The Quality of a Hidden Treasure:

THE DAVIS CREEK REPORT



Painting of Davis Creek by George DeAngelis, April 1991

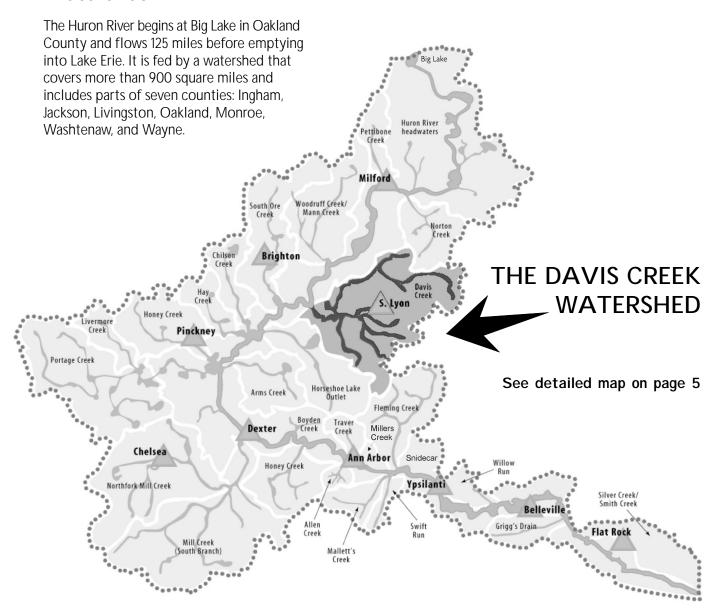
FEBRUARY, 2003

HURON RIVER WATERSHED COUNCIL

JOAN MARTIN and THERESA DAKIN ADOPT-A-STREAM DIRECTORS



The Huron River Watershed



THE DAVIS CREEK WATERSHED

Davis Creek is one of the highest quality streams in the Huron River Watershed. It is lovely to canoe on the lower stretches, where endangered species of fish and clams are thriving. However, most of this large creek lies in the rapidly growing areas of South Lyon and much of Lyon and Green Oak Townships. Some parts of the creek are deteriorating, and one branch has suffered from a history of pollution. Action is needed promptly to reverse these trends.

CREEK FACTS

Where is Davis Creek?

Davis Creek includes a group of connected **tributaries** that flow through southeast Livingston County, southwest Oakland and northeast Washtenaw County, into Sandy Bottom Lake and on into the Huron River. The creek is known as the "South Branch of the Huron River" from Sandy Bottom to the River.

Who has jurisdiction over land that affects the creek? The townships of Green Oak, Lyon, Northfield, Salem, the cities of South Lyon and Novi, and the Drain Commissioners of Livingston, Oakland and Washtenaw Counties all make decisions that affect the creek. The number of jurisdictions over the creek makes it very challenging to institute protective measures for the entire creek.

How large is the watershed? How steeply does it flow? The Davis Creek **watershed** is one of the largest in the Huron River, draining 68 square miles. The creek has a gentle slope averaging 6 feet per mile.

Are there any lakes or dams on the creek?

A main branch of the creek flows through Nichwaugh (which has a dam), Limekiln, and Sandy Bottom Lakes. There are many other lakes that flow into the creek, including Crooked, Silver, Monahan, and Tobin Lakes.



Photo: HRWC

The part of the creek known as the "South Branch of the Huron River" at Silver Lake Road.

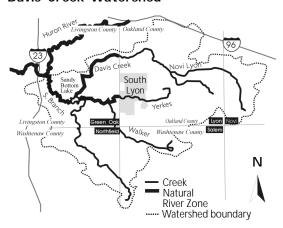


Photo: George DeAngelis

The tributary downstream of Nichwaugh Lake.

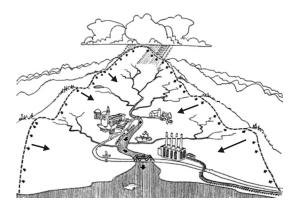
A **tributary** is a branch of a stream or river that flows into another, larger branch.

Davis Creek Watershed



A **watershed** or basin is the area of surrounding land that drains into a creek. For instance, rainwater carries dirt and debris downhill into Davis Creek from roads, parking lots, and land within the basin.

Watershed boundaries are more easily seen in the mountains; similar land contours create the edges of the watershed in flat land.



