

# DCEC Newsletter



published by  
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**Fall  
2005**

**Environmental News  
for Door County**

*Make a Legacy Bequest to  
DCEC see page 7 for  
details!. See page 6 for  
Membership Information!*

## DCEC's 2005 Summer Program: **More Green Stuff!**

Because of the seriousness of the algae problems along our shores in the waters, our free annual summer program was focused again on the cause and effect of algae nuisance and the *Green Stuff* problem that continues along our shores.

**Vicky Harris** of the Sea Grant Institute (UW/GB) returned to give an in-depth update on the information about *Cladophora*, the related impact of *Zebra* mussels, and the newcomer, *Quagga* mussels.

The aquatic plant *Cladophora* and the *Zebra* mussels have become a combined nuisance. They both wash up and decay on our beaches, creating a source of odor not apparent in recent years. Vicky reported that *Zebra* mussels attach themselves to hard and rocky surfaces, while *Cladophora* likes to attach to both the mussels and the rocky hard bottoms found in our waters.

As it becomes attached to the hard mussels and rocky strata, densely growing *Cladophora* causes the mussels to "suffocate" and detach from the hard surface. This underwater event causes them to loosen allowing a combination of plant and animal matter to end up on our beaches, providing the source for highly objectionable odors and nuisance.

With the new clearness of the water, since the mussels have arrived, the *Cladophora* is able to move into deeper waters beyond its original 15-foot preferred depth, resulting in much larger area for infestation.

It has been estimated that the amount of green stuff that is on our beaches represents one percent (1%) of the total amount out in Lake Michigan and the Bay. This substantial problem will not go away in the future unless we make some major changes.

The in-water nutrients in the Bay, specifically phosphorus and nitrates, are far beyond the recommended levels for sustainable water quality maintenance. Bay levels are reported up to 220 ppm of phosphorus, nearly five (5) times the maximum standard of 45 ppm.

The Lake, though seeming stable, is also approaching the 45 ppm maximum. As the Lake is a much larger body of water, the time element is greater to arrive at the limit. The time needed to get back to safe and sustainable phosphorus levels, once the sources have been eliminated, will also be greater.

The newly arrived *Quagga* mussels are a different problem. Our *Zebra* mussels attach to rocky and hard strata, but the *Quagga*



enjoy a sandy bottom, with different long-range results.

If you visit Michigan, both lower and upper, you do not see any of the algae problem on the beaches, primarily because of the sandy environment and water currents on that side of the Lake. Also, the State of Michigan is well advanced in controlling the nutrients that enter the Lake, at both point (identifiable) and non-point (unknown and variable) sources.

A good example of conscientious waste management is the city of Muskegon, which utilizes the liquid effluent and solids from the city treatment facility inland for agricultural purposes. **Nothing enters the Lake.** This may all change once the *Quagga* become established and the numbers increase. It is estimated that *Quagga* mussels now occupy 75 percent of the area formerly held by *Zebra* mussels in Lake Michigan.

**Dr. Bud Harris**, UW/GB, emeritus, (also Vicky's husband), then gave an in-depth presentation on the science and study that has been done about phosphorous sources, both point and non-point.

He stated that the phosphorus/nutrient problem is not unique to our Great Lakes region, but is world-wide as more intense use of natural resources by an increasing population,

*(see Green Stuff, page two)*



DCEC Incorporated in 1971 under the laws of Wisconsin as a nonprofit, tax-exempt corporation

## Green Stuff *(Continued from Page One)*

place more demands on our water resources. In many places it is evidenced by a visible eutrophication and diminished available oxygen that results. This often occurs on Lake Winnebago and small inland lakes during warm summer periods.

In our area, the big-picture analysis has identified tributary nutrient loads as **the major source of unwanted nutrients in our waters**, both Lake and Bay. For example, one-fifth of the total nutrient load in Green Bay is coming from the Fox River (270 metric tons of phosphorus), with a small portion of the total attributed to the Wolf River basin.

The total annual load from all sources in Green Bay is 500 metric tons. *Point* (known) sources contribute 20% while *non-point* (unknown) contribute the remaining 80%. *Point* sources are municipal wastewater treatment facilities and industrial sources, while *non-point* includes barnyards, agricultural operations, animal waste and urban and shore land run-off.

