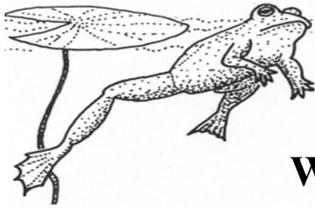
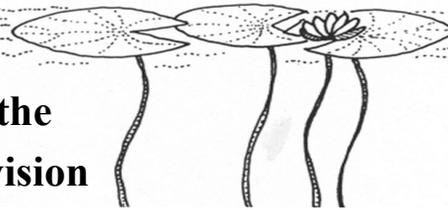


Out of the Blue



A Newsletter of the
Water Quality Division



Winter 2011 No. 38

Vermont Agency of Natural Resources
Department of Environmental

Vermont Lake Score Card Tells the Scoop on Each Lake

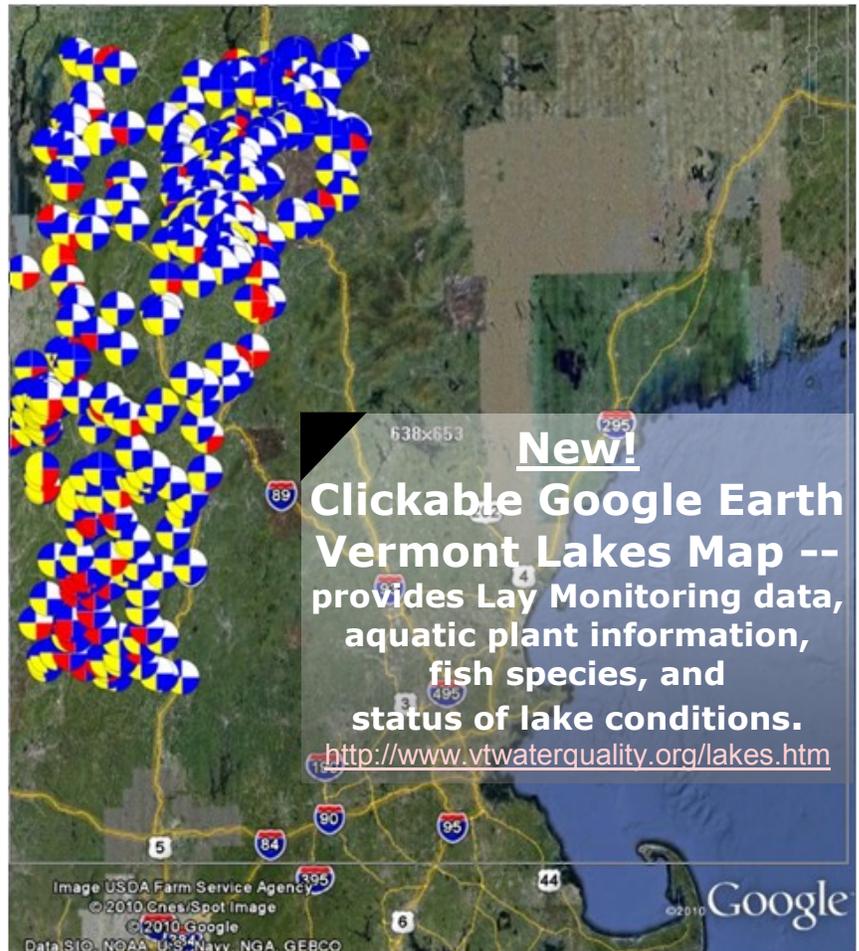
The Vermont Water Quality Division's Lakes and Ponds Section has developed a method for conveying a range of simple to complex monitoring data. The Lake Score Card answers the commonly asked question "how is my lake doing?" Through the Lake Score Card, monitoring data is analyzed and interpreted to determine current lake status, which is then reported out in a simple, short, and educational format. The score card rates conditions of Vermont lakes in terms of:

- Water Quality
- Shoreland and Lake Habitat
- Atmospheric Pollution
- Aquatic Invasive Species

See page 2, "Lake Score Card"

In This Issue

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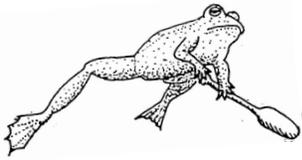
Class Four Road Restoration Project - Benefiting Watersheds

The White River Partnership takes a leadership role in confronting polluted run-off and stream degradation through the Class Four Road Restoration Project. Class Four roads are municipally-owned, minimally maintained dirt roads. These roads are often located on steep slopes, in narrow valleys, or in the higher elevations of

towns. They provide access to woodlots for hunting, logging, and sugaring; to camps; to homes; and to a wide variety of recreational uses. Hikers, bikers, four-wheelers, all terrain vehicle riders, snowmobilers, horseback riders, and cross

See page 4, "Class Four Road Restoration"

"Out of the Blue"



Available on the Web

Check out in color the newsletter issues on the Water Quality Division

Out of the Blue

is produced semi-annually by the Lakes and Ponds Section. Our purpose is to share information on lake, river, and wetland environments, water quality and state activities through articles on aquatic ecology and Division programs. Feel free to let us know what articles you would like to see in future issues. To be placed on the mailing list, please contact:

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The Vermont Agency of Natural Resources, Department of Environmental Conservation, is an equal opportunity agency and offers all persons the benefits of participating in each of its programs and competing in all areas of employment regardless of race, color, religion, sex, national origin, age, disability, or other nonmerit factors.

