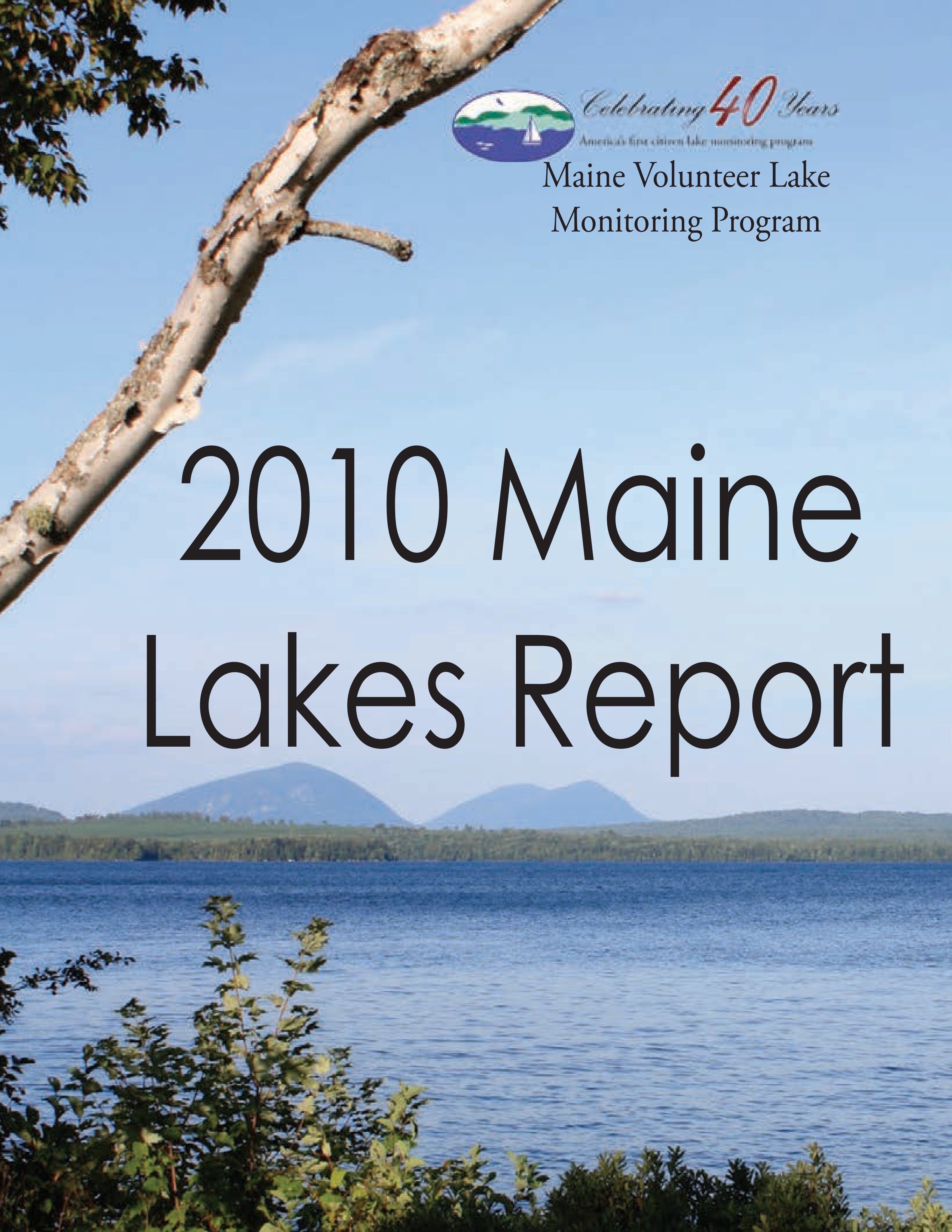
Celebrating 40 Years

America's first citizen lake monitoring program

Maine Volunteer Lake Monitoring Program

2010 Maine Lakes Report



Dear Friends of Maine Lakes,

This 2010 report on the health of Maine's lakes is presented on the 40th anniversary year of the Maine Volunteer Lake Monitoring Program! The VLMP is believed to be the longest standing citizen lake monitoring program in America, having been formed at about the time of the passage of the historic Federal Clean Water Act. Maine is well known for its clear, clean lakes, and for strong public support to protect them. The work of nearly 1,000 trained volunteers, who consistently gather scientific information about lakes throughout Maine is a strong testimony to the level of public commitment to our lakes.

The straightforward mission of the VLMP is to train and provide support to citizen volunteers to gather science-based lake data. The VLMP manages and disseminates this information to the general public, to state and federal natural resource agencies, municipalities, lake and watershed associations, educational institutions, water utilities and others, because it is our belief that knowledge and understanding of Maine lakes and ponds are ultimately the cornerstones of stewardship.

In support of our mission, the VLMP has established and maintains a scientifically based lake monitoring and data management system through partnerships and collaborations between volunteers and Maine's technical community. Our primary partners are the Maine Department of Environmental Protection (DEP) and the US Environmental Protection Agency.

The Maine Lakes Report is an annual document produced to provide information about how Maine lakes and ponds function, how they are monitored, and assessed. It includes water quality and invasive species screening summaries for several hundred lakes in the program. More detailed reports for individual lakes are also available upon request.

The relatively small investment of public funding that supports the work of the VLMP is multiplied in value several times through the invaluable, high quality work of VLMP volunteers. Studies conducted throughout the country have consistently shown that lake data gathered by properly trained volunteers are equivalent to that of professional lake scientists, at a fraction of the cost! The additional invaluable benefit of public education and stewardship that VLMP volunteers provide to communities throughout the state is one of Maine's best examples of grassroots natural resource protection.

The effectiveness and strength of the VLMP is in part due to collaborative partnerships with other entities, including agencies and organizations throughout Maine and the U.S. This collaboration has formed a powerful resource for technical expertise, outreach, and access to a great deal of information concerning Maine lakes and their watersheds.

Since the earliest days of the program, the VLMP has been at the forefront of gathering lake data in Maine and the U.S. During the past four decades, the total number of active volunteers involved in water quality monitoring and in screening lakes and ponds for invasive aquatic species has increased steadily. This document is dedicated to the thousands of volunteers who, through their efforts, have significantly increased our understanding of Maine's lakes during the past 40 years.

Scott Williams, *Executive Director*

2010 Maine Lakes Report

Acknowledgements

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Cover—Moosehead Lake

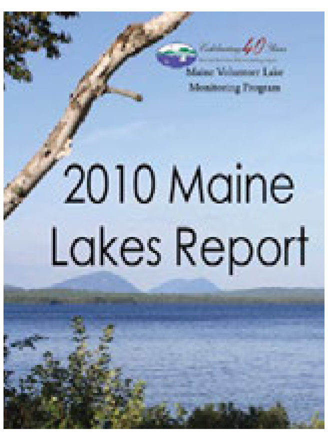

Photo by Ilse Pukinskis

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Support for this report has been provided by

US Environmental Protection Agency through Section 319 of the Federal Clean Water Act

Maine Department of Environmental Protection

Roy A. Hunt Foundation

Boater Participation in the Maine Lake & River Protection Sticker Program

Nearly 1,000 volunteer lake monitors throughout Maine who have provided their time, expertise, and financial support.

2010 Volunteer Coordinators

Water Quality Volunteer Coordinators

Regional Coordinators (RC)

RC's organize training workshops, respond to requests from volunteers and manage the collection of data.

Data Coordinators (DC)

DC's enter water quality data collected on volunteer data forms into the VLMP's LakeData database program.

Regional and Data Coordinators commit a minimum of 25 hours per year to the program. If you are interested in volunteering for a Coordinator position, please contact the VLMP office.

Region	Coordinator
Androscoggin	Dan Guerette, RC Alan Anderson, DC
Aroostook	VLMP Staff
Cumberland	Charles Turner, RC
Franklin	Elizabeth Payne, RC Lew Wetzel, DC
Hancock	Richard Offinger, DC
Kennebec	Sue & Bruce Fenn, RC
Knox	Dave Preston, RC & DC
Lincoln	Ed Knapp, RC Steve O'Bryan, DC
Oxford	Art Bubar, RC Joe Potts, DC
Penobscot	VLMP Staff, RC David Hodsdon, DC
Piscataquis	VLMP Staff, RC Richard Offinger, DC
Sagadahoc	Ed Knapp, RC Steve O'Bryan, DC
Somerset	Elizabeth Payne, RC Lew Wetzel, DC
Waldo	VLMP Staff, RC & DC
Washington	Elizabeth Payne, RC Richard Offinger, DC
York	George Bouchard, RC
Acadia National Park	Bill Gawley, RC
Allagash Wilderness Waterways	Kevin Brown, RC
Cobbossee Watershed District	Wendy Dennis, RC & DC
Lakes Environmental Assoc.	Colin Holme, RC & DC
Rangeley Lakes Heritage Trust	Rebecca Kurtz, RC
St. Croix International Waterways Commission	Lee Sochasky, RC & DC

Regional Invasive Plant Patrol Coordinators

Invasive Plant Patrol Coordinators help organize volunteers and training workshops in their region. Additional duties may include providing regional technical support, coordinating Invasive Aquatic Plant screening survey activity, and managing data collection.

Region	Coordinator(s)
Aroostook County	
Portage Lake Association	Phil Ouellette, Dwight Sewell
Island Falls Lake Association	Norm Harte
Hancock County Region	
Hancock SWCD and Hancock County Lakes Alliance	Megan Facciolo
Kennebec County	
30 Mile River Watershed Association	Lidie Whittier Robbins
Belgrade Regional Conservation Alliance	Corinne Dawson
Friends of the Cobbossee Watershed	Ken Smith
Midcoast Region	
Acadia National Park	Bill Gawley
Citizens' Association of Liberty Lakes	Kerry Black, Linda Breslin
Damariscotta Lake Watershed Association	Julia McLeod
Lincolnville Lakes and Ponds Committee	Ken Bailey
Pemaquid Watershed Association	Donna Minnis
Penobscot County Region	
Baxter State Park	Jean Hoekwater
University of Maine Cooperative Extension	Laura Wilson
Penobscot Nation	Jan Paul
Rangeley Lakes Region	
Rangeley Lakes Heritage Trust	Rebecca Kurtz
Southwestern Maine Region	
Lakes Environmental Association	Colin Holme
Lakes Coalition	Cheryl Welch
Lovell Invasive Plant Prevention Committee and Kezar Lake Watershed Association	Gerry Nelson
Pleasant Lake and Parker Pond Assoc.	Pixie Williams
Portland Water District	Nate Whalen
Raymond Waterways Protective Association	Noralee Raymond
Saco River Recreation Council	Michelle Broye
York County	
Acton Wakefield Watershed Alliance	Linda Shier
York County SWCD	Melissa Brandt

Water Quality Regional and Data Coordinators meet annually with VLMP staff to share observations and feedback about the program.

VLMP Program Overview

Mission: *The mission of the VLMP is to train and certify volunteers to gather credible data on the health of Maine lakes, and to disseminate this information to the public.*

Introduction

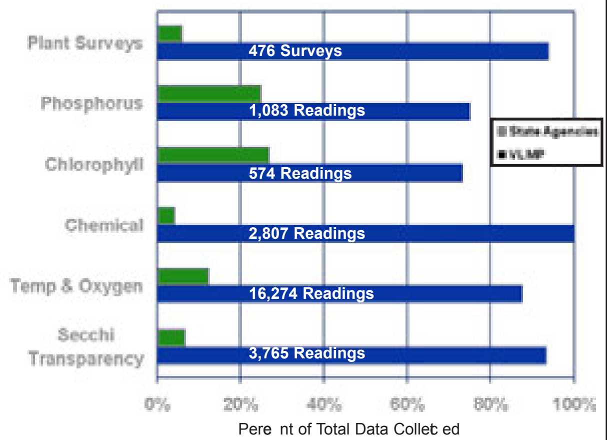
Maine's 5,785 lakes and ponds, half in public domain, are among the most pristine in the nation. Lake scientists have long recognized that protecting and keeping lake ecosystems healthy requires knowledge of a large and broad cross section of waterbodies. For 40 years Maine's Volunteer Lake Monitoring Program has risen to the challenge by collecting a substantial percentage of the annual water quality data for Maine lakes. As new threats, such as invasive aquatic species, have presented themselves, VLMP volunteers have expanded their level of commitment and stewardship.

Recognition of the relationship between healthy lakes and Maine's economy is well established. Information collected by VLMP volunteers has greatly contributed to this understanding. In 2010, more than 600 volunteers collected water quality data from 360 Maine lakes! As of 2010, 426 waterbodies across the State of Maine have also been screened, at some level, for the presence of aquatic invaders. A high percentage of the screening surveys were conducted by volunteers trained by the VLMP Center for Invasive Aquatic Plants.

Established in 1971, the VLMP, first administered by the Maine Department of Environmental Protection (DEP), became an independent non-profit organization in 1992. A strong cooperative and mutually beneficial relationship has been maintained between the VLMP and the DEP ever since. We are a valuable resource to the state, while the DEP continues to provide quality assurance and quality control oversight, assists us with data management, and provides technical expertise to VLMP staff and volunteers.

Funding for the VLMP is provided through contributions from individuals, businesses, and grassroots watershed groups, and grants from the EPA, Maine DEP, and private charitable foundations. But the greatest value of the

Percentage of Lake Data Readings Collected by VLMP and State Agencies in 2010



VLMP comes from the efforts of hundreds of volunteers who contribute thousands of hours of their time annually, and who are the backbone of the Program.

Volunteers receive training and are certified through the VLMP. Depending on personal interests and program needs, a number of training and monitoring options are available. Hundreds of volunteers are trained to monitor lake transparency (water clarity) using a simple Secchi disk. Some monitor more advanced water quality indicators, including total phosphorus, dissolved oxygen, chlorophyll-a and more. And others are trained to conduct screening surveys for aquatic invaders through the VLMP's Center for Invasive Aquatic Plants. Many volunteers provide data concerning additional characteristics of their lakes, including "ice-out" dates, the presence of certain forms of troublesome algae, and more.

Training, basic equipment and technical support are provided by the VLMP at no charge, in return for a commitment from volunteers to monitor their lakes. All volunteers receive ongoing technical support for as long as they are active in the program. Questions concerning procedures, data collected, the interpretation of results, algae and invasive plant identification, presenting lake data to watershed communities, and more, are frequently addressed by VLMP technical staff. Individual contact and support is an essential component of insuring the credibility of lake data collected by volunteers.

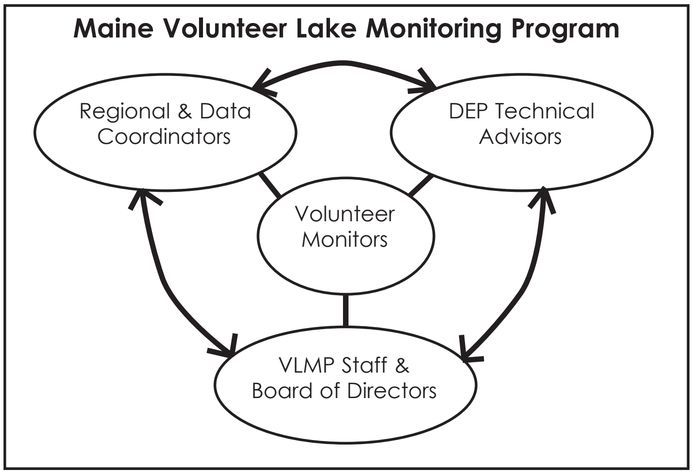
The VLMP is Maine's leader in providing training and certification in the collection of lake data by volunteers, state agency personnel, educators, consultants and others.

Program Purpose and Goals

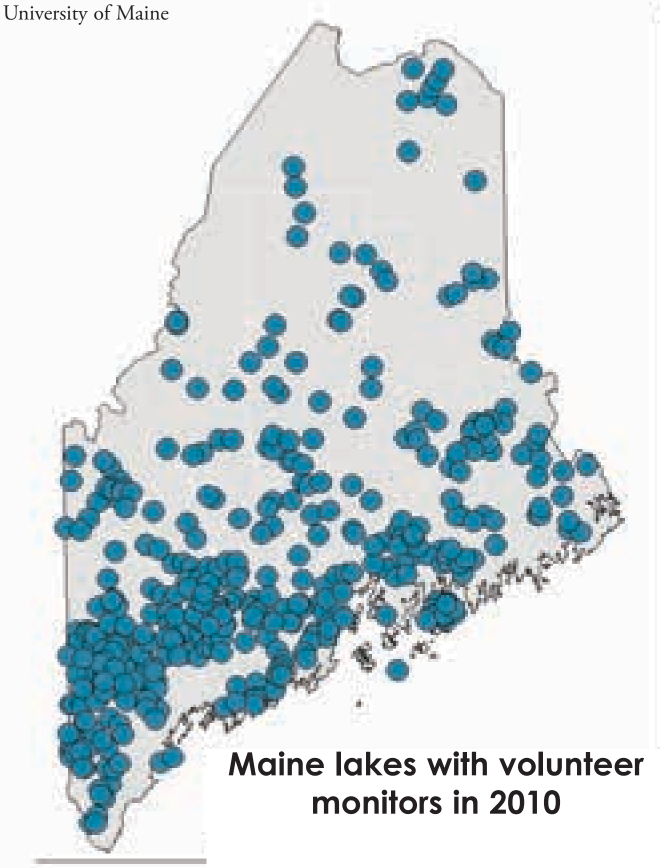
The mission of the VLMP is to foster stewardship of Maine lakes and their watersheds, to ensure high water quality and ecological integrity. This is accomplished by the collection of credible lake data by trained citizen volunteers, and by providing educational information concerning lakes to the citizens of Maine.

The VLMP develops and disseminates educational materials concerning various aspects of lakes and their watersheds, including water quality, ecology, management, protection and stewardship. The VLMP acts as a liaison, when possible, to bring together groups and organizations with missions similar to ours to maximize the benefits of collaborative synergy.

A number of organizations work on behalf of Maine's lakes and ponds. Some focus specifically on advocacy; others primarily on public education. To some extent, the VLMP mission overlaps with those of other entities. All are working in various ways to protect lakes. *What sets the VLMP apart is the particular role the organization plays within this larger statewide effort, a role that helps to support the work of those other efforts at the state, regional and local levels. Reliable information about Maine lakes, both individually and collectively, is the foundation of all efforts to protect, manage and restore these resources.*



Map by: Peter Vaux
University of Maine



Maine lakes with volunteer monitors in 2010

Program Structure and Administration

The VLMP is structured to optimize volunteer participation in both data acquisition and program administration. This reduces the cost of operations, increases feedback to program administrators from volunteers, and strengthens local stewardship.

The VLMP is governed by a volunteer Board of Directors. The Board has approved by-laws and a regularly updated Strategic Plan. Board meetings are held several times throughout the year and are open to the public.

The VLMP also has volunteer Regional and Data Coordinators that assist with program management at various levels by organizing training workshops, collecting data forms, entering data into the database, maintaining contact info for the volunteers, and responding to volunteer requests for equipment and monitoring forms. Each of the 16 counties in Maine has its own Regional Coordinator, and there are several local organizations such as Cobbossee Watershed District, Lakes Environmental Association, Rangeley Lakes Heritage Trust and the St. Croix International Waterways Commission that function as Regional Coordinator for volunteers in their service area.

Volunteer training and re-certification workshops are offered during the spring and summer monitoring period. VLMP and Maine DEP staff travel throughout Maine to meet with volunteers, provide them with training, equipment and technical support.

The Water Column, VLMP’s newsletter, is distributed three times annually to program volunteers and collaborating organizations. An online version is also available. The annual *Maine Lakes Report* is also available on the VLMP website, and is sent to all active volunteers. Annual water quality reports for individual lakes are also available to volunteers and the public.

The VLMP's Annual Lake Monitoring Conference, at which individuals are recognized for their contributions to Maine lakes, is held annually during the summer. The event also features presentations on a wide range of technical issues pertaining to lake monitoring, assessment and protection.

The VLMP is funded by diverse sources, including individuals, grassroots lake and watershed groups, state and federal agencies, charitable foundations and businesses.

Volunteer trainings are held annually throughout Maine, as well as at VLMP's Brackett Environmental Center on the shore of Lake Auburn.

Agencies and Organizations Working in Collaboration with the VLMP

Acadia National Park
Allagash Wilderness Waterways
Auburn Land Lab
Auburn Water District
Belgrade Regional Conservation Alliance
Casco Bay Estuary Partnership
Cobbossee Watershed District
Congress of Lake Associations
County Soil and Water Conservation Districts
Cumberland County Soil and Water Conservation District
Friends of the Cobbossee Watershed
George J. Mitchell Center - University of Maine
Gulf of Maine Research Institute
Hancock County Lakes Alliance
Hancock County Soil & Water Conservation District
Lake & Watershed Associations throughout Maine
Lake Auburn Watershed Protection Commission
Lakes Environmental Association
Maine Audubon Society
Maine BASS Federation
Maine Department of Conservation
Maine Department of Conservation Natural Areas Program
Maine Department of Environmental Protection
Maine Department of Inland Fisheries and Wildlife
Maine Milfoil Initiative
Maine Stream Team
Maine Water Utilities Association
Passamaquoddy Tribe of Maine
Penobscot Nation
Portland Water District
Rangeley Lakes Heritage Trust
Raymond Waterways Protective Association
Saco River Corridor Commission
Saco River Recreation Council
Sebago Lake State Park
St. Croix International Waterways Commission
The Nature Conservancy
Trout Unlimited
University of Maine
University of Maine - Cooperative Extension
University of Maine - Cooperative Extension Watershed Stewards
US Environmental Protection Agency
York County Soil & Water Conservation District

Monitoring Lake Water Quality

How Are the Water Quality Data Used?

Data collected by volunteer water quality monitors provide valuable information to lake scientists at the Maine DEP, the EPA, the University of Maine, public water utilities and other agencies and institutions throughout Maine in order to help characterize and protect Maine lakes. State and town planners, conservation groups, economists, lake associations, businesses, and individuals also use the data. VLMP lake data, and data obtained through a collaborative effort with the Maine DEP and other agencies and organizations, are the primary sources of water quality information for Maine lakes. The following are just a few of the ways in which the data are used:

Research

Scientists and researchers use VLMP data to characterize the quality of individual lakes, and to identify water quality trends. A number of agencies and institutions in Maine use this information to help determine the economic benefits provided by lakes, and the potential loss of these benefits when water quality declines. Recent economic studies using VLMP data have linked lake water clarity to shoreline property values.

State agencies use VLMP data to assess fishery habitat. For example, dissolved oxygen data are used to determine the extent to which individual lakes are able to support coldwater species, and whether or not fishery habitat is changing with time.

Understanding the relationship between watershed land use and lake water quality is key to protecting lakes. VLMP data are used to further our understanding of this relationship, and help determine appropriate standards for lake protection by federal, state and local planners. The information is also used to develop public educational materials.

Data Users

Maine Department of Environmental Protection (DEP) and other state agencies

US Environmental Protection Agency (EPA)

University of Maine and other educational institutions

County Soil & Water Conservation Districts

Water Utilities

Towns, Local Planners and Businesses

Lake Associations and other Grassroots Organizations

Lake Diagnostic Studies

Each lake has a unique history and "personality." Data collected by VLMP allows the Maine DEP and others to determine the nature and sources of water quality problems for individual lakes, and the most effective means for restoring and protecting them from further decline.

Lake Restoration Projects

Efforts to restore a lake that has declined requires extensive water quality data. Long-term restoration also involves addressing land use problems in the watershed. The VLMP and DEP work with volunteer monitors, local lake associations, and watershed communities to identify means by which sources of pollution to lakes can be identified and eliminated. This is accomplished through lake and watershed education and outreach services, and by working with groups to implement lake and watershed protection projects.

Lake Protection

Town planning boards, lake associations, conservation commissions and others use water quality data to develop local standards for lake protection. The Maine DEP uses the information to establish phosphorus control standards for individual lakes. VLMP data have been used to determine the "Lakes Most at Risk" for the Maine Stormwater Management Law, and for establishing "Priority Lake Watersheds" for Maine's Nonpoint Source Program. The Federal Clean Water Act requires states to evaluate the status of their lakes and report the results to the EPA, and Maine's Water Classification Program requires a similar assessment. VLMP data are used extensively for this purpose. (See Appendix B for details.)

Outreach and Technical Assistance

The VLMP provides data, analysis, and training to those across Maine interested in understanding and protecting lake water quality, and preventing the introduction of invasive aquatic plants. Many schools throughout

Maine use VLMP lake data. The VLMP is a resource to educational institutions with lake studies programs, from elementary grades through graduate studies. The VLMP staff works with lake associations and organizations like the Maine Congress of Lake Associations to help those who have an interest in understanding and protecting lakes to achieve their goals. The real estate industry and tourism-based businesses have a vested interest in the quality of Maine lakes. The VLMP works with numerous local and state business groups to provide water quality and economic analysis information to the business community. Fishing organizations such as Maine BASS Federation also partner with the VLMP to protect Maine's fishing heritage from the threat of invasive aquatic plants.

Legislative Initiatives

As an important source of quality data and objective information, the VLMP provides the Maine Legislature with objective testimony concerning critical issues relating to Maine lakes. However, in order to protect the integrity of data, the VLMP does not advocate for or against (lobby) specific political initiatives. The VLMP is an apolitical organization.

Volunteer Training, and Quality Assurance and Quality Control

All data, including volunteer-collected information, are useful only when accurate, of acceptable quality, and reliably collected. In order to ensure that the lake water quality data collected by the VLMP are credible, all contributors of this data must meet specific technical standards. This system of quality assurance, and the standards that must be followed by volunteers, staff and others who participate in the gathering and processing of data, is commonly known as "QA/QC" (quality assurance/quality control). The VLMP standards of quality assurance are defined in a plan that is approved by the EPA, (referred to as a Quality Assurance Project Plan, or QAPP.) Such a plan is required of all entities that receive funding from the EPA for data collection. It assures that those who use the volunteer data may do so with confidence. The QAPP is available on our website at www.MaineVolunteerLakeMonitors.org. The primary role of the Maine DEP partnership with the VLMP is to provide QA/QC guidelines and standards for data collection and management. The DEP staff serve as quality control agents, providing technical support to VLMP staff, as required. The VLMP and DEP staff work cooperatively to ensure that available resources are used efficiently.

Individuals who collect and submit Maine lake data to the VLMP and DEP, regardless of whether they are volunteers or professionals, must be certified. Becoming certified to collect water quality data entails a comprehensive training process. Volunteers are required to attend an initial workshop at which they are provided with information concerning lake function and ecology, lake and watershed relationships, perspective on various threats to lakes, monitoring protocol and procedures, and direct field experience in the gathering of data. Individuals and the equipment that they use are evaluated, and their data are recorded for future reference. Each individual is assigned a unique certification number to link them to any and all data that they submit to the VLMP or Maine DEP.

Volunteers are required to periodically attend re-certification workshops that are held throughout Maine annually. Re-certification requirements vary, depending on the type of data being collected. Workshops provide volunteers and staff with opportunities to discuss technical issues and questions, changes in protocol, the analysis of data, and to inspect monitoring equipment. Volunteers and staff also review data gathering procedures, take readings and compare results. The workshops also provide volunteers with an opportunity to provide feedback to staff on various aspects of the program.

Photo by Linda Bacon

Volunteer water quality monitors review Dissolved Oxygen monitoring procedures with VLMP QA/QC staff at a re-certification workshop on Long Lake

Quality Assurance/Quality Control

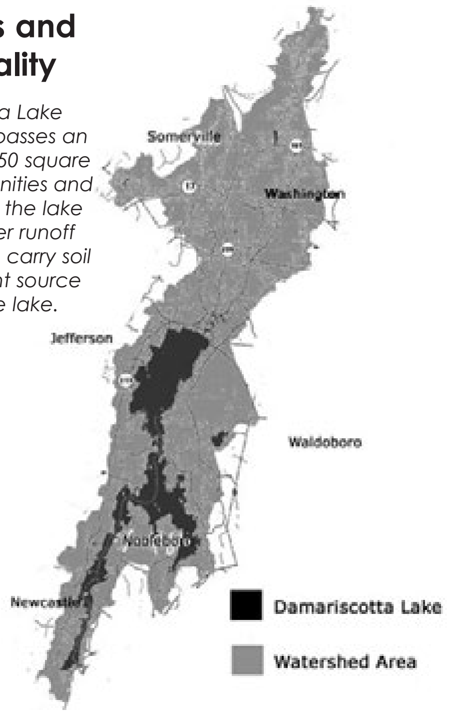
The program accepts data only from monitors who are able to meet QA/QC requirements. This strict rule affirms the credibility of the VLMP as an organization, as well as the value and utility of the data. It allows the lake water quality data gathered by our volunteers to be used with confidence, and assures volunteers that their monitoring efforts are well spent.

How Do Volunteers Monitor Lake Water Quality?

There are many imminent threats to Maine lakes. Near the top of the list, and perhaps the most pervasive, is the potential for lakes to become nutrient enriched and more biologically productive as a result of development in lake watersheds. This condition is characterized by declining water clarity (transparency), resulting from an increase in the growth of algae. Excess algae in lake water can cause a disturbance to the normal equilibrium of the aquatic ecosystem. As algae die and decompose, bacteria consume oxygen that is dissolved in the water. Increased algal growth can lead to a decline in oxygen levels, especially during the warm summer months. Oxygen loss can reduce critical habitat for coldwater fish (trout and salmon), and it can accelerate the decline of water quality.

Watersheds and Water Quality

The Damariscotta Lake watershed encompasses an area of more than 50 square miles in five communities and extends miles from the lake shore. Storm water runoff within this area can carry soil and other nonpoint source pollution into the lake.

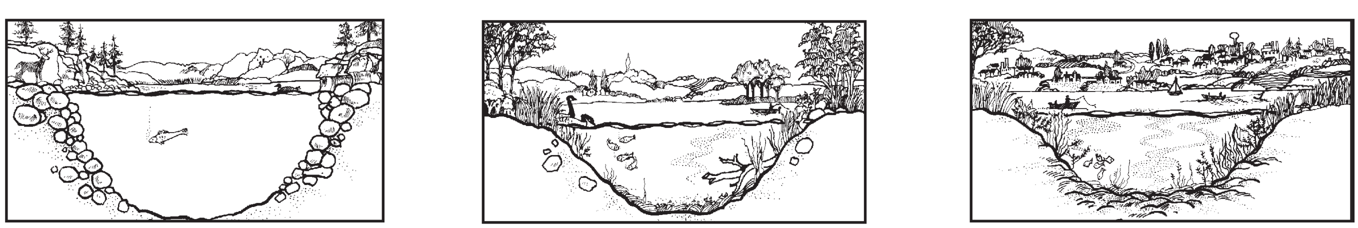


The enrichment of lakes with the nutrient phosphorus and excess algae, resulting from watershed development, is referred to as "cultural eutrophication" (CE). Stormwater runoff from disturbed or developed areas of lake watersheds typically carry high concentrations of phosphorus, sediment particles, and other pollutants considerable distances, eventually flowing into a lake. Lake watershed boundaries may be situated close to the shoreline, or they may extend for miles away from the lake. In either case, stormwater runoff from developed areas of lake watersheds is a potential threat to water quality, unless conservation practices are in place to control stormwater runoff.

For this reason, the primary focus of volunteer water quality monitoring is the collection of information related to changes in lake biological productivity over time. Water quality data gathered by volunteers can be used to determine whether individual lakes are becoming more productive, less productive, or are stable. Many years of data are generally required to make these determinations with confidence.

Measuring Lake Water Clarity (Transparency) With A Secchi Disk

One simple method of assessing the effect of cultural eutrophication in lakes is to measure the concentration of planktonic (suspended) algae in the water. Algae are at the base of the lake ecosystem food web. Volunteer water quality monitors begin monitoring their lake by measuring Secchi disk transparency. The Secchi disk is a simple device that is used to estimate algal concentrations, based on water clarity. Volunteers in the VLMP are provided with a viewing scope and a Secchi disk that is attached to a calibrated line. They are instructed on the procedure for taking a Secchi disk reading by training staff. Ideally,



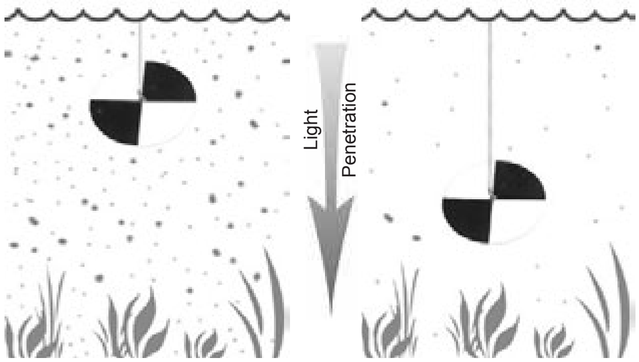
Cultural Eutrophication

The enrichment of lakes with nutrients, sediment and algae from human activities, resulting in increasing biological productivity and an acceleration of the natural aging process of the lake.

