Quaas Creek
Watershed Protection Plan

(Submitted by: Dan Stoffel, Quaas Creek Watershed Protection Committee Chairman/ Washington County Board Supervisor)

In 1999, the Washington County Board created the Quaas Creek Watershed Protection Committee to investigate strategies, which would protect Quaas Creek and its watershed from the effects of urban encroachment. The watershed and Quaas Creek itself, which lies within the City of West Bend and the Towns of Polk, West Bend, and Trenton, is unique.

Because it is one of only two streams in Washington County that can be characterized as cold-water fisheries, and the only one which traverses through an urban area. The aquatic habitat is threatened by the effects of urbanization and its attendant runoff. This runoff not only carries a potential load of chemicals and sediment, but also is a threat to the stream because of its temperature in the summer months. A large input of this warm water after a rainfall event can seriously threaten the survival of particular species in the creek.

The conversion of this creek from a rural stream to an urban stream is inevitable. What is not necessarily inevitable is the degradation of the stream from the effects of the urban environment. The future health of this stream during and after this evolution depends on the choices our governments and we make today. Making enlightened planning and conservation decisions, based on the recommendations of the Quaas Creek Watershed Protection Plan will go a long way in protecting this creek from the effects of human activity.

The creation of the plan is obviously just the first step in protecting Quaas Creek. In the ensuing years, committed developers, Plan Commissions, and municipal governments will have to share a vision of maintaining and improving the quality of the watershed. People will have to be made aware of the creek’s significance, a visibility will have to be created, and motivation will have to be summoned. If we can be successful in creating this motivation, the future looks bright for Quaas Creek.
The Quaas Creek Watershed Protection Plan was adopted by the Washington County Board of Supervisors by resolution on February 10, 2004 and is designed to assist municipalities in developing strategies that will benefit Quaas Creek's natural assets and protect sensitive habitats within the watershed. By using the planning strategies outlined in the plan, results will be achieved that enrich and preserve the natural environment. In addition, carefully planned urban development can create and maintain open space, groundwater recharge areas, and wildlife corridors for the benefit of Quaas Creek and its residents.

**The goal of the Quaas Creek Watershed Protection Plan is the preservation and enhancement of the quality and function of the natural resources of the Quaas Creek watershed.**

This stream protection plan complements management actions implemented in the Quaas Creek Watershed. This represents an ongoing commitment from public agencies and municipalities to responsible resource protection planning. The plan incorporates land and stream management data and analyses found within the following sources: SEWRPC Regional Water Quality Management Plan for Southeastern Wisconsin, Stormwater Management Plan for the City of West Bend, Wisconsin Department of Natural Resources Nonpoint Source Control Plan for East and West Branches of the Milwaukee River Priority Watershed Project, Washington County Lake and Stream Classification Project, Washington County Land and Water Resource Management Plan, and SEWRPC Stream Channel Stability and Biological Assessment of Quaas Creek.

**OBJECTIVES**

- Limit the negative water quality and quantity impacts associated with urban runoff and impervious surfaces.
- Reduce nonpoint pollutant loading and thermal increases from existing urban and rural runoff.
- Increase citizen awareness of the existing and potential water quality conditions of Quaas Creek.
- Promote environmentally responsible behaviors of residential, business and institutional communities.
- Preserve existing natural vegetative cover in and along perennial, intermittent and ephemeral water bodies.
- Preserve the existence and function of wetlands and groundwater recharge areas.
- Preserve the existing vegetation in remaining natural areas and enhance their ecological function by connecting these areas to a larger riparian corridor.

**Members of the Quaas Creek Watershed Protection Committee:**

- Daniel Stoffel - Chair, Washington County Board of Supervisors
- Judith Neu, P.E. - City of West Bend
- Harold Groth - Town of Polk
- John Norman - Town of Trenton
- John Behrens - Town of West Bend

For more information regarding the Quaas Creek Watershed Protection Plan, please visit our website @ www.co.washington.wi.us/lcd
In 1990, he saw an opportunity to transfer as District Conservationist to Livingston County, the fourth largest county in Illinois.