(continued from page 1) Score Card

Vermont has over 800 lakes, with 280 of them larger than 20 acres in size. The Lake Score Card reports on conditions of 375 lakes. The Score Card uses three simple colors to convey the meaning of complex data sets, which makes it a great way to communicate the status of Vermont lakes. Additionally, the score card provides a checklist of [Lake Protection Actions](#) that lake users can take to care for their lakes.



Blue = Good Conditions



Yellow = Fair Conditions



Red = Reduced Conditions

What Do the Scores Mean?

Water Quality - This score is based on a statistical trend analysis for each lake's phosphorus and chlorophyll-a concentrations, and Secchi water clarity readings over time. Stable or improving trends are scored with a blue or "good" rating, declining trends are scored with a yellow or "fair" rating, and highly significantly declining trends receive a red or "reduced conditions" score. Phosphorus is an essential plant and animal nutrient and is the nutrient of greatest concern in cultural eutrophication (nutrient enrichment). Increases in phosphorus loads to a lake can cause large algal blooms and excessive plant growth. Algae blooms are measured by the chlorophyll-a concentration. Increased algal growth lowers Secchi water clarity. Information from three different monitoring programs: the Lay Monitoring Program; the Spring Phosphorus Program; and the Lake Assessment Program is used to determine the water quality score.

Shoreland and Lake Habitat - This score reflects the conditions of a lake's shoreland and adjacent shallow water habitat. The more lawn and less woodland near the water's edge, the lower the shoreland condition. Recent research both in Vermont and nationally show that highly developed shores result in a significant lowering of habitat quality, and is ranked by the US Environmental Protection Agency as the primary threat to the health of a lake's biology. Lakes receiving a blue score have vegetative buffers covering greater than 75 percent of their shores, a yellow score indicates a lake with 50 to 75 percent buffer, and a red score is given to lakes with more than 50 percent of their lake cleared of a buffer, which generally means the shore has been turned into lawns.

Aquatic Invasive Species - This score measures the presence or absence of invasive species, where lakes either receive a red for presence of an invasive, or blue for no known invasive in the lake. It does not reflect the abundance of or degree of recreational impairment posed by the species present. Many lake associations or other groups have effective programs in place to reduce or control the growth of, or prevent the introduction of invasive species. Left unchecked, invasive species can cause significant harm to a lake's recreational potential and its ecosystem.

Atmospheric Pollution - There are two main airborne pollution types reflected in this score. Mercury contamination, which comes primarily from settling of air pollution, has resulted in fish consumption advisories in nearly every lake in the state (and those of nearby states as well). Acidic precipitation has resulted in the acidification of some of the high elevation lakes.

How to Access the Vermont Lake Score Card

<http://www.vtwaterquality.org/lakes.htm>

•Visit the Vermont Water Quality Division's Lakes and Ponds web site to open the Google Earth presentation.

•In Google Earth click on any lake from the map to receive the lake's score, or select a layer from the list on the left side bar (insert below shows view of clickable sidebar folders). These folders open to specific information, such as the Lay Monitoring data, spring phosphorus data, aquatic plants, or fish species for each lake.

-  [Vermont DEC Lake Information](#)
Click here for information and links
-  Lake Scores
-  Lay Monitoring Data
-  Spring Phosphorus Data
-  Aquatic Plants
-  Fish

Excerpts from the Vermont Lake Score Card's guidance document on lake protection actions.

Checklist of Lake Protection Actions

Water Quality and Shoreland Habitat Management Programs and Actions	✓
<p>Does your lake have a Lake Association? Many lakes and ponds have associations dedicated to taking care of the lake. They are involved in projects such as water sampling, landowner education, boating safety and watershed management. Click here for more information</p>	
<p>Do you know if your lake is sampled under the Spring Phosphorus or other Monitoring Programs? Spring phosphorus data helps predict the amount of algal growth that will occur in the lake during the summer and these long-term spring trends can show if a lake's water quality is changing over time. To learn more, click here</p>	
<p>Does your lake participate in the Lay Monitoring Program? Collecting nutrient enrichment data during the summer documents the conditions of the lake and can show if the lake is changing over time. Read more</p>	
<p>Does your lake community work with the local town officials? Town Select Boards, Planning and Conservation Commissions make good partners for lakes.</p>	
<p>Does your town have local lake shore zoning rules? Shorelands are protected best with rules for growth and development. Getting involved in town policy and planning can greatly benefit your lake. Learn more</p>	
<p>Is most of the lakeshore well vegetated? The value and importance of well-vegetated lakeshores cannot be overstated. To learn more about vegetated buffers and how they protect the lake, Click Here</p>	