Images Courtesy of University of Wiso nsin Ex ension

How a Secchi disk measures water clarity (Transparency)

The Secchi disk is used globally to assess lake water quality because it is a quick procedure that can be performed by virtually anyone with minimal training and inexpensive equipment.



In a turbid lake with high algal density, light penetration is limited, resulting in lower clarity and a measurably shallower Secchi disk reading.

In a clear lake with low algal density, light penetrates deeper, resulting in greater clarity and a measurably deeper Secchi disk reading.

readings should be taken a minimum of twice monthly from May through September or October. This frequency is optimum for identifying water quality trends over time. Readings are generally taken at the deepest point in a lake.

The Secchi disk is generally a reliable device for quickly and inexpensively assessing lake water quality. The primary uses of Secchi transparency data are: 1) to characterize or define the existing water quality of a lake, and 2) to identify and track long-term water quality trends.

Secchi Transparency

The distance one can see into the water column is measured with a viewing scope and a Secchi disk attached to a calibrated line.

Secchi disk transparency is an *indirect* water quality indicator, because an assumption is made that water clarity is affected primarily by algal growth in the water. That assumption is reasonable in most cases. However, other factors may influence transparency, including the amount of sediment that is suspended in the water, and natural water color.

Natural color and suspended sediments vary widely from one lake to another. Color is influenced by the concentration of natural dissolved organic substances in the water. These "humic acids" can stain the water in some lakes to the point where light penetration into the water column is substantially attenuated. Shallow lakes may be subject to moderate concentrations of re-suspended bottom sediments in the water column, resulting from wind turbulence. Both color and sediment can limit the utility of Secchi transparency data as an indicator of biological productivity. However, for most Maine lakes, Secchi transparency is a reliable and relatively accurate method for assessing water quality.

Seasonal Changes in Secchi Transparency

The tiny plants (algae or phytoplankton) and animals (zooplankton) that are suspended in lake water influence transparency. These living aquatic communities undergo seasonal and annual growth cycles, resulting in changes in their overall density, and in their location in the water column.

Secchi transparency is often at a low point soon after the ice melts in the spring. That is when lakes mix, or "turn over," causing nutrients and sediments from the lake bottom to become suspended in the water for a period of time.

Silica that is swept up from the bottom sediments stimulates the growth of diatoms, a type of algae that experiences peak growth in the spring and fall (see diagram below). Diatom "blooms" often result in a brief period of reduced transparency in lakes. As the water warms and stabilizes during the summer, other types of algae will dominate the water column, depending on water temperature, nutrient levels and other factors. Some lakes become progressively less clear through the summer months, while others may become clearer. The concentration of phosphorus in the

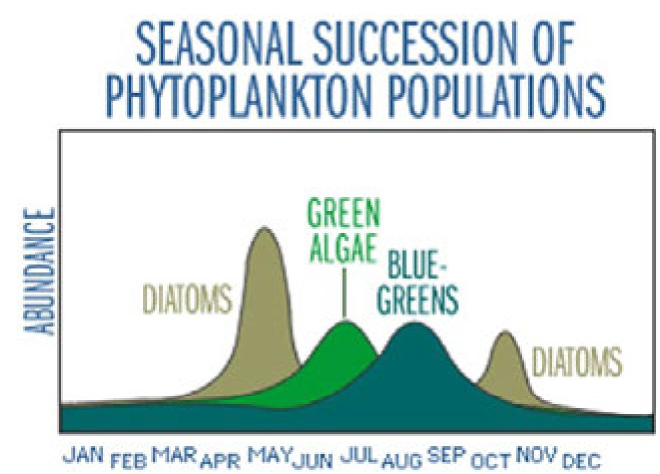


image o urtesy of waterontheweb.org

water, the shape and depth of the lake basin, the orientation of the basin to prevailing winds, and the weather all influence water clarity, or transparency. Individual lakes are unique in the way that they respond to these influences. Volunteer lake water quality monitors learn over time what is "normal" for the lake that they monitor.

Many Secchi transparency readings are needed over a period of years in order to confidently detect and track trends in lake water quality. The natural variability of water clarity and other indicators of lake quality complicates the detection of trends, which is why many complete seasons of data are generally needed in order to be able to recognize a true change in water quality. Thus volunteers are asked to collect complete seasons of data from May through September—or later—each year.

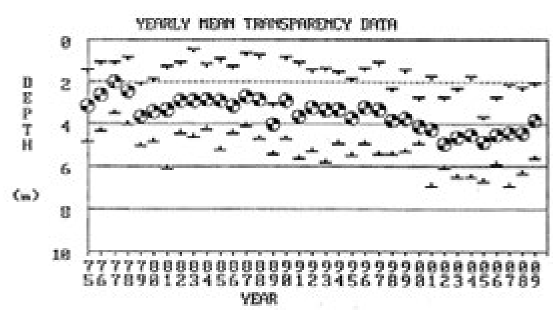
The following graphics illustrate the variability in Secchi transparency readings that may occur in lakes during a single season, and from year to year. **Figure 1** shows the variation in *annual* Secchi transparency over a period of years in Annabessacook Lake, Kennebec County, and Cold Rain Pond, Cumberland County. **Figure 2** shows the *seasonal* Secchi transparency variation in both lakes for the 2009 season.

Comparison of Secchi Transparency Variation in Two Maine Lakes

Figure 1

Annual Variation in Lake Water Clarity (Secchi Transparency) for Two Lakes

Annabessao ok Lake



Cold Rain Pond

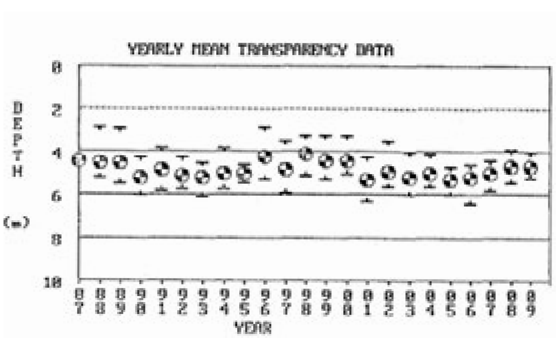


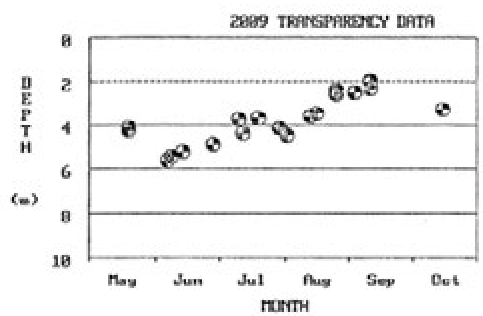
Figure 1 shows the annual average Secchi transparency readings for two Maine lakes. The minimum and maximum readings for that year are indicated by the bars above and below the disk. The graph for Annabessacook Lake shows the annual average Secchi transparency to range from 2.0 to 4.9 meters over a 38 year period. The graph for Cold Rain Pond shows a smaller range from 4.1 to 5.3 meters over a 21 year period.

Annual variation in Secchi transparency is, for the most part, the result of seasonal changes in the composition, density and location of algal populations in lakes. Both natural (weather) and human (watershed development) factors influence this process, requiring a minimum of 10 years of data to confidently detect trends in water clarity.

Figure 2

Seasonal Variation in Lake Water Clarity (Secchi Transparency) for Two Lakes

Annabessao ok Lake



Cold Rain Pond

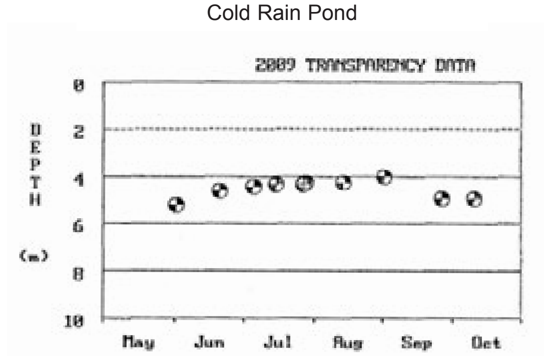


Figure 2 shows the variation of Secchi transparency readings in a single season for two Maine lakes. In 2009 the Secchi Transparency in Annabessacook Lake varied from a low reading of 2.0 meters in September to a high of 5.6 meters in June, with an average for the season of 3.8 meters. That same year Cold Rain Pond varied from 4.0 meters in August to 5.2 meters in May with an average of 4.7 meters. In a single season Secchi transparency may be fairly constant, such as in Cold Rain Pond, or it may vary by several meters, as in the case of Annabessacook Lake.

In most lakes if only one or two Secchi disk readings were taken during the year, a misleading picture of the overall transparency could emerge, depending on the timing of the readings during the summer.

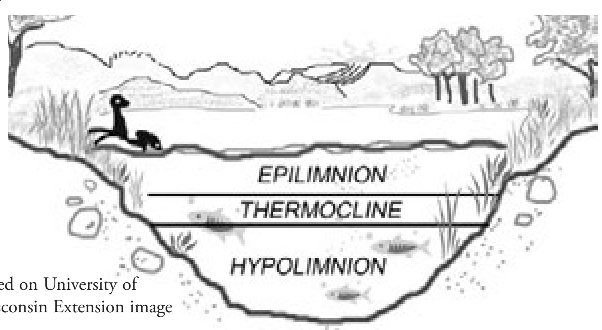
Monitoring Dissolved Oxygen and Lake Water Temperature

Another critical indicator of the health and quality of lakes and ponds is the concentration of oxygen that is dissolved in the water. Dissolved oxygen (DO) levels in lake water are influenced by many factors, including water temperature, the concentration of algae and other plants in the water, and the amount of nutrients and organic matter that flow into the water body from the watershed. Oxygen is produced through plant metabolism (photosynthesis), and it is consumed during respiration and decomposition. Oxygen in lake water is also influenced by wind and wave action through weather events and the exposure of surface water to atmospheric sources.

An adequate supply of dissolved oxygen in lake water is essential to fish and other aquatic life forms. DO is also a sensitive indicator of change in water quality, and of the ability of a water body to support aquatic life. The loss, over time, of DO in the deep areas of a lake, especially during summer months, may indicate that the ecosystem is stressed and changing.

Biological activity peaks in lakes and ponds during the warm weather months. It is also at this time that the phenomenon of thermal stratification (see **figure 3**) occurs. The combined influence of the two processes has a pronounced effect on water chemistry, and in particular on dissolved oxygen levels. The physical isolation of deep, cold water at the bottom of a lake from the surface water during summer stratification prevents the oxygen supply in the deeper water from being replenished. The period of isolation varies from one body of water to another, and depends on depth, and the influences of weather. Stratification may last from several weeks to a few months and it may exist only during warm, calm periods in shallower waterbodies.

Figure 3



Based on University of Wisconsin Extension image

Thermal Stratification

As lake water is warmed in the summer, in deeper lakes, three distinct temperature layers form:

1) warmer (less dense) *epilimnion* layer at the surface
2) the thin *thermocline* (transition) layer
3) the cold and deep *hypolimnion* layer

Some oxygen loss occurs naturally during the summer months as water temperatures rise, because the solubility of oxygen in water is inversely proportional to the water temperature. In other words, cold water is able to contain more oxygen than warm water (all other factors being held equal.) However, as lakes become more biologically productive, and organic matter accumulates in the system, the potential increases for oxygen levels to decline as the organic matter decomposes in deep, stratified areas. Oxygen depression or depletion can stress fish and other aquatic biota, and under certain circumstances, it can cause an acceleration in the decline of water quality.

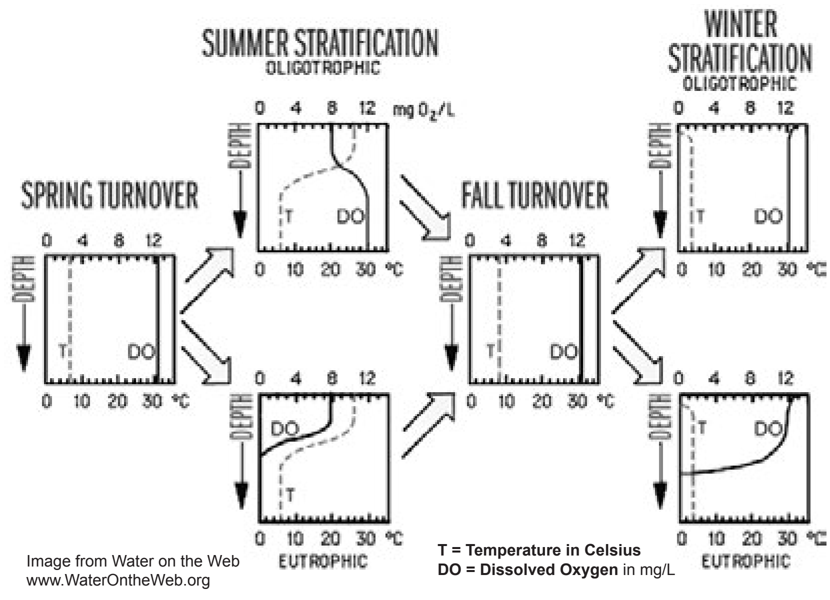
Volunteers take a temperature and DO profile at a VLMP training workshop.

Volunteer monitors are trained to measure oxygen concentrations in the water using inexpensive chemical kits and a simple sampling device. This method is accurate and reliable, although somewhat time-consuming. The temperature of the water must also be recorded for each oxygen reading. A more costly, but time-saving alternative involves the use of a probe that is attached to an oxygen meter via a cable. The probe and meter simultaneously measure dissolved oxygen and water temperature, and the information is displayed on the meter.

Oxygen concentrations and water temperature are generally recorded throughout the summer stratification period, from early spring through late summer and early fall, when DO levels are likely to be lowest in Maine lakes and ponds. Readings are generally taken from the water surface to the bottom of the deepest area of a lake, at one-meter intervals (depending on the individual water body.) Dissolved oxygen is measured in milligrams per liter (mg/L) or parts per million (ppm).

Figure 4 illustrates the influence of seasonal thermal stratification on water temperature and dissolved oxygen concentrations in lakes with both high and low biological productivity. *Oligotrophic* lakes have low concentrations of phosphorus and algae, and deep Secchi disk readings, whereas *eutrophic* lakes have high concentrations of phosphorus and algae and shallower Secchi disk readings.

Figure 4 **Effects of Thermal Stratification on Dissolved Oxygen Concentrations in Oligotrophic and Eutrophic Lakes**



Spring turnover occurs shortly after "ice-out". Spring winds cause the lake water column to mix thoroughly, resulting in uniform temperature and oxygen concentrations from the surface to the bottom of the lake, as shown in the graph on the far left.

During summer stratification, *temperature* profiles are similar for both oligotrophic and eutrophic lakes, showing uniform temperature near the surface to several meters depth (epilimnion). Water temperature drops rapidly through the thermocline, then stabilizes in the deepest area of both lakes (hypolimnion). The temperature gradient from the surface to the bottom of the lake can be as much as twenty degrees in deep lakes. However, in oligotrophic lakes dissolved oxygen levels rise as the water temperature drops in the thermocline, whereas in eutrophic lakes, oxygen levels drop, resulting from the decomposition of organic matter in the lake.

Shorter days and cool weather in the fall cause the water temperature to drop to the point where the water column mixes, resulting once again in near uniform temperature from the surface to the bottom. The mixing process introduces oxygen from the atmosphere into the water, resulting in uniform, high concentrations of dissolved oxygen for both lake types.

During winter stratification, water temperature profiles are once again similar for both lake types. Ice on the lake surface causes the surface temperature to be slightly lower than in the deep water below. The temperature gradient from the surface to the bottom is relatively small, usually only a few degrees. The oligotrophic lake retains high concentrations of dissolved oxygen from the surface to the bottom of the lake, but highly productive eutrophic lakes may be depleted of oxygen.

The two examples illustrated represent opposite ends of the lake productivity continuum. Every lake is unique, resulting in many variations in both the temperature and oxygen regimes that may be encountered throughout the year.

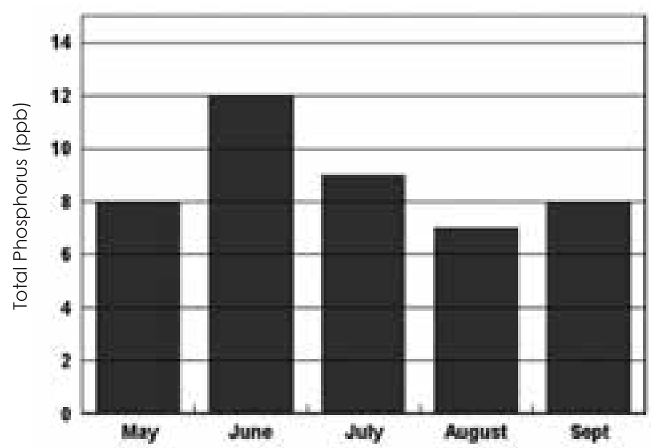
Monitoring Total Phosphorus Concentrations in Lakes

Volunteer monitors are trained to collect total phosphorus samples from their lakes, using a simple process of obtaining a sample from a few inches below the water surface at the designated monitoring station. Total phosphorus analysis includes both organic and inorganic forms of the element that may be present in the water, in solution or in particulate form.

Phosphorus is the nutrient that most influences the growth of algae in lakes. An increase in the concentration of total phosphorus in lake water generally indicates a potential increase in biological productivity (trophic state) of the

Figure 5

Pennesseewassee Lake
2007 Monthly Total Phosphorus Concentrations



system. Tracking in-lake phosphorus levels over time is another way of monitoring changes in lake water quality. Combined with Secchi transparency readings, TP data provides additional information about lake ecosystem dynamics.

Ideally, phosphorus samples should be taken from early summer through the end of the sampling season in September or October. However, the sample analysis involves laboratory fees, and volunteers are often limited to taking one or two samples during the late summer (about mid-August), when biological activity is at a peak. The VLMP arranges to provide volunteer monitors with special sampling and laboratory mailing containers to facilitate the collection of phosphorus data.

As is the case with most indicators of lake water quality, the concentration of phosphorus in lake water varies within individual seasons, and from one year to the next. Therefore it is important to collect multiple samples during the monitoring season, when possible. **Figure 5** illustrates the variation in total phosphorus samples (measured in parts per billion- ppb) from a Maine lake over the course of the five month monitoring season.

The average total phosphorus concentration in this lake for the five month period is 9 ppb, which just happens to be within 1 ppb of four of the five monthly samples taken. If a single sample was taken in the month of August, which is the optimum time for a single phosphorus sample taken during a five month monitoring season, the concentration of that sample (7 ppb) would be close to the average for the season. However, if a single sample for the season was taken in June, the concentration of that sample (12 ppb) would suggest much more phosphorus-based productivity in the lake for the summer.

Advanced Lake Monitoring

Accurate lake water quality characterization requires that periodic "baseline" data be collected for all of the lakes in the VLMP. Maine DEP and VLMP staff strive to collect additional water quality data for all lakes in the program, and for other lakes and ponds with special concerns. This is done on a rotating basis, and as financial resources allow. Baseline sampling of program lakes occurs approximately every three to five years during the late summer. Volunteers who wish to assist in obtaining advanced baseline samples from their lakes may participate in special workshops offered by VLMP and DEP staff. This additional information adds considerable value to data collected by volunteer monitors. Using sample methods such as those in **Table 1**, baseline data are gathered for the following indicators of lake water quality:

- Total Phosphorus
- Chlorophyll a
- True and Apparent Color
- Conductivity
- pH
- Total Alkalinity
- Phytoplankton
- Anions and Cations
- Zooplankton

For an explanation of these indicators of lake water quality see Appendix A.

Table 1 Examples of Water Sampling Methods

Surface Grab
Water is collected from just below the lake surface, using a special sampling bottle.

Epilimnetic core
Using special weighted plastic tubing, an integrated (mixed) water column sample is taken from the upper temperature stratum of the lake where most algae growth takes place. Epilimnetic core samples are taken to determine the average concentration in the water column for a number of variables.

Profile Grab
A discrete sample is taken at a specific depth in the water column, using a device designed to "grab" a sample at that depth.

Bottom Grab
A discrete sample is taken one meter from the bottom of the lake using a grab sampling device.

2010 Water Quality Monitoring Season in Review

Influences on Lake Water Quality

Weather often plays a significant role in the seasonal and annual variability of lake data. The timing, intensity and duration of precipitation and wind events, of varying amounts of sun and cloud cover, and of air and water temperatures throughout the year can cause the indicators that are used to assess lake water quality to vary significantly. Volunteer lake monitors help take into account these influences by recording weather data on their lake survey forms, especially notable events, such as heavy rain and periods of sustained strong wind.

Human activity also influences lake water quality, because development in lake watersheds causes changes in the quantity and quality of stormwater runoff to lakes and ponds. Runoff is the vehicle that carries pollutants like phosphorus and sediment through watersheds to lakes. Weather has an obvious bearing on this process, as well. Separating and understanding natural watershed influences from those associated with development, and identifying true changes in lake water quality over time, can be a challenging undertaking, to say the least!

Each lake (and its watershed) has unique characteristics that cause it to respond in a particular way to human and natural influences. The shape and depth of the water basin, the topography, hydrology and geochemistry of the watershed, the orientation of the basin to prevailing winds, and other natural factors, account for some of the "natural variation" that is observed in lake systems. While some lakes may be clearer during periods of reduced precipitation, perhaps because there is less phosphorus and sediment-laden stormwater runoff flowing into them during such times, others that already support moderate algae growth and experience late summer dissolved oxygen loss may not show the same positive response. For this latter set of lakes, wind levels during the summer months may play an important role in whether or not phosphorus from bottom sediments becomes available to algae near the surface. Lakes and ponds that already experience high levels of phosphorus and moderate algae growth may function differently because a portion of the phosphorus that supports algae growth in those lakes may be from internal sources.

Regardless of whether the majority of phosphorus in a lake is from the watershed, or from internal sources, it is reasonable to speculate that reduced stormwater runoff during the spring and summer, when Maine lakes are the most biologically productive, is likely to result in lower concentrations of sediment and nutrients being transported to the water from the watershed, resulting in less food for algae, fewer sediment particles in the water, and deeper Secchi disk readings.

In a typical annual cycle, a high percentage of the annual phosphorus loading to lakes from their watersheds takes place during the spring runoff period. When spring and early summer stormwater runoff is above or below normal, we might anticipate that there would be more or less algae growth during the summer months, resulting in reduced or improved water clarity.

2010 Weather Influences on Maine Lakes

Maine weather during the winter, spring and summer of 2010 will long be remembered as highly unusual. Snowfall throughout much of the state was below average; "ice-out" conditions were the earliest on record for lakes throughout the state; spring and summer temperatures were among the warmest on record for southern Maine, and precipitation was above average for many areas. The unusually early melting of ice, combined with warm spring and summer temperatures might have created conditions favorable to greater algae growth and overall reduced Secchi transparency for Maine lakes. On the other hand, below average snow cover may have resulted in less spring runoff for some areas of the state, especially in Southern Maine. Much of the annual phosphorus loading to lakes takes typically occurs in the spring. As a result of the shorter period of ice cover, early spring metaphyton (filamentous algae) growth in warm shallow areas of lakes may have tied up some of the phosphorus that would have otherwise been available to the planktonic algae that most influence lake clarity. Given these unusual and complex circumstances, it was difficult to predict how Maine lakes would respond. But the following summary information shows that in 2010,

Figure 6

Comparison of 2010 water clarity of 447 Maine lakes to their long term clarity.

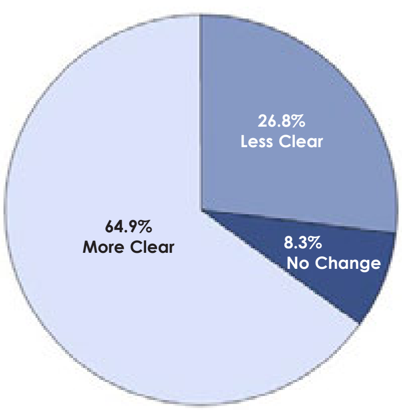


Table 2

Deviation (meters)	Number of Lakes
-1.6 or less	6
-1.1 to -1.5	6
-0.6 to -1.0	20
-0.1 to -0.5	88
Zero	37
0.1 to 0.5	173
0.6 to 1.0	79
1.1 to 1.5	24
1.6 to 2.0	12
2.1 or more	2

Note: Consideration was not given to whether or not some Secchi disk readings hit bottom, or whether 2010 was the first year for which data were gathered on a small number of lakes.

many lakes throughout the state were clearer than they have been historically.

2010 Secchi Transparency (Water Clarity), Compared to Historical Data

*The VLMP and DEP compared the 2010 average Secchi disk values for 447 Maine lakes to their long-term (historical) average Secchi values. Within that group, 290 lakes (64.9%) were clearer, 37 (8.3%) were the same as their historical average, and 120 lakes (26.8%) were less clear (***figure 6***).* Deviations from the average in both directions (plus and minus) varied from as little as a tenth of a meter to nearly two meters. Table 2 lists the ranges of clarity deviation for the set of lakes that were compared in 2010.

Figure 7 Yearly Comparison of Lakes that were Clearer, Less Clear, or the Same as their Long Term Annual Average

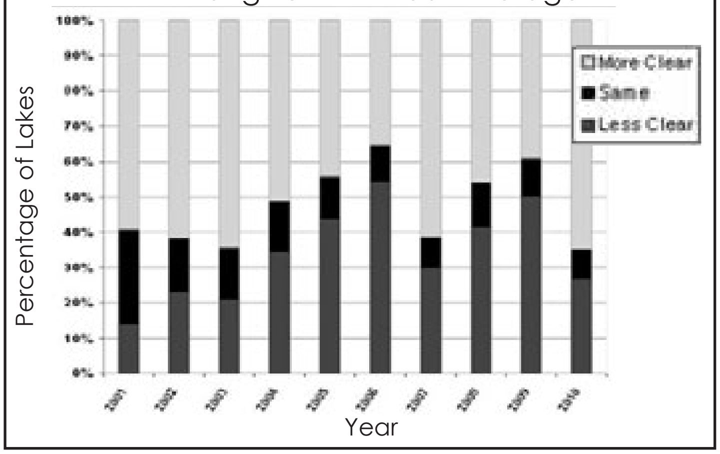


Figure 7 illustrates the interesting variation in transparency in Maine lakes during the past decade. In 2009, only 39.2% of Maine lakes were clearer than their historical average, while 50% were less clear; in 2008, the number of lakes that were clearer than, or less clear than their historical average was nearly equal. In 2007, a significant percentage of monitored Maine lakes were clearer than their historical average. In both 2005 and 2006, the number of lakes that were clearer than their historical average was less than 50%.

Another way to look at lake conditions in 2010 is by determining the average of all of the individual lake annual Secchi averages for a given year (average of all averages), and comparing this to previous years (see **figure 8**). In 2003, the Statewide Secchi transparency average was at an all time high. But reduced water clarity for a larger number of lakes in 2004 lowered the average from 5.75 meters (2003) to 5.39 meters. In 2005, the average dropped to 5.26 meters and in 2006, statewide Secchi transparency dropped to 5.1 meters, the lowest annual average in seven years. *In 2007, Maine lakes rebounded to 5.65 meters—the fourth clearest year for Maine lakes since 1974. But in 2008, the average dropped to 5.34 meters, which may come as no surprise, considering that lakes that were monitored in 2008 were more or less evenly split between those that were clearer than, and less clear than they had been historically. The average continued to fall to 5.14 meters in 2009, following two extremely wet years in the State of Maine. In 2010, the statewide Secchi average increased to 5.6 meters, one of the two clearest years for Maine lakes in the past seven years.*

Figure 8 illustrates the extent to which the Maine Secchi transparency average has varied during the past three decades. The graph demonstrates how dramatically the picture can change in just a few years. For example, in 1985 the state Secchi average was 5.69 meters—the third clearest in the 30 year period. Within four years, the average had dropped to 4.9 meters, one of the lowest annual averages in the period. And within another four years the average had increased once again to more than 5.3 meters. The graph of the data shows a cyclical pattern to the

Figure 8 Annual Secchi Transparency Averages for Maine Lakes

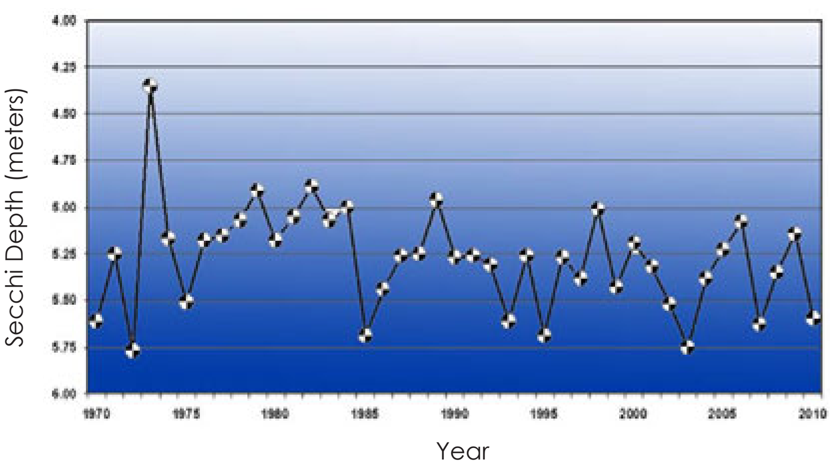
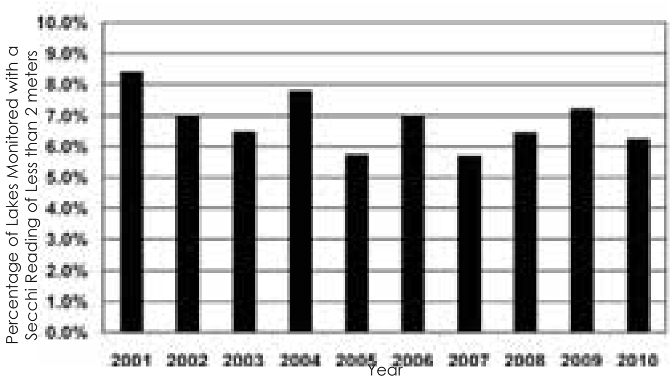


Figure 7 is a plot of the average annual Secchi disk transparency for all Maine lakes for which data have been available from 1970 through 2010. During the first few years of this period the number of lakes on which the average is based was relatively small. This may account for the high degree of fluctuation up until 1975, when the number of lakes in the data set exceeded 100. Since 1975, the number of lakes used to determine the annual average has increased steadily to more than 400 per year. The graph shows that for most years after 1975 the statewide average has been between 5.0 and 5.5 meters. The 2010 average was 5.6 meters .

Figure 9

Percentage of Lakes Monitored Each Year that Experienced at Least One Secchi Reading of Less Than 2.0 Meters



clarity of Maine lakes that is probably linked to weather cycles. For example, 1985 was a very dry summer with few storms and very light winds. From 2001-2003, much of Maine experienced varying degrees of drought, the effects of which were likely cumulative. That phenomenon may also partially explain the exceptional clarity of Maine lakes in 2003. However, 2004, 2005, and 2006 were very wet summers and average water clarity for Maine lakes declined steadily for three years, only to rebound strongly in 2007. The following two years were very wet, resulting in lower statewide lake clarity. *But in 2010, water clarity once again improved for Many Maine lakes.* It is very likely that additional weather factors influence this process of annual variation, including wind, cloud cover and air and water temperature.