The State of Michigan designated Davis Creek a **Natural River** because it has pristine qualities and is at risk. Under this designation, the creek benefits from protections that keep its banks intact. This includes restriction on zoning and land alterations to maintain a natural buffer along the creek.



Photo: HRWC

The snuffbox (*Epioblasma triquetra*), above left and wavey-rayed lamp mussel (*Lampsilis fasciola*), above right, are species listed as "State threatened" and "special concern," respectively. These mussels are found in the South Branch of the Huron River at Silver Lake Road.



Photo: WCDC

Janis Bobrin and Dennis Wojcik, Washtenaw County Drain Commissioner and her Deputy.

The County **Drain Commissioner's** main duties are to manage storm water and prevent flooding. This focus evolved from the desire of early settlers to farm swampy land.

Drains created in Oakland County include the Novi & Lyon (1891), South Lyon No. 1 (1903), Blackwood (1904), New Hudson No. 1 (1905), Yerkes (1905), Lyon No. 1 (1906), Underhill (1908), Sayres (1916), Sinclair (1923), and New Hudson (1924). The Walker Drain was created in 1916 in Washtenaw County.

CREEK FACTS CONTINUED

What is unusual about Davis Creek?

The creek has special status as a State **Natural River Zone** from the outlet of Sandy Bottom Lake to the Huron River. There are only three creeks in the Huron River that have such status. Recently, Green Oak Township extended the protection to the northern and eastern branches in the Township.

Parts of the creek are in such good shape that sensitive species of insects, mussels, and fish are living there. However, one branch has been polluted many times.

In 1927, the largest sand and gravel mining operation in the United States was located in this watershed. (See "history" on the following page.)

How are people using the land that drains into Davis Creek? There are many homes in this watershed, and many more are planned. The suburbs of South Lyon and rural areas in the townships are attractive to residential developers. Housing development was rapid in the recent quarter-century and has accelerated during the 1990's, especially along branches of Davis Creek. The numerous lakes continue to attract development of shoreline communities. Additional uses include several areas of business, industry, and a few farms.

The way land is used greatly affects water quality. Many studies have found that even residential developments impact the creek unless they are designed to handle stormwater. (See more in "What Can We Do" on page 10.)

Why do so few people know about this lovely creek? Although it is a large creek with many tributaries, there are no public places where people can enjoy the creek. Furthermore, even people living on the lakes may not recognize the name Davis Creek because many of the branches have one or two different names. The variety of names resulted from the creation of drains in the headwater areas between 1891 and 1924, when farmers petitioned their county's Drain Commissioner to drain the wetlands for farming.

Where did Davis Creek get its name?

Early pioneers in Green Oak Township include the Davis family for whom the creek may have been named. In 1855 Ann Davis and her husband William Osborne leased ½ acre of their land on Silver Lake Road to the Township to build the original Township Hall.

HISTORY

The northern part of Davis Creek flows through land enriched by glaciers with deep deposits of sand and gravel. Numerous small **gravel pits** were dug when these rich lodes were discovered in the northern half of both Green Oak and Lyon Townships around 1915. By 1927, many of the pits were purchased by American Aggregate and this area had the largest sand and gravel operation in the country. The gravel extraction continues today, but on a far smaller scale. It has created spring-fed ponds and large lakes that are attractive locations for residential development.

Located where two railroad lines cross Pontiac Trail, the City of South Lyon was established in southern Lyon Township to serve the needs of agriculture and travelers.

Yerkes: A Tragic Past

Yerkes **Drain** has suffered multiple insults (including several episodes of pollution) that degraded the stream environment. It flows due west through Lyon Township and South Lyon's McHattie Park on its way to Nichwaugh Lake. Surface runoff and street drains in downtown South Lyon flow into Yerkes Drain. The Drain supports very little aquatic life, has very high conductivity (an average of 1735 μ S; see p. 7), and oil oozes from the bottom when you walk in the creek. A metal fabricating plant (formerly Michigan Seamless Tube, then Quanex, now Vision Metals) and South Lyon's wastewater treatment plant (WWTP) both have permits to send **effluent** into the drain just before it crosses into Livingston County. A legacy of 1970's pollution from a former WWTP lies in the bottom of Nichwaugh Lake.