Atmospheric Pollution Management Programs and Actions	✓
<p>Does the Regional Planning Conservation Commission offer hazardous waste pick-up? Although the majority of mercury entering a lake comes from the atmosphere, mercury is also found in many household items and can leach into the environment.</p>	
Aquatic Invasive Species Management Programs and Actions	✓
<p>Does your lake participate in aquatic invasive species spread prevention? To learn more about why spread prevention actions are important, Click Here.</p>	
<p>Is there a VIP (Vermont Invasive Patroller) on your lake? Here's How and Why to Get Trained</p>	
<p>At public access locations, does your lake have Aquatic Invasive Species signs posted? To request signs, Click Here.</p>	
<p>Is there an Access Greeter Program at your lake? Here's More Information.</p>	
<p>If your lake has an aquatic invasive species, is there a Management Program underway? Management Programs are essential for controlling an invasive infestation and for preventing further spread to other areas.</p>	



The Lake Score Card uses the Secchi disk symbol to convey lake conditions from four categories.

country skiers enjoy Class Four roads statewide. However, due to the narrow, unmaintained, and sometimes steep nature of these roads, Class Four roads can negatively impact water quality and aquatic habitat and conflicts with streams are numerous.

In some cases these once narrow farm and forest roads are widened to accommodate new housing without needed upgrades in ditch size, shape, and stability. Furthermore, many bridges and culverts on Class Four roads are substantially undersized causing localized in-channel erosion both upstream and downstream of the culverts, and increased deposition of sediment upstream of the structure. In some cases culverts are “perched” at the downstream end, making it very difficult for fish and other aquatic organisms to move upstream through the structure. Also, these roads often have inadequate, unstable ditches that result in on-going erosion.

This Class Four Road Restoration Project involves the White River Partnership, the Vermont Agency of Natural Resources, the Two Rivers Regional Planning Commission, the Better Backroads Program, the Vermont Youth Conservation Corps and several watershed municipalities. Together, these groups inventoried all 300 Class Four roads in the watershed to determine which roads were within 50 feet of any stream or wet-



woodcut by Mary Azarian

land and/or sloped greater than 20 percent. Ninety sites were identified. The White River Partnership visited all 90 sites and evaluated each site as high, medium, or low priority as far as having an impact on water quality and aquatic habitat. The list was narrowed down to 28 high and medium priority sites, then divided into two categories, sites that could be restored by using Vermont Youth Conservation Corps labor with hand tools, or sites requiring more substantial restoration with heavy equipment.

Both types of restoration work began after applying for funding through the Agency of Natural Resources’ Clean and Clear Program, the Connecticut River Mitigation Fund, the Federal Emergency Management Agency, and the Better Backroads Program. By fall 2010, the VYCC crew had completed four sites in three towns. The crew installed culvert headers, stone-lined ditches, culvert outlet stabilization, water bars, and stone aprons. A second VYCC crew will work for four weeks during the 2011 field season. The goal is to address erosion and complete work at all 28 high and medium priority sites in the White River watershed within the next few years.

The Class Four Road Restoration Project is now being applied in other watersheds throughout the state. To learn more about this Project, please contact Jim Ryan at jim.ryan@state.vt.us, or call 802-476-0132.

A Watershed for Every Classroom

A Watershed for Every Classroom is a year-long professional development experience for educators in the Lake Champlain Basin. It’s offered through a collaborative effort of environmental educators and programs, including Dr. Amy Demarest, Place-Based Educator; the Lake Champlain Basin Program; Shelburne Farms; The ECHO Leahy Center; The Lake Champlain Committee; the UVM Watershed Alliance; and the Vermont Water Quality Division’s Project WET program. This course offers teachers

A WATERSHED FOR EVERY CLASSROOM

A place-based professional development program for educators who teach in the Lake Champlain Basin.

THIS WORKSHOP SERIES OFFERS:

- A Watershed for Every Classroom (WEC) is a year-long professional development experience for educators in the Lake Champlain Basin.
- New York and Vermont, brought to you by the CBE partners.
- It offers teachers opportunities, knowledge and skills to frame exciting place-based curriculum.

All the best of the approach is the fact that students who are immersed in the interdisciplinary study of their local place are more motivated to learn and are involved in the care of their community and watershed.

inspiration, knowledge, and skills to frame exciting place-based curriculum. To learn more about WEC, contact Amy Picotte at amy.picotte@state.vt.us, or call 802-241-3789.



Wetland Assessments: What Makes Up Healthy Wetlands

During the field season of 2010, staff from the Wetlands Bioassessment Program traveled statewide to continue a multi-year effort assessing the condition of Vermont's wetlands. As an end result, 23 wetlands were assessed for plants, soils, hydrology, and water quality.

