily dismantled, which means fish and other aquatic life must use other sources of oxygen to sustain life. The oxygen we refer to as dissolved oxygen is expelled into the water by underwater plants; folded into the water by wave action; and injected into the water by various other sources. The riffles in a bubbling stream are injecting dissolved oxygen into the water. Water temperature, on the other hand, determines how much oxygen the water can hold. The warmer the water the less oxygen it can hold. Boiling water removes all dissolved oxygen. That's why boiled water will freeze faster; it contains no dissolved oxygen. Another interesting fact that influences the water dynamics that we observe is density. Strangely, water contracts to its highest density (greatest weight) at 39 degrees F, just above the freezing point. Above and below that point water is expanding and becoming less dense and less heavy. Temperature changes, with their influence on water density, cause water to churn, mix, and create separate layers. This last condition, called stratification, causes some interesting effects in the summer when what's known as a "thermocline" is formed. A thermocline in a temperature layer that exists at a depth of between 15 and 20 feet. Due to changes in water density with temperature, this thermocline becomes a barrier that separates deep water into strata or layers.

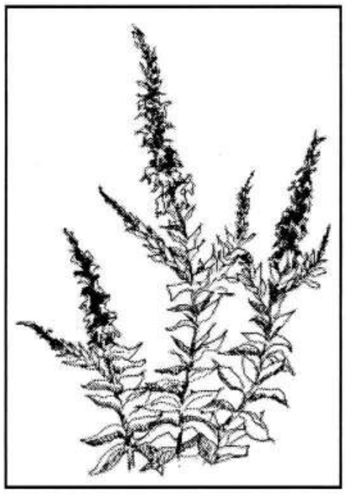
Here is how a thermocline works. We find the clearest water in the

Continue on next page

Purple Loosestrife Survey 2006

By Frank & Liz Kilgore

Bump a Stump - that's what it was with the water level on the TFF down about three feet during this August's purple loosestrife surveys. The shorelines where loosestrife is usually found were wider than normal, making it necessary to get closer in to see any loosestrife flowers. This made this year's search a more intimate experience with the bottom of the lake.



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This year, two areas of the lake produced purple loosestrife, the small islands near the mouth of Grant Creek and the shoreline for about one half mile north of Sturgeon Bay Landing. The loosestrife was pulled out by the roots and bagged in plastic. While it is gratifying to find and remove these plants, each year they seem to be expanding their range. Both Grant Creek and the Sturgeon Bay shore were visited several times, and we continued to find loosestrife in bloom. Purple loosestrife has really taken off on the Manitowish River near the Ding-A-Ling restaurant, and as a result, John Bates and the DNR are raising and releasing beetles in hopes of controlling the spread of plants.

In northern Wisconsin, Liz and I saw little loosestrife in the marsh west of Ashland along US 2. I was told that last summer the Bad River Indian Reservation organized a group of sixteen people who went shoulder to shoulder through the marsh and puller loosestrife plants. Other areas along US 2 to Superior seem to have little loosestrife. It may be that the WI Highway Dept. and DNR are also making efforts to control loosestrife along the roads.

This year twenty-six individuals had indicated they wanted to help with the loosestrife hunt. This strong interest is appreciated and important. Most of the Flowage is free of purple loosestrife, but the only way we can be confident this continues is to survey the whole lake each year during late July and early August.

Continued from page 6

spring and fall, when sunlight can travel 15 feet into the water and surface temperatures are about 60 degrees. Oxygen is depleted at only the very bottom where the temperature is about 40 degrees. The summer heating of the water causes big changes. Suspended algae increases and clarity drops to about 6 feet. This translates to light travel of about 10 feet. Surface temperatures raise to just under 80 degrees and the bottom warms to about 50 degrees. This temperature gradient causes stratification to occur and the waters do not readily mix. Lack of oxygen bearing water penetrating the thermocline reduces oxygen levels to near zero as decomposition uses up most of the supply. Most fish, including walleye, require dissolved oxygen of at least 3 ppm. Above the thermocline, we measure well over that amount, 5 to 7 ppm; below the thermocline dissolved oxygen is less than 1 ppm.