In the 1970's there was a terrible oil spill at Seamless Tube. A slow, underground leak went undetected until people downstream smelled petroleum in the creek and saw it in the banks. It then took many, many days to locate the loose seal on a buried, dead end line. By then a very large volume of fuel oil had contaminated soil on the north side of the plant, moved south through the ground under the plant, and seeped both into and under the creek, surrounding it on all sides. While much contaminated soil was excavated, the oil was never totally removed from the soil, and it continued to spread for years afterwards.

Vision Metals has a recent history of discharge permit violations, including effluents that are **toxic** to minnows and daphnia (water fleas).



Photo: George DeAngelis

The "Island Lake of Novi" housing development where luxury homes will be developed on 800 acres surrounding a 170 acre lake which began as a gravel pit.

A gravel pit: Extensive gravel removal west of Wixom Road in Lyon Township and Novi has created large lakes through which the creek runs. Residential development is occurring rapidly around these lakes.

Creek



Established by the County Drain Commissioner, a **drain** may look just like a winding creek (left) or may be straightened and dredged, to resemble a pipe (right). Such reconstruction may increase flooding downstream and degrade the ecological quality of the creek.

Drain



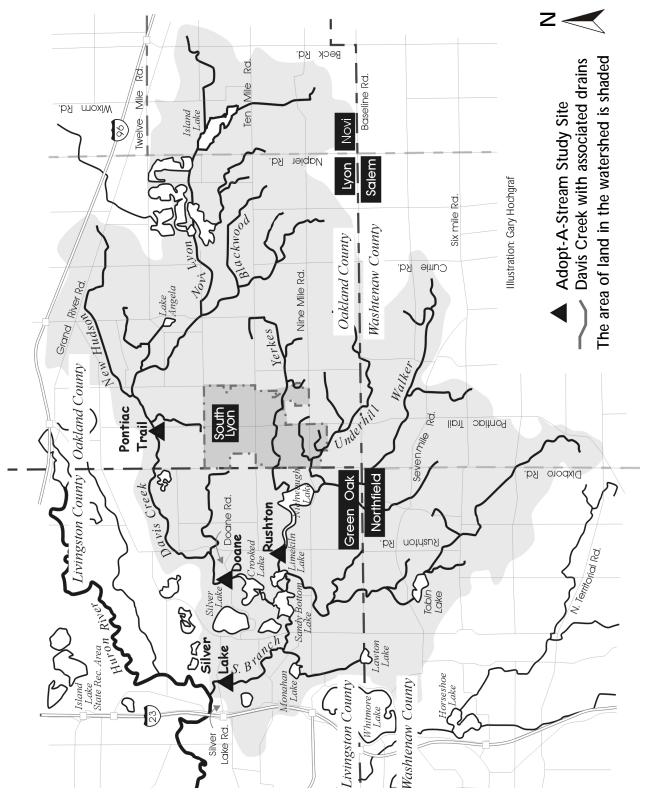


Photo: HRWC

Effluent means outflow, usually referring to waste water. Federal laws require almost anyone discharging waste into surface water to verify that the pollutants they release never exceed the levels allowed in their National Pollution Discharge Elimination System (NPDES) permit.

State regulators occasionally test the effluent's **toxic** (poisonous) effect on living organisms, such as fish or invertebrates (including water fleas).

DAVIS CREEK WATERSHED MAP



EVALUATING CREEK QUALITY

In order to evaluate the current state of the river and its streams, the **Adopt-A-Stream** program of the Huron River Watershed Council (HRWC - see back cover) has been working with local residents and aquatic biologists on a major study of the Huron River system since 1992. Several times a year teams of residents collect data at more than 65 study sites. The study characterizes the physical state of the waterways and the **benthic populations** living in them. Since the benthic population depends on the physical conditions of the stream as well as the water quality, its composition reveals a great deal about the overall quality of the stream.

Volunteers measure and observe the stream and surroundings to determine the habitat quality. Some of the characteristics of a stream that indicate good quality are stable banks with a broad corridor of trees and shrubs, **riffles** free of **silt** deposition, fairly stable temperatures, and a diverse benthic population that includes several groups that are sensitive to pollution. The population in a degraded creek will be restricted to those few types of creatures hardy enough to survive.