An exciting addition to the field work in 2010 involved wetland surveys according to the first ever EPA National Wetland Condition Assessment methodology. The NWCA builds on previous years' national assessments of wadeable streams, rivers, lakes and ponds, coastal wetlands, and estuaries. In 2011, the EPA and state programs will use this new wetlands methodology in full force to take a snapshot of wetland condition in 1000 wetlands across the country.

In 2010, Wetlands Program staff also visited several reference condition wetlands, each one considered to be an outstanding example of its community type. For example, Franklin Bog, in Franklin on Nature Conservancy preserved land, showed excellent current condition with over 75 plant species identified in a single transect (for every 10 meters along a straight line across the wetland, one square meter of plants is identified). Plant species observed included dragon's mouth (*Arethusa bulbosa*), tuberous grass pink (*Calopogon tuberosus*), the delicate few flower sedge (*Carex pauciflora*), and colorful purple marshlocks (*Potentilla palustris*) in bloom. Site visits document plant richness and current condition.

There are several practical uses for this data in terms of developing a wetland understanding of ecological integrity, but another aspect of these assessments was to select a number of wetland sites for long-term monitoring of climate change. The Wetlands Program will collaborate with partners to share methods and data for tracking climate change in the coming year.

The Wetlands Program, while integrating some EPA methods into the long-term wetland evaluations, continues to refine its sampling and assessment techniques to be able to determine each wetland's condition in a single field day. Stay tuned for more on the health of Vermont wetlands.



Patti Green-Swift conducting a wetland assessment at Hinesburg Wetland



Greater purple fringe orchid, *Plantanthera grandiflora*, Lake Ninevah Foundation Wetland, Plymouth



Podunk Pond Wetland, Stafford



Berkshire Town Forest and Wetland

Your Log Books and Detection of Earlier Lake Ice-Out Trends

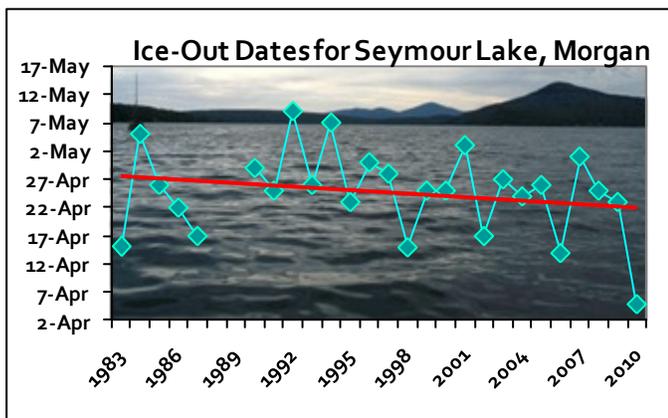
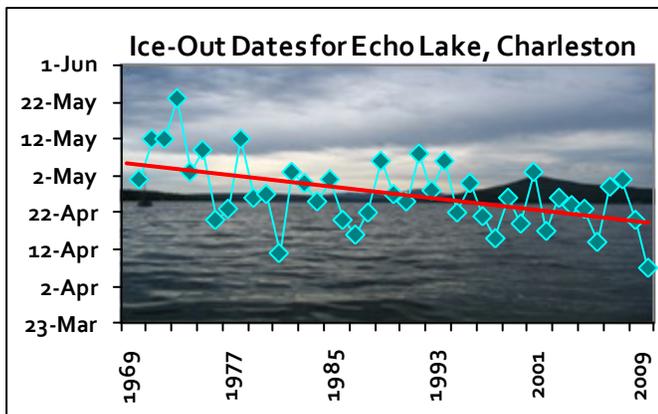
Volunteers from across the state are playing an essential role in charting historical climate conditions of Vermont lakes and ponds. During 2010, the Vermont Air and Water Quality Divisions sent a request to Lay Monitors and their lake-user friends asking for any records of ice-out dates on local ponds and lakes. Luckily, many people, including museums, lake associations, and even weather junkies, responded with excellent logs of seasonal lake information. These citizen scientists had dutifully maintained ice-out lake records for years, in some cases even generations! Using this data, researchers at the Air and Water Quality Divisions were able to identify long-term trends occurring at ten different lakes and ponds across Vermont; data between 1980 and 2010 showed a trend toward earlier lake and pond ice-outs.

Every year, there is a well known, lucrative contest for guessing the “ice-out” date on Joes Pond in Danville. This event marks when ice thaws in the center of Joes Pond, sinking a cement brick into the pond. However, lake scientists refer to the lake “ice-out” date as to when the entire ice cover completely thaws. Although there are varying interpretations of when lake “ice-out”

occurs, as long as citizen scientists are consistent from year to year with their criteria for determining “ice-out,” then their long-term records are considered credible and can be used to track trends of annual ice-out events.