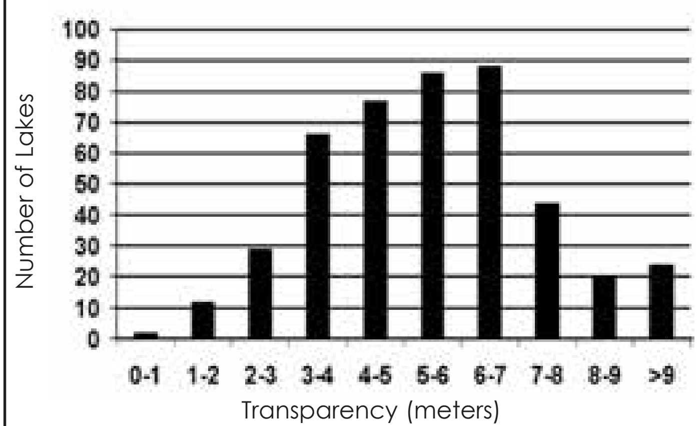
The apparent relationship between dry summer weather and improved lake water clarity has important implications for long-term water quality protection strategies. Stormwater runoff from developed or disturbed areas of lake watersheds is the vehicle by which phosphorus and other pollutants travel to lakes. When there is less runoff, many water bodies appear to become clearer. Watershed landowners can help to reduce stormwater runoff by "treating" the water from their property before it reaches the lake. One simple and inexpensive way to achieve this is by diverting runoff from buildings, lawns and roads to natural vegetated buffers, which filter the water and remove pollutants like sediment and phosphorus. Surveys have shown that clear water is highly valued by the public. *The use of simple conservation practices in lake watersheds can help to assure that we do not need to rely on the weather to keep our lakes healthy and clear!*

Lake Monitoring Summary

Trained volunteers, Maine DEP staff, and organizations that work with the VLMP took a total of 4,037 Secchi disk readings, of which 3,765 (93%) were collected by VLMP volunteers! A total of 18,584 individual water temperature and dissolved oxygen readings were also taken in Maine lakes and ponds, of which 16,274 (88%) were collected by volunteers. Total phosphorus samples numbered 1,443 of which 1,083 (75%) were collected by volunteers. Volunteers also collected 73% of the 784 chlorophyll-a samples in 2010. The majority of the non-volunteer lake samples and readings from 2010 were collected by Maine DEP Lakes staff. **Total lake acres monitored by the VLMP in 2010 was 497,503. This represents 42% of the lake surface area in the State of Maine!**

The deepest Secchi transparency reading taken in 2010 was 17.54 meters, recorded at Jordan Pond in Acadia National Park on May 27th. On the other end of the transparency spectrum, 28 lakes experienced at least one Secchi disk reading of less than 2.0 meters in 2010, compared to 33 lakes in 2009, 27 in 2008, 23 in 2007, 30 lakes in 2006, 25 in 2005, 37 lakes in 2004, 30 in 2003, 28 lakes in 2002, and 34 lakes in 2001 **(figure 9)**. When lakes with low concentrations of color experience Secchi disk transparency readings less than 2.0 meters, a severe algal bloom may be occurring.

Figure 10 Distribution of Average Secchi Disk Transparency in Maine Lakes in 2010



MINIMUM: 0.8 MAXIMUM: 15.0 MEAN: 5.6 N: 448

Figure 10 illustrates the distribution of mean (average) transparency readings for all Maine lakes that were monitored in 2010. A similar graph, showing the long-term (cumulative) distribution of transparency for Maine lakes is in Appendix A.

Monitoring for Invasive Aquatic Species

Purpose and Goals

In 2003, in response to the growing threat to Maine lakes posed by non-native aquatic organisms, the Volunteer Lake Monitoring Program created the Center for Invasive Aquatic Plants. The goal was to establish a strong, agile, non-governmental entity that would serve to support and strengthen Maine's existing Invasive Aquatic Species Action Plan through the key strategies set forth in the plan:

- *prevention*
- *early detection*
- *rapid response and management*

Drawing upon decades of experience of one of the oldest and most successful volunteer-based lake monitoring programs in the country, and using the Maine VLMP formula for effectiveness as its model, the work of the Center is uniquely focused on providing groups and citizens with the knowledge, skills and tools needed to be actively engaged in the effort to protect Maine lakes from the threat of aquatic invaders.

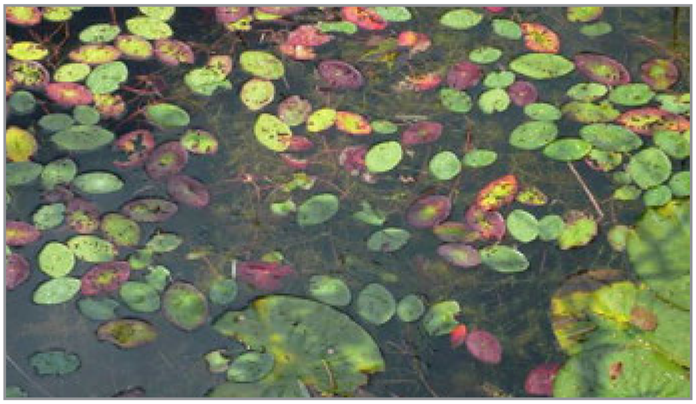
The VLMP's Center for Invasive Aquatic Plants has developed a wide range of resources and services to help citizens become actively involved in Maine's Invasive Species Action Plan. The following is an overview of the key strategies outlined in Maine's Action Plan followed by a summary of some of the ways in which the Center is working to support and strengthen each of these initiatives.

Prevention

The introduction and spread of non-indigenous invasive aquatic plant and animal species in the United States has been escalating in recent decades with widespread destructive consequences. The impacts of the spread of invasive aquatic plants are well known: habitat disruption, loss of native plant and animal communities, reduced property values, impaired fishing and degraded recreational experiences, and enormous and ongoing control costs.

Unlike most other states, the percentage of waterbodies in Maine with known infestations is relatively low. Maine is in the enviable position (relative to other states) of still having a chance to prevent the introduction of aquatic invaders into uninfested waters. Actions taken to reduce the risk of spreading aquatic invaders, when practiced on a widespread scale, provide the most efficient, environmentally sound and cost-effective means of addressing the threat. For this reason, Maine's action plan places a strong emphasis on prevention.

Polls show that most Mainers are now aware of the threat of aquatic invaders, especially invasive plants such as variable water-milfoil. What is still needed, however, is widespread, *active* engagement in the prevention effort. The Center provides education and outreach to support such engagement on a variety of levels, through a wide and growing array of publications, collaborations, venues and services. Examples include articles in *the Water Column*, the Center's growing presence on the VLMP website, presentations and exhibits at public events such as the Maine Water Conference and the Maine Milfoil Summit, participation in the Maine Milfoil Consortium, workshops and speaking engagements across the state, press releases, email updates and notices, curricular materials, and a host of printed materials and publications, many of which are also available on the web.



In a small cove along the west shore of Damariscotta Lake, a dense canopy of native floating leaved plants all but concealed the infestation of hydrilla that was was rapidly spreading below

Early Detection

Maine's lakes, rivers and streams are increasingly threatened by non-native invasive plants. Once well established in a waterbody, control of the invader is difficult, costly and problematic and cases of complete eradication are exceedingly rare. Similar to the way in which *early detection* improves the prognosis for many diseases, *early detection* of an aquatic invader provides the best (and sometimes only) hope for successful control and eradication. To ensure the invasive organisms will be detected as soon after introduction as possible, waterbodies must be methodically surveyed by trained eyes on a routine and ongoing basis. With nearly 6,000 lakes and ponds and thousands of miles of vulnerable stream and river habitat, the important role that trained volunteers can play in such an effort cannot be overstated.

A key program of the VLMP Center for Invasive Aquatic Plants is the Invasive Plant Patrol Program (IPP). The IPP program promotes *prevention*, *early detection* and *rapid response* at the local level by providing introductory and advanced training, educational materials, resources and technical support to groups and individuals across the State of Maine. To date, nearly 2,500 individuals have been trained through the program.

The significant majority of IPP workshops offered annually focus on providing volunteers and other members of the public with the knowledge, skills and tools needed to become active participants in Maine's *early detection* effort. Introductory Invasive Plant Patrol workshop attendees receive 5.5 hours of instruction (including plant identification practice with live plants), the *Invasive Plant Patrol Handbook* (a three-ring binder containing workshop presentations, supplemental resource materials, and survey data forms, etc.) and a copy of the *Maine Field Guide to Invasive Aquatic Plants*.

In the relatively short amount of time it has been in existence, the IPP training program has produced impressive results. Individuals trained through the program are now conducting invasive aquatic plant surveys on lakes, ponds and rivers throughout the state of Maine. Since the first IPP workshop in 2001, the number of waterbodies with reported IAP survey activity has increased from one to 426. Every year, the percentage of IAP surveys conducted by trained IPP volunteers has grown. *In 2010, VLMP Invasive Plant Patrollers were responsible for 94% of all reported IAP survey activity in Maine.*

In addition to the IPP program, a number of publications, hand-outs, web-resources and curricular materials have been developed though the Center to support widespread engagement in Maine's early detection efforts. These resources include: the *Maine Field Guide to Invasive Aquatic Plants*, the *Quick Key to Ruling out Maine's Eleven Most Unwanted Invasive Aquatic Plants*, the *Virtual Herbarium*, and the *Friend or Foe Learning Kit.*

Rapid Response and Management

Once an infestation has been confirmed, rapid response is crucial. The prospects for eradication (or barring that, effective management at minimum risk to the aquatic ecosystem), is greatly increased by swift, well planned, and properly executed controls. In developing an invasive

Rapid Response and Management Training

VLMP trains volunteers and professionals on manual control methods for invasive aquatic plants. Workshops are geared for SCUBA divers and non-divers providing surface support. Participants receive classroom instruction and in-lake practice. All three standard manual control methods are covered: manual removal; installation of tarp-like "benthic barriers" (top right); and diver assisted suction harvesting (bottom right).

aquatic plant management plan, one of the most important questions to be answered is "How, exactly, is the invasive plant infestation to be controlled?" The principal approach in Maine is manual control. Manual control methods may alternately be referred to as "non-chemical," "physical" or "mechanical" methods. The three primary manual control methods being used in Maine are: manual harvesting, benthic barriers, and diver assisted suction harvesting (DASH).

VLMP's Center for Invasive Aquatic Plants has been a key player in the development of Maine's ability to respond swiftly and effectively to new and existing infestations. Working in collaboration with the Maine Department of Environmental Protection, and Maine Milfoil Initiative the Center offers workshops and a certification program for SCUBA divers and non-divers planning to participate in invasive aquatic plant control efforts in Maine. Instruction and in-lake practice for all three standard manual control methods are offered. Once trained and certified through the program, SCUBA divers and non-divers receive a certification card and may elect to be formally listed on Maine's Rapid Response Team list. The list, kept by the Maine DEP, is made available to individuals, groups, municipalities, State agencies and others involved in managing invasive plant infestations in Maine.

Volunteers receive the training and technical support needed to become actively engaged in Maine's effort to prevent the spread of invasive aquatic plants.

2010 Invasive Plant Patrol Workshop Hosts

30 Mile Watershed Association
Androscoggin Lake Improvement Committee
Bauneg Beg Lake Association
Bearnstow Camp
Belgrade Region Conservation Alliance
Branch Lake Association
Citizens Alliance of Liberty Lakes
Community Lakes Association
Crystal Lake Association
Cushman Pond Milfoil Team
Damariscotta Lake Watershed Association
Echo Lake Association
Friends of Cobbossee Watershed
Hancock County Lakes Alliance
Hancock County Soil & Water Conservation District
King Middle School, Portland
Lincolnville Lakes and Ponds Committee
Maine Milfoil Consortium
Mousam Lake Association
Panther Pond Association
Pemaquid Watershed Association
Pleasant Lake/Parker Pond Association
Portland Water District
Rangeley Lakes Heritage Trust
Raymond Waterways Protective Association
Sabbathday Lake Association
Sebago Lake State Park
St. Joseph's College
Washington Pond & Crystal Lake Association
York County Soil & Water Conservation District

VLMP is also a key player in Maine's annual invasive aquatic plant leadership roundtable meetings The purpose of these meeting is to bring together representatives from groups involved in invasive aquatic plant prevention, early detection and control activity at the local or regional level, as well as representatives from the various natural resource agencies in Maine, to share experiences, challenges and ideas. Information gleaned from these meetings, and other sources, is made available on the VLMP's *Battling the Invaders* web page.

Invasive Plant Patrol Training, Quality Assurance and Quality Control

Through its Center for Invasive Aquatic Plants, the VLMP offers a comprehensive training and certification program for individuals who wish to become active in Maine's early detection effort. Since its inception in 2001, individuals trained through VLMP's Invasive Plant Patrol program have played a dominant role in the effort to help ensure the early detection of aquatic invaders. Quality assurance and quality control are maintained in the program through the following key elements: *workshops*, *technical assistance*, *certification*, and *data management*.

Invasive Aquatic Plant Screening Survey Field Methods Workshop on Lake Minnehonk in Mt. Vernon.

Invasive Plant Patrol Workshops

The Center for Invasive Aquatic Plants offers a comprehensive training program consisting of introductory and advanced workshops. The Introductory IPP workshop is 5 1/2 hours long, and presented in four parts:

- Overview of invasive species issues in Maine and beyond
- Plant identification fundamentals
- Plant identification hands-on exercise with live plants
- Conducting a screening survey, tools and techniques

All workshop participants receive the *Invasive Plant Patroller's Handbook*, and the *Maine Field Guide to Invasive Aquatic Plants.*

Advanced IPP workshops are geared for those who have participated in the introductory IPP training. Two types of advanced workshops are offered for individuals who are interested in conducting screening surveys:

Advanced Plant Identification - Two distinct advanced plant identification workshops are offered, each focusing on a different aspect of aquatic plant life and the identification of different plant groups. The primary focus of both workshops is native aquatic plants.

Invasive Aquatic Plant Screening Survey Field Methods Navigating through a course of on-the-water learning stations, attendees review and practice essential survey skills. An optional training module on invasive aquatic plant monitoring and mapping is also offered for field workshops on infested lakes.

Technical Assistance

An essential element in the VLMP model for successful volunteer monitoring is providing direct and ongoing access to high-quality technical assistance and support. Once an individual is trained through the Center, they become part of the VLMP's statewide Invasive Plant Patrol team, and as such, have ongoing access to staff expertise, resource materials, on-line tools, and a number of technical services. These services include: timely answers to technical questions, assistance in developing creative solutions to local challenges, access to relevant resources generated by the VLMP and others, and mail-in (or by-appointment) aquatic plant identification.

It is important to note that this stream of information flows more than one way. Volunteers—the trained individuals who are actually doing the work on the front lines—are valued for the special skills, unique insights, creative ideas and innovative spirit that they bring to their work. The VLMP directly benefits from the information provided to staff from the volunteers, and this information is, in turn, readily shared with others who may benefit. The VLMP, the volunteers, and the people and lakes of Maine all gain through this active system of information sharing.

IPP Certification

In order to involve as many individuals as possible in Maine's early detection effort, "certification" for Invasive Plant Patrollers is purely voluntary. To date 408 (~17%) of the individuals trained through the IPP program have

Why is IPP Certification Voluntary?

Though the IPP program was modeled extensively on VLMP's water quality monitoring program, inherent differences between the two types of monitoring required adjustments to be made in Quality Assurance/Quality Control (QA/QC) protocols. Invasive aquatic plants may occur anywhere in a lake's extensive littoral zone (those portions of the lake where sunlight penetrates to the bottom and aquatic plants grow). When monitoring for the presence of aquatic invaders, the more trained eyes on the water, the better. Even individuals with the most limited familiarity with one or more target organisms is capable of detecting a suspected invader and playing a key role in the early detection of an infestation. The value of this contribution is significant, whether or not the monitor ever formally conducts a survey, follows suggested protocols, or submits a single field sheet. In brief, the IPP program must allow for (and encourage!) widespread participation by individuals with varying amounts of time and expertise to commit to the endeavor. To ensure maximum participation in the early detection effort, Certification for Invasive Plant Patrollers (with its more stringent QA/QC requirements) is purely voluntary.

chosen to become certified. 2010 was an above-average year for certification, with a certification rate of 20%.

To become a certified plant patroller, an individual must: 1) attend the introductory IPP training, and 2) make a formal commitment to regular monitoring and reporting using standardized protocols and data sheets.

In 2008, a recertification requirement was added to the IPP program. All certified plant patrollers now receive a spring packet of information, providing notification of certification status, program updates, new protocols, revised data sheets, etc. To maintain IPP certification, an individual must either attend an IPP workshop, or conduct (and report) invasive aquatic plant screening survey activity at least once every three years. Certified plant patrollers who have not submitted plant survey data within the last three years must attend a review introductory workshop or advanced level training to maintain their certification.

For patrollers who are consistently conducting and reporting annual surveys, refresher and advanced training is encouraged, but not required for recertification.

Data Management

Invasive aquatic plant screening survey data are submitted directly to the VLMP, or to an IPP lake team leader, or IPP regional coordinator, who reviews and organizes the data then submits it to the VLMP. The screening survey data is proofed and entered by staff into the VLMP database and used to generate statistics, reports and maps. The data collected includes: location and scope of the screening survey, surveyor information, methods and equipment used, lake and light conditions during the survey, presence/absence of invasive aquatic plants and animals, and native plant inventories.

View Scopes

bucket scope

6" tube scope

diver's mask

View scopes are an essential tool for those conducting invasive aquatic plant screening surveys. Ripples and surface reflection may obstruct the surveyor's view of the plants that reside below. A scope, penetrating through these surface disturbances, allows the surveyor to hunt more effectively for aquatic invaders under a wider range of conditions. Though scope designs vary, the best scopes are: easy and comfortable to use, provide a relatively wide angle of view, and are constructed of opaque materials to shield out as much side and back light as possible. (Being relatively cheap and easy to construct is another plus!) Here is a sample of some of the scopes constructed and used by VLMP's Invasive Plant Patrollers. The bucket scope cover, view canoe, and trunk scopes are original IPP volunteer designs. Directions for constructing your own scope are available on the VLMP website at

www.MaineVolunteerLakeMonitors.org/publications/#IAP

view canoe

trunk scope

Table 3 Invasive Aquatic Plant Survey Levels

Level 1	Level 2	Level 3
Points of public access and other areas of concentrated boat traffic (e.g., marinas and narrow navigation channels) are surveyed. Survey areas extend horizontally along the shoreline at least 100 meters (~300 feet) on either side of the high-risk zone, and outward along the entire length to the depth at which the bottom is no longer visible from the surface.	Level 2 surveys include all Level 1 areas, plus all areas of the shoreline that are likely to provide suitable habitat for aquatic plants, such as shallow, sheltered coves. Floating leaved plants are often a good indicator of a rich plant community below the surface. In addition to supporting native plants, these areas may provide suitable habitat for an invader to take hold and (at least initially) hide.	A level three survey covers the entire shoreline area and littoral zone. (The littoral zone includes all areas in the waterbody where sunlight reaches the bottom and rooted aquatic plants may grow.) In the case of the confirmed presence of an invasive aquatic plant in a waterbody, it is recommended that a Level 3 survey be conducted in order to determine the full extent of the infestation.

Invasive Aquatic Plant Screening Surveys

Individuals trained through the IPP program conduct invasive aquatic plant screening surveys on lakes, ponds and rivers throughout the state of Maine. Since the first IPP workshop was offered in 2001, the number of Maine waterbodies reporting IAP plant survey activity has grown from 1 to 426 (**figure 12**).

Purpose and Methods

The primary purpose of the invasive aquatic plant screening survey is to: 1) visually scan as much of the aquatic plant habitat as possible, looking for target invasive plants; and 2) record the location of any suspicious plant (or plant patches) in a way that will ensure timely and effective follow up action. Invasive aquatic plant surveys are conducted at three levels of detail (**table 3**), depending on the amount of time and effort surveyors are able to spend on the project.

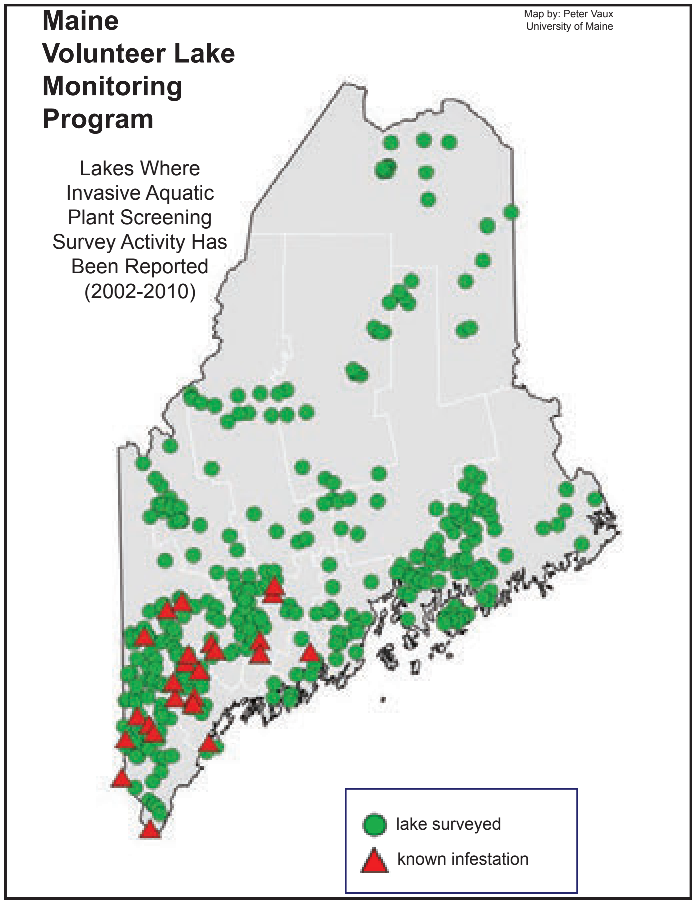
Surveys are conducted when there is adequate light, and when conditions are relatively calm. Early morning conditions are often ideal because the water is calm and reflection on the water surface is minimal. Windy conditions and heavy power boat activity may significantly decrease visibility. However if the wind and boat traffic are not severe, surveys may continue with the use a wide angle view scope (see sidebar on page 19).

Surveys may be conducted over a period of time. Level 3 surveys on large lakes may require several days—or longer—to complete. Mid-July through September is generally the best time of year to conduct IAP screening surveys as plants are generally well developed and presenting characteristics (such as flowers) that aid identification. One of the plants on Maine's invasive aquatic plant list, curly-leaf pondweed (*Potamogeton crispus*) is an exception to this rule, usually reaching maturity by late spring to early summer.

Additional Data and Benefits

In addition to IAP presence/absence data, some Invasive Plant Patrollers also collect data on observed native plant species. Knowing which plant species occur commonly in a given waterbody helps to establish a familiar background upon which new and unfamiliar species are more likely to be noticed. IPP native plant data is also helping to expand existing knowledge and an understanding of Maine's native ecosystems.

When it comes to invasive aquatic organisms, the eleven



invasive plants on Maine's prohibited list are not Maine's only concern. The lakes, ponds, streams and wetlands of the State are also threatened by a wide array of other non-native invaders. Some of these invasive organisms, such as the rusty crayfish, have been here in Maine for decades; others, such as the invasive algae, didymo, are relatively new to our region and are only now beginning to appear on Maine's radar screen. IPP volunteers are trained to be on the alert for these other aquatic invaders, and to report their findings to the VLMP.

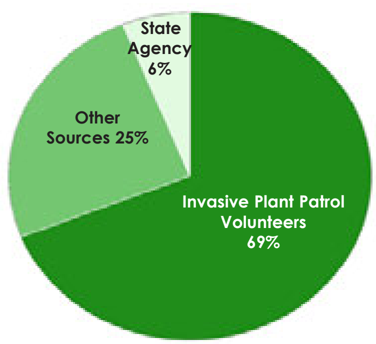
How is Plant Survey Data Used? Who Uses The Data?

Unlike water-quality data which has been collected on some Maine lakes since the 1940's, the collection of invasive aquatic plant survey data is a relatively new phenomenon. Until the VLMP began its IPP training program in 2001, only one lake in Maine was on record as having been surveyed for the express purpose of determining the presence (or absence) of an invasive aquatic plant. While various researchers had collected aquatic plant data on Maine lakes over the years, the purpose of these surveys was typically to study and inventory native plant species. The primary purpose of conducting an invasive aquatic plant (IAP) screening survey, on the other hand, is not to inventory plants that are present, but to *rule out* the presence of one or more target invasive plants.

The most basic form of data generated from IAP screening surveys tells users which waterbodies in Maine have been screened for the presence of IAP, the year and scope of each survey, the background of the surveyor (agency personnel, professional, researcher, volunteer, etc.) and if any invasive aquatic plants were detected. Some Invasive Plant Patrollers collect additional data as well, including: native plant inventories, the occurrence of invasive wetland plants or invasive fauna such as Chinese mystery snails.

Figure 11

2010 IAP Screening Surveys by Surveyor Type



Trained volunteers were responsible for the majority of survey activity reported in 2010.

data collected by Invasive Plant Patrollers is published in the Maine Lakes Report, posted on the VLMP website, included in the IPP Handbook and made available to the public upon demand. Local lake groups, municipalities, State agencies, researchers, anglers, boaters, realtors and others who have an interest in a particular waterbody benefit from knowing which lakes in Maine are being adequately monitored for the presence of invasive aquatic plants, and which are not. And behind all the data, of course, is something of incalculable value: a cadre of trained volunteers and others, all keeping watchful eye on the health of Maine lakes.

Center for Invasive Aquatic Plants Year In Review

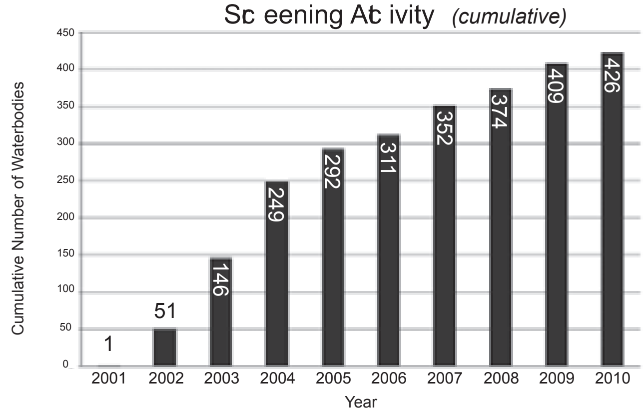
2010 was yet another big growth year for the IPP program. VLMP staff once again travelled from York to Aroostook County providing training to communities across the state. Of the 408 individuals who attended one or more regular workshops during the 2010 season, 83 (20%) became certified plant patrollers, and 6 Manual Control training participants opted to become certified members of Maine's rapid response team. In addition, eighty middle school students, and 14 game wardens-in-training participated in abbreviated IPP training sessions, bringing the total of number trained this year to 502. We are especially pleased with the growing number of new IPP teams that came together in 2010. In 2010, approximately 50 lakes joined the ranks on Maine lakes that have coordinated. The formation of organized teams is critically important to the long-term sustainability of the IPP program. For more on IPP lake teams please see sidebar on page 28.

Not only are more and more individuals becoming trained to recognize an aquatic invader when they see it, more and more are becoming active IPPs in their communities, conducting, leading and organizing invasive aquatic plant (IAP) screening surveys on their local lakes, ponds and streams. Five hundred seven IAP screening surveys were reported in 2010. Up from 403 surveys in 2009, this significant increase in reported IPA survey activity continues the trend of steady growth that began when the first IAP survey was reported in 2001. Seventeen new waterbodies were added to the list of "waterbodies reporting survey activity in 2010," bringing the total number of Maine waterbodies with reported IAP survey activity to 426 (figure 12).

Again, the critical role played by volunteers here, cannot be overstated. In 2010 a whopping 94% of all reported IAP survey activity can be directly attributed to VLMP Invasive Plant Patrollers!

In September of 2009, Maine was presented with the most persuasive evidence to date, of the value and importance of the VLMP Invasive Plant Patrol program. Hydrilla (*Hydrilla verticillata*) , often referred to as the "worst of the worst" invasive aquatic plant threatening aquatic ecosystems worldwide, was discovered in a small cove along the western shore of Damariscotta Lake by VLMP Invasive Plant Patroller, Dick Butterfield. (Dick had been trained by the VLMP only weeks before.) The DEP response to the newly reported infestation was swift and well executed, and follow up surveys (conducted in large part by VLMP trained invasive plant patrollers) suggest that Mr. Butterfield may have indeed detected the pioneer colony in the waterbody. A single early detection of this kind—a single lake saved from ecological catastrophe—provides the

Figure 12 Maine Waterbodies with Reported IAP Screening Activity *(cumulative)*



Screening survey activity has increased steadily since the first IPP workshops in 2002 people of Maine with an enormous rate of return on any and all investments of time and resources that have been put into Maine's early detection effort to date. (For more on the Damariscotta infestation and rapid response, please see the sidebar on page 24.)

Invasive Plant Patrol Training and New Volunteers

The workshops once again spanned the state, from York to Aroostook County. Twenty Invasive Plant Patrol (IPP) workshops were conducted in 2010, including 7 introductory workshops, 6 survey methods workshop, 3 abbreviated training sessions, and one advanced plant identification workshop. Two distinct manual control workshops were also offered, one covering invasive aquatic plant control background and fundamentals, and providing instruction and practice in the use of manual removal and benthic barriers, the other providing training and practice in the use of the diver assisted suction harvester. To date, the VLMP has trained nearly 2,500 individuals through the IPP program. Maine now has 408 active certified invasive plant patrollers, committed to annually surveying 179 lakes; and 68 individuals, primarily SCUBA divers, certified in rapid response.

Invasive Aquatic Plant Screening Surveys

The Volunteer Lake Monitoring Program offered its first Invasive Plant Patrol workshop in 2001. Since that time, the number of Maine waterbodies with reported screening survey activity has grown from 1 to 426 (figure 12). Survey activity is reported annually on several of these waterbodies and well more than half of all reporting waterbodies have reported repeat survey activity (surveys conducted in at least two years out of the eight between 2002 and 2010).

In 2010, 507 surveys were reported on 152 waterbodies. A breakdown of this survey data by "surveyor type" (figure 11) helps to illuminate the critical role that trained volunteers play in Maine's early detection effort. It also highlights the value of the VLMP's long-standing public/private partnership with the State of Maine, in which State government (primarily the Maine Department of Environmental Protection) provides financial and technical support, and the VLMP provides training, certification, plant ID, technical assistance, data management, and additional resources needed to support Maine's rapidly growing, largely volunteer, Invasive Plant Patrol workforce. In 2010, State agency personnel were responsible for roughly 6% of the reported invasive aquatic plant surveys. The remaining 94% of the 2010 survey data was obtained by sources outside of State government: trained Invasive Plant Patrol volunteers, and others that voluntarily report to, and coordinate with, the VLMP. Of the 94% of surveys attributed to sources outside of State government, 69% of the 2010 reported survey activity was conducted by volunteer Invasive Plant Patrollers; 25% was conducted by others (professionals, researchers, and quasi-municipal entities such as Soil and Water Conservation Districts, and other volunteers).

2010 IAP Screening Survey Summary - For IAP Screening Survey Details See Appendix E

Number of surveys conducted & reported in 2010:	**507** (up from 403 in 2009)
Number of surveys conducted & reported in 2010 by Certified IPP:	**379** (75% of 2010 surveys)*
Number of waterbodies with survey activity reported in 2010:	**152** (down from 181 in 2009)
Number of waterbodies reporting survey activity for the first time in 2010:	**17** (down from 34 in 2009)
Total number of Maine waterbodies surveyed for IAP to date (2002-2010):	**426** (409 in 2009)
Repeat activity - Number of waterbodies surveyed more than once from 2002-2010:	**240** (up from 216 in 2009)
Number of on-the-water survey hours reported in 2010:	**4,095** (up from 2,648 in 2009)
Number of surveyors conducting & reporting surveys in 2010:	**534** (up from 297 in 2009)
Number of Certified IPPs conducting & reporting surveys in 2010:	**196** (up from 153 in 2009)*
Estimated value of IPP volunteer contribution to Maine's early detection effort in 2010:	**$164,000**

* Certified IPP's comprised just over one third of the 2010 survey team, but are responsible for 75% of all reported survey activity

Another way to slice the pie is to look at Certified Plant Patrollers (a group that includes surveyors from all of the above "surveyor types.") Of the 507 surveys reported in 2010, 379 were conducted and reported by Certified Invasive Plant Patrollers. Certified Plant Patrollers (the 17% of those trained through the IPP program to date who have elected to become certified, making up just one third of the 2010 survey team) were responsible for over two thirds of all reported survey activity. This record of service provides testimony to the vital role that Certified Invasive Plant Patrollers play in Maine's early detection effort.

Placing a value upon the volunteer contribution to Maine's early detection effort is not easily done. In addition to the value of the time that is contributed to the task, there is the value of the boats, gear and other personal items used by volunteers. The value of having local stewards all around the state—trained individuals who not only keep an eye on the health of local waters but also are ready to share their expertise with others— is not easily calculated. Then there are the untold costs that are saved by having a "well-oiled system" in place for detecting an invasive aquatic plant as soon as possible after introduction, before it has had a chance to progress to a full-blown infestation. A conservative estimate based on the number of volunteer training and survey hours reported in 2010 is valued at $164,000. When one considers the fact that "reported" survey activity is only the tip of the iceberg when it comes to the IPP program, a clearer understanding of the actual value begins to emerge. (See box on page 22.)