The populations in the stream sites are sampled thoroughly in April and September; all sites in this study have been sampled for more than three years. The quality of each site is evaluated relative to other sites in the Huron system. Since larger streams have more diverse populations, each study site is adjusted for size to allow a valid comparison.



Photo: Carol Bays

Riffles are "wanna-be rapids" — where the water flows swiftly and ripples over a shallow, rocky or sandy bed.



Photo: Marc Akemann Photography

Adopt-A-Stream is a volunteer monitoring program of HRWC. Its mission is to help people study and protect the Huron River system.



Photo: Cliff White

A blackfly larva takes shelter in the spaces between pieces of gravel.

The creatures living on the bottom of a river make up the **benthic population**. HRWC studies populations of the benthic invertebrates (creatures that have no backbone) such as clams, insects, and crayfish.

Silt (fine-grained, unconsolidated sediment) is an important factor when considering a creek's quality. Silt in the riffles can limit the number of creatures living in a creek because it fills the spaces between surfaces and reduces oxygen in the substrate. Silt is smaller than sand and larger than clay.



Photo: Marc Akemann Photography

Adopt-A-Stream volunteers study the habitat quality in a creek by recording such data as the characteristics of the stream banks, the type of material (such as sand or gravel) on the stream bottom, and whether living spaces are clogged with fine sediment. They also map the locations of various features, such as pools and riffles that are important homes for aquatic animals.



Illustration: Matt Wimsatt

Conductivity is a measure of general water quality. It increases with the amount of dissolved ions, such as salt or metals. If the average conductivity measured at a site is 800 micro-Siemens (μ S) or less, it is considered natural for stream water in the Huron Watershed. Conductivity over 800 μ S may indicate the presence of toxic substances. (Realize that many toxins are not measured by conductivity.) This measure is used as a red flag, signaling a need for further investigation of what is dissolved in the water.

If you would like to measure conductivity in your area, or participate in the habitat study please contact the Adopt-A-Stream Program (see p. 14).

THE PHYSICAL STREAM

Much of Davis Creek flows through a beautiful and natural setting, offering a good variety of habitats to aquatic animals. The creek meanders through the shade of woodlands. The trees and shrubs that line the banks resist erosion during strong storm flows. Some areas of the stream are slow, forming deep pools, while others portions flow quickly, creating shallow riffles. This mixture of stream depths and velocities provides habitat for animals that require the high oxygen of a riffle as well as those that prefer the slow refuge of a pool. Undercut banks and fallen trees and branches offer shelter for fish, crayfish, aquatic insects, mussels, and other aquatic animals.

Although the creek provides a good variety of habitats, poor water quality and fine dirt threaten portions of the creek. The Rushton Road site suffers chronically high **conductivity** (averaging 1244 μS over 13 collections). Initial scouting of tributaries to Nichwaugh Lake and Sandy Bottom Lake suggest that conductivity is high in other areas of the creek as well. (See map.) Another threat to habitat quality at the Doane site is fine dirt (sand, clay, silt, and muck), which is filling in 3/4 of the living spaces on the stream bottom.

Conductivity in Davis Creek Pontiac Trail 801 Lake South 805 Doane 1735 Lyon Rushton 940 640 730 930 770 The map shows conductivity measurements. Results shown in Adopt-A-Stream bold are averages of 13 or more Study Site samples over at least a 5-year period. Other numbers represent only one Creek or two measurements. These Natural River Zone preliminary numbers suggest possible problems in the creek.

STREAM LIFE

Two of the healthiest sites in the entire Huron River Watershed are found in Davis Creek. The high **insect diversity** found in the northern tributary at Pontiac Trail and in the downstream portion of the creek at Silver Lake Road indicates a high quality creek. The Doane and Rushton sites have less diversity.