Since the timing of ice thaw depends primarily on average air temperatures over several days or weeks, ice-out dates are considered to be climate indicators, and can be used to illustrate annual changes in temperature at a particular location. Identifying and establishing records of ice-out dates and other climate indicators in Vermont improves our understanding of how the present compares to the past. Statistical long-term trends in the data can also help predict future state-wide climate conditions that might occur in Vermont.

Weather-watching Vermonters are helping us better understand and protect the state we love. To join this citizen scientist effort, please send in further records of ice-out dates, or other multi-year data, such as summertime water temperatures, or lake freeze-up dates to Jeff Merrell at jeff.merrell@state.vt.us; Amy Picotte at amy.picotte@state.vt.us; or Gwen Dunnington at gwen.dunnington@state.vt.us.



Ever Wonder...

Where the Term “Log Book” Came From?

Two different nautical accounts give explanations to the origin of this term. One story says that sailors wrote information on wooden boat shingles, then bound them into a book, hence “log book.”

The other story gives details on how early sailors used a log to measure their speed at sea. Sailors would throw a log off the bow of their boat, then count the time it took for the stern to pass by the log. If the boat was 100 feet long and it took 10 seconds to pass the log, then they would record their speed of 10 feet per second in the “log book.”

Journals or diaries can serve as log books as they are used to track information over time. In the 1960s, a famous citizen scientist, Jane Goodall, used a journal to write down her observations about chimpanzees, such as birth dates, sizes, and personalities. Jane’s observations have provided the basis for understanding more about chimpanzees as they are studied in the future.

Citizens Raise and Stock Brook Trout for Local Fishermen

Morgan Fish Hatchery and the Vermont Fish and Wildlife Conservation Group

By Peter Engels

The Vermont Fish and Wildlife Conservation Group (VTFWCG) is a non-profit organization, formed in 1988 "to promote the preservation and conservation of Vermont's fish and wildlife so that its citizens and guests may continue to enjoy the quality recreational opportunities they provide." The founding directors were passionate about fishing and hunting as well as other outdoor recreational activities. One immediate interest was to revitalize an abandoned state fish hatchery in Morgan. Enter volunteers.



Volunteers at the Morgan Fish Hatchery

History of the Morgan Fish Hatchery

The hatchery at Morgan, fed by a nearby spring, operated for only a short time each year up to 1932, carrying salmon and trout eggs to the "eyed stage" before transporting them to other hatcheries. By 1947 the Morgan hatchery was a permanent eyeing and rearing station, and in the 1950s native brook trout rearing was added and fry were supplied to a number of other stations. However, for unknown reasons (probably budgetary), the Morgan hatchery was abandoned and torn down sometime in the 1970s.

In June of 1991 the VTFWCG directors began negotiating with the Vermont Department of Fish and Wildlife to rebuild the abandoned Morgan hatchery. In an agreement with the Department, the VTFWCG rebuilt the hatchery using volunteer time and donated building materials from local merchants. They applied for and received a \$10,000 grant from Fish America to purchase incubators and tanks to raise native brook trout fry. The first fish, 160,000, were put out in April of 1993 thanks to the assistance of a number of Group members with support from their families.

Life at the Morgan Fish Hatchery Today

The hatchery is currently maintained and operated by volunteers from the VTFWCG. Brook trout eggs are provided by the Vermont Depart-

ment of Fish and Wildlife's Roxbury hatchery about the first of December each year. Volunteers pick up the eggs, bring them to the Morgan hatchery, install them in incubators, and monitor them until they hatch. Hatching is typically complete by early January, at which time the fry are put into two large tanks and monitored daily by volunteers to, remove dead

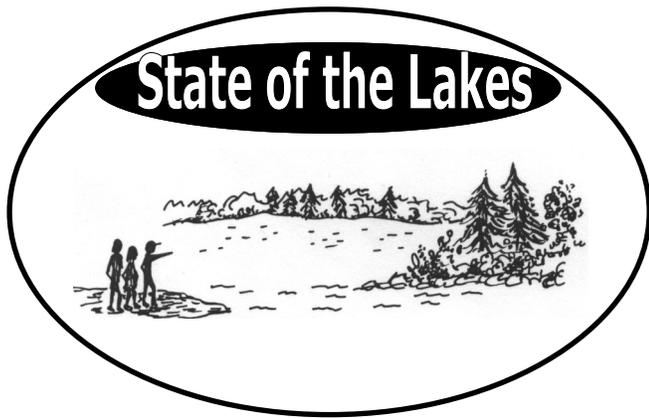
fry, feed, and check the water temperature and dissolved oxygen content.

If winter rearing is successful, stocking of the reared fish will begin in mid-March. Stocking brings in 40 to 50 volunteers who place the fish in plastic bags with water and extra oxygen (400 fish per bag), and carry them to remote, publicly accessible beaver ponds located throughout the Northeast Kingdom.