Plant Identification

An important technical service provided by the VLMP's Center for Invasive Aquatic Plants is aquatic plant identification. This service, which is primarily used by Invasive Plant Patrollers, Water Quality Monitors, Courtesy Boat Inspectors, and Lake Associations, is also available to the general public and offered free of charge to all. In 2010 a record number, 154 plant specimens, were sent or brought to the Center for identification.

Below is a summary of the 2010 plant ID data:

- Four specimens were positively identified by the VLMP as invasive plants in 2010 (down from 13 confirmed invaders in 2009). Please note that not all the invasive plants caught by Courtesy Boat Inspectors at public boat launches were sent to the VLMP for confirmation. Table 4 shows the list of plant specimens confirmed as invasive by VLMP in 2010.)
- Sixteen specimens were rated as possible invasive plants, mostly suspected native milfoils lacking the reproductive parts needed to positively confirm ID.
- Happily, the majority of the specimens identified in 2010, once again, were harmless native look-alike plants. Among the 134 native plants identified, the most common were: native milfoils, water marigold, common and slender waterweed, common and large-purple bladderwort, slender naiad, and various pondweed species.

Table 4

Plant Specimens Identified by VLMP as Invasive in 2010

Common Name	Scientific Name	Collection Location	Circumstances
curly leaf pondweed	*Potamogeton crispus*	Mooselookmeguntic Lake, Rangely	Courtesy Boat Inspector save
Eurasian water-milfoil	*Myriophyllum spicatum*	Great Pond, Belgrade	Courtesy Boat Inspector save
Eurasian water-milfoil	*Myriophyllum spicatum*	Salmon Lake, Belgrade	Courtesy Boat Inspector save
variable water-milfoil	*Myriophyllum heterophyllum*	Shagg Pond, Woodstock	Plant found growing in waterbody

Invasive Aquatic Species Outreach, ID & Tracking

While the primary focus of the Center for Invasive Aquatic Plants is the eleven invasive aquatic plant species listed by Maine law as imminent threats to Maine waters, we must keep our sights on the bigger picture. Maine's lakes, ponds, streams and wetlands are threatened by a wide array of non-native invaders, some plant, some animal, some "neither of the above." Some have been here in Maine for decades; others are relatively new to our region and are only now beginning to appear on Maine's radar screen.

Of the many organisms submitted to the Center for identification, a small but increasing number are not vascular plants like the eleven invasive aquatic plants on Maine's prohibited list. (Vascular plants are plants that have a vein-like system for transporting water and nutrients; also known as "higher plants.")

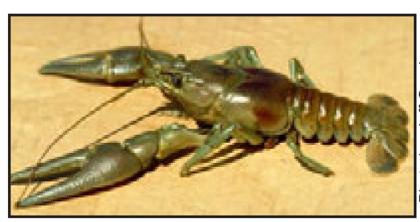


Photo by: Jeff Gunderson

The rusty crayfish is one on a growing list of invasive aquatic species on Maine's radar.

For example, the VLMP began tracking Chinese mystery snail sightings in 2006. The current number of Maine waterbodies reporting snail observations is 50. For the list of lakes reporting Chinese mystery snail sightings, please contact the VLMP.

More information on the "other invaders" is now available on the Maine Interactive Field Guide to Aquatic Invaders at:
www.MaineVolunteerLakeMonitors.org/mciap/herbarium

Known Infestations

Eleven invasive aquatic plants are currently listed under Maine law as imminent threats to Maine waters:

- Brazilian elodea
- Curly-leaf pondweed
- European frogbit
- European naiad
- Eurasian water-milfoil
- Fanwort
- Hydrilla
- Parrot feather
- Variable water-milfoil
- Water chestnut
- Yellow floating heart

To date five of these species have been documented in Maine waters: curly-leaf pondweed, Eurasian water-milfoil, European naiad, hydrilla, and variable water-milfoil.

In 2010:

- Two new waterbodies were added to the Maine's infested waterbodies list. Variable water-milfoil was confirmed in two tributary streams: Great Meadow Stream in Rome and Smithfield and Purgatory Stream in Litchfield
- One waterbody was "de-listed. A community-based control effort involving years of hard work, vigilance and the application of innovative control methods resulted in Maine's second infestation "delisting." Pleasant Lake in Otisfield was removed from the list of infested lakes in 2010.
- Maine's first "double infestation" was discovered When DEP officials surveyed Legion Pond in Kittery to determine the extent of the European naiad infestation (confirmed in that pond in fall of 2009), they discovered that the pond was also infested with curly-leaf pondweed.

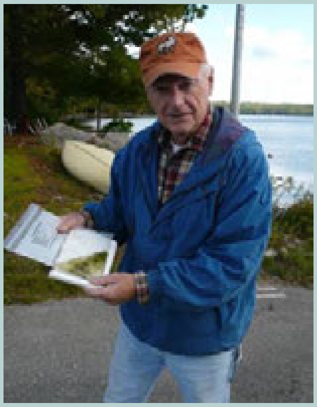
This brings the total number of known infested waterbodies in our state (as of December 31, 2010) to thirty-three.

Hydrilla is one of the world's most notorious aquatic invaders; it is now known to be present in two Maine waterbodies.

Invasive Plant Patrollers are making a difference! Case in point…

In September of 2009, hydrilla (*Hydrilla verticillata*) was confirmed in Damariscotta Lake. Hydrilla, often referred to as the "worst of the worst" invasive aquatic plant threatening aquatic ecosystems worldwide, was discovered in a small cove along the western shore of Damariscotta Lake, by VLMP Invasive Plant Patroller, Dick Butterfield. (Dick had been trained by the VLMP only weeks before.) VLMP assisted the DEP with the initial assessment of the infestation and also helped the Damariscotta Lake Watershed Association (DLWA) organize an "emergency first responder" survey team. Twenty-seven trained invasive plant patrollers (many traveling from distant corners of the state) participated in the intense search that followed Dick's discovery. Though the survey season ended before the team could cover the entire littoral zone of Damariscotta Lake, survey results to date provide hope that Mr. Butterfield may have indeed detected the pioneer colony.

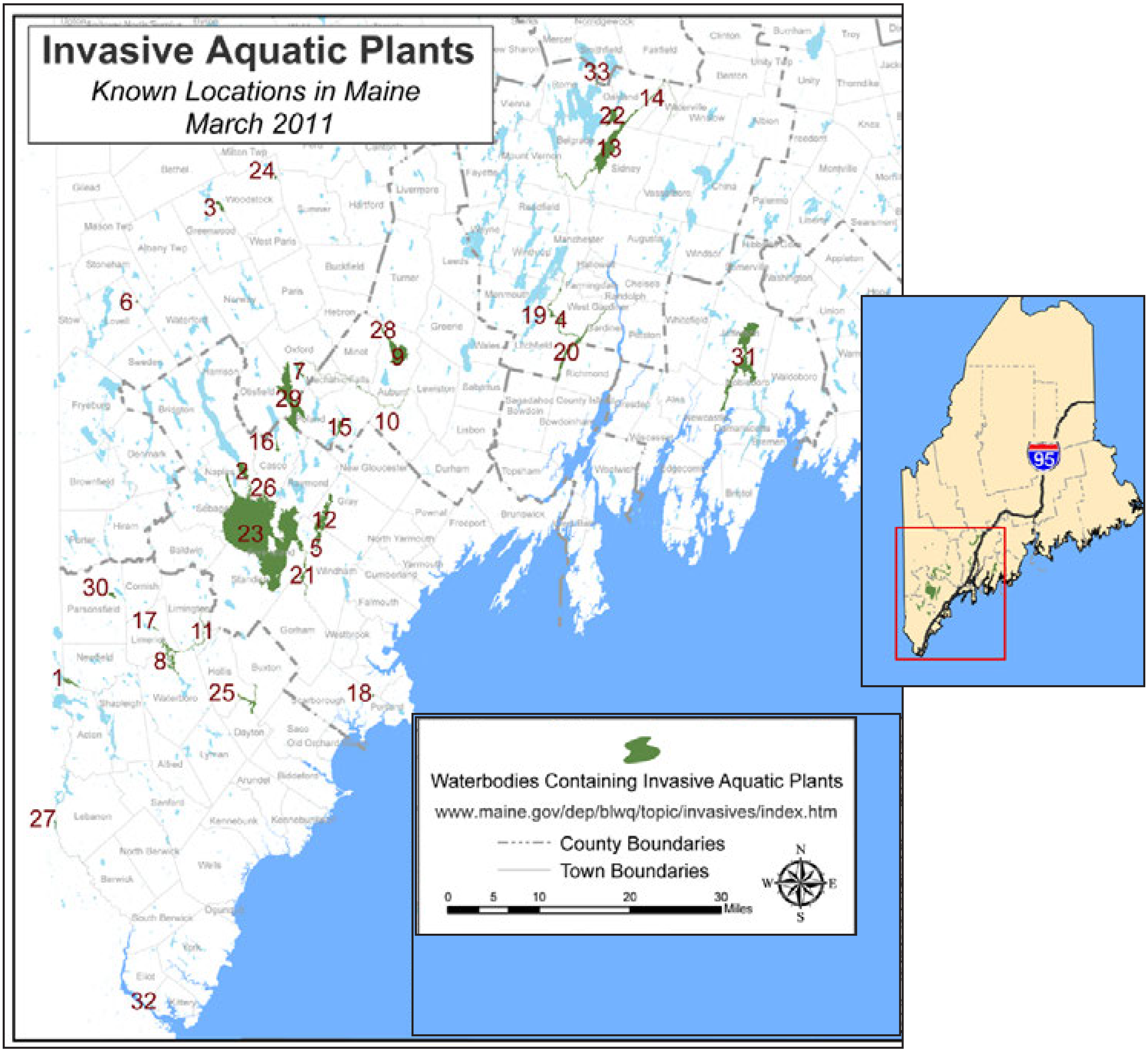
The efforts of Dick Butterfield, DLWA, and the exceptional team of IPP "first responders" who dropped what they were doing to join the hunt for additional signs of the invader and the more than 160 newly trained volunteers who joined the search in 2010, present us with the most concrete evidence to date of the critical and invaluable role that IPP volunteers can (and do!) play in protecting the waters of Maine from the threat of aquatic invaders. *A single early detection—a single lake saved from ecological catastrophe—provides the people of Maine with an enormous rate of return on any and all investments of time and resources that may have been put into this effort to date.*



VLMP Invasive Plant Patroller Dick Butterfield with a sample of hydrilla taken from what is believed to be the pioneer colony in Damariscotta Lake.

Known Locations of Invasive Aquatic Plants In Maine

Source: Maine DEP



ID	Name	Species
1	Balch & Stump Ponds	variable leaf milfoil
2	Brandy Pond	variable leaf milfoil
3	Bryant Pond	variable leaf milfoil
4	Cobbossee Stream	variable leaf milfoil
5	Collins Pond	hybrid variable leaf milfoil
6	Cushman Pond	variable leaf milfoil
7	Hogan Pond	variable leaf milfoil
8	Lake Arrowhead	variable leaf milfoil
9	Lake Auburn	variable leaf milfoil
10	Little Androscoggin River	variable leaf milfoil
11	Little Ossipee River	variable leaf milfoil
12	Little Sebago Lake	hybrid variable leaf milfoil
13	Messalonskee Lake	variable leaf milfoil
14	Messalonskee Stream	variable leaf milfoil
15	Middle Range Pond	variable leaf milfoil
16	Parker Pond Outlet	variable leaf milfoil
17	Pickerel Pond	hydrilla

ID	Name	Species
18	Pleasant Hill Pond	eurasian water milfoil
19	Purgatory Stream	variable leaf milfoil
20	Pleasant Pond	variable leaf milfoil
21	Presumpscot River	variable leaf milfoil
22	Salmon Lake	eurasian water milfoil
23	Sebago Lake	variable leaf milfoil
24	Shagg Pond	variable leaf milfoil
25	Skelton Flowage in Saco River	variable leaf milfoil
26	Songo River	variable leaf milfoil
27	Spaulding Pond	variable leaf milfoil
28	The Basin	variable leaf milfoil
29	Thompson Lake	variable leaf milfoil
30	West Pond	curly leaf pondweed
31	Damariscotta Lake	hydrilla
32	Legion Pond	european naiad and curly leaf pondweed
33	Great Meadow Stream	variable leaf milfoil

VLMP 2011 Program Updates

Program Updates

New Volunteer Lake Monitors

The VLMP will continue to expand the number of Maine lakes monitored in 2011 by training new volunteers to monitor lake water quality and to conduct invasive aquatic plant screening surveys.

If you are interested in attending a training workshop, the summer schedule is posted on the VLMP website. Or, for additional information please contact the VLMP office at 207-783-7733.

Secchi Simulator

Water Quality Monitors are now able to extend their field recertification requirement to six years by taking an annual virtual workshop on the VLMP's website. Through their computers, volunteers are guided through an online multiple choice exercise, followed by a virtual Secchi disk reading, using the Secchi simulator. The results are sent to the VLMP volunteer database. The simulator is also available for use by the general public:
www.MaineVolunteerLakeMonitors.org/recertify/

Landsat

The efforts of volunteers to collect Secchi data matching flyover dates of the Landsat 5 satellite is paying off, according to DEP Biologist Linda Bacon. DEP is currently funding a graduate student position at the University of Maine to compare Secchi data to satellite images, and hopes to have a completed model in 2-3 years. This technology has the potential to be able to identify algae blooms from space! Bacon says that "volunteer data will be more valuable than ever to help calibrate the satellite."

2011 Landsat 5 Overpass Dates
May 4, 20
June 5, 21
July 7, 16
Aug 8*, 24*
Sept 9*, 25
Oct 11, 27
* high priority, if clear skies

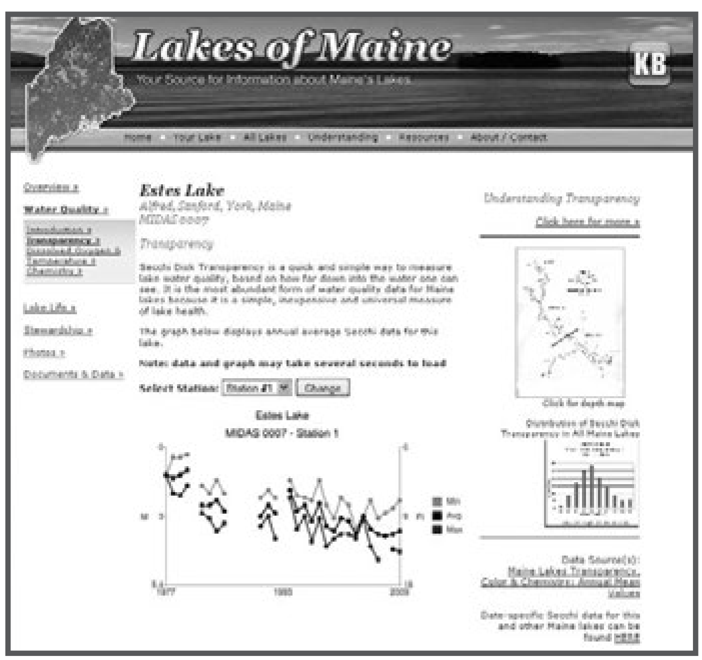
As the Landsat 7 satellite orbits the earth it takes photos of Maine lakes and ponds (as well as other features of the earth's surface). The satellite images could be used to help characterize the transparency for many Maine lakes (thousands!) for which we do not have current water quality data. Volunteer lake monitors can play an important role in helping to "ground truth", or calibrate the satellite images by taking Secchi disk transparency readings on the days when the satellite passes over Maine.

VLMP Unveils LakesOfMaine.org

LakesofMaine.org is a source of information, maps, charts, data, documents and more! The VLMP has developed the LakesOfMaine.org site, in partnership with Maine DEP, the University of Maine, and KnowledgeBase. You can look up *Your Lake* to find specific information about:

- Overview Characteristics and Maps
- Water Quality Summary
- Secchi Transparency Graphs and Data
- Dissolved Oxygen & Temperature Graphs and Data
- Chemistry Data
- Fish Species Lists and Maps
- Plants Species Lists and Maps
- Loons Counts and Maps
- Mussels & Crayfish Species Lists and Maps
- Aquatic Invaders Species Lists and Maps
- Organizations Working on Your Lake
- Monitoring Efforts on Your Lake
- Photos Submitted for Your Lake
- Documents and Data from the KnowledgeBase Library

LakesofMaine.org can also be accessed directly from the VLMP website on the *Your Lake* pages.



Invasive Plant Patrol Leadership Opportunities

Are you looking for opportunities to expand your horizons as a Plant Patroller? Hone your survey techniques and plant identification skills while exploring new regions of the State with other lake-minded volunteers? Be part of Maine's growing IPP Rapid Response Survey Team? Expand volunteer participation in your own local early detection effort? If so, please read on and consider becoming involved in one or more of these exciting new leadership opportunities:

IPP First Responders are trained IPP volunteers who are willing to be on call should a new infestation be identified anywhere in the State of Maine (limits on distances one is willing to travel may be specified of course). This mobile, ready-to-go team is able to move confidently and swiftly when the need arises. With the VLMP coordinating with the local lake community, trained Plant Patrollers may be paired up with members of the local community who may have great familiarity with the lake of concern, but limited knowledge of invasive plants, thus enhancing not only the quality of the survey, but the quality of the survey experience for everyone involved.

The First Responder concept was successfully tested on Damariscotta Lake in 2009 when twenty-seven trained invasive plant patrollers (many traveling from distant corners of the state) participated in the intense search that followed the discovery of hydrilla in a small cove along the western shore of Damariscotta Lake. To date, no additional hydrilla has been detected in the lake.

IPP First Responder Dennis Roberge surveys the shallows of Damariscotta Lake from dockside, while taking a well deserved break from the numbing fall water temperatures

The purpose of ***IPP Jump-Start*** is to conserve native ecosystems now threatened by a wide array of invasive aquatic organisms, by "jump-starting" locally-sustainable citizen-based invasive aquatic species monitoring in areas of the state where such activities are currently lacking. At the core of this program is the IPP Jump Start team: comprised of trained IPP volunteers, state agency personnel, VLMP staff and other professionals working alongside of—and mentoring—novice plant patrollers and other members of the target community.

Engaging and leading by example, the IPP Jump-Start team conducts an invasive aquatic plant screening survey and baseline native aquatic plant inventory on the waters of the target region while providing one-on-one outreach to the community. IPP Jump-Start got its start in the Moosehead Lake Region in 2008.

Invasive Plant Patrol Leaders - When the VLMP achieves its *ultimate* goal as an organization, virtually every lake in the State of Maine will have one or more water quality monitors and an active team of trained Invasive Plant Patrollers routinely monitoring the health of the waterbody. This statewide cadre of dedicated volunteers, trained and certified by the VLMP, will be supported and sustained by a well-organized, integrated, collaborative system involving the VLMP, local, county and State agencies, trained volunteer coordinators, local lake associations, and regional lake conservation groups.

The VLMP has had such a structure in place on for its water quality monitoring program for decades. It is now working to put the necessary elements in place for its Invasive Plant Patrol as well. The emerging structure provides opportunities for volunteer leadership at every level: trained Invasive Plant Patrollers, IPP Lake Team Leaders, IPP Regional Coordinators, etc. As is the case with the water quality system, the benefits include: technical assistance and quality assurance checks at each level; enhanced volunteer involvement and contribution; improved program efficiency and sustainability.

Much progress was made in 2010, including, to our great delight, the activation (or active formation) of many new IPP Teams across the State of Maine. (An IPP Team is defined as "four or more trained Invasive Plant Patrollers working in concert to conduct an invasive aquatic plant screening survey.") The number of waterbodies being surveyed by an active (or actively forming) team jumped from a small handful in 2009 to more nearly 60 waterbodies in 2010. In addition, a roundtable meeting of current IPP Leaders was held in the fall for the purpose of refining and enhancing IPP program goals and objectives; more clearly defining volunteer leadership roles; identifying needs; and

Does Your Lake Have an IPP Team?

When it comes to monitoring aquatic invaders, the more eyes on the water, the better. The creation of strong, active *Invasive Plant Patrol Lake Teams* is seen as essential, not only to ensuring the quality of invasive aquatic plant surveys, but also to the long term sustainability of Maine's early detection effort. As part of a larger team, each patroller can focus more comprehensively on a smaller survey area; no one's survey area is too onerous. Teams are formed by dividing the shoreline of a waterbody into appropriately scaled sectors (e.g. 500-1,000 foot sections), and recruiting and training volunteers to conduct a survey in each sector.

The *Lake Team Leader* plays a key role in energizing, organizing and providing local technical support to members of the Lake Team. *Lake Associations* also play an important role in sustaining the team: helping to recruit team members, raising funds for supplies and equipment, providing recognition of the team's work, etc.

An active, well trained, fully equipped survey team benefits your lake community in many ways. The team can rule out presence of invasive aquatic plants annually, help educate and engage the lake community (friendly face-to-face encounters, dockside, are commonplace during plant surveys) and provide a better understanding of your lake's unique native plant communities.

Maine now has several successful *Regional* IPP Teams. In this situation, one or more trained Plant Patrollers from each waterbody in the local system (e.g., Five Kezars, Tacoma Lakes, Belgrade Lakes) form a composite team and work together to collectively monitor each lake in the system. Possible strategies for accomplishing goals include: monitoring all high risk areas on every waterbody in the region, annually, over the course of several days; conducting a complete (Level 3) survey on each lake in the system in rotation, with the goal of monitoring each lake once every two or three years; or some combination of the above. This is a great way to stretch the effectiveness of an IPP effort in water rich areas where there are currently only one or two trained patrollers on each waterbody.

Whatever the size and scope of your team...working as part of a team is, safer, more effective, more efficient, more engaging, and *more fun*! For more information on IPP Lake Teams, please contact us at 207-783-7733 or vlmp@mainevlmp.org.

This map shows the distribution of active and actively forming IPP Teams in Maine

Stars indicate number of teams in each county

brainstorming next steps. Two train-the-trainer workshops (*How to Lead an IPP Plant Paddle* and the *View Scope Clinic*) have now been added to the list of VLMP training opportunities. A host of new resources for IPP Leaders, including the *Invasive Plant Patrol Leaders Handbook*, will soon be available on the *Invasive Plant Patrol Leaders Resource Page* on the VLMP website.

To learn more about any of the VLMP's volunteer leadership opportunities, please contact us at vlmp@mainevlmp.org or 207-783-7733.

Maine Milfoil Initiative

On October 30, 2009, the Maine Milfoil Initiative (MMI) received a Federal Appropriation of $500,000, to be administered through US Fish & Wildlife Service (USFWS). The purpose of MMI is to "mitigate and control invasive milfoil in seven 'test bed' lakes, which pose high risk of spread to other waters," and to develop "a model program" to assure protection Maine's aquatic ecosystems. Key members of the Maine Milfoil Consortium (and MMI Steering Committee) include Saint Joseph's College, Maine Congress of Lake Associations, Maine Volunteer Lake Monitoring Program, Little Sebago Lake Association, and Lakes Environmental Association.

In 2010, seven test bed lakes were selected for participation. With matching funds made possible through the USFWS appropriation, participating groups developed initial invasive aquatic plant management plans, participated in a variety of roundtable meetings and trainings, received and provided technical assistance through the MMI network, and conducted control activities in accordance with their individualized action plans. Protocols for evaluating the effectiveness and ecological integrity of planned control activities were developed and implemented. It was a very busy field season! Participants contributed greatly to the success of the Initiative in 2010, bringing to the effort, energy, enthusiasm, innovation, and a wide array of practical skills and know-how.

In addition to actively participating in the Initiative as a member in MMI Steering Committee, VLMP provided four separate training events in 2010 for MMI participants and others. The workshops covered Invasive Aquatic Plant Identification, Invasive Aquatic Plant Survey and Mapping Protocols, and Invasive Aquatic Plant Manual Control Methods.

Piloting Volunteer Online Data Entry

We are occasionally asked by volunteers if they can enter their data online. While this sounds like a simple request, we have been reluctant to move rapidly towards online data entry as our current system of data entry is fairly efficient and the process has built in QA/QC checks and double checks. Over the past three years we have been gradually developing an online data entry website and tested the site last year.

We are continuing the project for volunteers in Aroostook, Cumberland, Hancock, Waldo & York Counties to enter their 2011 lake data online (these are counties where we do not currently have volunteer Data Coordinators). Participation is optional and the only requirement is to have access to a computer with internet access.

Project Goals:

- In the past data has been entered by volunteer Data Coordinators or VLMP staff. One of the goals of this project is to reduce staff time entering data.
- Another goal is to enhance QA/QC. Volunteers entering their own data may find themselves paying closer attention to how the data is entered on the paper forms. We are all guilty of occasionally omitting a field. Hopefully, going online to enter data will reduce the number of times when a volunteer's phone rings and you are asked "Do you recall if it was sunny or cloudy when you took your Secchi reading on May 21?" The role of volunteer Data Coordinators could change to focus more on QA/QC as well by proofing data forms before they arrive at the VLMP office.
- We hope to provide volunteers with better access to their data. Volunteers entering data online will have the ability to download and save their data as an Excel file.

If you have questions or suggestions about online data entry please contact us. Volunteers in the pilot regions should have received a notice with instructions in their Spring Packet or via email.

Ice Cover Tracking

For many lakes in Maine the spring 2010 early ice-out was record breaking. Only by past responses from volunteers to send in their historic records can we make this claim.

We are interested in receiving observations for the 2011/2012 ice season. In addition to dates of ice coverage, we are asking volunteers to share their methodology of determining ice-in and ice-out with us. *The most important consideration for determining ice cover dates is to be consistent with the methods used historically on your particular lake.*

Volunteers and the public can share their ice cover observations for their lake or pond with the VLMP (207-783-7733 or vlmp@mainevlmp.org). Historical observations are also welcome. The information we receive is being used collaboratively with our partners to help understand the influences of climate change on lake ecosystems.

Metaphyton Monitoring

The VLMP has initiated a process to allow volunteers to identify, document and track the growth of metaphyton in Maine lakes and ponds. Metaphyton is a group of algae that form filamentous blooms in shallow (littoral) areas. The blooms are often described as having the appearance of green or yellow/green cotton candy. The significance of possible increases in metaphyton growth in some Maine lakes is not fully understood. Interest in the role that this group of algae play in lake ecosystems is growing, as is its abundance of metaphyton in Maine lakes—based largely on anecdotal and ovbservational data. This project will enable volunteers to participate in gathering information to help study this phenomenon. Please contact the VLMP at 207-783-7733 for more information about monitoring metaphyton.

Metaphyton in Salmon Lake
Photo by Betsy & Dick Enright

Long Term Distribution of Water Quality Data for Maine Lakes

The data illustrated in Appendix A are based on the long term means (average of all historical annual averages) for each parameter measured in Maine lakes.

Appendix A contains histograms (a graph that shows how the data are distributed for a particular variable) of the indicators of lake water quality for the lakes that have been included in each data set. The number of lakes sampled (N) varies for each lake quality indicator. The range of means (minimum-maximum), the statewide mean (mean), and the number of lakes sampled are shown with each graph.

As you view this information, please be aware that lake water quality for individual lakes, and for all Maine's lakes varies from year to year. However, the distribution of data in these graphs shows little change from year to year, because of the cumulative (multiple years) nature of the information being illustrated. Water quality indicators for individual lakes may show substantial annual variation.

Data Source: VLMP & Maine DEP

Secchi Disk Transparency

*A measure of water clarity; the distance one can see down into the water column from the surface (***Figure 13***).*

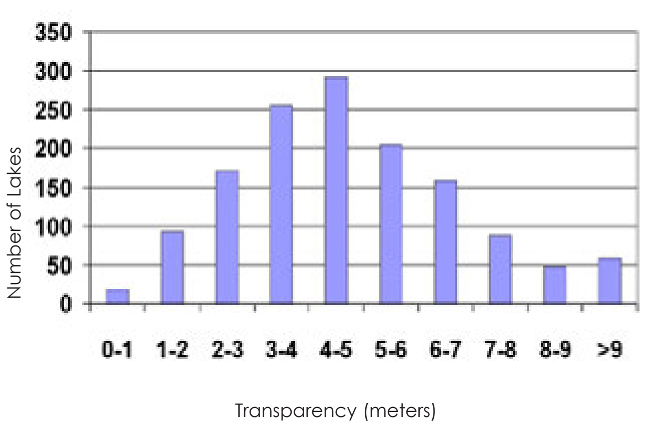
Factors that affect transparency include algal growth, zooplankton, natural water color, and suspended silt particles. Because algae are the most abundant particles in most lakes, transparency indirectly measures algal growth. Transparency values vary widely in Maine lakes. Unless a lake is highly colored or turbid from suspended sediment, transparency readings of 2 meters or less generally indicate a severe algal bloom.

Total Phosphorus

*A measure of all forms of phosphorus (organic and inorganic) in the water (***Figure 14***).*

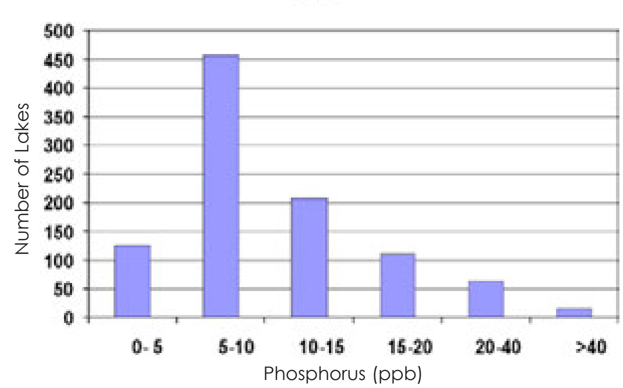
Phosphorus is one of the major nutrients needed for plant growth. Because it's natural occurrence in lakes is very low, phosphorus "limits" the growth of algae in lake ecosystems. Small increases in phosphorus in lake water can cause substantial increases in algal growth. Phosphorus in lakes is measured in parts per billion (ppb). Phosphorus concentrations may be based on samples taken from the surface of the lake or from discrete samples taken at specific depths, or from an integrated water column (epilimnetic core) sample.

Figure 13 Distribution of Secchi Disk Transparency in Maine Lakes



MINIMUM: 0.5 MAXIMUM: 15.5 MEAN: 4.83 N: 1389

Figure 14 Distribution of Total Phosphorus in Maine Lakes (epilimnetic core)



MINIMUM: 1 MAXIMUM: 158 MEAN: 12 N: 980

Chlorophyll a (CHL a)

*A pigment found in algae used to estimate biological productivity of lake ecosystems. (***Figure 15***)*

By measuring the concentration of CHL a in lake water, the algae population can be estimated. CHL a is measured in parts per billion (ppb). **Figure 15** illustrates the distribution of chlorophyll a in Maine lakes.

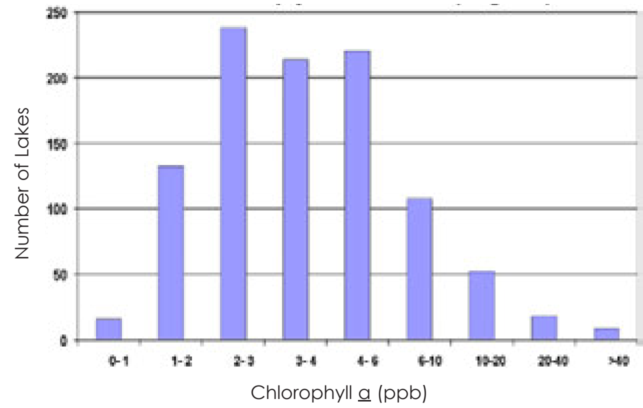
Chlorophyll a samples are generally obtained from an integrated water column sample because the greatest concentration of algal growth typically occurs from the surface of the lake to the bottom of the epilimnion or the top of the thermocline (See **figure 3** for explanation).

Transparency, total phosphorus, and chlorophyll a are sometimes referred to as "trophic state" indicators, or indicators of biological productivity in the lake ecosystem. **Table 5** equates general levels of productivity for Maine lakes with levels or concentrations of the three trophic state indicators.