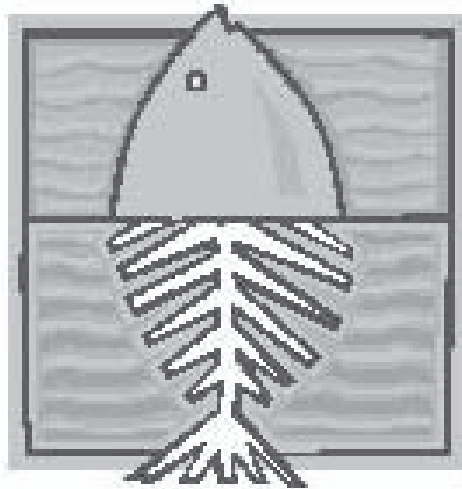
A color animation of the currents and wind-driven transports in the bay of Green Bay, showed how the Fox River load is dispatched by natural flows along the east coast of the Bay, with some occasional “swirls” (cross-currents) taking small portions of the nutrient directly

across the Bay.

Bear in mind, that the major flow continues down the east shore of the Bay and enters Lake Michigan once it passes the peninsula and Washington Island.

The natural flow in Lake Michigan is also counter-clockwise taking the remaining nutrients into upper Michigan waters and southwards along the west shore of the Lake. Professor Harris said that these studies have been done for the last 25 years and the results have been consistent.

He expressed concern that total suspended solids in the waters are also a major concern for fisheries and future algae growth. Major changes in our way of using our land and water resources **MUST** occur if we are to leave any worthwhile assets to the future generations.



### **What Are the Solutions?**

- **Nutrient management programs** for rural and urban land owners
- **Proper animal waste utilization** as mega-farms increase
- **Conservation tillage methods** for all farm operations

*(see Green Stuff, page seven)*

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## **Rain: Nature's Soft Water Source**

Many of us can remember the in-house cistern that was a storage “tank” for rainwater to be used for non-potable needs, similar to soft water uses today. While the cisterns have been discontinued and replaced with commercial water softeners in homes, the cost and environmental effects of the salt-induced, resin-bead water softening process has brought about some changes. Natural soft water, from rain and natural sources, has long been recognized as the most cost-effective and best way to meet soft water needs. Innovative people are looking at ways of again returning to the cistern type storage of rainwater for household consumption, using newer technology and materials that exist today.

One of the workshops, at the nationally famous *Renewable Energy Fair* at Custer, Wisconsin in June, was dedicated to using rainwater for ALL household uses. The presenters from Minnesota have established a working system that enables them to use rainwater from storage without a working well as a water source. Their system begins with a galvanized metal roof on the water source building. Galvanized roofing is necessary as painted metal or asphalt shingles give off

*(see Rain, page seven)*

## **Jim Zimmerman Portrait Donated to Crossroads at Big Creek**



**An oil portrait of James Zimmerman, long-time Wisconsin ecologist and DCEC consultant, is presented by its artist and DCEC board member, Jim Ingwersen, to Coggin Heeringa (Director & Naturalist of the Crossroads at Big Creek.) The portrait is a gift from the DCEC and will hang prominently in the Collins Learning Center.**

# Paul Lambeck Named 2005 Environmental Citizen of the Year

This year's award was presented to Paul Lambeck, a citizen of Nasewaupée town in Southern Door County, who has distinguished himself by his dedicated action in support of good land use planning in his town and by a sincere commitment to common-sense growth in Nasewaupée. Even though the land-use planning effort was defeated in his town after years of his personal participation in the planning meetings and discussions, this outstanding citizen has not lost his desire to bring his town into the realm of modern-day land use procedures.

He was also the lead person in the awareness effort for a ban on open barrel burning, within the entire county, and wrote a feature story about the dangers associated with open burning of waste for the DCEC newsletter. His effort led to the countywide ordinance, passed recently, to control the use of indiscriminate household burning of waste materials.

When called upon to do basic research on land uses in Nasewaupée, as part of the Cost of Services Study, he conducted the identification process thoroughly and in-depth with enough accuracy that the town is now using some of his information. He also volunteered to do the same research in Gibraltar town for the *Cost of Services Study*, and completed that work in record time. He worked outdoors on weekdays and Sundays in freezing weather to complete the task on time. While walking in Fish Creek, it was cold enough that his pen stopped writing and he had to borrow a pencil to complete that day's task.

"It is with great pleasure and appreciation that the Board of Directors named Paul Lambeck *DCEC Environmental Citizen of the Year 2005*," said board member Eileen Andera, in making the presentation. "By leading the successful battle to implement a countywide ordinance governing the use of burning barrels, Paul has distinguished himself by his genuine and dedicated action to accomplish this enviable goal."