The VTFWCG operates and maintains this hatchery without monetary support from the state. The Vermont Fish and Wildlife Department provides fish food, technical advice, and monitors fish health. This non-profit, volunteer-supported group pays all other costs - oil heat, electricity, gas, and building maintenance. Member dues, as well as a monthly gun raffle, an annual wild game dinner, plus the occasional donation sustain the Morgan hatchery. Cast away in the Northeast Kingdom, thanks to volunteers rearing native brook.



The Morgan Fish Hatchery, Morgan



Update on Lake Shore Management

In the 1970s, both Maine and Vermont legislated mandatory zoning for lake shores to be administered by the municipalities. Today, this legislation is still protecting Maine's lakes, but was never enacted in Vermont as the legislature revoked the regulation soon after passing it.

Consequently, unlike most of the other New England and "lake rich" states, Vermont does not have a mandatory statewide approach to protecting the vegetated areas along lakes and ponds. Nor does it have statewide regulatory protection for river corridors and corresponding riparian areas. The protection of the shoreland area along surface waters has primarily occurred on a local level with technical assistance from the Vermont Water Quality Division, Regional Planning Commissions, or on a project level when Act 250 review comes into play.

In 2010, the legislature passed Act 110, which, for lakes, required in part the establishment of a shoreland management program. Part of the lakes shoreland management program is to support legislative and policy decisions with science-based recommendations.

The new Vermont Lake Score Card communicates the science about lake shoreland habitat and shows how a lake's water quality is greatly threatened by unbuffered shores. Furthermore, Vermont's littoral habitat study, used in the lake score card, shows how developed study sites have 96 percent less trees along the shore than undeveloped sites. **This finding indicates that unregulated development usually leads to complete clearing of a shoreland lot.** Along with a loss of critical shallow water and shoreland

A buffer is a vegetated width of land between the water's edge of a lake, stream or wetland, and human land uses. A healthy buffer contains multiple layers of vegetation and an undisturbed "duff" layer.

A buffer strip is a lake's first line of protection. Vermont has 280 lakes 20 acres or greater in size, and over 800 five acres or larger. Lakes are an essential part of Vermont's social and natural landscape. They need to be protected.

habitat, increased sunlight and warmer water means more plant and algae growth -- another negative change to the lake environment.

The debate today should not be over the science of whether or not buffered shores are essential for maintaining healthy lakes, but over how to encourage or require lake shoreland buffers. Municipalities can adopt shoreland zoning regulations, and have been encouraged to do so by the Vermont Water Quality Division. Currently, about 20 percent of municipalities have shoreland regulations that are adequate to protect shoreland vegetation thus protecting the lake water quality and habitat. The Division provides significant education and outreach materials on the importance of buffers.

Act 110 engages the legislature to address shoreland protection and to consider statewide standards, as Maine, Wisconsin, and Minnesota have done. There are many advantages to statewide standards, including ensuring that all towns within a lake's watershed are equally practicing sound shoreland protection. Also, having statewide uniform standards in every town would make it clearer for those in construction or making home improvements since the buffer would be the same everywhere in Vermont. Statewide shoreland standards would provide the strongest protection for the future of Vermont lakes.

Example States with Statewide Mandatory Setbacks

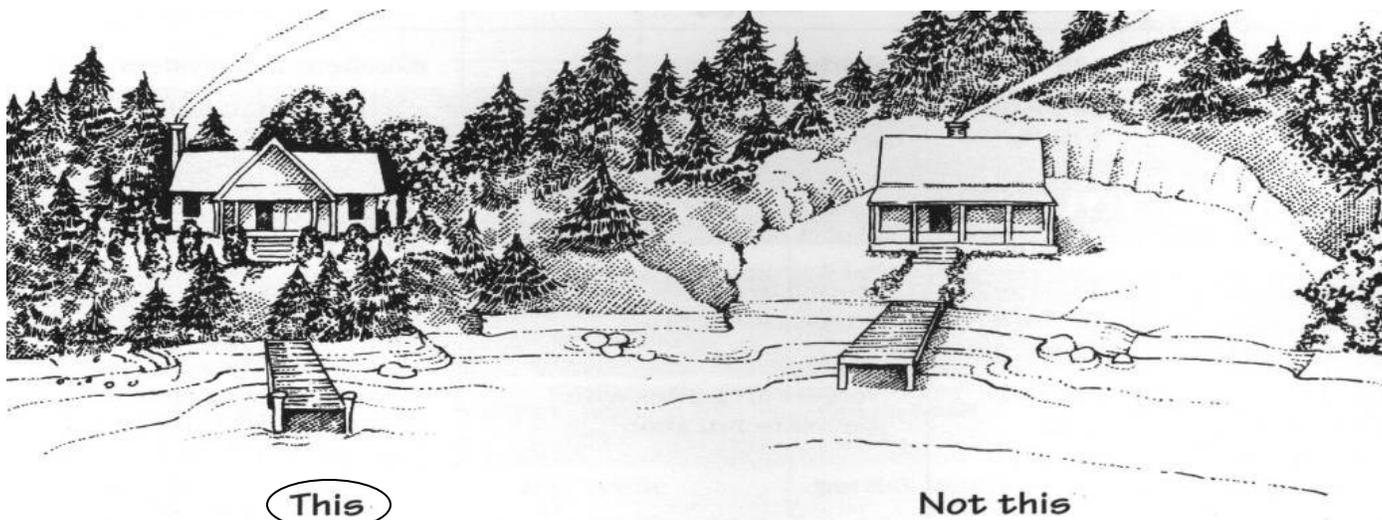
State (# lakes)*	Structure Setback	Vegetative Requirements
Maine (5,785 <i>great ponds</i>)	100'	Yes
Wisconsin (15,081 <i>total</i>)	75'	Yes
Minnesota (11,842 <i>total</i>)	75' - 150'	Yes