Table 5

Level of Productivity	Transparency (Meters)	Total Phosphorus (parts per billion)	Chlorophyll a (parts per billion)
Low	>8.0	<4.5	<1.5
Medium	4.0 - 8.0	4.5 - 20	1.5 - 7.0
High	<4.0	>20	>7.0

Figure 15 Distribution of Chlorophyll a in Maine Lakes



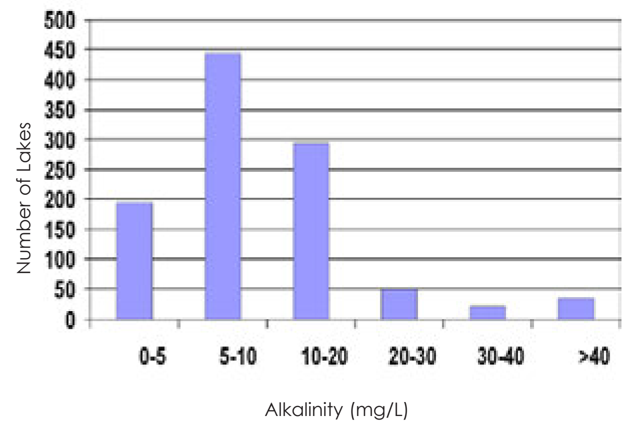
MINIMUM: 0.7 MAXIMUM: 182 MEAN: 5.3 N: 1009

Alkalinity

*A measure of the capacity of water to neutralize acids, or buffer against changes in pH. (***Figure 16***)*

Alkalinity is also referred to as "buffering capacity." It is a measure primarily of naturally available bicarbonate, carbonate, and hydroxide ions in the water. Alkalinity is measured in milligrams per liter (mg/l). **Figure 16** illustrates the distribution of alkalinity in Maine lakes.

Figure 16 Distribution of Total Alkalinity in Maine Lakes



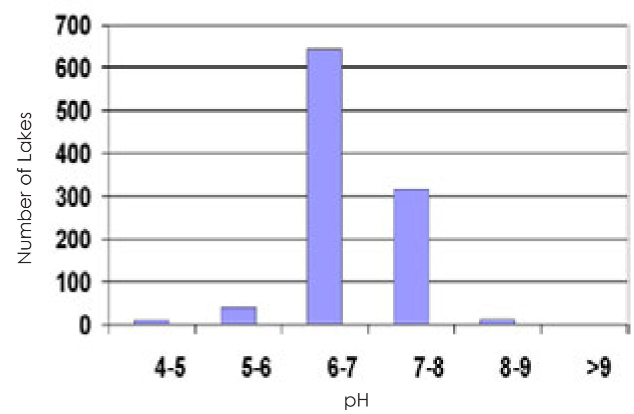
MINIMUM: -0.3 MAXIMUM: 155.7 MEAN: 12.0 N: 1040

pH

*A measure of the relative acid-base status of lake water. (***Figure 17***)*

pH helps determine which plant and animal species can live in the lake, and it governs biochemical processes that take place. The pH scale ranges from 0-14, with 7 being neutral. Water is increasingly acidic below 7, and increasingly alkaline above 7. A one unit change in pH represents a tenfold change in acidity or alkalinity. The pH scale is the inverse log of the hydrogen ion concentration. **Figure 17** illustrates the distribution of pH in Maine lakes.

Figure 17 Distribution of pH in Maine Lakes



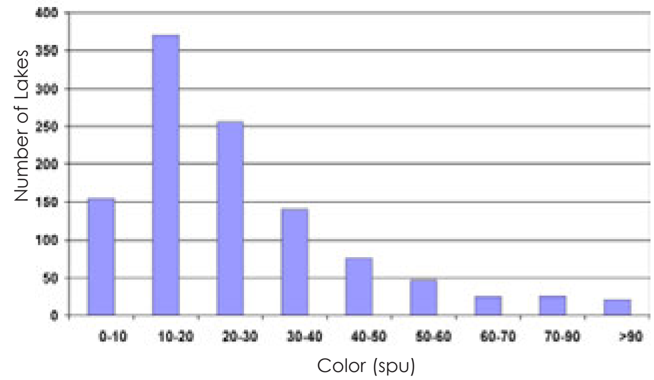
MINIMUM: 4.23 MAXIMUM: 9.51 MEAN: 6.81 N: 1021

Color

*The concentration of natural, dissolved, humic acids in lake water. (**Figure 18**)*

Organic "Humic" acids leach from vegetation in lake watersheds. Color is measured in Standard Platinum-Cobalt Units (SPU). Lakes with color levels greater than 25 SPU are considered to be sufficiently colored to depress Secchi transparency. This can also cause phosphorus levels to be elevated. The water in highly colored lakes often has the appearance of tea. When lakes are highly colored, the best indicator of algal growth is chlorophyll a. **Figure 18** illustrates the distribution of color in Maine lakes.

Figure 18 Distribution of Color in Maine Lakes



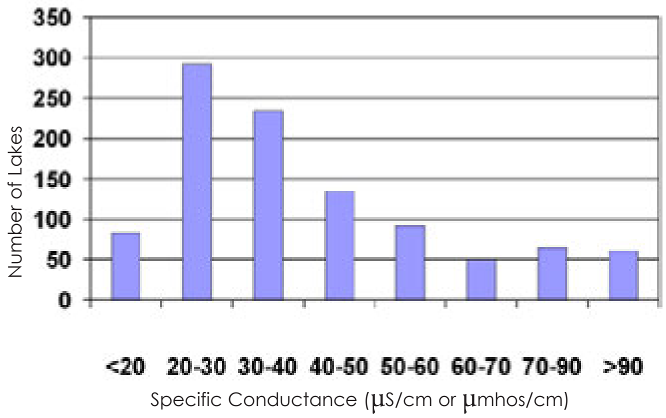
MINIMUM: 2 MAXIMUM: 481 MEAN: 28 N: 1114

Specific Conductance

*A measure of the ability of water to carry an electrical current. (**Figure 19**)*

Conductivity is directly related to the level of dissolved ions in the water. Conductivity levels will generally increase if there is an increase in the concentration of pollutants in the water. Conductivity is measured in micro-siemens per centimeter (µS/cm) or micro-mhos per centimeter (or µmhos/cm). **Figure 19** illustrates the distribution of specific conductance in Maine lakes.

Figure 19 Distribution of Specific Conductance in Maine Lakes



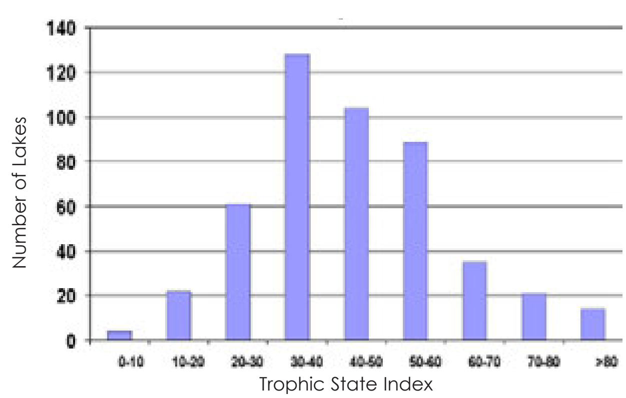
MINIMUM: 10 MAXIMUM: 674 MEAN: 46 N: 1012

Trophic State Index

*A simplified index of biological productivity in lakes. (**Figure 20**)*

The Trophic State Index (TSI) was developed in 1977 by Robert Carlson as a means to be used for establishing a simple numerical scale for each of the three indicators of lake water quality that are commonly used to measure (directly or indirectly) lake productivity. Because the units of measurement and scale for Secchi disk transparency, total phosphorus and chlorophyll a differ, the TSI provides a convenient means by which the three indicators can be compared. The TSI converts raw data from each of the three indicators to standard numerical scales that range from 0 to over 100, with higher numbers representing increasing productivity, and typically poorer water quality. The TSI models developed by Carlson have been modified for Maine lakes, based on historical data for each indicator. **Figure 20** illustrates the TSI distribution of Maine lakes from transparency data.

Figure 20 Distribution of Trophic State Index in Maine Lakes from Transparency Data



MINIMUM: 8 MAXIMUM: 136 MEAN: 45 N: 478

Lake Water Quality Data by County

Key to Appendix B column headings

LAKE The name of the lake or pond.

MIDAS The unique four-digit identification code for a lake**.**

S Refers to the sample station number on the lake. Most lakes have only one station designated as "1". That sample station location is generally located at the deepest spot in the lake. Some lakes have multiple stations, especially those lakes with more than one "true basin."

2010 SECCHI TRANSPARENCY (in meters)

AVE The average Secchi transparency reading for the year. * Indicates that average transparency reading was limited by the depth to the lake bottom.

MIN The minimum (lowest) transparency reading for the season. * Indicates that average transparency reading was limited by the depth to the lake bottom.

MAX The maximum (highest) transparency reading for the season. * Indicates that average transparency reading was limited by the depth to the lake bottom.

N Number of months of transparency data used to calculate the average.

Note: For * lakes where one or more Secchi disk readings "hit bottom while still visible," transparency is generally underestimated. The data still have value, but transparency may not be an accurate method for estimating biological productivity in these lakes.

Historical Data Available If "Y" is Present:

DO Indicates dissolved oxygen data available

pH Indicates that pH data available

Note: Detailed summaries of these parameters are available in individual lake reports which can be obtained from the Maine DEP or VLMP.

Historical Average:

COLOR: Color measured in standard platinum units

ALK Total alkalinity measured in milligrams per liter

CON Specific conductance measured in micro-Siemens per centimeter.

TP Total phosphorus measured in parts per billion

CHL Chlorophyll a measured in parts per billion

Note: Consideration has not been given to the number readings used to calculate historical averages. Detailed summaries of these parameters are available in individual lake reports which can be obtained from the Maine DEP or VLMP.

Designation Listings ("Lake Lists")

PW **Priority Watershed**

Indicates that the lake is on the MDEP Nonpoint Source Priority Watershed List. The Priority Watershed list consists of 181 lakes out of 2314 significant lakes in Maine. All of the lakes on this list have water quality that is either impaired, or threatened to some degree from nonpoint source pollution (polluted runoff) from land use activities in the watershed. These lakes have significant value from a regional perspective. Forty-one of the Priority Watershed lakes are listed as "higher priority." These lakes have significant value from a statewide perspective.

LAR **Lake at Risk**

"Y" indicates Lakes Most at Risk. "P" indicates lakes proposed to be added. This is a designation used in the Maine Stormwater Management Law that provides a higher level of protection from storm-water runoff for the lakes listed. This designation applies to activities in lake watersheds that are subject to the provisions of the Maine Stormwater Management Law.

LIST CAT **Listing Category**

Please note that the "attainment status" categories that have appeared in reports previous to 2002 have been changed. All states are required to evaluate the status of their lakes and report these results to the Environmental Protection Agency (EPA) under the Clean Water Act. Maine's Water Classification Program (M.R.S.A. Title 38, Article 4-A, Section 465-A) requires that the waters in Maine's Lakes and Ponds be suitable for a number of 'designated uses'. Over the past decade, Maine has included an evaluation of these designated uses in the report required under the Clean Water Act (a/k/a 305(b) Report). Guidance from EPA regarding the 2002 and 2004 reports indicates their desire to combine the **305(b) Report** with the state's listing of 'impaired waters' under Section 303(d) into an '**Integrated Report**'. This has resulted in an attainment assessment that looks much different from those submitted in previous years. Appendix B includes listing categories submitted to EPA on April 1, 2006.

Impaired waters listed under Section 303(d) are required to have a TMDL (Total Maximum Daily Load) model developed for them, the objective of which is to bring the water into attainment over some period of time. A TMDL is a form of assessment that attempts to quantify the amount of phosphorus that is being exported to the lake from all sources in the watershed. Historically, development of TMDLs was first mandated by the *Clean Water Act* (CWA) in 1972, and was applied primarily to *point sources* of water pollution. As a result of public pressure to further clean up water bodies, lake and stream TMDLs are now being prepared for watershed-generated *Non-Point Sources* (NPS) of pollution. For additional information about TMDL's, contact the Maine DEP or the VLMP.

The designated uses have remained the same, but the approach to the evaluation of attainment has changed considerably. Past terminology (Fully Supporting, Fully Supporting but Threatened, Partially Supporting, and Not-Supporting) has been replaced with Categories pertaining to Attainment and Non-attainment of standards. **Table 6** contains the categories that are specific to lakes. The new focus is now put on Non-attainment waters and the status of any TMDL being developed for those waters.

A Lake appears under Listing Category 1 if it has a population density in its watershed of less than one individual per square mile and thus little to no chance of changes in water quality being induced by long-term human influences on land use such as development or agriculture. Listing Category 2 indicates that according to the data obtained from that water, the lake attains some of its standards and is assumed to attain others. In other words, there is no reason to think that the lake does not attain other standards. Category 2b includes lakes previously listed as impaired (Cats 4 & 5) or previously listed in Cat. 3 ('watch list'). These lakes are high priority for future data collection.

Listing Category 3 can be thought of as a 'watch list'. Data obtained from lakes in this category have indicated the possibility of a water quality issue that may be persistent. However, additional years of data are required to move from this category into an attainment category (1 or 2) or a non-attainment category (4 or 5). Category 4 lakes are Non-attainment lakes (impaired) that do not need a TMDL developed for one reason or another. To be more specific, Category 4a lakes have a TMDL completed already and Category 4c lakes are not impaired by a pollutant but rather some physical issue (for example lakes that have an extreme drawdown in water level due to hydropower generation).

Category 5 lakes need to have a TMDL developed. Category 5a lakes are on an official TMDL list and are somewhere in the process of having a TMDL developed. All Maine lakes are listed in Category 5c because of the statewide fish advisory for mercury and should be part of a regional TMDL developed to address atmospheric deposition of mercury to northeastern areas of the country.

Detailed water quality reports for individual lakes are available on the VLMP website:

www.MaineVolunteerLakeMonitors.org

Table 6

Listing Category	Current Attainment Categories (As of May 2004)	Past Attainment Terminology
1	Attaining all standards	Fully Supporting, Fully Supporting but Threatened
2	Attaining some standards; assumed to attain others	Fully Supporting, Fully Supporting but Threatened
2b	Attaining some standards; high priority for future data collection.	
3	Attaining some standards; Insufficient/no data/info to determine if standard(s) are met for use that may be impaired	Fully Supporting, Fully Supporting but Threatened, Partially Supporting
4a	TMDL complete	Partially Supporting
4c	Not impaired by a pollutant	Partially Supporting
5a	TMDL needed	Partially Supporting
5c	Regional TMDL needed due to airborne mercury deposition	Partially Supporting

This Appendix contains 2010 Secchi transparency summary data, as well as long-term ("Historical") averages for key water quality indicators. Also indicated is whether or not historical data for additional indicators is available.

				2010 SECCHI TRANS				HIST DATA AVAIL		HISTORICAL AVERAGE					LAKE LISTS		
LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N	DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
ANDROSCOGGIN COUNTY																	
ALLEN P	3788	1	GREENE	5.7	4.8	6.7	6	Y	Y	19	11.8	38	7	4.9	Y	Y	2
ANDROSCOGGIN L	3836	1	LEEDS	4.6	4.2	4.8	4	Y	Y	22	11.9	48	13	5.8	Y	Y	2b
ANDROSCOGGIN L	3836	2	LEEDS	4.5	4.2	4.9	4	Y							Y	Y	2b
ANDROSCOGGIN L	3836	3	LEEDS	4.6	4.4	4.9	3	Y							Y	Y	2b
AUBURN L	3748	1	AUBURN	7.3	5.4	10.1	6	Y	Y	10	12.6	61	8	3.0	Y	Y	2
BRETTUN'S P	3608	1	LIVERMORE	6.4	5.6	6.9	3	Y	Y	23	13.0	53	9	4.7	Y	Y	2
CRYSTAL (BEALS) P	3626	1	TURNER	4.6	4.4	4.7	2	Y	Y	30	23.4	84	22	6.3		Y	2
CRYSTAL (BEALS) P	3626	2	TURNER	4.5	3.4	5.6	5									Y	2
LAKE ANDREWS	3803	1	LEWISTON	0.8	0.7	0.8	2	Y	Y	36	85.9	135		31.6			
LARD P	3798	1	TURNER	4.5	4.5	4.5	1	Y	Y	15	3.6			5.1			2
LOON (SPEAR) P	3806	1	SABATTUS	5.1*	4.7*	5.5*	6	Y	Y	14	10.3	39	8	4.8		Y	2
MOOSE HILL P	5790	1	LIVERMORE FALLS	5.4	5.2	5.6	1	Y	Y	9	11.0	85	6	2.3	Y	Y	2
NO NAME P	3802	1	LEWISTON	4.3	3.8	4.9	3	Y	Y	19	9.6	72	12	5.1	Y	Y	2
PLEASANT P	3822	1	TURNER	6.3	5.7	6.9	5	Y	Y	10	10.3	49	10	4.3	Y	Y	2
RANGE P (LOWER)	3760	1	POLAND	7.3	6.0	8.3	5	Y	Y	10	12.1	50		3.5	Y	Y	2
RANGE P (MIDDLE)	3762	1	POLAND	7.0	5.9	7.9	5	Y	Y	13	11.9	40		4.1	Y	Y	2
RANGE P (UPPER)	3688	1	POLAND	6.4	5.7	6.9	5	Y	Y	13	12.3	44		4.3	Y	Y	2
ROUND P	3800	1	TURNER	7.5	6.1	8.3	6	Y	Y	10	7.3	66		3.2			2
ROUND P	3818	1	LIVERMORE	7.3	7.1	7.7	3	Y	Y	13	10.4	58	5	2.8			2
SABATTUS P	3796	1	GREENE	2.4	1.0	4.1	5	Y	Y	31	18.4	76	33	25.9	Y	Y	4a
SANDY BOTTOM P	3746	1	TURNER	3.6*	3.6*	3.7*	5	Y	Y	10	19.9	92	8	4.7		Y	2
TAYLOR P	3750	1	AUBURN	4.9	4.2	5.7	6	Y	Y	22	16.2	95	9	4.2	Y	Y	2
TRIPP P	3758	1	POLAND	4.7	4.0	5.6	6	Y	Y	23	8.1	44		5.7	Y	Y	2
WILSON P (LITTLE)	3784	1	TURNER	4.1	3.0	4.9	5	Y	Y	35	13.2	49		5.9	Y	Y	2
AROOSTOOK COUNTY																	
BLACK L	1666	1	FORT KENT	No data for 2010				Y	Y	22	30.6	82	76	11.3			2
BRACKETT L	1068	1	WESTON	7.8	6.9	8.4	1	Y	Y	9	9.9	39	5	2.1			2
COCHRANE L	1744	1	NEW LIMERICK	3.9	3.0	4.5	2	Y	Y	30	41.8	110	10	4.5			2
CROSS L	1674	1	T17 R05 WELS	No data for 2010				Y	Y	38	27.8	76		10.9	Y		4a
DEERING L	507	1	ORIENT	No data for 2010				Y	Y	10	10.1	39	4	5.8			2
DREWS(MEDUXNEKEAG) L	1736	1	LINNEUS	7.1	5.4	8.4	5	Y	Y	21	11.4	33		3.6	Y		2
ECHO L	1776	1	PRESQUE ISLE	2.5*	2.3*	2.7*	5	Y	Y	24	60.1	127	80	7.7	Y	Y	4a
FAULKNER L	1064	1	WESTON	No data for 2010				Y	Y	30	8.4	30		4.6			2
GRAND L (EAST)	1070	1	WESTON	No data for 2010				Y	Y	11	11.0	32	7	1.8			2
GRAND L (EAST)	1070	2	WESTON	No data for 2010				Y	Y	15	10.7	30		1.7			2
GRAND L (EAST)	1070	3	WESTON	7.7	7.4	8.2	3										2
GRAND L (EAST)	1070	4	WESTON	7.7	7.5	8.0	2	Y	Y	10	11.1	37		1.5			2
GRAND L (EAST)	1070	5	WESTON	6.2	5.4	6.6	2			26							2
GRAND L (EAST)	1070	6	WESTON	No data for 2010				Y	Y	15	11.6	38	7	1.8			2
LONG L	1682	1	T17 R04 WELS	5.4	2.9	8.1	3	Y	Y	16	25.3	85	9	7.6	Y		2
LONG L	1892	1	T11 R13 WELS	No data for 2010				Y		35	19.8	46		2.2			1
MADAWASKA L	1802	1	T16 R04 WELS	3.0	2.1	4.4	5	Y	Y	38	18.6	55	10	6.9	Y		2
MADAWASKA L	1802	2	T16 R04 WELS	3.1	2.3	4.1	5	Y	Y	35	18.0	50	7	6.2	Y		2
MATTAWAMKEAG L	1686	1	ISLAND FALLS	3.6	3.3	4.1	2	Y	Y	54	18.5	60	11	2.8			2
MATTAWAMKEAG L	1686	4	ISLAND FALLS	4.3	3.8	4.9	2	Y	Y	77	19.0	59	12	2.0			2
NICKERSON L	1036	1	NEW LIMERICK	10.2	9.4	11.3	4	Y	Y	12	62.4	123	5	1.5			2
NORTH L	1063	1	ORIENT	3.9*	3.2	4.1	5	Y	Y	52	17.4	45					2
NORTH L	1063	2	ORIENT	4.0	3.3	4.2	5										2
PLEASANT L	1728	1	T04 R03 WELS	11.1	10.2	12.5	4	Y	Y	6	8.5	32	5	1.1	Y		2
PORTAGE L	1602	1	PORTAGE LAKE	3.3	2.6	3.9	5	Y	Y	38	20.4	56	11	3.6			2
SQUARE L	1672	1	T16 R05 WELS	5.6	5.2	6.0	3	Y	Y	25	22.1	61	6	4.6			2
UMSASKIS L	1896	1	T11 R13 WELS	No data for 2010				Y	Y	32	16.6	41		3.2			1

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Appendix B - Lake Water Quality Data by County

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				2010 SECCHI TRANS				HIST DATA AVAIL		HISTORICAL AVERAGE					LAKE LISTS		
LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N	DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
CUMBERLAND COUNTY																	
ADAMS P	3396	1	BRIDGTON	6.7	5.8	7.3	5	Y	Y	10	10.1	37		2.7		Y	2
BAY OF NAPLES	9685	1	NAPLES	6.8	5.0	7.4	6	Y	Y	14	8.5	44		2.4	Y	Y	2
BEAVER P	5582	1	BRIDGTON	6.3	6.3	6.3	1	Y	Y	24	12.9	48	9	4.8	Y	Y	2
BONNY EAGLE L	5042	1	STANDISH	No data for 2010				Y	Y	74	6.0	50	9	7.8	Y	Y	2
BROWNS P	3384	1	SEBAGO	No data for 2010													2
COFFEE P	3390	1	CASCO	9.2	8.0	10.5	3	Y	Y	9	7.2	42	5	1.5	Y	Y	2
COLD RAIN P	3376	1	NAPLES	5.2	4.4	5.9	6	Y	Y	22	7.3	25		4.3		Y	2
COLLINS P	3728	1	WINDHAM	No data for 2010				Y	Y	18	25.7	91	10	4.4			2
CRESCENT L	3696	1	RAYMOND	6.3	4.8	7.4	6	Y	Y	13	11.4	54	8	2.7	Y	Y	2
CRESCENT L	3696	2	RAYMOND	6.2	4.8	7.4	6	Y	Y	10	11.0	48	9	2.2	Y	Y	2
CRYSTAL L (DRY P)	3708	1	GRAY	6.8	4.8	8.0	6	Y	Y	13	5.1	31	6	4.5	Y	Y	2
CRYSTAL(ANONYMOUS) P	3452	1	HARRISON	5.7	4.3	6.7	5	Y	Y	18	8.0	45		2.7			2
DUMPLING P	3698	1	CASCO	No data for 2010				Y		6	9.0	51		3.7		Y	2
FOREST L	3712	1	WINDHAM	5.7	4.9	6.0	5	Y	Y	19	7.7	65	7	3.4	Y	Y	2
HIGHLAND (DUCK) L	3734	1	FALMOUTH	5.0	3.9	5.8	6	Y	Y	17	7.6	51	6	4.3	Y	Y	2b
HIGHLAND L	3454	1	BRIDGTON	7.3	6.3	7.9	5	Y	Y	14	7.5	33		2.8	Y	Y	2
HOLT P	3370	1	BRIDGTON	2.9	2.9	2.9	1	Y	Y	46	8.9	38		4.0			2
INGALLS (FOSTER'S) P	3188	1	BRIDGTON	7.6*	6.0*	8.6*	5	Y	Y	9	6.2	21	13	2.1	Y	Y	2
LONG L	5780	1	BRIDGTON	6.7	5.0	7.5	6	Y	Y	16	8.5	46		2.8	Y	Y	2
NOTCHED P	3706	1	RAYMOND	5.5	4.9	6.2	6	Y	Y	19	8.8	56	6	3.4	Y	Y	2
OTTER P	3458	1	BRIDGTON	4.6	4.5	4.6	1	Y	Y	50	12.2	40		4.4	Y	Y	2
PANTHER P	3694	1	RAYMOND	6.9	5.8	8.3	6	Y	Y	11	9.4	48	8	2.8	Y	Y	2
PARKER P	3388	1	CASCO	5.5*	5.0	6.0*	5	Y	Y	11	9.3	47	9	4.6	Y	Y	2
PEABODY P	3374	1	SEBAGO	7.6	6.0	8.9	5	Y	Y	11	6.3	24		2.6	Y		2
RAYMOND P	3690	1	RAYMOND	5.9	5.2	6.1	3	Y	Y	15	11.0	47	7	3.5	Y	Y	2
SABBATHDAY L	3700	1	NEW GLOUCESTER	7.1	5.7	8.5	4	Y	Y	13	10.7	57	7	3.8	Y	Y	2
SEBAGO L	5786	1	SEBAGO	9.7	9.0	10.4	3	Y	Y	8	6.7	40	4	1.8	Y	Y	2
SEBAGO L (LITTLE)	3714	1	WINDHAM	No data for 2010				Y	Y	40	10.1	35		4.0	Y	Y	2
SEBAGO L (LITTLE)	3714	3	WINDHAM	4.8	4.8	4.8	1	Y	Y	15	10.7	39	6	4.0	Y	Y	2
SEBAGO L (LITTLE)	3714	4	WINDHAM	No data for 2010				Y	Y	18	11.5	52	7	4.2	Y	Y	2
THOMAS P	3392	1	CASCO	6.6	5.4	8.1	6	Y	Y	16	11.2	52	8	3.2	Y	Y	2
TRICKEY P	3382	1	NAPLES	9.8	6.8	10.9	5	Y	Y	7	7.6	36	1	1.7	Y	Y	2
WATCHIC P	5040	1	STANDISH	No data for 2010				Y	Y	19	6.7	57	15	5.6	Y	Y	2
WOOD P	3456	1	BRIDGTON	5.2	4.3	5.8	5	Y	Y	30	5.8	27		3.3	Y	Y	2
FRANKLIN COUNTY																	
BEAVER MOUNTAIN L	3562	1	SANDY RIVER PLT	5.3	4.8	5.9	5	Y	Y	17	6.3	20	6	3.8			2
CLEARWATER P	5190	1	INDUSTRY	9.7	8.0	11.0	6	Y	Y	5	10.2	33	4	1.4			2
DODGE P	3528	1	RANGELEY	5.1	5.0	5.6	2	Y	Y	34	15.5	45	5	2.5	Y	Y	2
EGYPT P	5218	1	CHESTERVILLE	No data for 2010				Y	Y	12	16.0	53		2.6			2
GULL P	3532	1	DALLAS PLT	No data for 2010				Y	Y	23	14.4	44		2.9			2
HALEY P	3534	1	DALLAS PLT	3.9	3.1	4.7	2	Y	Y	32	13.4	65	15	7.3	Y	Y	2
HILLS P	3686	1	PERKINS TWP	5.9	4.2	7.0	4	Y	Y	17	4.8	29		2.3			1
KENNEBAGO L (BIG)	2374	1	DAVIS TWP	No data for 2010				Y	Y	32	8.2	27	6	2.7			1
KENNEBAGO L (BIG)	2374	2	DAVIS TWP	5.6	5.0	6.2	4	Y	Y	34	7.0	25	6	2.6			1
LOCKE P	5202	1	CHESTERVILLE	4.4*	3.7*	5.1*	6	Y	Y	19	8.8	34	11	4.3			2
LOON L	2384	1	DALLAS PLT	6.8	6.4	7.0	4	Y	Y	13	13.4	35	5	3.1			2
MOOSELOOKMEGUNTIC L	3302	1	RANGELEY	6.2	5.8	6.5	2	Y	Y	16	6.7	28	6	3.7			2
MOOSELOOKMEGUNTIC L	3302	2	RANGELEY	4.9	4.0	5.5	5	Y	Y	26	7.3	29	7	4.6			2
MOOSELOOKMEGUNTIC L	3302	3	RANGELEY	6.3	6.2	6.4	1	Y	Y	21	6.3	27	5	4.6			2
MOOSELOOKMEGUNTIC L	3302	4	RANGELEY	5.9	5.7	6.1	1	Y					6				2
NORCROSS P	5214	1	CHESTERVILLE	4.0	3.5	4.4	5	Y	Y	71	12.7	54	10	5.4			2
PARKER P (MIRROR L)	5216	1	JAY	4.1	4.1	4.2	1	Y	Y	40	10.7	46	9	7.6	Y	Y	2
PEASE P	5198	1	WILTON	4.8	4.0	5.4	6	Y	Y	18	13.3	81	10	5.8			2