During the 14-year period as District Conservationist in Livingston County, Illinois, his primary responsibilities included working with landowners and operators to address their soil erosion and water quality concerns on their land. This usually involved assisting owners and operators to decipher USDA conservation programs and determine how they could best be incorporated to fit the land and their particular farming operation. He has also worked with various local watershed-planning groups to facilitate the development and implementation of watershed conservation plans that address their locally identified resource management concerns.

The USDA-Natural Resources Conservation Service (NRCS) recently hired Mark Baran as the District Conservationist for Washington County. Mark Baran began his duties in Washington County on March 16, 2004.

He is a Wisconsin native, growing up on the far northwest side of Milwaukee. Although he’s a new hire for Washington County, he has been with the USDA for 20 years, holding various job capacities.

Mark began his career in natural resources management while attending the University of Wisconsin – Stevens Point. He was employed as a Soil Scientist for the Bureau of Land Management in Rock Springs, Wyoming for a summer and in Rawlins, Wyoming as a Range Technician after graduation in 1981.

After a brief return to Wisconsin his career headed south, to Illinois. Mark worked as a Soil Scientist mapping the soils in Peoria County. In 1984, he began his career with the U.S. Department of Agriculture as a Soil Conservationist with the Soil Conservation Service in DeKalb County, Illinois.

He then transferred as a Soil Conservationist to Marshall/Putnam Counties before being selected as District Conservationist for the Ford County field office in Illinois.

Breakfast on the Farm
Date: Saturday, June 12, 2004
Time: 6:30 A.M. - 11:30 A.M.

HIGHLAND DAIRY LLC
Mike, Linda, Corey & Jason Enright
1207 Highland Dr.,
Kewaskum, WI 53040

Enjoy a Farm Fresh Breakfast with your family! Call 262-644-0015 or 262-629-5802 for details.
What's New With The USDA Farm Bill's EQIP Program?

EQIP PROGRAM
FOR WASHINGTON COUNTY
(Submitted by: MaryJo Crass, NRCS Technician)

The Environmental Quality Incentives Program (EQIP), a program federally funded by the USDA-Natural Resources Conservation Service (NRCS) offers cost share assistance to agricultural producers to implement on-farm conservation practices. Eligible producers may apply for cost sharing on conservation practices to address resource concerns.

Eligible practices range from erosion control structures to nutrient management planning. Applications are ranked according to local resource concerns.

Priority Resource Concerns:

The following resource concerns are top priority for Washington County cost share assistance:

1) Surface water and groundwater protection were identified by the Washington County EQIP Workgroup.

Surface and groundwater quality can be affected by soil erosion (both wind and water) as well as nonpoint source pollution and runoff. Agricultural runoff, sediment movement and barnyard wastes are major concerns, which can be addressed with EQIP cost sharing. These sensitive priority areas are identified in Washington County as being within 300 feet of rivers, streams and 1,000 feet of lakes.

2) Nutrient management relating to fertilizers and herbicides.

3) Soil Erosion was also identified as an item of concern as it relates to movement of phosphorus that is attached to soil particles.

4) Wildlife habitat loss is a resource concern because of Washington County's diverse and developing landscape.

Call the USDA-Natural Resource Conservation Service at 262-335-4801 for more information or to schedule a site visit. Applications will be accepted through early July and ranked according to environmental benefits, local concerns and funding.
Partnering & Pooling Resources...

The Washington County Planning & Parks Department, Land & Water Conservation Division (LWCD) has been recently awarded a Department of Natural Resources Urban Nonpoint Source & Planning Program Grant in the amount of $100,000. A partnership has been formed and consists of representatives from the Village of Germantown, City of Hartford, City of West Bend and Washington County to develop and implement a coordinated informational and educational outreach program. University of Wisconsin–UW Extension and the Department of Natural Resources are also involved in this collaborative team approach effort to assist in the development of a public educational outreach program. A financial match is a stipulation grant requirement from each participating municipal entity, which encompasses a two-year grant period.