The final phase, in the metamorphosis of our waters, is "turnover." When the fall weather cools the surface water, making it heavier, it sinks toward the bottom causing a mixing action called turnover. In this phase, a complete mix of water occurs, and temperature and oxygen levels become constants from top to bottom. I suppose if I wanted to save some time on my October testing, I would just take a measurement of temperature and dissolved oxygen at the surface, and mark the same readings from 0 to 45 feet. But on the other hand, it's nice to sit out there on the water, look at the beautiful fall colors and listen to the birds.

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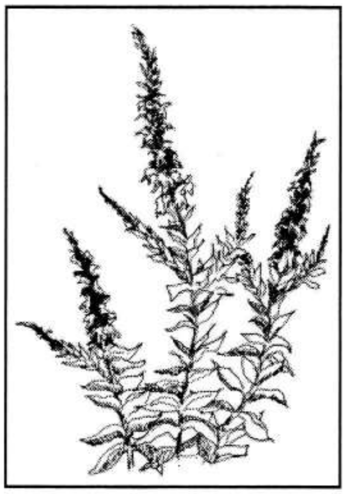

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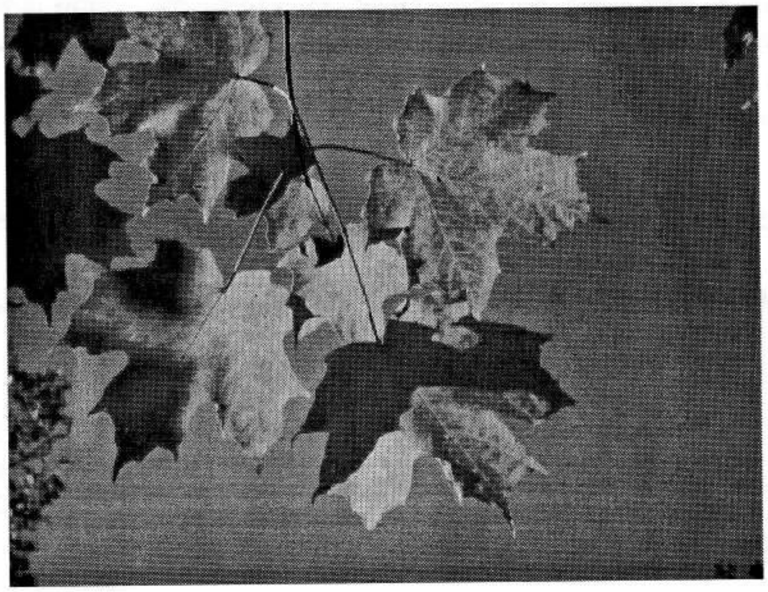
--- The Colors Around Us ---

By Diane O'Krongly

Each fall people take time out to look at the astounding colors of the forest. We spent hours tending flower gardens for the pleasure of looking at varied colors in the manicured beds. We express awe at the deep blue of a lake or lush green of early spring leaves. What we don't often think about is what creates the colors we enjoy during our daily lives on the Flowage.

Here's Color Science 101!

Every thing in our world is either matter or energy. Matter is composed of atoms. Atoms are composed of three main particles: protons, neutrons and electrons. When we look at matter, our eyes interpret a kind of energy, electromagnetic radiation, reflecting or refracting off atoms. Electromagnetic radiation comes in many different wavelengths. Our eyes can only detect a small proportion of this energy, the visible spectrum which ranges from red (with the longest wavelength) to blue (with the shortest wavelengths). To see, electromagnetic radiation must penetrate our eye and stimulate cone cells on the backs of our eyes. When sunlight strikes matter and the energy is reflected or refracted towards our eyes, we see the matter. We see matter as various colors because it is composed of different types of atoms that vary in their number of protons and electrons. Believe it or not, this difference in number of protons and electron causes matter to reflect specific wavelengths that we perceive as color. Sometimes the colors we see are a result of refraction. When light travels through some matter, it changes speed and is bent. You can see this by putting a pencil in a clear glass with water in it. The pencil will appear to be broken. The light slows down through the water compared to the air and is bent. A rainbow is the result of white light being bent or refracted through a prism shaped raindrop. White light is a combination of all the wavelengths in the visible spectrum. Here are examples of colors around us on the Flowage.



Blue Sky

The sky is blue because as light moves through the atmosphere, most of the longer wavelengths pass straight through. However, the gas molecules absorb much shorter wavelength light. The absorbed blue light is then radiated in different directions. Since you see the blue light from everywhere overhead, the sky looks blue.