In accepting his award, Paul stressed that "the outdoor burning ordinance by itself isn't enough." He indicated there needs to be mandatory garbage



**Paul Lambeck (left) accepts his award from Eileen Andera, DCEC board member at the Annual Summer Program.**

collection, throughout the county, to lessen the urge to improperly dispose of refuse and unwanted material.

Thank you, Paul Lambeck for your timeless effort and dedication!

## DCEC Takes Legal Action!

As a result of the non-compliance with federal clean air regulation, DCEC has joined with Clean Wisconsin, and other State groups with a notice of litigation intent involving Wisconsin Public Service Corporation. The WPS-owned Pulliam coal-fired generating facility in Green Bay has been in violation of the discharge standards *every quarter* since 1999. Action is necessary to bring this facility into compliance. Notice of intent was filed in early summer followed by a meeting with WPS to discuss the demands. After officials at that meeting took the demands back to management, they came back with a request we hold off on the lawsuit until they could develop a proposal to remediation of the problem. Solutions could involve cleaning up the emissions from the plant or possible other remedies, such as closing down units.

The parties bringing suit (including DCEC) have agreed to give the corporation until mid-October to

(see **Lawsuit**, page seven)

# Mound, Holding Tank or Created Wetland?

It is commonly known by some, and presumed by many, that new and innovative ways of properly dealing with household wastewater are on the horizon and might be available and used in our lifetime. While this statement may be viewed as cynical by some, the truth remains that innovation is not one of the attributes of the State of Wisconsin regarding new ways to handle household wastewater. More often than not, the initiative for change MUST come from the homeowners themselves or professional people who make the effort to explore and develop new systems: such is the case with the new *Created Wetland Systems*.

*Created Wetlands Systems* are unique in that they require only a minimum amount of topsoil, only the amount needed to engineer a smooth and nearly level surface to form the bottom of the new artificial wetland. They can be engineered around obstructions, such as significant trees, and can be designed in various shapes and sizes for the particular location available. The shape can be long and narrow (preferred), square, or almost any configuration that will have the desired effect in treatment of the wastewater effluent.

These new systems begin, like most methods, with a conventional septic tank for initial treatment and separation. The effluent from the septic tank is piped by gravity or pumped to an area that has been leveled. Let's assume an area about 20 by 40 feet with a shallow (18") berm around the perimeter for an average household. This shallow flat area, called a *cell*, is lined with heavy gauge plastic liner and sealed so there can be no leakage. The cell is filled to a depth of 12 inches with pea-sized gravel, with perforated distribution pipes starting at the inlet end. It is then covered with a porous plastic cover that allows moisture and plant roots to penetrate the cover and keeps the soil from leaching downward.. This is then covered with 3 -5 inches of topsoil needed to support plant growth and stability for the vegetative cover that will be growing on the surface. This top layer is planted with large native plants that will grow profusely in the topsoil, sending their roots deep into the pea-gravel and utilizing the nutrients and moisture from the effluent below. Most large NATIVE species are fine for use on created wetlands; sedge is one of the preferred, though there are many others. A word of caution: any weeds that become established will grow profusely, and must be eliminated and controlled to prevent a takeover.

The question is often asked: ***Will the wetland freeze in a cold winter?*** Possibly, but so far the users have indicated no problem. Microbial action keeps your septic from freezing and should have the same effect in the wetland system. The plants, which are dormant over winter, will hold snow cover and will burst forth in spring with growth from the accumulated nutrients stored over winter.

Another question is: ***Must there be an outlet on this***

***system?*** Yes, an outlet is necessary and a surface discharge permit is needed for the possible clear-water discharge to a natural wetland area nearby. Although if sized properly, there should be no discharge. The provision for possible discharge must be there.

## ***Are there any of these systems in place in Wisconsin?***

Yes, the River Bend Environmental Center near West Bend, Wisconsin, has a functioning wetland system on site, as one of the original users. The Kettle Moraine School District has a school facility served by a *created wetland*, and there is a small demonstration project planned for Crossroads at Big Creek, Sturgeon Bay. There may be several individual projects in place, functioning in various locations throughout the State, maintained by homeowners on an experimental basis permitted by the Wisconsin Department of Commerce.