Area Urban Nonpoint Source & Planning Program Workgroup Representatives include the following:

Evan Nickodem, Village of Germantown
William Ripp, City of Hartford
Judy Neu, City of West Bend
Blaine Delzer, Washington County
Jim Ritchie, DNR Regional NR216 Coordinator
Jennifer Erickson, UWEX Basin Educator

Mr. Delzer, Washington County Land & Water County Conservationist and workgroup representative noted that 2004 will be spent developing

(Continued on Page 8)
Conservation Cost Sharing - The Evolution Continues...

…from Priority Watershed Projects to Base Level Funding and Site Specific Grant Opportunities. If you are considering a project related to conservation there may be technical and financial assistance available for you. For the last 20 years there has been great emphasis on conservation within the Oconomowoc River or Milwaukee River Non Point Priority Watershed Areas, and in 1995, funds were paid out in cost sharing. This year marks the end of the Priority Watershed Projects in Washington County. When December 31, 2004, rolls around the Cedar Creek Area Project will close. As a side note if you have an existing contract in the Cedar Creek Watershed and are still interested in completing a project, please call our office.

Whether you did not take advantage of the watershed projects or were not fortunate enough to live within one of the watershed areas for needed conservation practices is available to everyone within the county, however funds are limited. The Land and Water Conservation Division will now have a base amount of approximately $85,000 annually to be used for cost sharing conservation practices. Additional funding for programs are available like the EQIP program, which is also mentioned in this newsletter. Or we can apply for project specific or area specific grants for larger more expensive projects, however this process may take a couple years. Planning for the future is the key.

All cost share programs nowadays are competitive and each source of funding has its own ranking system. So the greater the need, from a conservation standpoint or resource protection, the better your chances are in receiving assistance. If interested, please call the office at (262) 335-4800. We offer free consultation.
Beginning this spring, the Planning & Parks Department Land & Water Conservation Division & Land Use Division will be conducting Phase 2 of the DNR - Potentially Restorable Wetlands (PRWs) Project. Technicians will be working within the Quaas Creek & Little Cedar Creek Watersheds in Washington County. The verification process is limited to confirming mapped PRWs, and finding areas that may have been missed...for the purpose of restoring land that is no longer wetland. Before we collect data, the DNR will work with the Washington County GIS Division to provide site maps for each PRW area that needs to be verified.

Potentially Restorable Wetlands were identified by using the most current GIS data to obtain soil type, wetland, and land use information.

From this data, it was determined that the PRWs must meet all of the following criteria:
1. Mapped with a soil map unit that NRCS considers as “hydric” for the whole soil unit
2. Not mapped as wetland
3. Mapped as being in agricultural use

PRW Verification is the process of examining an area on the ground – by field inspection, drive-by or map review – to determine whether a PRW actually meets these three criteria, or: “How good is the GIS data?” Even if a PRW is mapped correctly based on the three criteria, it may not be restorable for practical reasons.

So What Are We Really Doing?

Tracking Data:
County, Date, Subwatershed, PRW ID, On-site visit or a drive-by & the amount of recent rainfall

Soil Map Unit Data:
Indicate the Soil Map Unit
Describe the Soil Profile
Indicate whether the soil is “As Mapped”
Is the soil Hydric or not?
List Dominant Vegetation
Indicate Land Use “As Mapped” and the Actual Land Use observed

Potentially Restorable Wetlands Project in a Nut Shell...

PRW Confirmation: Indicate if the area mapped as PRW meets the 3 criteria. If not, indicate which of the criteria is/are incorrectly mapped, or where there is uncertainty due to changes since the mapping date.

PRW Size: For PRWs that appear to be identified correctly, indicate whether the actual PRW size is significantly larger or smaller than what appears on the map.
the strategy and preparing the educational materials needed to implement the plan, indicating that the full-scale implementation is targeted to begin in 2005 and continue as long as required by the storm water permit program.