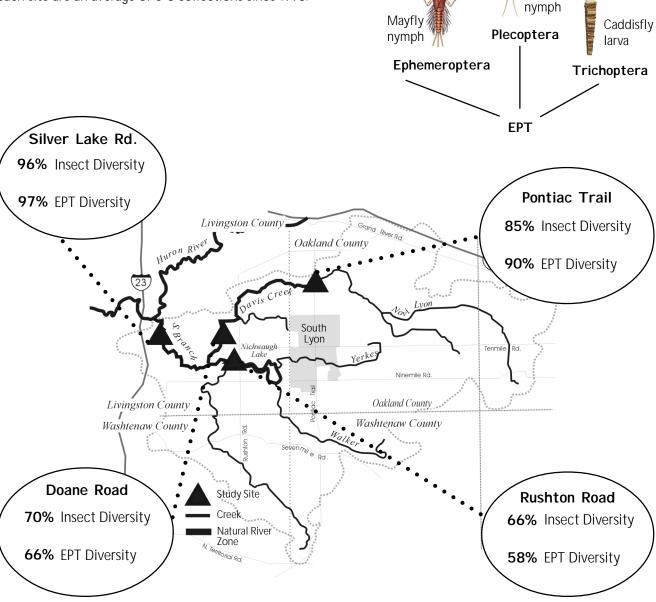
The percentages in the diagram show how each site compares to the best site in the Huron River system. In order to compare different kinds of sites, the data shown here have been adjusted for several characteristics such as the size of the watershed. Each site is scored by comparing the number of insect families and **EPT** families to what we expect to find at a good quality site with the same basic characteristics. Data for each site are an average of 6-8 collections since 1998.

Insect Diversity in the aquatic population indicates good stream quality. Diversity is measured by the number of different kinds of insects called families. Greater diversity at a site means that not only is the water unpolluted, but also that there are healthy conditions for a variety of kinds of creatures.

EPT: Many insects in these three +groups are indicators of alterations in the stream flow, temperature, oxygen, and other changes that raise metabolic rates.

The third measure of stream quality is the diversity of sensitive insects (see next page).

Stonefly



Taxonomy is a system for categorizing all living things. A **family** is a taxonomic grouping that includes several species. For example, mink, otters, and skunks belong to the mustelid family.

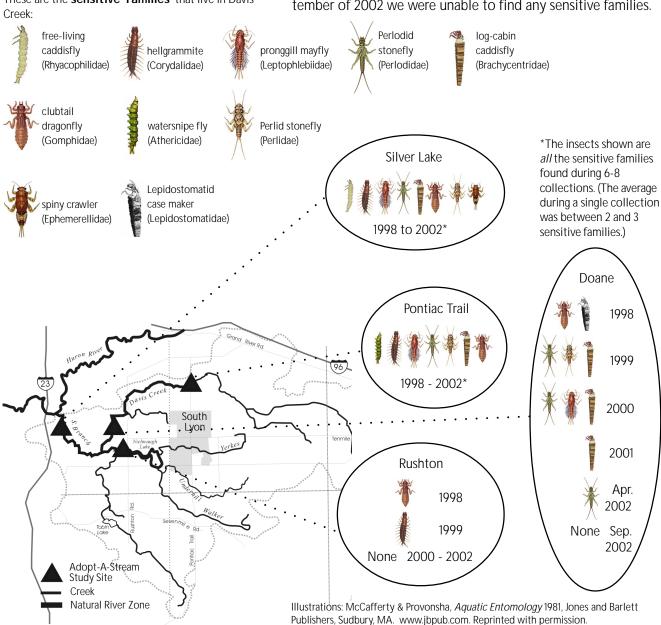
Of the 87 benthic insect families living in the Huron system, 19 are highly sensitive to organic pollution. Ten of these sensitive families have been found in Davis Creek. The presence of sensitive families at a site indicates that this portion of the creek has high quality. (Note that the sensitive families include some EPT and some insects that are not EPT.)

These are the **sensitive families** that live in Davis

THE CREATURES SPEAK

Populations living in the stream show that the north branch and the downstream portion of the creek have much higher quality than the areas near Nichwaugh and Crooked Lakes.

While there is a good population of sensitive families at Pontiac Trail and Silver Lake Road, they have disappeared from the sites at Rushton and Doane. At the Rushton site there was one sensitive family in 1998 and 1999 but none in the five collections since then. Until recently, the Doane site had a sensitive population that resembled the high diversity at Pontiac Trail, but that has declined in recent years. In September of 2001, we could find only one sensitive family, and in September of 2002 we were unable to find any sensitive families.



WHAT CAN WE DO?