***What about the cost?*** The cost is comparable to that of a mound system, with the advantages of being able to easily replace the pea-gravel base when needed, and the non-obtrusive appearance of a wild plant area compared with the earthen mound. The significant impact of a holding tank operation also is eliminated in this system.

***Can several homeowners get together and utilize a space that is unique to one of the home sites?*** Yes though the size of the cell(s) would need to be calculated on the combined maximum outflow from the participat-

ing homeowners. The legal ramifications would also need to be handled with a mutual agreement or small sanitary district.

***Would these new systems work in Door County?*** There is no reason why they would not be extremely beneficial, both in aesthetic factors, and because of the shallow topsoil present throughout the County dictating mounds or holding tanks in many areas.

***Where can I find more information about wetland systems?*** You can visit a functioning created wetland system at the River Edge Environmental Center, 4458 W. Hawthorne Drive, P O Box 26 Newburg, WI. 53060. Call 1-800-287-8098 to arrange a tour or click on [www.riveredge.us/about/history/.shtm](http://www.riveredge.us/about/history/.shtm). Or visit the Kettle Moraine School District to find out more.

You can also talk to the people who designed these systems: Dave Flowers, at 414-377-6030, or Don Gilmore, 414-284-4842.

As with any new concept, the conventional way of resolving a problem is difficult to overcome and in most instances, change to the status quo only comes about with public demand. The ***Door County Environmental Council*** anticipates bringing some of these experts to the County to help create an awareness of alternatives that may be available for common household use in the future. ***Awareness inspires interest.***





# Do You Love Door County???

Then help us protect it... please.

I support the Door County Environmental Council, working to preserve our heritage of natural resources.  
Please enlist me as one of the following: (check enclosed)

<i>Individual Member</i>	<i>\$15</i>	<i>Family Membership</i>	<i>\$25</i>
<i>Student Member</i>	<i>\$10</i>	<i>Sustaining Member</i>	<i>\$35</i>
<i>Guarantor</i>	<i>\$50</i>	<i>Donor</i>	<i>from \$100</i>

Renewal? \_\_\_\_\_ New Member? \_\_\_\_\_ Door County Voter? yes \_\_\_\_\_ no \_\_\_\_\_

Name \_\_\_\_\_

Summer Mailing Address \_\_\_\_\_

Winter Mailing Address \_\_\_\_\_

E-mail Address and or Fax number \_\_\_\_\_

Please name your Door County Municipality (town, village or city) \_\_\_\_\_

All donations are tax deductible to the extent to the law provides.  
DCEC is a nonprofit, tax-exempt organization.  
We supply receipts that meet IRS requirements for your gift of \$250 or more.  
Thank you for being part of DCEC!

mail to: Door County Environmental Council, Inc. P.O. Box 114, Fish Creek, WI 54212  
for more information, call DCEC at 743-6003 email dcec@itol.com

Please contact DCEC if you are interested in volunteering for the Board or special projects.

**Visit** DCEC on the Internet!  
**www.dcec.us** or  
**doorcountycompass.com/dcec/**

**Read** the DCEC Column in the *Door Peninsula Voice* (free at many locations.)

Governor James Doyle Room 115E State Capitol Madison WI 53702	Representative Gary Bies PO Box 8952 Madison WI 53708	US Senate Washington DC 20510
Senator Alan Lasee PO Box 7882 Madison WI 53707	WI Senators Russ Feinbold & Herbert Kohl, write them at:	WI Representative Mark Green US House of Representatives Washington DC 20515

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\* Newsletter Editor

## Green Stuff *(Continued from Page Two)*

- **Stream and shore land buffers** (NR115 attempts to increase these requirements)
- **Animal ration modification** to eliminate over-feeding of nutrients
- **Best management practices** for farm and urban land owners.

### **What Can You Do as an Urban Resident?**

- **Insist** that urban wetlands are preserved, restored, and created when possible
- **Help** make rain gardens, roof gardens, and green roofs accepted practices
- **Allow** detention ponds to become an integral part of controlling rapid water run-off.
- **Insist** on non-impervious paving in your neighborhood and beyond
- **Adopt** the old rain barrel use that was common in the past to “meter” rainwater discharge

All of these use modifications will make a difference in the amount of nutrients getting into our waters and bring about changes needed to take place for sustainable water quality.

A manual on *rain garden planning and construction* is available from the DCEC office at 920-743-6003.