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				2010 SECCHI TRANS				HIST DATA AVAIL		HISTORICAL AVERAGE					LAKE LISTS		
LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N	DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
PORTER L	12	1	STRONG	8.4	7.7	9.0	4	Y	Y	13	7.7	26	7	2.4			2
QUIMBY P	3526	1	RANGELEY	2.9*	2.7*	3.0*	3	Y	Y	20	15.8	51	10	4.0	Y	Y	2
RANGELEY L	3300	1	RANGELEY	6.8*	6.3	7.2*	2	Y	Y	10	7.6	32	5	2.0			2
RANGELEY L	3300	3	RANGELEY	6.1*	5.9	6.2*	1	Y	Y		16.0	105	4				2
RANGELEY L	3300	5	RANGELEY	8.1	7.6	8.8	1	Y	Y	20	7.1	38	4				2
ROUND P	3524	1	RANGELEY	No data for 2010				Y	Y	40	15.8	46	6	3.1		Y	2
SADDLEBACK L	3536	1	DALLAS PLT	No data for 2010				Y	Y	24	6.5	25	8	3.4			2
TOOTHAKER P	2336	1	PHILLIPS	3.6	2.6	4.2	5	Y	Y	21	9.0	29	16	13.3		Y	4a
WEBB (WELD) L	3672	1	WELD	5.9	5.4	7.0	3	Y	Y	24	8.3	32	9	3.5			2
WILSON P	3682	1	WILTON	5.7	4.5	7.3	5	Y	Y	15	6.8	35	8	5.3	Y		2
HANCOCK COUNTY																	
ABRAMS P	4444	1	EASTBROOK	3.7	1.7	5.5	5	Y	Y	16	6.3	32	13	10.3		Y	2b
ALAMOOSOOK L	4336	1	ORLAND	5.3	4.6	6.0	2	Y	Y	20	9.7	42	9	3.5	Y		2
AUNT BETTY'S P	4588	1	BAR HARBOR	No data for 2010				Y	Y	56	7.4	43	10	1.4			2
BEAVER DAM P	8567	1	BAR HARBOR	No data for 2010				Y	Y	31	7.5	58	12	3.5			2
BEECH HILL P	4352	1	OTIS	9.8	8.0	11.5	5	Y	Y	11	6.1	27	5	1.5	Y		2
BRANCH L	4328	1	ELLSWORTH	11.2	10.6	12.0	3	Y	Y	9	4.4	29	4	2.6	Y	Y	2
BRANCH L	4328	2	ELLSWORTH	9.6	8.0	10.6	4	Y	Y	9	5.9	31	4	1.7	Y	Y	2
BRANCH L	4328	3	ELLSWORTH	7.8*	7.4	8.0*	2	Y							Y	Y	2
BREAKNECK P (LOWER)	9655	1	BAR HARBOR	No data for 2010				Y	Y	34	4.1	33	7	2.0			2
BREAKNECK P (UPPER)	9657	2	BAR HARBOR	No data for 2010				Y	Y	19	5.3	51					2
BUBBLE P	4452	1	BAR HARBOR	8.6	7.5	9.4	6	Y	Y	7	3.9	34	2	1.5			2
CHAIN L (MIDDLE)	4734	1	T04 ND	3.6	3.3	4.0	5	Y	Y	68	5.0	20		4.0			1
CHAIN L (UPPER)	4736	1	T04 ND	3.8	3.1	4.4	5	Y	Y	78	4.6	19		3.0			1
CRAIG P	4332	2	ORLAND	10.7	9.8	11.2	5		Y	6	4.6	26					2
DONNELL P	4412	1	T09 SD	6.8	5.4	7.9	5	Y	Y	16	3.0	33	7	2.4			2
EAGLE L	4606	1	BAR HARBOR	10.8	9.1	12.4	6	Y	Y	6	3.2	36	2	2.2		Y	2
EAGLE L	4606	2	BAR HARBOR	No data for 2010				Y	Y	6	2.6	35		1.2		Y	2
ECHO L	4624	1	MOUNT DESERT	7.9	7.0	9.0	6	Y	Y	10	4.9	65	4	2.4			2
FLANDERS P	4388	1	SULLIVAN	4.7	4.6	4.7	1	Y	Y	55	3.0	35	5	2.6			2
FLOODS P	4370	1	OTIS	No data for 2010				Y	Y	14	4.7	23	9	2.1		Y	2
FOX P	4438	1	T10 SD	No data for 2010				Y	Y	27	2.3	35		2.9			1
FRENCH HILL P	4593	1	BAR HARBOR	1.1	1.0	1.2	5										2
GEORGES P	4406	1	FRANKLIN	No data for 2010				Y	Y	14	5.8	32		3.9			2
GRAHAM L	4350	1	MARIAVILLE	No data for 2010				Y	Y	70	8.2	31	15	4.4			4c
GREAT P	4378	1	FRANKLIN	3.5	3.2	3.8	5	Y	Y	55	8.9	32	15	7.5			2
GREEN L	4294	1	DEDHAM	8.6	7.3	9.4	4	Y	Y	15	5.1	28	4	1.5	Y		2
GREEN L	4294	2	DEDHAM	8.3	7.6	9.1	4	Y	Y	12	5.1	27	5	2.1	Y		2
GREEN L	4294	3	DEDHAM	8.1	7.4	9.1	4	Y	Y	17	4.4	29	4	2.7	Y		2
HADLOCK P (LOWER)	4610	1	MOUNT DESERT	6.9	5.2	8.2	6	Y	Y	13	2.5	45		1.3		Y	2
HADLOCK P (UPPER)	4612	1	MOUNT DESERT	6.4	5.4	7.9	6	Y	Y	15	2.7	45	6	2.5			2
HADLOCK P (UPPER)	4612	2	MOUNT DESERT	No data for 2010				Y	Y	19	1.2	57					2
HATCASE P	4290	1	DEDHAM	No data for 2010				Y	Y	18	5.5	25		1.4		Y	2
HOPKINS P	4538	1	MARIAVILLE	No data for 2010				Y	Y	8	3.8	19	5	5.7			2
JORDAN P	4608	1	MOUNT DESERT	13.7	11.3	17.5	6	Y	Y	6	3.6	36	3	1.0		Y	2
KILLMAN P	4738	1	T04 ND	3.6	2.9	4.1	5	Y	Y	35	6.4	22		2.8			1
LONG (GREAT) P	4622	1	MOUNT DESERT	8.2	6.8	9.2	6	Y	Y	9	3.4	48		2.4	Y		2
MOLASSES P	4448	1	EASTBROOK	No data for 2010				Y	Y	13	4.6	31	7	2.2			2
MOUNTAINY P	4292	1	DEDHAM	8.9*	8.8*	9.0*	2	Y	Y	8	4.7	22		1.5			2
NICATOUS L	4766	1	T40 MD	4.7	4.7	4.7	1	Y	Y	41	5.1	21		3.0			1
PATTEN P (LOWER)	4344	1	SURRY	5.7	5.5	5.8	6	Y	Y	19	5.6	37	6	2.4			2
PHILLIPS (LUCERNE) L	4300	1	DEDHAM	10.8	8.8	11.8	5	Y	Y	9	6.3	39	4	1.5	Y		2
PISTOL L (SIDE)	4752	1	T03 ND	6.1	5.0	6.9	5	Y	Y	10	7.0	20		2.5			1
SARGENT P	8473	1	MOUNT DESERT	No data for 2010				Y	Y	14		30					2

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LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N	DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
SEAL COVE P	4630	1	TREMONT	6.3	5.7	7.0	6	Y	Y	13	3.8	44		3.0			2
SILVER L	5540	1	BUCKSPORT	No data for 2010				Y	Y	24	11.3	61		4.3	Y	Y	2
SOMES P	4614	1	MOUNT DESERT	4.1	3.5	4.7	3	Y	Y	33	4.8	51	6	6.8			2
SPRINGY P (LOWER)	4540	1	OTIS	No data for 2010				Y	Y	13	8.1	39		5.4			2
THE BOWL	4454	1	BAR HARBOR	No data for 2010				Y	Y	10	1.4	39					2
TODDY P	4340	1	SURRY	4.9	4.5	5.3	3	Y	Y	23	4.3	30	5	3.4			2
WALKER P	4640	1	BROOKSVILLE	8.0	7.5	8.8	4	Y	Y	8	5.9	42	8	2.4			2
WEBB P	4346	1	EASTBROOK	No data for 2010				Y	Y	90	4.0						2
WEST L	503	1	T03 ND	No data for 2010				Y	Y	15	3.9	19	4	2.2			1
WITCH HOLE P	4458	1	BAR HARBOR	4.6	3.9	5.4	6	Y	Y	28	2.7	28	8	3.9			2
KENNEBEC COUNTY																	
ANNABESSACOOK L	9961	1	MONMOUTH	4.0	1.4	5.9	6	Y	Y	21	16.0	65	40	12.1	Y	Y	4a
ANNABESSACOOK L	9961	2	MONMOUTH	3.9	1.2	5.9	6	Y	Y	14	15.8	57	27	11.9	Y	Y	4a
BASIN P	5654	1	FAYETTE	12.7	11.5	14.2	5	Y	Y	6	3.1	24	2	1.5			2
BERRY P	3828	1	WINTHROP	5.1	3.9	6.3	6	Y	Y	27	18.7	61	13	4.1	Y	Y	2
BUKER P	5242	1	LITCHFIELD	4.9*	3.4	6.1	6	Y	Y	21	16.4	75	10	4.6	Y	Y	2
CARLTON P	5310	1	WINTHROP	6.4	5.3	7.5	4	Y	Y	16	13.4	48	10	4.5	Y	Y	2
CHINA L	5448	1	CHINA	3.8	1.3	7.2	6	Y	Y	29	17.3	81		11.9	Y	Y	4a
CHINA L	5448	2	CHINA	3.9	1.5	6.9	5	Y	Y	27	18.3	77	15	11.6	Y	Y	4a
CHINA L	5448	3	CHINA	3.8	1.3	6.2	5	Y	Y	31	17.4	79	22	11.5	Y	Y	4a
COBBOSSEECONTEE (LT)	8065	1	WINTHROP	3.4	2.3	5.1	6	Y	Y	27	18.9	72	16	12.3	Y	Y	4a
COBBOSSEECONTEE L	5236	1	WINTHROP	4.4	2.2	6.7	6	Y	Y	15	17.5	64	18	9.4	Y	Y	2
COBBOSSEECONTEE L	5236	2	WINTHROP	4.5	2.1	7.5	6	Y	Y	15	17.4	58	17	8.3	Y	Y	2
COCHNEWAGON P	3814	1	MONMOUTH	5.2	1.6	8.0	7	Y	Y	16	15.9	56	19	7.0	Y	Y	3
DAVID P	5666	1	FAYETTE	No data for 2010				Y	Y	19	8.5	38	7	4.5			2
DAVID P	5666	2	FAYETTE	No data for 2010				Y	Y	10	8.0	39	7	3.3			2
DEXTER P	3830	1	WINTHROP	5.1	4.0	5.9	6	Y	Y	22	17.3	67	7	4.5	Y	Y	2
ECHO L (CROTCHED P)	5814	1	FAYETTE	8.1	7.3	8.8	3	Y	Y	12	12.2	47	3	2.4	Y		2
FIGURE EIGHT P	5294	1	SIDNEY	8.6*	7.1*	11.1*	6	Y	Y	10	9.6	45		3.8			2
FLYING P	5182	1	VIENNA	5.4	4.9	6.0	4	Y	Y	22	13.6	43	9	3.3	Y		2
GREAT P	5274	1	BELGRADE	6.4	5.5	7.6	5	Y	Y	14	10.2	46	10	4.8	Y	Y	5a
GREAT P	5274	3	BELGRADE	No data for 2010											Y	Y	5a
HALES P	5662	1	FAYETTE	No data for 2010				Y	Y	33	11.5	77		5.6			2
HOPKINS P	5262	1	MOUNT VERNON	No data for 2010					Y	28	14.2	57					2
HORSESHOE P	5252	1	WEST GARDINER	4.1*	2.8	5.3	6	Y	Y	23	19.5	82	19	10.2			2
JAMIES (JIMMIE) P	5302	1	MANCHESTER	6.3	5.8	6.9	6	Y	Y	30	10.4	35	7	4.0		Y	2
JIMMY P	5244	1	LITCHFIELD	3.9	2.3	5.7	6	Y	Y	24	19.1	142	3	4.7		Y	2
KIMBALL P	5330	1	VIENNA	5.8*	5.2	6.4*	6	Y	Y	10	3.1	19	5	2.8			2
LONG P	5272	1	BELGRADE	5.9	5.4	6.3	4	Y	Y	16	9.4	43	8	4.9	Y	Y	4a
LONG P	5272	2	BELGRADE	5.9	5.2	6.4	4	Y	Y	16	15.9	43	9	4.5	Y	Y	4a
LONG P	5444	1	WINDSOR	No data for 2010				Y	Y	37	9.0	36		3.7			2
LOVEJOY P	5664	1	FAYETTE	6.0*	5.0*	6.6*	4	Y	Y	14	13.6	51		3.2	Y		2
MARANACOOK L	5312	1	WINTHROP	6.3	5.2	7.7	6	Y	Y	15	15.6	60		3.8	Y	Y	2
MARANACOOK L	5312	2	WINTHROP	4.7	3.5	6.0	6	Y	Y	19	16.0	61		5.0	Y	Y	2
MCGRATH P	5348	1	OAKLAND	No data for 2010				Y	Y	16	20.7	76	8	3.2	Y	Y	2
MINNEHONK L	5812	1	MOUNT VERNON	6.4	5.7	7.2	5	Y	Y	22	12.9	59	8	2.9			2
NARROWS P (LOWER)	103	1	WINTHROP	8.9	7.8	10.2	6	Y	Y	14	17.0	73		3.1	Y	Y	2
NARROWS P (UPPER)	98	1	WINTHROP	7.7	6.7	8.4	6	Y	Y	19	16.8	98	9	4.1	Y	Y	2
NEHUMKEAG P	5378	1	PITTSTON	4.3*	4.2*	4.4*	3	Y	Y	26	8.2	44	12	3.3			2
NORTH & LITTLE PONDS	5344	1	ROME	3.5	1.6	4.2	6	Y	Y	18	8.6	42	12	4.5	Y	Y	2
NORTH & LITTLE PONDS	5344	2	ROME	3.4	1.5	4.1	6	Y		11	8.0	46		4.7	Y	Y	2
PARKER P	5186	1	FAYETTE	8.9*	8.7*	9.0*	1	Y	Y	12	7.7	30	4	2.5	Y		2
PARKER P	5186	4	FAYETTE	No data for 2010											Y		2
PATTEE P	5458	1	WINSLOW	4.7	4.3	5.1	3	Y	Y	38	24.8	80	17	10.6	Y	Y	2

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				2010 SECCHI TRANS					HIST DATA AVAIL		HISTORICAL AVERAGE					LAKE LISTS		
LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N		DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
PLEASANT (MUD) P	5254	1	GARDINER	2.5	1.6	4.3	7		Y	Y	26	16.4	73	23	10.3	Y	Y	4a
POCASSET L	3824	1	WAYNE	5.9*	5.1*	6.3	5		Y	Y	17	13.3	51	6	3.4	Y		2
PURGATORY P (LITTLE)	5250	1	LITCHFIELD	5.2*	4.7	5.5*	6		Y	Y	19	19.9	83		5.1		Y	2
SALMON L (ELLIS P)	5352	1	BELGRADE	5.3	2.6	7.5	5		Y	Y	15	17.8	63	12	6.3	Y	Y	2b
SAND P (TACOMA LKS)	5238	1	LITCHFIELD	6.9	5.1	7.8	6		Y	Y	14	15.8	71	4	2.8	Y	Y	2
SHED P	5300	1	MANCHESTER	2.4*	2.4*	2.4*	1		Y	Y	56	15.2	53	15	6.6			2
SPECTACLE P	5410	1	VASSALBORO	5.7	4.2	7.1	5		Y	Y	13	10.8	49		4.4	Y	Y	2
THREECORNERED P	5424	1	AUGUSTA	No data for 2010					Y	Y	39	13.7	59	13	9.9	Y	Y	2b
THREEMILE P	5416	1	CHINA	1.3	1.2	1.3	3		Y	Y	24	12.6	58	18	18.8	Y	Y	4a
TOGUS P	9931	1	AUGUSTA	1.9	1.9	1.9	1		Y	Y	18	10.8	54	15	10.4	Y	Y	4a
TOGUS P (LOWER)	5430	1	CHELSEA	3.1	2.3	3.5	5		Y	Y	58	8.0	44	16	7.5			2
TORSEY (GREELEY) P	5307	1	MOUNT VERNON	6.0	4.2	7.8	6		Y	Y	15	13.6	42	10	4.1	Y		2
WARD P	5282	1	SIDNEY	7.4	6.5	8.0	5		Y	Y	21	10.0	45	5	2.3	Y	Y	2
WATSON P	5338	1	ROME	6.6*	6.0*	7.3*	6		Y	Y	17	5.2	26	8	3.7			2
WEBBER P	5408	1	VASSALBORO	3.1	1.5	5.7	5		Y	Y	20	16.3	61	18	13.1	Y	Y	4a
WILSON P	3832	1	WAYNE	4.5	3.5	6.2	6		Y	Y	18	15.0	65	13	6.4	Y	Y	4a
WOODBURY P	5240	1	LITCHFIELD	6.7	5.2	8.0	6		Y	Y	14	16.0	64	10	3.8	Y	Y	2
KNOX COUNTY																		
ALFORD L	4798	1	HOPE	7.9	6.3	8.7	4		Y	Y	9	6.8	29	3	1.6	Y		2
CRAWFORD P	4810	1	UNION	6.2	5.6	6.9	3		Y	Y	20	8.4	45	9	4.0	Y	Y	2
CRAWFORD P	4810	2	UNION	5.5	5.2	6.0	2		Y	Y			45			Y	Y	2
CRYSTAL P	4900	1	WASHINGTON	No data for 2010					Y	Y	19	4.4	39		3.4			2
HOSMER P	4808	1	CAMDEN	No data for 2010					Y	Y	17	8.8	43		6.9	Y	Y	2
LERMOND P	4800	1	HOPE	6.7	6.7	6.7	1		Y	Y	12	7.1	36	8	2.6			2
LONG P (TURNERS L)	5562	2	ISLE AU HAUT	No data for 2010						Y		3.4	84					2
MEGUNTICOOK L	4852	1	CAMDEN	6.4	4.8	8.1	5		Y	Y	15	8.8	45		5.5	Y	Y	2
MEGUNTICOOK L	4852	2	CAMDEN	6.3	5.4	7.1	5		Y	Y	14	9.0	43		3.2	Y	Y	2
NORTH P	5690	1	WARREN	No data for 2010					Y	Y	30	9.1	56		7.2	Y		2
SOUTH P	5716	1	WARREN	No data for 2010					Y	Y	41	6.0			3.3	Y		2
WASHINGTON P	4894	1	WASHINGTON	6.2	5.3	7.4	5		Y	Y	10	4.8	32		2.5			2
LINCOLN COUNTY																		
ADAMS P	5366	1	BOOTHBAY	5.3	5.1	5.4	2		Y	Y	28	12.8	69	17	7.1	Y	Y	2
BISCAY P	5710	1	DAMARISCOTTA	4.8	4.0	5.4	5		Y	Y	29	8.8	39	7	4.2	Y		2
BOYD P	5364	1	BRISTOL	3.3	3.1	3.6	4		Y	Y	31	6.2	43	11	5.3			2
CLARK COVE P	35	1	SOUTH BRISTOL	1.9	1.3	2.2	3		Y	Y	89	9.5	152	24	6.3			2
CLARY L (PLEASANT P)	5382	1	JEFFERSON	2.9	2.1	3.8	5		Y	Y	28	7.9	36	17	10.6	Y		2
DAMARISCOTTA L	5400	1	JEFFERSON	5.7	4.9	7.2	5		Y	Y	18	7.8	46		4.7	Y	N	2
DAMARISCOTTA L	5400	2	JEFFERSON	5.1	4.5	5.7	5		Y	Y	21	7.8	49		5.2	Y	Y	2
DAMARISCOTTA L	5400	3	JEFFERSON	5.4	4.5	5.9	5		Y	Y	16	8.1	51	18	4.5	Y	Y	2
DUCKPUDDLE P	5702	1	NOBLEBORO	3.0	2.3	3.4	5		Y	Y	63	8.6	54		12.2	Y	Y	2b
KNICKERBOCKER P	5368	1	BOOTHBAY	4.4	3.5	5.2	4		Y	Y	25	11.6	55		6.8	Y	Y	2
LITTLE P	5706	1	DAMARISCOTTA	No data for 2010					Y	Y	19	6.4	36	10	5.4	Y	Y	2
MCCURDY P	5712	1	BREMEN	5.5	5.0	5.9	4		Y	Y	14	4.4	41		2.8			2
PARADISE (MUDDY) P	5708	1	DAMARISCOTTA	3.1*	1.1*	4.0*	6		Y	Y	40	5.2	27	14	9.3	Y	Y	2
PEMAQUID P	5704	1	NOBLEBORO	4.1	3.4	4.7	3		Y	Y	25	7.3	42	7	4.1	Y	Y	2
PEMAQUID P	5704	2	NOBLEBORO	3.8	3.0	4.6	5		Y	Y	23	8.6	45		4.7	Y	Y	2
WEST HARBOR P	5372	1	BOOTHBAY HARBOR	3.3	2.1	4.4	6		Y	Y	18	15.6	674	31	4.5	Y	Y	2
NEW BRUNSWICK, CANADA																		
McADAM P	-2	1	McADAM	No data for 2010														
McADAM P	-2	2	McADAM	No data for 2010														
SKIFF L	-1	1	CANTERBURY	7.6	6.5	8.6	5											

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				2010 SECCHI TRANS					HIST DATA AVAIL		HISTORICAL AVERAGE					LAKE LISTS		
LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N		DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
OXFORD COUNTY																		
ANASAGUNTICOOK L	3604	1	HARTFORD	5.1	3.1	6.5	6		Y	Y	23	9.1	34		4.9	Y	Y	2
AZISCOHOS L	3290	1	LINCOLN PLT	4.5	3.7	5.4	5		Y	Y	26	7.9	30	13	4.1			4c
BACK (5 KEZARS) P	3199	1	STONEHAM	7.1	5.1	8.0	6		Y	Y	14	7.7	22		2.1			2
BARKER P	3136	1	HIRAM	5.7	4.9	6.4	2		Y	Y	21	4.6	27		4.3			2
BEAR P	3420	1	WATERFORD	6.1	4.8	7.0	5		Y	Y	19	8.2	37	5	3.6	Y		2
BEAR P (BIG)	3624	1	HARTFORD	5.3	4.9	6.1	4		Y	Y	14	9.2	31		3.4	Y		2
BEAR P (BIG)	3624	2	HARTFORD	3.9*	3.7*	4.0*	2		Y	Y	23	9.8	33		4.4	Y		2
BEAVER P	3124	1	DENMARK	2.1*	2.1*	2.1*	1		Y	Y	17	7.7	22	9	2.8			2
BICKFORD P	3158	1	PORTER						Y	Y	9	7.8	34		2.4			2
BRYANT P	3464	1	WOODSTOCK	5.1	4.4	5.6	4		Y	Y	20	8.7	72	12	4.4			2
BRYANT P	3464	2	WOODSTOCK	5.1	4.6	5.6	4		Y	Y	28	8.7	65		4.0			2
BURNT MEADOW P	5572	1	BROWNFIELD	No data for 2010					Y	Y	18	7.0	36	4	2.4			2
CLEMONS P (BIG)	3174	1	HIRAM	6.0	4.5	6.9	6		Y	Y	10	8.1	37	6	2.7			2
COLCORD P	3160	1	PORTER	8.8	8.3	9.4	2		Y	Y	10	6.6	25	4	1.9			2
CUSHMAN P	3224	1	LOVELL	5.6	4.2	7.2	5		Y	Y	13	5.3	23		2.7			2
ELLIS (ROXBURY) P	3504	1	BYRON	4.3	3.4	5.3	5		Y	Y	23	5.6	20		4.3	Y		2
FARRINGTON P	3200	1	LOVELL	4.1*	3.4	4.5*	3		Y	Y	16	4.7	14		8.5			2
GRANGER P	3126	1	DENMARK	6.4	5.8	7.5	5		Y	Y	12	6.6	25		3.1			2
GREEN P	3768	1	OXFORD	6.4	4.8	7.7	5		Y	Y	8	4.9	27	7	3.8		Y	2
HALLS P	3780	1	PARIS	5.9*	4.6*	7.3*	5		Y	Y	9	4.9	25		5.3	Y	Y	2
HANCOCK P	3132	1	DENMARK	7.1	6.4	7.9	5		Y	Y	12	6.1	29		3.0	Y		2
HORSESHOE P	3196	1	LOVELL	7.5	6.8	8.0	5		Y	Y	10	4.9	19	5	3.3			2
HOWARD P	3520	1	HANOVER	5.1	3.9	5.6	5		Y	Y	21	4.7	22	5	3.9			2
HUTCHINSON P	3494	1	ALBANY TWP	No data for 2010					Y						2.7			1
INDIAN P	3480	1	GREENWOOD	7.3	6.7	7.9	3		Y	Y	12	7.1	37	5	3.2			2
ISLAND P	3448	1	WATERFORD	6.4	5.4	7.5	5		Y	Y	16	7.5	40		3.2	Y		2
JAYBIRD P	3178	1	HIRAM	3.7*	3.5	3.8*	5		Y	Y	18	5.9	69		6.6			2
JEWETT (5 KEZARS) P	3198	1	WATERFORD	4.6	4.6	4.6	1		Y	Y	30	6.8	23		6.0			2
KEOKA L	3416	1	WATERFORD	6.0	5.3	6.6	5		Y	Y	18	8.1	38	8	4.0	Y		2
KEOKA L	3416	2	WATERFORD	6.0	5.7	6.7	6									Y		2
KEYS P	3232	1	SWEDEN	6.5	5.6	7.6	6		Y	Y	15	7.4	42	6	3.2			2
KEZAR L	97	1	LOVELL	No data for 2010					Y	Y	11	4.7	26	3	2.7			2
KEZAR L	97	2	LOVELL	8.2*	7.6	8.5*	3		Y	Y								2
KEZAR L	97	3	LOVELL	3.7*	3.5*	3.8*	3		Y	Y	14	4.8	22	7	2.4			2
KEZAR P	9709	1	FRYEBURG	2.4	1.8	2.8	4		Y	Y	33	7.8	30	18	3.7			2
KIMBALL P (LOWER)	3240	1	FRYEBURG	6.8	5.6	7.7	4		Y	Y	12	4.0	26		2.4			2
LITTLE P	3436	1	OTISFIELD	No data for 2010														2
LONG (MCWAIN) P	3418	1	WATERFORD	6.5	5.2	7.9	5		Y	Y	16	5.7	29	7	3.1	Y		2
LONG P	3084	1	DENMARK	4.9	4.9	4.9	1		Y	Y	11	5.8	21		2.7			2
LOVEWELL P	3254	1	FRYEBURG	3.9	3.5	4.5	3		Y	Y	28	6.1	40	8	4.3			2
MARSHALL P	3776	1	HEBRON	No data for 2010					Y	Y	36	15.5	62		4.2		Y	2
MIDDLE (5 KEZARS) P	3201	1	WATERFORD	6.0	5.3	6.4	6		Y	Y	23	6.3	19		3.8			2
MOOSE P	3134	1	DENMARK	7.4	6.4	8.4	5		Y	Y	13	7.4	37	8	2.8	Y		2
MOOSE P	3134	4	DENMARK	5.5*	5.1	6.2*	3		Y	Y	23	7.3	35		3.7	Y		2
MOOSE P	3424	1	WATERFORD	7.1	6.3	7.9	5		Y	Y	10	6.5	24		2.3			2
MOOSE P	3438	1	OTISFIELD	3.6	3.6	3.6	1		Y	Y	44	7.3	14		4.4		Y	2
MUD (5 KEZARS) P	3422	1	WATERFORD	3.9	3.3	4.3	3		Y	Y	43	5.9	18	21	5.6			2
MUD P	3756	1	OXFORD	4.0*	4.0*	4.0*	4		Y	Y	19	4.4	27	9	5.9		Y	2
NORTH P	3460	1	WOODSTOCK	6.2	5.4	7.4	3		Y	Y	15	6.2	28	7	4.6			2
NORTH P	3500	1	NORWAY	3.2*	3.0*	3.3*	5		Y	Y	17	10.1	43	18	6.2	Y	Y	2
NORTH P	3616	1	SUMNER	7.5	6.9	8.3	5		Y	Y	10	6.8	20		2.7	Y	Y	2
PAPOOSE P	3414	1	WATERFORD	4.0	4.0	4.0	1		Y	Y	29	8.1	33		6.2			2b
PAPOOSE P	3414	2	WATERFORD	No data for 2010														2b

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LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N		DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
PARMACHENEE L	3966	1	LYNCHTOWN TWP	No data for 2010					Y	Y	52	11.2	33	7	5.5			1
PENNESSEEWASSEE (LT)	367	1	NORWAY	5.8	3.8	6.8	5		Y	Y	13	11.3	66		4.9	Y	Y	2
PENNESSEEWASSEE L	3434	1	NORWAY	5.7	4.6	6.6	5		Y	Y	13	13.6	63	9	4.5	Y	Y	2
PEQUAWKET L	401	1	BROWNFIELD	5.2*	4.0*	7.0	5		Y	Y	13	6.6	41		2.6			2
PERLEY P	3140	1	DENMARK	4.4	4.2	4.7	1		Y	Y	27	5.3	30		5.1			2
PICKEREL P	9687	1	DENMARK	5.3*	5.3*	5.3*	1		Y	Y	22	6.6	27		2.6			2
PLEASANT L	3446	1	OTISFIELD	7.8	7.1	8.2	5		Y	Y	8	8.7	40	5	2.4	Y		2
PLEASANT P	3252	1	FRYEBURG	2.8	2.8	2.8	1		Y	Y	53	7.3	31		5.6			2
POND IN THE RIVER	3328	1	TOWNSHIP C	5.8	5.0	6.6	3		Y	Y	18	6.0	26	8	3.5			1
RICHARDSON LAKES	3308	2	RICHARDSONTOWN	No data for 2010					Y	Y	19	7.1	27	5	3.1			2
SAND (WALDEN) P	3130	1	DENMARK	6.2	5.6	6.7	5		Y	Y	15	6.4	28		3.8	Y		2
SAND P	3432	1	NORWAY	7.3	5.1	8.9	5		Y	Y	10	6.7	28		2.7			2
SATURDAY P	3440	1	OTISFIELD	6.5*	5.4*	7.3*	3		Y	Y	19	5.4	29	6	2.8			2
SONGO P	3262	1	ALBANY TWP	3.9	3.6	4.4	5		Y	Y	43	4.8	34		5.6			2
SOUTH & ROUND PONDS	9683	1	GREENWOOD	8.1	7.4	8.6	5		Y	Y	6	4.9	23	5	3.6			2
SOUTH & ROUND PONDS	9683	2	GREENWOOD	5.8*	5.2*	6.4*	5		Y	Y	10	5.1	25		3.1			2
STANLEY P	3182	1	HIRAM	8.4	6.7	9.9	6		Y		20				1.5			2
STEARNS P	3234	1	SWEDEN	5.5	4.4	6.6	5		Y	Y	25	7.1	30		3.7			2
THOMPSON L	3444	1	OXFORD	8.9	6.6	10.6	5		Y	Y	9	7.2	38		2.6	Y	Y	2
TWITCHELL P	3478	1	GREENWOOD	6.7	5.2	7.6	6		Y	Y	10	4.9	30		2.5			2
UMBAGOG L	3102	1	MAGALLOWAY PLT	No data for 2010					Y	Y	20	6.5	24		3.5			2
WHITNEY P	3772	1	OXFORD	4.8	4.6	5.0	2		Y	Y	13	11.6	54	11	5.3	Y	Y	2
WORTHLEY P	3594	1	PERU	7.4*	6.4	7.9	6		Y	Y	12	5.8	26		3.3			2
WORTHLEY P	3594	2	PERU	7.7*	6.7	8.2	6		Y	Y	11	10.5			9.9			2
PENOBSCOT COUNTY																		
BOTTLE L	4702	1	LAKEVILLE PLT	No data for 2010					Y	Y	26	13.6	25		3.5			2
BREWER L	4284	1	ORRINGTON	5.9	5.1	6.8	3		Y	Y	18	6.6	32	10	4.0			2
CEDAR L	2004	1	T03 R09 NWP	6.8*	6.1*	7.2*	4		Y	Y	12	4.8	23		1.6			1
CHEMO P	4278	1	BRADLEY	4.5	4.2	4.7	4		Y	Y	33	8.2	38	10	4.0			2
COLD STREAM P	2146	1	ENFIELD	No data for 2010					Y	Y	9	5.0	31	10	1.6	Y		2
COLD STREAM P	2146	2	ENFIELD	7.6	7.6	7.6	1		Y	Y	14	5.6	31	5	2.1	Y		2
COLD STREAM P(UPPER)	2232	2	LINCOLN	6.4	5.8	7.5	6		Y	Y	10	7.5	32	5	2.1			2
EDDINGTON (DAVIS) P	4276	1	EDDINGTON	3.7*	3.7*	3.7*	1		Y	Y	30	7.0	55		4.0		Y	2
ESCUTASIS L	2250	1	BURLINGTON	4.4	3.9	5.2	5		Y	Y	56	3.3	24	8	4.9			2
GARLAND P	4128	1	GARLAND		-	-			Y	Y	17	55.7	118	14	5.7		Y	2
HAMMOND P	2294	1	HAMPDEN	2.2	1.2	3.2	5		Y	Y	67	30.9	97	37	21.5			4a
HAY L	2178	1	T06 R08 WELS	No data for 2010					Y	Y	25	6.7	32	12	3.7			1
HERMON P	2286	1	HERMON	2.2	1.4	3.6	6		Y	Y	73	27.3	86		22.7	Y	Y	4a
HOLBROOK P	4274	1	HOLDEN	5.6	5.2	5.9	4		Y	Y	30	10.4	45	8	3.8		Y	2
JERRY P	2190	1	T05 R07 WELS	1.9	0.9	2.6	5		Y	Y	97	8.8	26	20	62.8			1
JUNIOR L	4708	1	T05 R01 NBPP	7.2	6.2	8.0	5		Y	Y	19	6.9	25	20	2.3			2
MATTAKEUNK L	2242	1	LEE	6.3	5.3	7.5	6		Y	Y	11	25.3	77	5	2.7			2
MILL PRIVILEGE L	4704	1	T05 R01 NBPP	5.1	4.6	5.8	5		Y	Y	32	8.6	23		3.6			2
PEMADUMCOOK CHAIN L	982	6	T4 INDIAN PURCH	5.1	4.4	5.5	3		Y	Y	43	7.3	24	6	2.3			1
PLEASANT (STETSON) L	2270	1	STETSON	4.8*	4.0*	5.1*	6		Y	Y	21	20.4	65	11	2.9			2
PLYMOUTH P	2276	1	PLYMOUTH	No data for 2010					Y	Y	45	33.2	95	22	3.8			2
PUFFERS P (ECHO L)	744	1	DEXTER	6.5	4.5	7.3	4		Y	Y	13	51.9	158		2.7			2
PUSHAW L	80	1	OLD TOWN	3.5	2.6	4.6	5		Y	Y	48	16.0	55	16	3.9	Y		2
PUSHAW L	80	2	OLD TOWN	3.5	2.4	4.6	5		Y	Y	49	17.9	66	18	3.5	Y		2
PUSHAW L	80	3	OLD TOWN	No data for 2010					Y		24					Y		2
PUSHAW P (LITTLE)	2156	1	HUDSON	4.5*	3.8	4.9*	5		Y	Y	47	34.1	88	12	7.5			2
SAPONAC P	4722	1	GRAND FALLS TWP	2.4	2.1	2.8	5			Y	129	9.5	32					2
SCRAGGLEY L	9649	1	T05 R01 NBPP	5.5	4.9	5.9	5		Y	Y	26	6.2	24		3.1			2
SEBASTICOOK L	2264	1	NEWPORT	2.8	1.7	3.9	5		Y	Y	29	34.4	103	17	28.6	Y	Y	4a

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Appendix B - Lake Water Quality Data by County

This Appendix contains 2010 Secchi transparency summary data, as well as long-term ("Historical") averages for key water quality indicators. Also indicated is whether or not historical data for additional indicators is available.