The Problem

Davis Creek demands our attention for several reasons. It flows through a large area of diverse jurisdictions and pours a significant volume of water into the Huron River. Parts of the creek are among the best in the entire Huron system. However, one branch still suffers from pollution that originated 30 years ago. Rapid residential and commercial development in the watershed threatens to destroy the quality of the creek. Changes are urgently needed both in the design of development and the activities of landowners. Protection is possible, but we need to act now to stem the degradation that is already evident in parts of the creek. This will be difficult because there are many communities making separate land-use decisions. Furthermore, only a few residents who will be affected by these decisions are aware of Davis Creek. Everyone needs to help.

Much of this beautiful creek flows through a natural setting, offering a good variety of habitats to aquatic animals. However it has begun to deteriorate, especially between the sites upstream and far downstream that have excellent quality. A problem is evident just above Crooked Lake at the Doane site, where dirt is clogging the living spaces, and the sensitive insects that require good conditions are disappearing. The Rushton site, just downstream of Nichwaugh Lake dam, has had poor quality in all six years of study and is on the receiving end of Yerkes Drain, a degraded tributary. It has no sensitive insects and has chronic water quality problems. In addition, four tributaries to Nichwaugh Lake and Limekiln Lake appear to have poor water quality. It is likely that both sediment and pollutants have been retained in the lakes through which the creek flows. While this helps to improve the water quality downstream, it does so at the expense of lake quality.

The degradation is bound to worsen unless we make some important changes. With the exception of the pollution in Yerkes Drain, most of the problems in the creek come from the everyday activities of individuals and from the way the land is developed. It is important to realize that even activities on areas that are far from the creek have an impact. All the rain that falls in the watershed finds its way to the creek. Whatever is on roads and lawns *anywhere* in the watershed can be washed downhill to a ditch or a trickle that eventually flows to the creek.



Photo: Center for Watershed Protection

Water flowing through deeper areas, such as ponds and lakes, slows down, and suspended sediment drops out. In communities that protect their streams and lakes, **retention ponds** are often constructed to slow and cleanse storm water before it reaches the streams. Many pollutants adhere to sediment, which needs to be removed from the pond bottom on a regular basis. Lakes through which a creek flows provide a benefit similar to retention ponds, but the residents around the lakes may not appreciate the accumulating silt, especially if it is polluted.

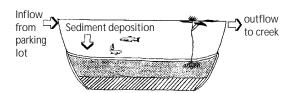


Illustration adapted from the Center for Watershed Protection

BEFORE DEVELOPMENT

A healthy stream has little variation in water level whether the season is wet or dry. A constant supply of **groundwater** keeps the stream flowing in the dry summer months. When it rains, usually very little water flows directly to the stream. Much of the stormwater is held in depressions and wetlands or **infiltrates** into the earth where it either replenishes the groundwater or **transpires** through shrubs and trees to evaporate into the atmosphere.

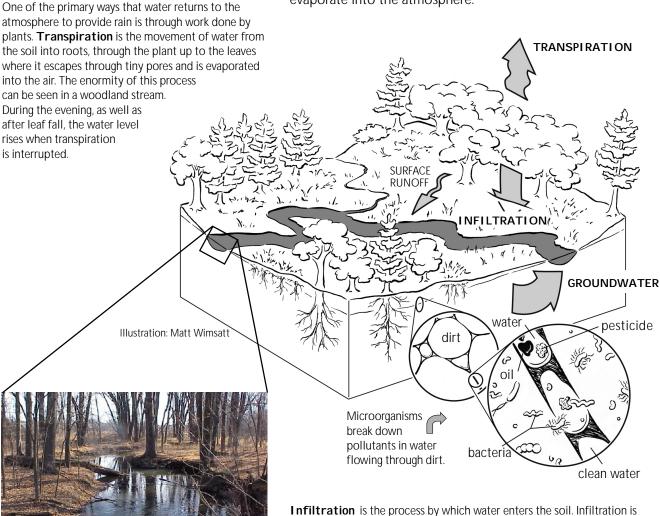


Photo: HRWC

Groundwater soaks into the ground and travels slowly through layers of soil and rock to an "aquifer," or underground layer of porous material, that holds water, whence it recharges wells, streams, and the river. With a good supply of groundwater, a creek has a source of cool, clean water even in dry summer months.

particularly valuable because soil contains microorganisms that clean the water by breaking down pollutants. (See inset.) The type and the condition of the soil affect the rate of infiltration. Water moves swiftly into and through sandy soil but slowly in clay and in compacted soils. Less water will infiltrate

into saturated soil, such as an excessively watered lawn.