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## Rain *(Cont'd from Page Three)*

elements that are not accepted in potable water sources. The roof gutters and downspouts are also galvanized rather than painted or plastic. The roof rainwater is collected in a small “former bulk milk tank” of stainless steel, which functions as a settling tank for eliminating the sediment in the process. The water then flows into a buried much larger capacity stainless steel “former bulk milk tank,” which serves as a storage tank. The underground location keeps the water cool and is pumped throughout the house for various uses. Water for human consumption is filtered in much the same manner as many people filter tap water for drinking with a commercial water filter.

The question will arise, **How do they keep the water clean and free from the problems that plagued cisterns years ago?** There will be no contaminants that were common in the concrete or plastered cisterns, as the stainless steel surface is flawless and easily cleaned. The first rain of the season which “flushes” the roof and downspouts is diverted while the second rain is harvested and retained in the large storage tank after the sediments have been removed in the smaller detention tank.

Another question might be, **How is the system cleaned?** Most of the larger farm bulk milk tanks have a hatch for entrance on the top, where chlorine or other solutions can be used to cleanse and sanitize the tank when it becomes empty...

probably on a yearly basis.

**Is there enough rain to keep the tank filled for a season?** Size is the answer, both in the size of the gathering roof area, and the size of the storage tank. Both in combination should give ample soft water for extended periods.

This new concept is made possible by the surplus of smaller farm bulk milk tanks that are readily available and reasonably priced. The use of stainless steel is also essential to make sure that the water remains pure once it is in storage in its cold underground tank.

As with any water storage system, the maintenance must be regular and extended. This ensures the water is collected correctly and stored with no chance of contamination.

This is an entirely new revision of an old established practice that served households for decades. We’ll be monitoring the progress of this experimental venture to keep tabs on its success in the future year.

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## Lawsuit *(Continued from Page Three)*

bring a formal remediation proposal. If, when presented, the proposal is acceptable and would address the emission problems into the future, the parties of the suit would drop the action. However, if the proposal does not meet with approval, the litigation would proceed against WPS Corporation. You may recall when the facility was modified to eliminate the four former stacks, and the new central “state-of-the-art” large stack was constructed, the installation reportedly included precipitators and stack-scrubbers to eliminate the violations that occurred previously. If these control measures are in place and not being used, the solution to the discharge violations could be easily remedied. If they are being used and not effective, the solution to the violations is a major project. **DCEC** and the other groups will have some answers in mid-October when the management submits their proposal... meanwhile the violations continue.

## **Leave A Legacy to DCEC!**

**Many individuals and families** are making plans to support volunteer organizations such as DCEC when they legalize their estate and asset transfers.

We have on-going programs such as our *Annual Essay Contest* that could be underwritten by a legacy, or supportive grant, to ensure your funding would receive wide recognition.

**The DCEC Endowment Fund**, established in 1985, is a growing secure account to ensure the long-range functions of your organization.

Any of these funding allocations would be a welcomed and a dedicated show of support for the environmental protection of our county far into the future.



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**Lots More Info on the  
 Green Stuff!—See Page One!**



**Door County Community Wind Growing Stronger!**

Door County Community Wind (DCCW) is the official name of DCEC's newest project. Its statement of purpose is: "to aesthetically develop community-owned wind energy in Door County."

About 18 extremely dedicated Door County residents are making headway in bringing the dream of cutting Door County's dependence on coal-produced electricity by harvesting the abundant wind in our county. It's estimated that it takes the equivalent of over eight 1,000-foot Great Lakes freighters *filled with coal* to provide Door County with one year's worth of electricity.

Clearly, a lot of air pollution can be kept out of Door County if we produce the bulk of our electrical energy needs through wind turbines.

With three highly successful town hall meetings under their belts, facing virtually no opposition (so far) DCCW is moving toward bringing modern wind

energy to our county.

Community-owned wind is good for Door County. It will provide jobs in the areas of construction and maintenance. It will give farmers and land owners the opportunity of harvesting the wind, a renewable source, providing them with additional revenue. It will make us less dependent on outside sources for our power. ***Wind energy is homeland security.***

If you are a farmer interested in harvesting wind as a cash-crop, if you are interested in investing in wind energy in Door County, or if you are interested in working with this highly dedicated group: contact David Enigl, contact person for DCCW, by phone after 7 pm at 868-2196 or via email at [eservices@itol.com](mailto:eservices@itol.com).

Door County Community Wind is a subcommittee of the Renewable Energy Task Force of the DCEC.

**...and, after you read this newsletter, please pass it along to a friend.**