Sunset on the Flowage

As the sun begins to set, the light must travel farther through the atmosphere before it gets to you. More of the light is reflected and scattered. As less reaches you directly, the sun appears less bright. The color of the sun itself appears to change, first to orange and then to red. This is because even more of the short wavelength blue and greens are now scattered. Only the longer wavelengths are left in the direct beam that reaches your eye.

Our Green Shorelines

Chlorophyll is a pigment in plants that captures energy from the sun. Chlorophyll absorbs most wavelengths of light except for green, which is reflected. This green light is reflected to our eyes.

Fall Color

In the fall many plants transport chlorophyll out of the leaves and store it until the next spring. This exposes other light absorbing pigments that are also present in the leaves. These pigments absorb green light and reflect yellow, orange, or red.

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Flowage Water Color
Bodies of water surrounded by swamps and bogs tend to be stained brown like tea. This staining is from tannic acids, a product of decay. Tannic acid acts like a brown pigment that reflects brown light.

Blue Birds
Blue pigment is uncommon, so most animals that appear blue achieve the coloration through refraction. The feathers are not actually blue, they only appear blue, as a result of a molecular structure that refracts blue light to your eyes. If the feathers were blue because of blue pigment, you could grind the feathers into a blue powder.

Red Birds
Red birds are red as a result of pigment.

Loss of Color
Animals in low light conditions appear to lose color because there may not be enough electromagnetic radiation to stimulate your cones. An example of this is when a red bird disappears when deep in a tree.

Mammals
Most mammals use lack of color to increase camouflage. They also save resources by not needing nutrients to maintain color vision.

Green Lake Water
Algae and blue green bacteria both have light absorbing pigments, which reflect green or bluish green light. Lakes with large amounts of these organisms will take on their color.

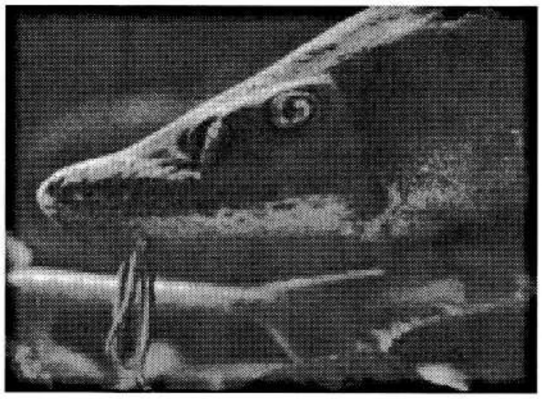
Reddish Soils and Rocks
Soils and rocks in our area are often reddish in color because of a pigment composed of iron and oxygen that reflexes red light.

Snow
Snow is white because all the colors are reflected equally without any color range dominating.

Turtle-Flambeau Flowage Sturgeon Update 2006

By Jeff Roth

This past August, the Mercer Fisheries crew completed the annual sturgeon population survey on the Flambeau Flowage and Benson Lake. Monitoring the sturgeon population is essential to determine the age structure, stocking success, population densities and improved natural recruitment as a result of a modified flow regime at the primary spawning site in the Manitowish River.



Each year gill nets are set in a variety of locations throughout the flowage. Captured fish are immediately removed from the net and a variety of information gathered relative to size and weight compared to previous handling of that particular fish. A micro-chip is then inserted into each fish for future identification, which will provide data on growth rates, habitat use and eventually a population estimate of the sturgeon population.

This year crews captured a total of 32 sturgeon of which 16 were recaptured from previous sampling and 16 were "new" fish. Age and growth analysis will be completed later this winter to verify whether the juvenile fish in the system are from past stocking efforts or naturally reproduced. Through continued monitoring, habitat improvement and artificial propagation, the flowage will hopefully once again provide a sport sturgeon fishery in the future.

Turtle Flambeau Flowage and Trude Lake PROPERTY OWNERS' ASSOCIATION, INC.

P.O. Box 631 - Mercer, WI 54547

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--- Board of Directors ---

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If you would like to contact the association by email, please note the new address!
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--- Mission Statement ---

The purpose of the Association is to maintain, protect, and enhance the quality of the lake and its surroundings for the collective interest of members and the general public.

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