AFTER DEVELOPMENT

Destructive Flow

In developed areas with impervious surfaces, rain can be very destructive. An increased amount of water flows directly into the creek following a rain. The water is not filtered through plants and soil where it would be cooled and cleansed. Instead, this higher volume of **runoff** creates a forceful flow that erodes stream banks, increases flooding, and carries trash and chemicals from yards and streets into the creek. Fine silt from the eroding banks fills the spaces on the creek bottom needed by fish and other creatures, and many plants and animals are lost in the rushing storm flows. The creek warms and ultimately loses its vitality.

Impervious surfaces are hard surfaces, such as roads and roofs, that prevent water from soaking into the ground. As we build homes and businesses, we cover the ground with impervious surfaces. Even lawns can be nearly impervious if they are on land that has been graded and packed by heavy equipment during construction. Turf grass has a very short root system and does not open soil up to help water infiltrate.

Runoff is water that does not soak into the ground and flows to the creek overland as well as in ditches and storm drains. (Water in storm drains flows unfiltered directly to the creek.) As water runs off the streets and land, it carries with it litter, sediments, and pollutants, such as fertilizers, pesticides, pet waste, and leaking oil from cars. This water, which is warmed by

the pavement also causes the stream temperature to rise, which stresses many of the

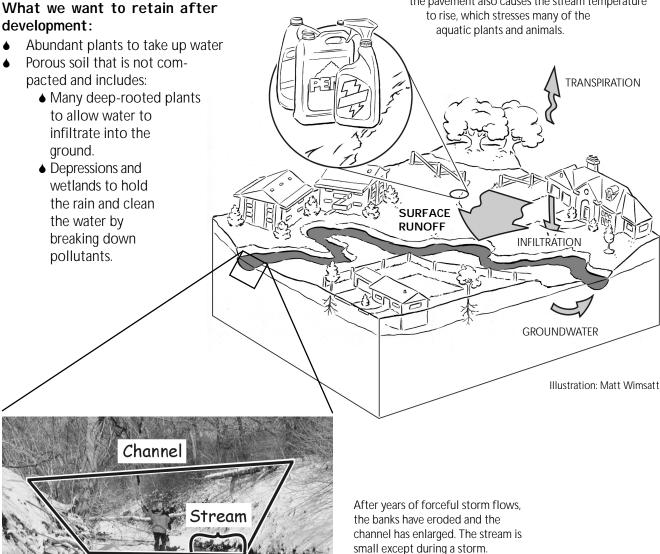


Photo: HRWC



Photo: Center for Watershed Protection

Sedimentation is soil, which often carries pollutants, that is carried or deposited by water or wind. In Michigan it is illegal to allow sediment to leave any site that is under construction. However, since enforcement agencies cannot monitor all locations, violations need to be reported by anyone who sees them. (See page 14.)

In order for restrictions on development to be **legally defensible**, the community must demonstrate that they are intended to cover the entire region (usually as stated in the Master Plan) and will be applied equally to all properties. Zoning ordinances provide the specific legal restrictions, which implement the intentions of the Master Plan. Locating sensitive features, such as wetlands and streams, on the maps that are used in discussing development will promote early consideration of the features that need to be protected.

WHAT CAN WE DO?

CONTINUED FROM PAGE 10

The Opportunity

There are opportunities for both individuals and communities to provide protection to Davis Creek. When land is developed for both residential and commercial uses, your community can [1] use ordinances and design standards to protect creeks with better site designs, and [2] actively enforce the state and local laws against erosion and **sedimentation**. The HRWC can provide assistance for these efforts.

Every local government in the watershed needs to add tools, such as wetland and stormwater ordinances, that protect water quality and manage growth. Such restrictions on site design and landscaping practices are part of a local government's responsibility to protect the health, safety, and welfare of the community; they are encoded in two documents: the Master Plan and the Zoning Ordinance. Current zoning regulations in the Davis Creek communities would allow the number of homes in the watershed to increase from 80,000 (in 1995) to 216,000 if they were all built! A large number of residential and industrial developments are now planned, especially in Green Oak and Lyon Townships. With forethought and vigilance, these can be designed to manage stormwater well and protect the creek. However, it is particularly important that Lyon Township and South Lyon take several steps to protect the creek. In order to have environmental requirements that are **legally defensible**, these communities need to express a commitment to protecting the natural resources in their Master Plans, implement protections in their Zoning Ordinances, and locate the wetlands and other sensitive resources on their maps.