				2010 SECCHI TRANS				HIST DATA AVAIL		HISTORICAL AVERAGE					LAKE LISTS		
LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N	DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
SWETTS (SWEETS) P	5544	1	ORRINGTON	5.7	5.3	5.8	2	Y	Y	27	7.3	40		3.9		Y	2
WASSOOKEAG L	227	1	DEXTER	7.2	6.5	9.6	3	Y	Y	8	30.1	83	6	3.0	Y	Y	2
PISCATAQUIS COUNTY																	
CENTER P	760	1	SANGERVILLE	4.8	4.3	5.3	4	Y	Y	11	24.4	66	8	5.1			2
CHURCHILL L	2856	1	T09 R12 WELS	3.9	3.2	4.4	5	Y	Y	31	14.3	37		3.0			1
DAVIS P (THIRD)	850	1	WILLIMANTIC	No data for 2010													2
EAGLE L (BIG)	2858	1	EAGLE LAKE TWP	4.6	4.2	5.1	5	Y	Y	30	15.8	40		2.5			1
HARLOW P	756	1	PARKMAN	5.2	5.0	5.5	2	Y						1.6			2
LOBSTER L	2948	1	LOBSTER TWP	5.9	5.9	5.9	1	Y	Y	21	11.3	35		3.0			1
MANHANOCK P	758	1	PARKMAN	5.7	5.7	5.7	3	Y	Y	30	23.5	66		4.0			2
MITCHELL P	9757	1	T07 R09 WELS	2.7*	1.4	3.7*	5		Y	39	17.1	40					1
PIPER P	298	1	ABBOT	6.0	5.2	6.8	5	Y	Y	14	13.0	20	6	2.7			2
PRONG P	9791	1	GREENVILLE	No data for 2010				Y	Y	63	7.5	27		5.5			2
ROACH P (FIRST)	436	1	FRENCHTOWN	6.5	5.6	7.3	5	Y	Y	20	6.2	21		2.5			2
SCHOODIC L	956	1	LAKE VIEW PLT	No data for 2010				Y	Y	11	3.9	19		1.7			2
SCHOODIC L	956	2	LAKE VIEW PLT	9.7*	9.2*	10.4*	3	Y		5	4.5	29		1.8			2
SCHOODIC L	956	4	LAKE VIEW PLT	10.3	10.0	10.6	3										2
SEBEC L	848	1	WILLIMANTIC	No data for 2010				Y	Y	20	8.8	29	3	1.8			2
SEBEC L	848	2	WILLIMANTIC	8.0	6.8	8.8	4	Y	Y	11	5.5	21	4				2
SILVER L	922	1	KATAHDIN IRN WK	No data for 2010				Y	Y	35	10.6	30		4.1			1
SIX PONDS #4	4192	1	T04 R09 WELS	2.0	2.0	2.0	1	Y	Y	27	20.0	27	17	3.9			1
SPENCER P	404	1	E MIDDLESEX CAN	No data for 2010				Y	Y	46	11.4	38	18	9.2			1
THIRD L	2704	1	T07 R10 WELS	No data for 2010				Y	Y	65	18.0	54	9	3.1			1
WASSATAQUOIK L	4212	1	T04 R10 WELS	13.5	13.5	13.5	1	Y		2	6.0	22	3	1.0			1
WHETSTONE P	296	1	BLANCHARD PLT	6.6	5.5	7.7	5	Y	Y	11	11.9	19	6	3.8			2
WILSON P (UPPER)	410	1	BOWDOIN COL GR	4.5	3.7	5.9	3	Y	Y	29	9.4	26	10	4.5			2
SAGADAHOC COUNTY																	
HOUGHTON P	5226	1	BATH	No data for 2010				Y	Y	31	0.7	29	16	3.8			2
NEQUASSET P	5222	1	WOOLWICH	4.1	4.1	4.1	1	Y	Y	28	5.1	40	13	4.1	Y	Y	2
SEWALL P	9943	1	ARROWSIC	1.8	0.8	2.7	6	Y	Y	75	5.8	154	38	35.7		Y	4a
SOMERSET COUNTY																	
CARRY P (EAST)	44	1	CARRYING PLC	5.1	4.7	5.4	4	Y	Y	24	21.0	19		4.6			1
CARRY P (WEST)	48	1	CARRYING PLC	6.1	5.4	6.7	5	Y	Y	11	11.0	19		1.9			1
DUNCAN P	2480	1	PRENTISS TWP	4.0	3.3	5.1	4	Y	Y	29	8.8	23		4.9			1
EAST P	5349	1	SMITHFIELD	2.4	0.5	4.4	6	Y	Y	15	8.4	38	16	10.4	Y	Y	4a
EMBDEN P	78	1	EMBDEN	9.9	8.0	10.8	5	Y	Y	10	8.6	29	4	1.9			2
HALL P	2566	1	PRENTISS TWP	4.6	4.0	5.7	3	Y	Y	45	9.3	23		2.3			1
HANCOCK P	82	1	EMBDEN	No data for 2010											Y	Y	2
INDIAN P	4090	1	INDIAN STREAM	7.0	6.9	7.0	4	Y	Y	23	8.3	29		1.7			1
INDIAN P (BIG)	5464	1	ST ALBANS	No data for 2010				Y	Y	20	31.8	79		3.0	Y		2
LAKE GEORGE	2608	1	CANAAN	7.7	7.7	7.7	1	Y	Y	17	10.6	34		3.7		Y	2
MARY PETUCHE P	2474	1	PRENTISS TWP	4.1	3.5	5.2	3	Y	Y	52	9.8	25		2.1			1
MOOSE P	2590	1	HARTLAND	5.5	4.0	6.9	5	Y	Y	31	13.3	46	8	4.3	Y	Y	2
MOOSE P	2590	2	HARTLAND	6.1	5.9	6.3	2	Y	Y	28	13.9	51		3.9	Y	Y	2
MOXIE P	4050	1	EAST MOXIE TWP	4.4	4.3	4.4	3	Y	Y	50	5.0	25		3.2			2
OAKS P	2614	1	SKOWHEGAN	6.3	5.1	7.8	6	Y	Y	18	13.0	54		3.2		Y	2
PARLIN P	2544	1	PARLIN POND TWP	3.9	3.3	4.3	6	Y	Y	26	9.1	31	8	5.0			1
PARLIN P	2544	2	PARLIN POND TWP	No data for 2010						42	9.0	39					1
PLEASANT P	224	1	CARATUNK	15.0	12.0	17.1	4	Y	Y	6	7.8	26	2	3.4			2
SIBLEY P	2612	1	CANAAN	No data for 2010				Y	Y	56	30.2	80		4.0			2
STARBIRD P	2598	1	HARTLAND	No data for 2010											Y	Y	2
WESSERUNSETT L	70	1	MADISON	6.5*	5.4	7.2*	5	Y	Y	19	17.3	60	8	3.3			2
WOOD P (BIG)	2698	1	ATTEAN TWP	4.3	4.2	4.3	1	Y	Y	45	8.5	29		2.3			2

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				2010 SECCHI TRANS				HIST DATA AVAIL		HISTORICAL AVERAGE					LAKE LISTS		
LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N	DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
WALDO COUNTY																	
CROSS P	4880	1	MORRILL	No data for 2010				Y	Y	39	8.3	43		3.9			2
HALFMOON P	5536	1	PROSPECT	8.2	8.2	8.2	1	Y		7	7.0			2.5			2
LAWRY P	4834	1	SEARSMONT	3.3	2.8	3.5	2	Y	Y	24	7.7	30	14	3.6			2
LITTLE P	7665	1	LIBERTY	4.1*	3.9*	4.2*	5	Y									2
MASON P (LOWER)	5526	1	BELFAST	2.6*	2.5*	2.6*	3										2
NORTON P	4850	1	LINCOLNVILLE	4.8	3.9	6.4	5	Y	Y	32	12.5	54	9	4.1	Y	Y	2
PITCHER P	4848	1	NORTHPORT	5.1	4.7	5.5	5	Y	Y	23	6.3	31		3.8			2
QUANTABACOOK L	4832	1	SEARSMONT	4.7	3.6	5.4	5	Y	Y	36	9.9	45		4.4			2
SAINT GEORGE L	9971	1	LIBERTY	No data for 2010				Y	Y	13	6.8	32		1.7	Y		2
SANBORN P	4870	1	BROOKS	No data for 2010				Y	Y	13	6.4	45		3.2			2
SANDY (FREEDOM) P	5174	1	FREEDOM	3.7*	3.2	4.1*	5	Y	Y	37	15.0	63	19	7.5		Y	2
SHEEPSCOT P	4896	1	PALERMO	6.5	6.5	6.5	1	Y	Y	39	8.8	38		2.6			2
STEVENS P	4886	1	LIBERTY	7.0	5.7	7.9	6	Y	Y	15	6.6	38		5.5			2
SWAN L	5492	1	SWANVILLE	7.9	7.2	9.5	5	Y	Y	9	8.7	36	5	2.2	Y		2
TODDY P	5490	1	SWANVILLE	5.9	4.3	7.3	6	Y	Y	17	4.8	23		3.6			2
UNITY P	5172	1	UNITY	1.9	0.9	3.5	5	Y	Y	36	20.9	65	22	16.4	Y	Y	4a
WASHINGTON COUNTY																	
BEDDINGTON L	4524	1	BEDDINGTON					Y	Y	44	9.5	39	10	2.8			2
BIG L	1288	1	GRAND LAKE STRE					Y	Y	35	6.0			2.4			2
BIG L	1288	2	GRAND LAKE STRE	4.5	3.6	5.3	5	Y	Y	34	6.2	23	3	2.2			2
BOG L	1258	1	NORTHFIELD	6.3	5.9	6.8	3	Y	Y	12	7.4	22	6	3.8			2
CATHANCE L	9661	1	NO 14 PLT	10.1	9.3	10.6	5	Y	Y	12	5.1	29	5	2.5			2
CRAWFORD L	1302	1	CRAWFORD	No data for 2010				Y	Y	58	7.3	37	16	3.8			2
FULTON L	1260	1	NORTHFIELD	No data for 2010				Y	Y	14	5.8	16		1.6			2
GARDNER L	1358	1	EAST MACHIAS	4.2	4.1	4.5	4	Y	Y	35	6.2	32	5	4.7			2
GRAND FALLS FLOWAGE	7437	1	INDIAN TWP	3.9	3.1	5.1	5	Y	Y	48	6.8	24		3.1			2
GRAND L (WEST)	1150	1	T05 ND BPP	9.1	9.1	9.2	1	Y	Y	11	5.5	25		2.0			2
INDIAN L	1362	1	WHITING	5.7*	5.5*	5.8*	4	Y	Y	15	8.9	60	8	4.0			2
LEWY L	1284	1	INDIAN TWP	4.6	3.8	5.1	5	Y	Y	38	6.2	24	6	2.8			2
LONG L	1264	1	T19 ED BPP	No data for 2010				Y	Y	18	4.3	23		3.3			2
LONG L & THE BASIN	1286	1	INDIAN TWP	No data for 2010				Y	Y	17	6.7	21		2.9			2
LONG L & THE BASIN	1286	2	INDIAN TWP	4.9	3.8	5.5	5	Y	Y	42	6.9	25	18	2.5			2
MEDDYBEMPS L	177	2	MEDDYBEMPS	6.0	5.5	6.5	4	Y	Y	29	5.6	36	7	3.5			2
MUSQUASH L (EAST)	1088	1	TOPSFIELD	No data for 2010				Y	Y	28	5.0	24		3.1			2
MUSQUASH L (WEST)	1096	1	T06 R01 NBPP	No data for 2010				Y	Y	9	4.6	22		2.2			2
NASHS L	1418	1	CALAIS	7.4	6.3	8.5	6	Y	Y	13	7.8	28	4	2.0			2
NASHS L	1418	2	CALAIS	6.5	6.5	6.5	1	Y						2.1			2
NASHS L	1418	3	CALAIS	7.4	5.5	8.5	5										2
PLEASANT L	1100	1	T06 R01 NBPP	No data for 2010				Y	Y	15	7.5	26		8.2			2
PLEASANT RIVER L	1210	1	BEDDINGTON	5.9	5.4	6.5	3	Y	Y	32	3.6	23	7	2.1			2
POCAMOONSHINE L	1290	1	ALEXANDER	4.8	4.2	5.4	5	Y	Y	34	9.7	33	6	3.3			2
POCUMCUS L	1110	1	T06 ND BPP	7.8	6.8	9.0	5	Y	Y	18	6.8	23		2.8			1
PRETTY P	1214	1	T24 MD BPP	2.9*	2.8	2.9*	2	Y		18			38	2.6			1
SCHOODIC L	1230	1	CHERRYFIELD	No data for 2010				Y	Y	8	6.7	28		4.5			2
SECOND L	1374	1	MARION TWP	2.6	2.2	3.1	4										2
SHAW L	7407	1	T06 R01 NBPP	4.7	4.3	5.0	5	Y	Y	35	7.5	22		3.5			2
SPEDNIK L	121	1	VANCEBORO	No data for 2010				Y	Y	21	11.0	37		3.6			2
SPEDNIK L	121	2	VANCEBORO	6.5	5.6	7.0	4	Y									2
SPEDNIK L	121	5	VANCEBORO	No data for 2010													2
SPEDNIK L	121	7	VANCEBORO	5.4	4.6	6.0	4	Y	Y	30	6.0	24		3.4			2
SYSLADOBSIS L (LO)	4730	1	T05 ND BPP	7.6	5.6	8.9	5	Y	Y	19	7.8	24		2.3			2

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				2010 SECCHI TRANS					HIST DATA AVAIL		HISTORICAL AVERAGE					LAKE LISTS		
LAKE	MIDAS	S	TOWN	AVE (m)	MIN (m)	MAX (m)	N		DO	pH	COLOR (spu)	ALK (mg/L)	COND (µS/cm)	TP (ppb)	CHL (ppb)	PW	LAR	LIST CAT
YOK COUNTY																		
BALCH & STUMP PONDS	3898	1	NEWFIELD	6.6	5.3	7.2	5		Y	Y	18	9.9	47	7	4.0			2
BAUNEAG BEG L	3992	1	NORTH BERWICK	3.4	2.6	4.3	5		Y	Y	62	10.2	82	12	5.8	Y	Y	2
BUNGANUT P	3980	1	LYMAN	No data for 2010					Y	Y	24	9.3	30		5.7	Y	Y	2
COX P	9875	1	SOUTH BERWICK	3.0	2.3	3.8	6		Y	Y	67	16.1	70	24	7.3			2
ELL (L) P	119	1	WELLS	3.6	2.9	4.4	5		Y	Y	31	4.3	52	15	12.3		Y	2
ESTES L	7	1	SANFORD	3.1	2.6	3.6	5		Y	Y	65	14.2	95	19	17.3	Y	Y	2
ESTES L	7	2	SANFORD	3.2	2.8	3.5	5		Y	Y	84	11.7	62	8	15.5	Y	Y	2
GRANNY KENT P	3908	1	SHAPLEIGH	No data for 2010					Y	Y	8	8.8	33		6.1		Y	2
GREAT EAST L	3922	1	ACTON	10.6	9.4	12.1	5		Y	Y	9	7.7	45	8	1.8			2
HOLLAND (SOKOSIS) P	3942	1	LIMERICK	3.8	3.2	4.9	3		Y	Y	35	14.6	55		4.0	Y	Y	2
HORN P	3924	1	ACTON	6.7*	6.1	7.2	6		Y	Y	12	8.9	65	4	3.0			2
HORNE (PEQUAWKET) P	3408	1	LIMINGTON	6.9	5.9	7.8	6		Y	Y	10	7.8	34	5	3.2	Y	Y	2
KENNEBUNK P	3998	1	LYMAN	6.4	6.0	6.8	5		Y	Y	7	6.7	59	5	2.6	Y	Y	2
KNIGHT P	3884	1	SOUTH BERWICK	4.1	4.1	4.1	1		Y	Y	32	14.8	68		5.5		Y	2
LEIGH'S MILL P	117	1	SOUTH BERWICK	No data for 2010					Y	Y	73	15.4	94	36	11.1			2
LONG P	9701	1	PARSONSFIELD	6.1	3.7	7.3	3		Y	Y	8	10.5	36		3.7			2
LOON P	9695	1	ACTON	No data for 2010					Y	Y	22	11.2	74		2.8			2
MOOSE P	3926	1	ACTON	No data for 2010					Y	Y	12	12.6	58	6	3.7			2
MOUSAM L	3838	1	ACTON	6.9	6.6	7.3	3		Y	Y	14	11.5	54	5	3.9	Y	Y	2
MOUSAM L	3838	2	ACTON	6.9	6.7	7.1	2		Y	Y	20	14.0	50		4.0	Y	Y	2
MOUSAM L	3838	3	ACTON	6.8	6.4	7.5	3		Y	Y	25	14.0	50		4.5	Y	Y	2
MOUSAM L	3838	4	ACTON	6.8	6.5	7.2	3		Y	Y	25	15.0	51		3.4	Y	Y	2
MOUSAM L	3838	5	ACTON	6.7	6.6	6.7	2		Y	Y	21	12.1	59	6	4.0	Y	Y	2
OSSIPEE FLOWAGE(LIT)	9715	1	WATERBORO	3.4	3.1	3.5	2		Y	Y	61	9.8	53		4.6			2
OSSIPEE FLOWAGE(LIT)	9715	2	WATERBORO	No data for 2010														2
OSSIPEE L (LITTLE)	5024	1	WATERBORO	8.2	6.2	9.9	6		Y	Y	12	10.3	53	5	2.0	Y	Y	2
PARKER (BARKER) P	5036	1	LYMAN	No data for 2010					Y	Y	7	6.5	21		4.7		Y	2
POVERTY P (BIG)	157	1	NEWFIELD	4.6*	4.5*	4.9*	4		Y	Y	20	7.2	39	6	2.9		Y	2
SAND P	3862	1	SANFORD	4.6*	4.5*	4.7*	5		Y	Y	14	5.5	32		4.7			2
SQUARE P	3916	1	ACTON	6.9	6.6	7.8	3		Y	Y	11	10.5	40	8	2.7	Y		2
SQUARE P	3916	2	ACTON	7.0	5.7	7.9	3		Y	Y	15	14.1	39		2.9	Y		2
SQUARE P	3916	3	ACTON	6.7	4.9	7.8	3		Y	Y	12	21.5	36			Y		2
TURNER P (MIRROR L)	3894	1	NEWFIELD	3.6*	2.9*	4.3*	6		Y	Y	16	13.9	94	8	3.1			2
WEST P	3186	1	PARSONSFIELD	5.8	4.6	6.8	3		Y	Y	9	9.1	77	9	2.4			2
WILSON L	3920	1	ACTON	6.1	5.4	7.0	4		Y	Y	17	9.2	49	7	3.2	Y		2

* DISK VISIBLE ON LAKE BOTTOM FOR SOME READINGS

Range of 2010 Average Secchi Disk Transparency for VLMP Lakes

The following is a listing of the mean (average) annual Secchi Disk Transparency values in 2010 for VLMP lakes. Readings are arranged from the lowest to the highest values.

Key to Appendix C column headings

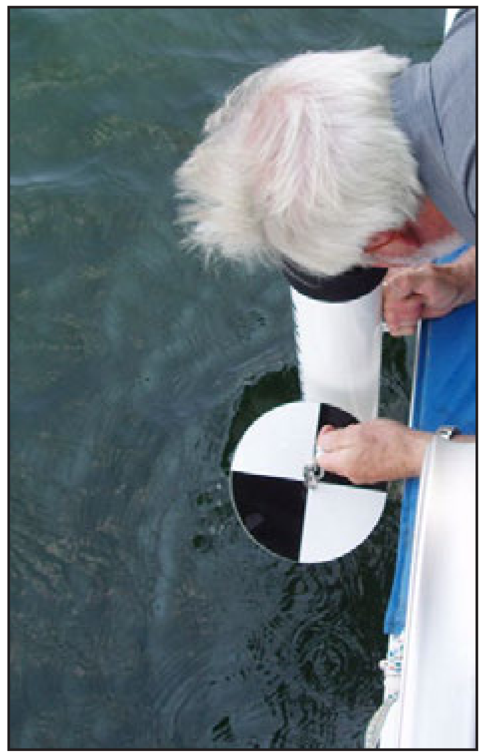
Ave Annual average Secchi Disk Transparency (SDT). A * indicates that the Secchi Disk was visible at the bottom of the lake on one or more readings.

N Number of months a volunteer collected SDT readings over the 2010 season. The greater the number of months that readings were taken (N) for the year, the more likely it is that the average for the year is representative of conditions in the lake during the entire annual monitoring season.

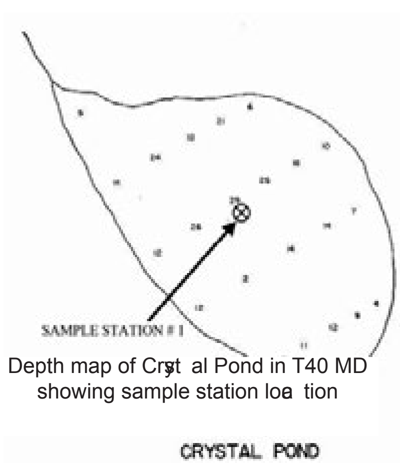
MIDAS Unique four digit identification code for each Maine lake

STA Refers to the sample station location on the lake. Station 1 generally refers to the deepest location in the lake basin.

COUNTY & TOWN
Note some lakes are in multiple towns or counties.



A volunteer monitor takes a Secchi Disk Transparency reading.



Depth map of Crystal Pond in T40 MD showing sample station location

AVE	N	LAKE	MIDAS	STA	COUNTY	TOWN
0.8	2	LAKE ANDREWS	3803	1	ANDROSCOGGIN	LEWISTON
1.1	5	FRENCH HILL P	4593	1	HANCOCK	BAR HARBOR
1.3	3	THREEMILE P	5416	1	KENNEBEC	CHINA
1.8	6	SEWALL P	9943	1	SAGADAHOC	ARROWSIC
1.9	3	CLARK COVE P	35	1	LINCOLN	SOUTH BRISTOL
1.9	5	JERRY P	2190	1	PENOBSCOT	T05 R07 WELS
1.9	1	TOGUS P	9931	1	KENNEBEC	AUGUSTA
1.9	5	UNITY P	5172	1	WALDO	UNITY
2.0	1	SIX PONDS #4	4192	1	PISCATAQUIS	T04 R09 WELS
2.1*	1	BEAVER P	3124	1	OXFORD	DENMARK
2.2	5	HAMMOND P	2294	1	PENOBSCOT	HAMPDEN
2.2	6	HERMON P	2286	1	PENOBSCOT	HERMON
2.4	6	EAST P	5349	1	SOMERSET	SMITHFIELD
2.4	4	KEZAR P	9709	1	OXFORD	FRYEBURG
2.4	5	SABATTUS P	3796	1	ANDROSCOGGIN	GREENE
2.4	5	SAPONAC P	4722	1	PENOBSCOT	GRAND FALLS TWP
2.4*	1	SHED P	5300	1	KENNEBEC	MANCHESTER
2.5*	5	ECHO L	1776	1	AROOSTOOK	PRESQUE ISLE
2.5	7	PLEASANT (MUD) P	5254	1	KENNEBEC	GARDINER
2.6*	3	MASON P (LOWER)	5526	1	WALDO	BELFAST
2.6	4	SECOND L	1374	1	WASHINGTON	MARION TWP
2.7*	5	MITCHELL P	9757	1	PISCATAQUIS	T07 R09 WELS
2.8	1	PLEASANT P	3252	1	OXFORD	FRYEBURG
2.8	5	SEBASTICOOK L	2264	1	PENOBSCOT	NEWPORT
2.9	5	CLARY L (PLEASANT P)	5382	1	LINCOLN	JEFFERSON
2.9	1	HOLT P	3370	1	CUMBERLAND	BRIDGTON
2.9*	2	PRETTY P	1214	1	WASHINGTON	T24 MD BPP
2.9*	3	QUIMBY P	3526	1	FRANKLIN	RANGELEY
3.0	6	COX P	9875	1	YORK	SOUTH BERWICK
3.0	5	DUCKPUDDLE P	5702	1	LINCOLN	NOBLEBORO
3.0	5	MADAWASKA L	1802	1	AROOSTOOK	T16 R04 WELS
3.1	5	ESTES L	7	1	YORK	SANFORD
3.1	5	MADAWASKA L	1802	2	AROOSTOOK	T16 R04 WELS
3.1*	6	PARADISE (MUDDY) P	5708	1	LINCOLN	DAMARISCOTTA
3.1	5	TOGUS P (LOWER)	5430	1	KENNEBEC	CHELSEA
3.1	5	WEBBER P	5408	1	KENNEBEC	VASSALBORO
3.2	5	ESTES L	7	2	YORK	SANFORD
3.2*	5	NORTH P	3500	1	OXFORD	NORWAY
3.3	4	BOYD P	5364	1	LINCOLN	BRISTOL
3.3	2	LAWRY P	4834	1	WALDO	SEARSMONT
3.3	5	PORTAGE L	1602	1	AROOSTOOK	PORTAGE LAKE
3.3	6	WEST HARBOR P	5372	1	LINCOLN	BOOTHBAY HARBOR
3.4	5	BAUNEAG BEG L	3992	1	YORK	NORTH BERWICK
3.4	6	COBBOSSEECONTEE (LT)	8065	1	KENNEBEC	WINTHROP
3.4	6	NORTH & LITTLE PONDS	5344	2	KENNEBEC	ROME
3.4	2	OSSIPEE FLOWAGE(LIT)	9715	1	YORK	WATERBORO
3.5	5	GREAT P	4378	1	HANCOCK	FRANKLIN
3.5	6	NORTH & LITTLE PONDS	5344	1	KENNEBEC	ROME
3.5	5	PUSHAW L	80	1	PENOBSCOT	OLD TOWN
3.5	5	PUSHAW L	80	2	PENOBSCOT	OLD TOWN
3.6	5	CHAIN L (MIDDLE)	4734	1	HANCOCK	T04 ND
3.6	5	ELL (L) P	119	1	YORK	WELLS
3.6	5	KILLMAN P	4738	1	HANCOCK	T04 ND
3.6	2	MATTAWAMKEAG L	1686	1	AROOSTOOK	ISLAND FALLS
3.6	1	MOOSE P	3438	1	OXFORD	OTISFIELD

* DISK VISIBLE ON LAKE BOTTOM FOR SOME READINGS

AVE	N	LAKE	MIDAS	STA	COUNTY	TOWN
3.6*	5	SANDY BOTTOM P	3746	1	ANDROSCOGGIN	TURNER
3.6	5	TOOTHAKER P	2336	1	FRANKLIN	PHILLIPS
3.6*	6	TURNER P (MIRROR L)	3894	1	YORK	NEWFIELD
3.7	5	ABRAMS P	4444	1	HANCOCK	EASTBROOK
3.7*	1	EDDINGTON (DAVIS) P	4276	1	PENOBSCOT	EDDINGTON
3.7*	5	JAYBIRD P	3178	1	OXFORD	HIRAM
3.7*	3	KEZAR L	97	3	OXFORD	LOVELL
3.7*	5	SANDY (FREEDOM) P	5174	1	WALDO	FREEDOM
3.8	5	CHAIN L (UPPER)	4736	1	HANCOCK	T04 ND
3.8	6	CHINA L	5448	1	KENNEBEC	CHINA
3.8	5	CHINA L	5448	3	KENNEBEC	CHINA
3.8	3	HOLLAND (SOKOSIS) P	3942	1	YORK	LIMERICK
3.8	5	PEMAQUID P	5704	2	LINCOLN	NOBLEBORO
3.9	6	ANNABESSACOOK L	9961	2	KENNEBEC	MONMOUTH
3.9*	2	BEAR P (BIG)	3624	2	OXFORD	HARTFORD
3.9	5	CHINA L	5448	2	KENNEBEC	CHINA
3.9	5	CHURCHILL L	2856	1	PISCATAQUIS	T09 R12 WELS
3.9	2	COCHRANE L	1744	1	AROOSTOOK	NEW LIMERICK
3.9	5	GRAND FALLS FLOWAGE	7437	1	WASHINGTON	INDIAN TWP
3.9	2	HALEY P	3534	1	FRANKLIN	DALLAS PLT
3.9	6	JIMMY P	5244	1	KENNEBEC	LITCHFIELD
3.9	3	LOVEWELL P	3254	1	OXFORD	FRYEBURG
3.9	3	MUD (5 KEZARS) P	3422	1	OXFORD	WATERFORD
3.9*	5	NORTH L	1063	1	AROOSTOOK	ORIENT
3.9	6	PARLIN P	2544	1	SOMERSET	PARLIN POND TWP
3.9	5	SONGO P	3262	1	OXFORD	ALBANY TWP
4.0	6	ANNABESSACOOK L	9961	1	KENNEBEC	MONMOUTH
4.0	4	DUNCAN P	2480	1	SOMERSET	PRENTISS TWP
4.0*	4	MUD P	3756	1	OXFORD	OXFORD
4.0	5	NORCROSS P	5214	1	FRANKLIN	CHESTERVILLE
4.0	5	NORTH L	1063	2	AROOSTOOK	ORIENT
4.0	1	PAPOOSE P	3414	1	OXFORD	WATERFORD
4.1*	3	FARRINGTON P	3200	1	OXFORD	LOVELL
4.1*	6	HORSESHOE P	5252	1	KENNEBEC	WEST GARDINER
4.1	1	KNIGHT P	3884	1	YORK	SOUTH BERWICK
4.1*	5	LITTLE P	7665	1	WALDO	LIBERTY
4.1	3	MARY PETUCHE P	2474	1	SOMERSET	PRENTISS TWP
4.1	1	NEQUASSET P	5222	1	SAGADAHOC	WOOLWICH
4.1	1	PARKER P (MIRROR L)	5216	1	FRANKLIN	JAY
4.1	3	PEMAQUID P	5704	1	LINCOLN	NOBLEBORO
4.1	3	SOMES P	4614	1	HANCOCK	MOUNT DESERT
4.1	5	WILSON P (LITTLE)	3784	1	ANDROSCOGGIN	TURNER
4.2	4	GARDNER L	1358	1	WASHINGTON	EAST MACHIAS
4.3	5	ELLIS (ROXBURY) P	3504	1	OXFORD	BYRON
4.3	2	MATTAWAMKEAG L	1686	4	AROOSTOOK	ISLAND FALLS
4.3*	3	NEHUMKEAG P	5378	1	KENNEBEC	PITTSTON
4.3	3	NO NAME P	3802	1	ANDROSCOGGIN	LEWISTON
4.3	1	WOOD P (BIG)	2698	1	SOMERSET	ATTEAN TWP
4.4	6	COBBOSSEECONTEE L	5236	1	KENNEBEC	WINTHROP
4.4	5	ESCUTASIS L	2250	1	PENOBSCOT	BURLINGTON
4.4	4	KNICKERBOCKER P	5368	1	LINCOLN	BOOTHBAY
4.4*	6	LOCKE P	5202	1	FRANKLIN	CHESTERVILLE
4.4	3	MOXIE P	4050	1	SOMERSET	EAST MOXIE TWP
4.4	1	PERLEY P	3140	1	OXFORD	DENMARK
4.5	4	ANDROSCOGGIN L	3836	2	ANDROSCOGGIN	LEEDS
4.5	5	AZISCOHOS L	3290	1	OXFORD	LINCOLN PLT
4.5	5	BIG L	1288	2	WASHINGTON	GRAND LAKE STRE