The project encompasses the incorporated areas of the Village of Germantown and Cities of Hartford and West Bend, and the unincorporated areas of Washington County. Each of these areas lies within high priority listed watersheds, including the Upper Rock and Milwaukee River, and is in or very near the Milwaukee Metropolitan Area. The entire project area is experiencing urban development at an unprecedented pace. Consequently, there are steadily increasing discharges of urban-related nonpoint pollutants, including sediment from construction sites, nutrients, bacteria and toxic substances related to vehicle exhaust and fluids.

Additionally, there are increasing concerns regarding increased impervious surfaces in local watersheds. This phenomenon impacts the recharge of groundwater, which is needed to sustain nearby wetland ecosystems and base flow in nearby streams. The project entails public education and outreach activities to be implemented under the NR 216 Wisconsin Administrative Code permit program, and for achieving compliance with NR 151.12 Wisconsin Administrative Code.

The formations of the partnership between the above communities are charged to develop common and coordinated educational materials and public participation activities. It will further include the development of a common and coordinated information & education strategy whereby project sponsors pool their resources to develop a comprehensive yet cost-effective program that delivers a consistent, timely and effective informational and educational message.

Mr. Delzer emphasized that the ultimate outcome of this project is to have private citizens, business owners and developers 1) educated about Nonpoint Source Pollution (NPS) issues and concerns; 2) aware of the types of behaviors and practices they can take to minimize urban and rural residential NPS pollution; and 3) convinced and motivated to take appropriate and environmentally responsible actions and behaviors – with particular focus on those pollutants of concern listed above. To the greatest extent possible, the partnership will build off the plan, materials and experiences developed through the Dane County Joint Storm Water Permit Group Information and Education project.

Mr. Delzer commented that although the project-planning process has just begun, local area workgroup representatives are looking forward to working with each other and facing the challenges ahead.

For more information regarding NR 216 or NR 151, visit the DNR website @ [http://www.dnr.state.wi.us/](http://www.dnr.state.wi.us/) or the Wisconsin Legislature: Infobases website @ [http://folio.legis.state.wi.us](http://folio.legis.state.wi.us).

Another successful year for the Tree Program. Thanks to: Washington County Planning & Parks Department Golfs & Parks Division, USDA-NRCS, USDA-RC&D for their help and to Julie Peltier, DNR Forester and John Kyhl, DNR Entomologist for answering landowners’ questions, and everyone that participated by placing an order.

- 12th Annual 2004 Land & Water Conservation Division Tree Distribution was held @ the Washington County Fair Park on Thursday, April 29th & Friday April 30th
- 667 orders were taken - 73,000 trees sold
- During the past 12 years the Land & Water Conservation Division has distributed over 774,475 trees to the public
- We had many repeat customers…and many positive comments regarding this wonderful program

(Above: John Kyhl, DNR Forest Entomologist (third from right) and Julie Peltier, DNR Forester (far right).)
GYPSY MOTH: INSECT INVASION?

Well, maybe not that bad but if you have had high numbers of gypsy moth on your property you know it is not fun. While they will not kill valuable trees outright, they can weaken them making the trees much more susceptible to boring insects and other problems. They feed on over 300 species of trees and oaks are by far their favorite.

For the last five years the Wisconsin Department of Natural Resources has had a grant program to cost share aerial spraying for areas of significant infestations. A naturally occurring soil bacteria that gives very specific control for this type of caterpillar is applied in late May. While this will not eliminate gypsy moth in these areas, it has proved very effective at reducing the numbers below outbreak (or defoliation) levels.

This year 8,332 acres are being treated in Washington County under this program. The acreage breaks down by the following communities:

- Town of Erin: 1,202 Ac.
- Village of Germantown: 592 Ac.
- Pike Lake State Park: 230 Ac.
- Town of Polk: 53 Ac.
- Town of Richfield: 5,597 Ac.
- Village of Slinger: 170 Ac.
- City of West Bend: 488 Ac.

This is up significantly from the 315 acres treated last year.