* Vermont has 811 lakes and ponds

Only You...Can Save Your Lake!

Responsible Shoreland Development:

- ◆ Avoids algae blooms
- ◆ Protects water quality
- ◆ Provides vital aquatic and wildlife habitat
- ◆ Keeps lakes healthy for future generations



Please... Go Wild!

How

- 🌳 Leave trees and shrubs in a strip up to 100 feet wide along the shore.
- 🌸 Replant native trees and shrubs between your camp and the water.
- 🌿 Reduce lawn size adjacent to the lake.
- 🌱 Don't use fertilizers or pesticides on lawns near the lake.
- 💧 Instead of repairing or installing a retaining wall, create a vegetated bank.

Why

- Lawns are not effective at erosion control, filtering runoff, or providing wildlife and aquatic habitat.
- Fertilizer and pesticide runoff unnecessarily pollutes the lake with nutrients and toxins.
- Natural vegetation stabilizes the bank; enhances in-lake habitat; looks nice from the lake; and provides shoreland wildlife homes and food.



Vegetated shores maintain healthy lake conditions

HIGHLIGHTS

Water Chestnut Milestone Reached!

For the first time since it began in 1982, the Vermont Department of Environmental Conservation's north to south Lake Champlain water chestnut management program reached "The Narrows of Dresden" by containing the chestnut to south of this area. This milestone means that water chestnut mechanical harvesting has progressed more than 47 miles south from where it initiated, over 28-years ago. Many water chestnut populations have been so reduced that only removal by hand, not mechanical harvesting, is now needed. Handpulling, which advanced a mile further south in 2010, continues to be the main control method for water chestnut in Lake Champlain and is a reflection of reduced populations in the lake.

New Infestations.

One new Eurasian watermilfoil (EWM) water was confirmed during the 2010 season: Ticklenaked Pond in Ryegate. This brings the total number of known lakes with EWM populations to 66, plus 27 other waters. Two new rivers with *Didymo* blooms were confirmed this past summer as well: the Gihon River in the vicinity of Johnson, Vermont; and the Passumpsic River in the vicinity of West Burke, Vermont. No new water chestnut, yellow-floating heart, European frog-bit, curly leaf pondweed, adult zebra mussel populations, or other aquatic invasive species known from Vermont were confirmed in 2010.

A new exotic crayfish species – big water crayfish (*Cambarus robustus*)...

was confirmed for the first time in Vermont, in the White River. It was discovered during an invasive crayfish workshop for middle and high school teachers. Although there is cautious optimism that the species will not prove highly invasive, the discovery does raise renewed concerns about the ongoing threat of crayfish introductions via bait or aquarium releases.

Asian clam (*Corbicula fluminea*)...

was discovered in August 2010 in Lake George, New York within the Lake Champlain basin. The source of the introduction is unknown, but bait or aquarium dumping are suspected. A rapid response has been initiated by several partners including the Vermont Water Quality Division, the Lake Champlain Basin Program, the Fund for Lake George, the Lake George Association, the Adirondack Park Invasive Plant Program, Darrin Freshwater Institute and others. The feasibility of using benthic mats to eradicate the Asian clams are currently being investigated. Other control methods are also under consideration, including suction harvesting/sediment dredging; a chemical treatment; and transient heat treatment.