Green Oak Township has provided excellent protection of the stream banks by extending the Natural River Zone requirements (see p. 3) to most of the creek. Other local governments should apply the same protection to their portions of the creek while they are still sufficiently undeveloped to warrant Natural River designation. Many good stretches remain in Lyon Township.

Homeowners, businesses, and churches all do things without realizing how they will harm the creek. Fertilizing lawns, building parking lots, applying pesticides, disturbing wet areas, and mowing stream banks - all can damage the creek. We need to keep the rainwater where it falls, both by changing our yard maintenance practices and asking our communities to require creek-safe site designs for development. The changes we need to make (see last page) are small but potentially very effective.

WHAT YOU CAN DO

Replace part of your lawn with beautiful deep-rooted plants. Plants with deep roots hold the rain and help stormwater to infiltrate into the ground. Use them to make attractive borders and enjoy the butterflies that visit them.

Choose native plants for landscaping. Because native plants are adapted to local soils and pests, they need less watering and no chemicals or fertilizers, making your job easy once they are established.

Test your soil to determine what nutrients it needs. Soil tests in this area show that there is plenty of phosphate in most soil. Excess phosphate is carried to the creek in stormwater and is a primary pollutant in the Huron River. (The middle number on the fertilizer package should be as close to 0 as possible to limit phosphate.)

Use less fertilizer. One application of fertilizer in the fall is enough for healthy lawns in this area. By mulching your grass clippings into the lawn, you may not need to fertilize at all.

Report mud flowing into the creek or off a site to the appropriate Erosion Officer. Ask the HRWC for assistance. Dirt carries pollutants and clogs the spaces in the stream bottom.

Do not pile leaves, grass clippings, or trash where wind or water can carry them into the creek. While leaves that fall into the creek provide food for aquatic organisms, piles of leaves overwhelm the system and can make the stream uninhabitable.

Leave a broad area of land (at least 50 feet wide) undisturbed between your lawn and the creek. Native trees, shrubs, and grasses can capture pollutants and hold the soil with their extensive roots. They also provide habitat for birds, butterflies, and other wildlife.

Attend township planning and board meetings and encourage officials to protect the creek. Informed individuals can provide information that may otherwise be overlooked. Ask HRWC to help you provide study results and advice on protecting the quality of your community.

WHAT HRWC WILL DO

- ◆ Continue to monitor and report on the quality of Davis Creek.
- Add study sites to additional parts of Davis Creek.
- ♦ Seek funding to investigate Yerkes Drain.
- Assist in educating the public about the creek.
- Assist residents in getting their soil tested.
- Provide resources, such as information and guidance, which the community can use to protect the creek.
- Assist people in reporting sediment and erosion violations.
- Assist people in providing useful information to community decisionmakers.

Urge your community to adopt
Natural River Zone status for your
tributaries to Davis Creek. This

protection is crucial. It is especially needed in Lyon Township, where large sections of the creek banks remain vegetated.

Work with the people who care about Davis Creek! Call Fred at (810) 231-3254 or Jim at (810)231-3471.

Participate with Adopt-A-Stream in the study of Davis Creek. See the amazing life in the creek. Call (734) 769-5971 for information.

Join the Huron River Watershed Council. Call (734) 769-5123.



1100 N Main Street, Suite 210 Ann Arbor, MI 48104 (734) 769-5123 www.hrwc.org

The Huron River Watershed Council

Communities and individuals protecting our water together since 1965.

Dozens of communities in a seven-county area have joined together to form the Huron River Watershed Council (HRWC). This group, made up of local governments, community officials, businesses, and private citizens, is working to protect the waters of the Huron River and the entire watershed area. Their cooperative efforts provide technical assistance, hands-on education, monitoring, and other river protection projects.

Their vision: to keep the treasured Huron River Watershed alive and well for all of us.

The Davis Creek Report is a product of a study done by watershed residents and staff in the Adopt-A-Stream Program of HRWC. Funding for this study and report came from the Michigan Department of Environmental Quality.

The Adopt-A-Stream Program is funded by foundations, government grants, businesses, and people like you.

Consider joining the HRWC.

Consider participating in the Adopt-A-Stream Program.