If you see gypsy moth on your property you should contact your city, town or village. This is usually where the grant request originates. Communities collect problem locations over the summer and then in fall the areas are inspected to see if they will qualify for a grant under the program. All applications from communities are due by December 1 each year.

For additional information you can contact John Kyhl, the DNR Forest Entomologist for SE Wisconsin or find lots of good information at the State’s gypsy moth web site: http://www.dnr.state.wi.us/org/land/forestry/fh/GM/

(Submitted by: Dave Scharfenberger, Washington County Gypsy Moth Coordinator)

(Below: Forest defoliation caused by Gypsy Moth caterpillars)
Testing the Waters

The Adopt-A-WATERWAY citizen volunteer water quality monitoring program and the Champions of the Environment program were recently transferred from the Washington County Land & Water Conservation Division to the Riveredge Nature Center in an effort to continue educational/informational efforts, increase public awareness and proactive approaches regarding water quality. Riveredge Nature Center is now sponsoring and coordinating these two programs and is very excited to have the opportunity to become involved in these educational programs.

If you are interested or know someone who may be interested in becoming involved in testing the waters or would like more information regarding the Champions of the Environment Program, please contact the Riveredge Nature Center.

Christine Kelly
Riveredge Nature Center
Associate Executive Director
4458 West Hawthorne Drive
P.O. Box 26
Newburg, WI 53060

christine.kelly@riveredge.us
www.riveredge.us
1-800-287-8098

"The Furrow is the oldest custom published magazine in the United States of America", according to today’s current editor of The Furrow, Andy Markwart. The Furrow, a journal of practical information devoted to the interests of better farming, started it’s farming publication in 1895 and is still being published today.

The following article was originally published in the The Furrow dated March - April, 1947 Volume LII and has been reprinted courtesy of The Furrow, John Deere & Company.
Balancing Soil Productivity

By J. S. Cutler

High food goals during World War II caused a heavy drain on the productivity of American farm land. Every shipload of food that went across to feed our allies or our own troops, represented tons of plant nutrients. All of these came out of American soil.

Today, our farmers face the vital task of getting their farming operations into balance. They must build back the productivity they spent in defeating the Axis nations.

Productivity Index

Their best yardstick in developing such a program is a formula known by the technical-sounding term, "soil productivity index". Although research men have been familiar with this index for some years, the average farmer is not acquainted with it, yet he is the one who is in line to apply it profitably to his own land.

Through years of experiments both in the field and in the laboratory, agricultural research men have learned to measure with considerable accuracy the effect a crop has on the soil. They have found that a definite relationship exists between changes in organic matter and nitrogen content in a given soil type, and the amount of crops that same soil is capable of producing. Generally speaking, more nitrogen means more crops while soil low in nitrogen produces low yields. Because of this fact, they have been able to use the nitrogen content as a "key" for measuring soil productivity.

Using this method, they have worked out a productivity index for each of the major crops when they are grown on level land, or where soil erosion is controlled on sloping land. Such indexes vary somewhat according to the part of the country, in which the crop is grown and according to methods of tillage. For example, clover cut for hay will have less effect on soil productivity at the end of the growing season than clover left uncut and plowed under for green manure. Also, differences in rainfall and other climatic conditions might cause corn in Illinois to have a different effect on the soil than corn grown in Nebraska.

To generalize, a productivity index shows the percentage of change caused in the productive capacity of the soil by growing a given crop on it for a single season.

Crops Are Plus or Minus

The index would be a positive or plus factor, if the crop builds up the soil. It would be a negative or minus index, if the crop tears down the soil. As an example, corn has a negative index because experiments have proved that this crop causes the greatest loss in both organic matter and nitrogen. On the other hand, legumes have a positive index because they build up the organic matter in the soil.

The productivity indexes in the accompanying table apply to the major crops grown in Ohio. The indexes for these crops apply with some small changes in other Corn Belt states.

The productivity index figures in the right-hand column show the effect of the crop on the productivity of the soil. For example, in Ohio, one crop of corn will cause a decline of approximately 2 per cent of the productivity of the soil. On the other hand, red clover will add 2 per cent.