Asian clams, Lake George, New York

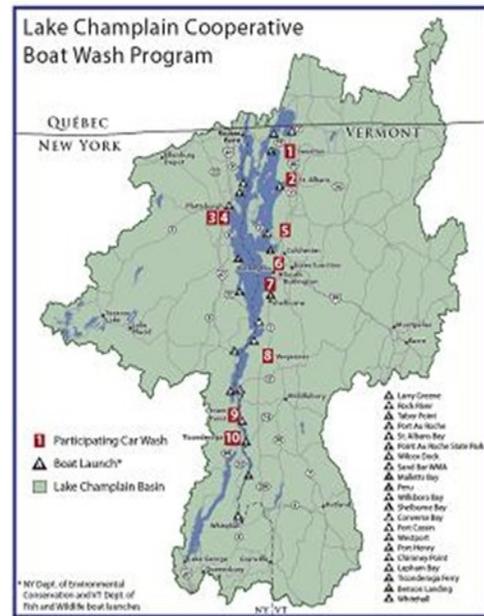
Aquatic Invasive Species

Boat Wash

The Vermont Water Quality Division in partnership with the Lake Champlain Basin Program, initiated a Cooperative Boat Wash Program in the Lake Champlain basin. Self-service car washes in the basin that have bays large enough to accommodate boats were identified and solicited to join the program. A web site and brochure with map showing car wash locations in the vicinity of boat launches were developed. The brochures will be distributed by Lake Stewards at boat launches beginning next spring, to encourage boaters to power wash boats.

New Emergency Permitting Authority

As of July 1, the Secretary of VTANR has **new emergency permitting authority** for invasive species rapid response in Vermont. A draft emergency rapid response general permit for both chemical and non-chemical methods with coverage available to the Commissioners of the Departments of Environmental Conservation and Fish and Wildlife has been developed. A public information meeting was held this summer and the Agency expects to finalize the general permit and a notice of intent soon.



A new Aquatic Nuisance Control permit format...

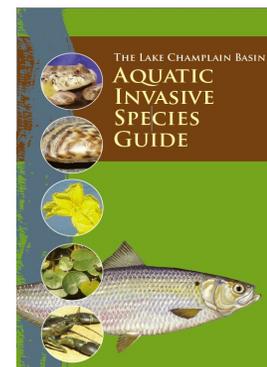
was developed to address pesticide projects proposing multiple year treatments, multiple control methods and/or the treatment of more than one water body. Instead of individual permits, one permit decision could now cover multiple treatments, controls and water bodies.

Felt-Soled Wading Boots Banned

In May 2010, the Vermont legislature enacted, and the Governor signed into law, **a ban on the use of felt-soled wading boots in Vermont waters**, effective April 1, 2011. The full text of the ban is available at <http://www.leg.state.vt.us/docs/2010/Acts/ACT130.pdf>

The Lake Champlain Basin Aquatic Invasive Species Guide

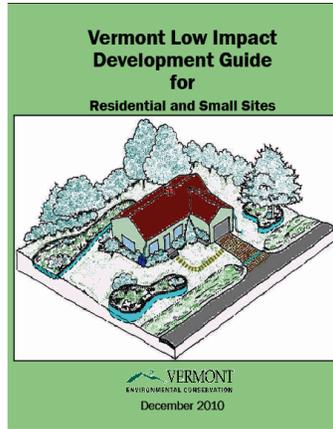
This new 56 page, color guide gives descriptions and shows photos of invasive species already known in the Lake Champlain basin as well as those that are not found, but some day may show up. Fish, mollusks, invertebrates and plants are included in this new guide. The guide is available through the Lake Champlain Basin Program's web site at : [www.http://www.lcbp.org/PDFs/LCB_AIS_Guide.pdf](http://www.lcbp.org/PDFs/LCB_AIS_Guide.pdf)
Or, by contacting the Lake Champlain Basin Program at 1-800-468-5227.



What's Happening?

New!

Here's a handy, three by five inch, plastic coated covered guide on how to curb surface run-off from your property. The Low Impact Development Guide shows the landscaping practices that infiltrate, filter, store, evaporate and detain water runoff. Check it out for ideas, like creating vegetated swales or raingardens to prevent polluted runoff from reaching a stream or lake. Contact Jenna Calvi in the Water Quality Division's Stormwater Section at 802- 241-1512 for a copy.



Seasonal Scenes from Kettle Pond in Groton

Wanted... more photos of scenes from your favorite waterbody throughout the year. Please send to newsletter staff. Thanks!



www.vermontlakes.org
The Federation of Vermont Lakes and Ponds

Save the Dates
June 3rd • Lake Seminar • Location TBA
July 25th • Annual Meeting • Location TBA

Water Quality Division New Approaches to Managing Vermont's Surface Waters

The Water Quality Division's primary mission is to protect, maintain, enhance and restore the quality of Vermont's surface water resources. Inherent in this effort is the support of both healthy ecosystems and public uses in and on more than: 811 lakes and ponds; 7,100 miles of rivers and streams; and, 300,000 acres of wetlands that exist within the State of Vermont.

To accomplish its mission, the Division is comprised of four media-specific programs that provide for the comprehensive management of Wetlands, Rivers, Lakes, and Stormwater. The Division has recently completed a major initiative to improve its overall management of Vermont's surface waters. As a result, our new Monitoring, Assessment and Planning program serves to integrate the Division's efforts across these programs through the use of our Statewide Surface Water Management Strategy, and to develop basin plans consistent with this strategy.