As an illustration of how the index for the same crop can vary from one locality to another, the legume used for hay or pasture in Ohio has a plus index of 0.5 per cent. But in Missouri, the grass used for hay or pasture has a plus index of 0.75 per cent.

How a crop is used also affects the index. For example, soybeans harvested for hay or seed have a minus index of 0.5 per cent when the stems and vines are removed. But soybeans, when plowed under for green manure, have a positive index varying from 1 per cent in Missouri to 1.5 per cent in Ohio.

The index for alfalfa declines rapidly after the first year, while the stand of alfalfa becomes older, there are few plants. Nitrogen produced by the smaller number of plants just about offsets the nitrogen losses from the decay of the roots of dead plants and from leaching. For this reason, no credit is given for a legume after the second year, since legumes affect productivity largely through the nitrogen produced by their growth.

Mechanical treatment of the soil also affects its ability to produce. For example, when a farmer cultivates his corn, the stirring of the soil has an effect on its physical condition. It increases the action of soil bacteria and hastens the destruction of organic matter. Cultivation also increases the possibility of soil erosion from wind and water.

Why Alfalfa-Grass

Good soil produces bigger crops and these in turn remove more plant food nutrients from the soil. But, the ability of a given type of soil to produce depends greatly on the amount and quality of roots and stubble which remain on or in the soil after harvest. These are greater on good soil and partly offset the effect of the big crops. Soil crops—alfalfa, clover, and the grasses—have an abundance of roots and stubble. Annual crops such as corn and small grains leave relatively small residues.

When such plant residue is turned under, it is ready to decompose and become humus. Reserch has shown, however, that the amount of nitrogen in the roots and stubble determines how much of it will eventually become humus. Therefore, because of the relatively high nitrogen content, result in an increased amount of humus.

The use of fertilizers and manure not only produces bigger yields but increases the amount of plant residue which is left on the land. While the effects may vary in degree with the type of soil and system of cropping, research men have given a positive index to the use of both manure and fertilizer. The index amounts to a plus .5 for each 40 pounds of available plant food. This would be equal to applying 200 pounds of 20-unit strength fertilizer per acre.

A positive index of .5 has also been given to each ton of well-cared for manure applied per acre. And a positive index of .25 has been given for cornstalks and straw left on the land.

Losses by Soil Erosion

Another factor affecting the productivity index of sloping land is soil erosion. Cultivation leaving the ground bare are two practices which stimulate greater loss of topsoil on such land. Here again the crop rotation has prime importance. Experiments prove that about twice as much topsoil is lost from land on which corn is grown one year after another, as from land on which corn has been grown following a year of a good grass-legume meadow.

However, crop rotation alone will not always control loss of productivity through erosion of sloping land. Supplemental practices such as contour farming, strip-cropping are necessary.
Conservation News is a biannual newsletter for Washington County residents. Viewpoints of authors do not necessarily reflect those of the Land Conservation Committee or the Washington County Board of Supervisors. The Land Conservation Committee and the Land & Water Conservation Division staff encourage responses from the public.

Our Mission Statement:
To increase awareness and promote action to protect the land and water resources of Washington County.

Land Conservation Committee Members:
Maurice Strupp, LCC Chairman
John Stern, Vice Chairman
Mary Krumbiegel, Secretary
Herbert Tennies, County Board Supervisor
Donald Roskopf, County Board Supervisor
Joan Russell, County Board Supervisor
Paul Beistle, County Board Supervisor
Allen Peil, FSA Representative

Planning & Parks Department
Land & Water Conservation Division Staff:
Blaine Delzer, County Conservationist
Scott Schmidt, P.E., R.L.S., County Engineer/Surveyor
Paul Sebo, Senior Technician
Stephanie Egner, Technician
Fay Fitts, Administrative Secretary

USDA-Natural Resources Conservation Service Staff:
Mark Baran, District Conservationist
Mary Jo Crass, Technician

Layout & Design: Fay Fitts

Printed in the U.S.A.