* DISK VISIBLE ON LAKE BOTTOM FOR SOME READINGS

AVE	N	LAKE	MIDAS	STA	COUNTY	TOWN
4.5	4	CHEMO P	4278	1	PENOBSCOT	BRADLEY
4.5	6	COBBOSSEECONTEE L	5236	2	KENNEBEC	WINTHROP
4.5	5	CRYSTAL (BEALS) P	3626	2	ANDROSCOGGIN	TURNER
4.5	1	LARD P	3798	1	ANDROSCOGGIN	TURNER
4.5*	5	PUSHAW P (LITTLE)	2156	1	PENOBSCOT	HUDSON
4.5	6	WILSON P	3832	1	KENNEBEC	WAYNE
4.5	3	WILSON P (UPPER)	410	1	PISCATAQUIS	BOWDOIN COL GR
4.6	4	ANDROSCOGGIN L	3836	1	ANDROSCOGGIN	LEEDS
4.6	3	ANDROSCOGGIN L	3836	3	ANDROSCOGGIN	LEEDS
4.6	2	CRYSTAL (BEALS) P	3626	1	ANDROSCOGGIN	TURNER
4.6	5	EAGLE L (BIG)	2858	1	PISCATAQUIS	EAGLE LAKE TWP
4.6	3	HALL P	2566	1	SOMERSET	PRENTISS TWP
4.6	1	JEWETT (5 KEZARS) P	3198	1	OXFORD	WATERFORD
4.6	5	LEWY L	1284	1	WASHINGTON	INDIAN TWP
4.6	1	OTTER P	3458	1	CUMBERLAND	BRIDGTON
4.6*	4	POVERTY P (BIG)	157	1	YORK	NEWFIELD
4.6*	5	SAND P	3862	1	YORK	SANFORD
4.6	6	WITCH HOLE P	4458	1	HANCOCK	BAR HARBOR
4.7	1	FLANDERS P	4388	1	HANCOCK	SULLIVAN
4.7	6	MARANACOOK L	5312	2	KENNEBEC	WINTHROP
4.7	1	NICATOUS L	4766	1	HANCOCK	T40 MD
4.7	3	PATTEE P	5458	1	KENNEBEC	WINSLOW
4.7	5	QUANTABACOOK L	4832	1	WALDO	SEARSMONT
4.7	5	SHAW L	7407	1	WASHINGTON	T06 R01 NBPP
4.7	6	TRIPP P	3758	1	ANDROSCOGGIN	POLAND
4.8	5	BISCAY P	5710	1	LINCOLN	DAMARISCOTTA
4.8	4	CENTER P	760	1	PISCATAQUIS	SANGERVILLE
4.8	5	NORTON P	4850	1	WALDO	LINCOLNVILLE
4.8	6	PEASE P	5198	1	FRANKLIN	WILTON
4.8*	6	PLEASANT (STETSON) L	2270	1	PENOBSCOT	STETSON
4.8	5	POCAMOONSHINE L	1290	1	WASHINGTON	ALEXANDER
4.8	1	SEBAGO L (LITTLE)	3714	3	CUMBERLAND	WINDHAM
4.8	2	WHITNEY P	3772	1	OXFORD	OXFORD
4.9*	6	BUKER P	5242	1	KENNEBEC	LITCHFIELD
4.9	5	LONG L & THE BASIN	1286	2	WASHINGTON	INDIAN TWP
4.9	1	LONG P	3084	1	OXFORD	DENMARK
4.9	5	MOOSELOOKMEGUNTIC L	3302	2	FRANKLIN	RANGELEY
4.9	6	TAYLOR P	3750	1	ANDROSCOGGIN	AUBURN
4.9	3	TODDY P	4340	1	HANCOCK	SURRY
5.0	6	HIGHLAND (DUCK) L	3734	1	CUMBERLAND	FALMOUTH
5.1	6	ANASAGUNTICOOK L	3604	1	OXFORD	HARTFORD
5.1	6	BERRY P	3828	1	KENNEBEC	WINTHROP
5.1	4	BRYANT P	3464	1	OXFORD	WOODSTOCK
5.1	4	BRYANT P	3464	2	OXFORD	WOODSTOCK
5.1	4	CARRY P (EAST)	44	1	SOMERSET	CARRYING PLC TW
5.1	5	DAMARISCOTTA L	5400	2	LINCOLN	JEFFERSON
5.1	6	DEXTER P	3830	1	KENNEBEC	WINTHROP
5.1	2	DODGE P	3528	1	FRANKLIN	RANGELEY
5.1	5	HOWARD P	3520	1	OXFORD	HANOVER
5.1*	6	LOON (SPEAR) P	3806	1	ANDROSCOGGIN	SABATTUS
5.1	5	MILL PRIVILEGE L	4704	1	PENOBSCOT	T05 R01 NBPP
5.1	3	PEMADUMCOOK CHAIN L	982	6	PENOBSCOT	T4 INDIAN PURCH
5.1	5	PITCHER P	4848	1	WALDO	NORTHPORT
5.2	7	COCHNEWAGON P	3814	1	KENNEBEC	MONMOUTH
5.2	6	COLD RAIN P	3376	1	CUMBERLAND	NAPLES
5.2	2	HARLOW P	756	1	PISCATAQUIS	PARKMAN
5.2*	5	PEQUAWKET L	401	1	OXFORD	BROWNFIELD

* DISK VISIBLE ON LAKE BOTTOM FOR SOME READINGS

AVE	N	LAKE	MIDAS	STA	COUNTY	TOWN
5.2*	6	PURGATORY P (LITTLE)	5250	1	KENNEBEC	LITCHFIELD
5.2	5	WOOD P	3456	1	CUMBERLAND	BRIDGTON
5.3	2	ADAMS P	5366	1	LINCOLN	BOOTHBAY
5.3	2	ALAMOOSOOK L	4336	1	HANCOCK	ORLAND
5.3	4	BEAR P (BIG)	3624	1	OXFORD	HARTFORD
5.3	5	BEAVER MOUNTAIN L	3562	1	FRANKLIN	SANDY RIVER PLT
5.3*	1	PICKEREL P	9687	1	OXFORD	DENMARK
5.3	5	SALMON L (ELLIS P)	5352	1	KENNEBEC	BELGRADE
5.4	5	DAMARISCOTTA L	5400	3	LINCOLN	JEFFERSON
5.4	4	FLYING P	5182	1	KENNEBEC	VIENNA
5.4	3	LONG L	1682	1	AROOSTOOK	T17 R04 WELS
5.4	1	MOOSE HILL P	5790	1	ANDROSCOGGIN	LIVERMORE FALLS
5.4	4	SPEDNIK L	121	7	WASHINGTON	VANCEBORO
5.5	2	CRAWFORD P	4810	2	KNOX	UNION
5.5	4	MCCURDY P	5712	1	LINCOLN	BREMEN
5.5	5	MOOSE P	2590	1	SOMERSET	HARTLAND
5.5*	3	MOOSE P	3134	4	OXFORD	DENMARK
5.5	6	NOTCHED P	3706	1	CUMBERLAND	RAYMOND
5.5*	5	PARKER P	3388	1	CUMBERLAND	CASCO
5.5	5	SCRAGGLEY L	9649	1	PENOBSCOT	T05 R01 NBPP
5.5	5	STEARNS P	3234	1	OXFORD	SWEDEN
5.6	5	CUSHMAN P	3224	1	OXFORD	LOVELL
5.6	4	HOLBROOK P	4274	1	PENOBSCOT	HOLDEN
5.6	4	KENNEBAGO L (BIG)	2374	2	FRANKLIN	DAVIS TWP
5.6	3	SQUARE L	1672	1	AROOSTOOK	T16 R05 WELS
5.7	6	ALLEN P	3788	1	ANDROSCOGGIN	GREENE
5.7	2	BARKER P	3136	1	OXFORD	HIRAM
5.7	5	CRYSTAL(ANONYMOUS) P	3452	1	CUMBERLAND	HARRISON
5.7	5	DAMARISCOTTA L	5400	1	LINCOLN	JEFFERSON
5.7	5	FOREST L	3712	1	CUMBERLAND	WINDHAM
5.7*	4	INDIAN L	1362	1	WASHINGTON	WHITING
5.7	3	MANHANOCK P	758	1	PISCATAQUIS	PARKMAN
5.7	6	PATTEN P (LOWER)	4344	1	HANCOCK	SURRY
5.7	5	PENNESSEEWASSEE L	3434	1	OXFORD	NORWAY
5.7	5	SPECTACLE P	5410	1	KENNEBEC	VASSALBORO
5.7	2	SWETTS (SWEETS) P	5544	1	PENOBSCOT	ORRINGTON
5.7	5	WILSON P	3682	1	FRANKLIN	WILTON
5.8*	6	KIMBALL P	5330	1	KENNEBEC	VIENNA
5.8	5	PENNESSEEWASSEE (LT)	367	1	OXFORD	NORWAY
5.8	3	POND IN THE RIVER	3328	1	OXFORD	TOWNSHIP C
5.8*	5	SOUTH & ROUND PONDS	9683	2	OXFORD	GREENWOOD
5.8	3	WEST P	3186	1	YORK	PARSONSFIELD
5.9	3	BREWER L	4284	1	PENOBSCOT	ORRINGTON
5.9*	5	HALLS P	3780	1	OXFORD	PARIS
5.9	4	HILLS P	3686	1	FRANKLIN	PERKINS TWP
5.9	1	LOBSTER L	2948	1	PISCATAQUIS	LOBSTER TWP
5.9	4	LONG P	5272	1	KENNEBEC	BELGRADE
5.9	4	LONG P	5272	2	KENNEBEC	BELGRADE
5.9	1	MOOSELOOKMEGUNTIC L	3302	4	FRANKLIN	RANGELEY
5.9	3	PLEASANT RIVER L	1210	1	WASHINGTON	BEDDINGTON
5.9*	5	POCASSET L	3824	1	KENNEBEC	WAYNE
5.9	3	RAYMOND P	3690	1	CUMBERLAND	RAYMOND
5.9	6	TODDY P	5490	1	WALDO	SWANVILLE
5.9	3	WEBB (WELD) L	3672	1	FRANKLIN	WELD
6.0	6	CLEMONS P (BIG)	3174	1	OXFORD	HIRAM
6.0	5	KEOKA L	3416	1	OXFORD	WATERFORD
6.0	6	KEOKA L	3416	2	OXFORD	WATERFORD

* DISK VISIBLE ON LAKE BOTTOM FOR SOME READINGS

AVE	N	LAKE	MIDAS	STA	COUNTY	TOWN
6.0*	4	LOVEJOY P	5664	1	KENNEBEC	FAYETTE
6.0	4	MEDDYBEMPS L	177	2	WASHINGTON	MEDDYBEMPS
6.0	6	MIDDLE (5 KEZARS) P	3201	1	OXFORD	WATERFORD
6.0	5	PIPER P	298	1	PISCATAQUIS	ABBOT
6.0	6	TORSEY (GREELEY) P	5307	1	KENNEBEC	MOUNT VERNON
6.1	5	BEAR P	3420	1	OXFORD	WATERFORD
6.1	5	CARRY P (WEST)	48	1	SOMERSET	CARRYING PLC TW
6.1	3	LONG P	9701	1	YORK	PARSONSFIELD
6.1	2	MOOSE P	2590	2	SOMERSET	HARTLAND
6.1	5	PISTOL L (SIDE)	4752	1	HANCOCK	T03 ND
6.1*	1	RANGELEY L	3300	3	FRANKLIN	RANGELEY
6.1	4	WILSON L	3920	1	YORK	ACTON
6.2	3	CRAWFORD P	4810	1	KNOX	UNION
6.2	6	CRESCENT L	3696	2	CUMBERLAND	RAYMOND
6.2	2	GRAND L (EAST)	1070	5	AROOSTOOK	WESTON
6.2	2	MOOSELOOKMEGUNTIC L	3302	1	FRANKLIN	RANGELEY
6.2	3	NORTH P	3460	1	OXFORD	WOODSTOCK
6.2	5	SAND (WALDEN) P	3130	1	OXFORD	DENMARK
6.2	5	WASHINGTON P	4894	1	KNOX	WASHINGTON
6.3	1	BEAVER P	5582	1	CUMBERLAND	BRIDGTON
6.3	3	BOG L	1258	1	WASHINGTON	NORTHFIELD
6.3	6	CRESCENT L	3696	1	CUMBERLAND	RAYMOND
6.3	6	JAMIES (JIMMIE) P	5302	1	KENNEBEC	MANCHESTER
6.3	6	MARANACOOK L	5312	1	KENNEBEC	WINTHROP
6.3	6	MATTAKEUNK L	2242	1	PENOBSCOT	LEE
6.3	5	MEGUNTICOOK L	4852	2	KNOX	CAMDEN
6.3	1	MOOSELOOKMEGUNTIC L	3302	3	FRANKLIN	RANGELEY
6.3	6	OAKS P	2614	1	SOMERSET	SKOWHEGAN
6.3	5	PLEASANT P	3822	1	ANDROSCOGGIN	TURNER
6.3	6	SEAL COVE P	4630	1	HANCOCK	TREMONT
6.4	3	BRETTUN'S P	3608	1	ANDROSCOGGIN	LIVERMORE
6.4	4	CARLTON P	5310	1	KENNEBEC	WINTHROP
6.4	6	COLD STREAM P(UPPER)	2232	2	PENOBSCOT	LINCOLN
6.4	5	GRANGER P	3126	1	OXFORD	DENMARK
6.4	5	GREAT P	5274	1	KENNEBEC	BELGRADE
6.4	5	GREEN P	3768	1	OXFORD	OXFORD
6.4	6	HADLOCK P (UPPER)	4612	1	HANCOCK	MOUNT DESERT
6.4	5	ISLAND P	3448	1	OXFORD	WATERFORD
6.4	5	KENNEBUNK P	3998	1	YORK	LYMAN
6.4	5	MEGUNTICOOK L	4852	1	KNOX	CAMDEN
6.4	5	MINNEHONK L	5812	1	KENNEBEC	MOUNT VERNON
6.4	5	RANGE P (UPPER)	3688	1	ANDROSCOGGIN	POLAND
6.5	6	KEYS P	3232	1	OXFORD	SWEDEN
6.5	5	LONG (MCWAIN) P	3418	1	OXFORD	WATERFORD
6.5	1	NASHS L	1418	2	WASHINGTON	CALAIS
6.5	4	PUFFERS P (ECHO L)	744	1	PENOBSCOT	DEXTER
6.5	5	ROACH P (FIRST)	436	1	PISCATAQUIS	FRENCHTOWN TWP
6.5*	3	SATURDAY P	3440	1	OXFORD	OTISFIELD
6.5	1	SHEEPSCOT P	4896	1	WALDO	PALERMO
6.5	4	SPEDNIK L	121	2	WASHINGTON	VANCEBORO
6.5*	5	WESSERUNSETT L	70	1	SOMERSET	MADISON
6.6	5	BALCH & STUMP PONDS	3898	1	YORK	NEWFIELD
6.6	6	THOMAS P	3392	1	CUMBERLAND	CASCO
6.6*	6	WATSON P	5338	1	KENNEBEC	ROME
6.6	5	WHETSTONE P	296	1	PISCATAQUIS	BLANCHARD PLT
6.7	5	ADAMS P	3396	1	CUMBERLAND	BRIDGTON
6.7*	6	HORN P	3924	1	YORK	ACTON

* DISK VISIBLE ON LAKE BOTTOM FOR SOME READINGS

AVE	N	LAKE	MIDAS	STA	COUNTY	TOWN
6.7	1	LERMOND P	4800	1	KNOX	HOPE
6.7	6	LONG L	5780	1	CUMBERLAND	BRIDGTON
6.7	2	MOUSAM L	3838	5	YORK	ACTON
6.7	3	SQUARE P	3916	3	YORK	ACTON
6.7	6	TWITCHELL P	3478	1	OXFORD	GREENWOOD
6.7	6	WOODBURY P	5240	1	KENNEBEC	LITCHFIELD
6.8	6	BAY OF NAPLES	9685	1	CUMBERLAND	NAPLES
6.8*	4	CEDAR L	2004	1	PENOBSCOT	T03 R09 NWP
6.8	6	CRYSTAL L (DRY P)	3708	1	CUMBERLAND	GRAY
6.8	5	DONNELL P	4412	1	HANCOCK	T09 SD
6.8	4	KIMBALL P (LOWER)	3240	1	OXFORD	FRYEBURG
6.8	4	LOON L	2384	1	FRANKLIN	DALLAS PLT
6.8	3	MOUSAM L	3838	3	YORK	ACTON
6.8	3	MOUSAM L	3838	4	YORK	ACTON
6.8*	2	RANGELEY L	3300	1	FRANKLIN	RANGELEY
6.9	6	HADLOCK P (LOWER)	4610	1	HANCOCK	MOUNT DESERT
6.9	6	HORNE (PEQUAWKET) P	3408	1	YORK	LIMINGTON
6.9	3	MOUSAM L	3838	1	YORK	ACTON
6.9	2	MOUSAM L	3838	2	YORK	ACTON
6.9	6	PANTHER P	3694	1	CUMBERLAND	RAYMOND
6.9	6	SAND P (TACOMA LKS)	5238	1	KENNEBEC	LITCHFIELD
6.9	3	SQUARE P	3916	1	YORK	ACTON
7.0	4	INDIAN P	4090	1	SOMERSET	INDIAN STREAM T
7.0	5	RANGE P (MIDDLE)	3762	1	ANDROSCOGGIN	POLAND
7.0	3	SQUARE P	3916	2	YORK	ACTON
7.0	6	STEVENS P	4886	1	WALDO	LIBERTY
7.1	6	BACK (5 KEZARS) P	3199	1	OXFORD	STONEHAM
7.1	5	DREWS(MEDUXNEKEAG) L	1736	1	AROOSTOOK	LINNEUS
7.1	5	HANCOCK P	3132	1	OXFORD	DENMARK
7.1	5	MOOSE P	3424	1	OXFORD	WATERFORD
7.1	4	SABBATHDAY L	3700	1	CUMBERLAND	NEW GLOUCESTER
7.2	5	JUNIOR L	4708	1	PENOBSCOT	T05 R01 NBPP
7.2	3	WASSOOKEAG L	227	1	PENOBSCOT	DEXTER
7.3	6	AUBURN L	3748	1	ANDROSCOGGIN	AUBURN
7.3	5	HIGHLAND L	3454	1	CUMBERLAND	BRIDGTON
7.3	3	INDIAN P	3480	1	OXFORD	GREENWOOD
7.3	5	RANGE P (LOWER)	3760	1	ANDROSCOGGIN	POLAND
7.3	3	ROUND P	3818	1	ANDROSCOGGIN	LIVERMORE
7.3	5	SAND P	3432	1	OXFORD	NORWAY
7.4	5	MOOSE P	3134	1	OXFORD	DENMARK
7.4	6	NASHS L	1418	1	WASHINGTON	CALAIS
7.4	5	NASHS L	1418	3	WASHINGTON	CALAIS
7.4	5	WARD P	5282	1	KENNEBEC	SIDNEY
7.4*	6	WORTHLEY P	3594	1	OXFORD	PERU
7.5	5	HORSESHOE P	3196	1	OXFORD	LOVELL
7.5	5	NORTH P	3616	1	OXFORD	SUMNER
7.5	6	ROUND P	3800	1	ANDROSCOGGIN	TURNER
7.6	1	COLD STREAM P	2146	2	PENOBSCOT	ENFIELD
7.6*	5	INGALLS (FOSTER'S) P	3188	1	CUMBERLAND	BRIDGTON
7.6	5	PEABODY P	3374	1	CUMBERLAND	SEBAGO
7.6	5	SKIFF L	-1	1	N.B., CANADA	CANTERBURY
7.6	5	SYSLADOBSIS L (LO)	4730	1	WASHINGTON	T05 ND BPP
7.7	3	GRAND L (EAST)	1070	3	AROOSTOOK	WESTON
7.7	2	GRAND L (EAST)	1070	4	AROOSTOOK	WESTON
7.7	1	LAKE GEORGE	2608	1	SOMERSET	CANAAN
7.7	6	NARROWS P (UPPER)	98	1	KENNEBEC	WINTHROP
7.7*	6	WORTHLEY P	3594	2	OXFORD	PERU

* DISK VISIBLE ON LAKE BOTTOM FOR SOME READINGS

AVE	N	LAKE	MIDAS	STA	COUNTY	TOWN
7.8	1	BRACKETT L	1068	1	AROOSTOOK	WESTON
7.8*	2	BRANCH L	4328	3	HANCOCK	ELLSWORTH
7.8	5	PLEASANT L	3446	1	OXFORD	OTISFIELD
7.8	5	POCUMCUS L	1110	1	WASHINGTON	T06 ND BPP
7.9	4	ALFORD L	4798	1	KNOX	HOPE
7.9	6	ECHO L	4624	1	HANCOCK	MOUNT DESERT
7.9	5	SWAN L	5492	1	WALDO	SWANVILLE
8.0	4	SEBEC L	848	2	PISCATAQUIS	WILLIMANTIC
8.0	4	WALKER P	4640	1	HANCOCK	BROOKSVILLE
8.1	3	ECHO L (CROTCHED P)	5814	1	KENNEBEC	FAYETTE
8.1	4	GREEN L	4294	3	HANCOCK	DEDHAM
8.1	1	RANGELEY L	3300	5	FRANKLIN	RANGELEY
8.1	5	SOUTH & ROUND PONDS	9683	1	OXFORD	GREENWOOD
8.2	1	HALFMOON P	5536	1	WALDO	PROSPECT
8.2*	3	KEZAR L	97	2	OXFORD	LOVELL
8.2	6	LONG (GREAT) P	4622	1	HANCOCK	MOUNT DESERT
8.2	6	OSSIPEE L (LITTLE)	5024	1	YORK	WATERBORO
8.3	4	GREEN L	4294	2	HANCOCK	DEDHAM
8.4	4	PORTER L	12	1	FRANKLIN	STRONG
8.4	6	STANLEY P	3182	1	OXFORD	HIRAM
8.6	6	BUBBLE P	4452	1	HANCOCK	BAR HARBOR
8.6*	6	FIGURE EIGHT P	5294	1	KENNEBEC	SIDNEY
8.6	4	GREEN L	4294	1	HANCOCK	DEDHAM
8.8	2	COLCORD P	3160	1	OXFORD	PORTER
8.9*	2	MOUNTAINY P	4292	1	HANCOCK	DEDHAM
8.9	6	NARROWS P (LOWER)	103	1	KENNEBEC	WINTHROP
8.9*	1	PARKER P	5186	1	KENNEBEC	FAYETTE
8.9	5	THOMPSON L	3444	1	OXFORD	OXFORD
9.1	1	GRAND L (WEST)	1150	1	WASHINGTON	T05 ND BPP
9.2	3	COFFEE P	3390	1	CUMBERLAND	CASCO
9.6	4	BRANCH L	4328	2	HANCOCK	ELLSWORTH
9.7	6	CLEARWATER P	5190	1	FRANKLIN	INDUSTRY
9.7*	3	SCHOODIC L	956	2	PISCATAQUIS	LAKE VIEW PLT
9.7	3	SEBAGO L	5786	1	CUMBERLAND	SEBAGO
9.8	5	BEECH HILL P	4352	1	HANCOCK	OTIS
9.8	5	TRICKEY P	3382	1	CUMBERLAND	NAPLES
9.9	5	EMBDEN P	78	1	SOMERSET	EMBDEN
10.1	5	CATHANCE L	9661	1	WASHINGTON	NO 14 PLT
10.2	4	NICKERSON L	1036	1	AROOSTOOK	NEW LIMERICK
10.3	3	SCHOODIC L	956	4	PISCATAQUIS	LAKE VIEW PLT
10.6	5	GREAT EAST L	3922	1	YORK	ACTON
10.7	5	CRAIG P	4332	2	HANCOCK	ORLAND
10.8	6	EAGLE L	4606	1	HANCOCK	BAR HARBOR
10.8	5	PHILLIPS (LUCERNE) L	4300	1	HANCOCK	DEDHAM
11.1	4	PLEASANT L	1728	1	AROOSTOOK	T04 R03 WELS
11.2	3	BRANCH L	4328	1	HANCOCK	ELLSWORTH
12.7	5	BASIN P	5654	1	KENNEBEC	FAYETTE
13.5	1	WASSATAQUOIK L	4212	1	PISCATAQUIS	T04 R10 WELS
13.7	6	JORDAN P	4608	1	HANCOCK	MOUNT DESERT
15.0	4	PLEASANT P	224	1	SOMERSET	CARATUNK

* DISK VISIBLE ON LAKE BOTTOM FOR SOME READINGS

Explanation of Individual Lake Report and Sample Report

Individual lake reports, created by Maine DEP, include data that are provided by the VLMP. These reports include information about the lake and its watershed, water quality annual data summaries, historical water quality summary information and a narrative summary. Individual lake reports are provided to volunteers and are available on the VLMP website www.MaineVolunteerLakeMonitors.org

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EXPLANATION OF LAKE WATER QUALITY MONITORING REPORT

This report contains summaries for variables most often used to measure the water quality of lakes and ponds in Maine. These variables are relatively inexpensive to measure, and are easily monitored by volunteers in the Volunteer Lake Monitoring Program and staff of the Department of Environmental Protection. Minimum and Maximum values are from entire DEP dataset.

SECCHI DISK TRANSPARENCY AND GRAPHS: Secchi Disk Transparency (SDT) is a measure of the water clarity, or transparency, of the lake. All Secchi disk readings are in meters [1 meter (m) = 3.28 feet]. Factors, which reduce clarity, are algae, zooplankton, water color and silt. Since algae are generally the most abundant, measuring transparency indirectly measures the algal productivity. SDT readings can be used to track changes in water quality over time. Transparency values in Maine vary from 0.2m (8 inches) to 21.27m (70 ft), with the overall average being 4.83m (15.8 ft). Unless a lake is highly colored (see explanation of color below) or some other factor is interfering, a transparency of less than 2m (6.6 ft) indicates a water quality problem that has resulted in an algal bloom. In Maine, the mean (average) SDT readings are related to algal productivity using the following guidelines: Productive=4m (13 ft) or less; Moderately productive =4.1-7.9m (13-26.5 ft); Unproductive=8m (26.5 ft) or greater.

Usually two transparency graphs are displayed in the report. The first graph is provided if data were collected the previous year and illustrates the seasonal variation that can occur during the monitored months. The second graph represents the average SDT readings for each year data is available. The bars or tick marks on this graph represent the minimum and maximum Secchi disk readings for that year. This graph allows tracking of water quality over many years.

MIN. = minimum or lowest Secchi disk depth recorded for that year. The summary line would have the lowest Secchi disk reading ever recorded for that lake. MEAN = Average of monthly averages of Secchi disk reading for that year. The summary line would show the average for all years datasets have been taken. MAX. =Maximum or deepest Secchi disk reading taken for that year. The summary line would be the deepest reading ever recorded for this lake. N = number of months readings were taken that year. Summary N = number of years of data.

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

COLOR: The amount of "color" in a lake refers to the concentration of natural dissolved organic acids such as tannins and lignin's, which give the water a tea color. Color is measured by comparing a sample of the lake water to Standard Platinum Units (SPU). Colored lakes (>30 SPU) can have reduced transparency readings and increased phosphorus values. This does not mean the lakes are more productive, the color simply interferes with the test so better results can not be achieved. Chlorophyll a (Chla) is the best indicator of productivity in colored lakes and should be used if possible. Color varies from 1 to 630, with the average in Maine being 28 SPU.

pH: The pH of a lake reflects how acidic or basic the water is and helps determine which plant and animal species are present. The measure of the acidity of water is based on a scale of 1-14, with 7 being neutral. Acid waters are below 7; alkaline waters are above 7. Epilimnetic pH varies, from 4.23 to 9.70, the average being 6.81. A one unit change in pH represents a 10 fold change in acidity or alkalinity.

ALKALINITY: Alkalinity is a measure of the capacity of water to neutralize acids and is also known as the buffering capacity. It is due primarily to the presence of naturally available bicarbonate, carbonate, and hydroxide ions, with bicarbonate being the major form. Epilimnetic alkalinity in Maine varies from -1.5 milligram per liter (mg/l) to 190.0 mg/l, with the average being 12.0 mg/l.

CONDUCTIVITY: Conductivity is a measure of the ability of water to carry an electrical current and is directly related to the dissolved ions (charged particles) present in water. Epilimnetic conductivity varies from 2 μmhos/cm to 7900 μs/cm, with the average being 46 μs/cm. Fishery biologists use conductivity values to calculate fish yield estimates. Conductivity will increase if there is an increase of pollutants entering the lake or pond.

TOTAL PHOSPHORUS MEANS (ppb): Total Phosphorus (TP) is one of the major nutrients needed for plant growth. It is generally present in small amounts and limits the plant growth in lakes. It is measured in parts per billion (ppb). As phosphorus increases, the amount of algae also increases. Epilimnetic TP varies from 1 ppb to 426 ppb with the average being 12 ppb. EPI Core = Epilimnetic core sample (mixed sample from epilimnion) was taken; Surf Grab = Surface grab sample taken; Bot. Grab = Bottom grab sample taken (1 m above bottom of lake), PRO. Grab = Profile grab samples taken and averaged.

CHLOROPHYLL A (ppb): CHLOROPHYLL A (Chl<u>a</u>) is a measurement of the green pigment found in all plants including microscopic plants such as algae. It is used as an estimate of algal biomass, the higher the Chl<u>a</u> number the higher the amount of algae in the lake. Epilimnetic Chl<u>a</u>, varies from 0.10 ppb to 238 ppb, with the average 5.3 ppb. MIN. = minimum or lowest Chl<u>a</u> depth recorded for that year. Summary would have the lowest Chl<u>a</u> reading ever recorded for that lake. MEAN = Average Chl<u>a</u> reading for that year. Summary would be average for all years data has been taken. MAX. = Maximum or highest Chl<u>a</u> reading taken for that year. Summary would be the highest reading ever recorded for this lake.

TROPHIC STATE INDICES: The Trophic State Index (TSI) is a scale which ranks lakes from 0 to 100+ with 0 supporting very little algae and 100+ being very productive. TSI can be calculated from the Secchi disk, Chl<u>a</u> or total phosphorus results. TSI for a year is only calculated when there are at least five months of data. Lakes with TSI values greater than 60 may support blooms (less than 2m SDT). Lakes with TSI values over 100 indicate extreme productivity and annual algal blooms. TSI values can be used to compare lakes and track water quality trends within a lake. Lakes with color over 30 SPU will only have a valid TSI if the value is calculated from Chl<u>a</u>. The range of TSI is from 5-136 with an average of 45. EPI PHOS = Epilimnetic Phosphorus samples taken to determine the TSI; C = core G = grab samples taken; SEC = TSI value calculated using the mean Secchi disk (water color < 30 SPU to ensure valid TSI); CHL = TSI calculated using the mean Chl<u>a</u>.

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES: Dissolved Oxygen (D.O.) is the measure of the amount of oxygen dissolved in the water. All living organisms, except for certain types of bacteria, need oxygen to survive. Organisms living in the water have the ability to use the oxygen dissolved in the water to breathe. Too little oxygen severely reduces the diversity and population of aquatic communities. Therefore the amount of D.O. in the water is very important to aquatic life. Low oxygen can directly kill or stress organisms such that they will not be able to successfully reproduce or grow. Water with less than 1 part per million (ppm) of oxygen is considered anoxic (no oxygen present); less than 5 ppm of oxygen is generally considered so stressful that most coldwater fish will avoid these areas. Anoxic conditions can also promote TP release from sediments.

Temperature is the measure of heat in the water and can affect the waters chemistry and biology. For example, the amount of oxygen water can hold is directly related to the temperature of the water. The higher the temperature the less oxygen the water can hold. Oxygen will naturally decline during the summer months as water temperatures rise. Lakes deeper than 25-30 feet can also stratify, with warm water riding over cooler deep water, restricting circulation in the lake. This can contribute to oxygen loss in the lower waters. Temperature can also determine the kinds of plants and animals found in the lake or pond. Certain species of fish, insects and algae will predominate during the cooler temperatures of the spring and fall, yet disappear during the warmer temperatures of summer. For instance, salmonids generally prefer temperatures below 18^{O}C (65^{O}F) but can tolerate slightly higher temperatures for short periods of time. However, constant exposure to temperatures of greater than 18^{O}C (65^{O}F) may result in some fish being more susceptible to disease or not being able to reproduce as well. Conversely, other more tolerant species will predominate during the more stressful summer months. The late summer temperature and dissolved oxygen profiles in data report represent the lake's most stressed open water period. m = Depth data was recorded, in meters; ^{O}C = Temperature in degrees Celsius; Date is sampling date; ppm = Dissolved oxygen reading in parts per million (ppm).

Sample Individual Lake Report

LAKE: CHINA L (VLMP 11)
TOWN: CHINA
COUNTY: KENNEBEC

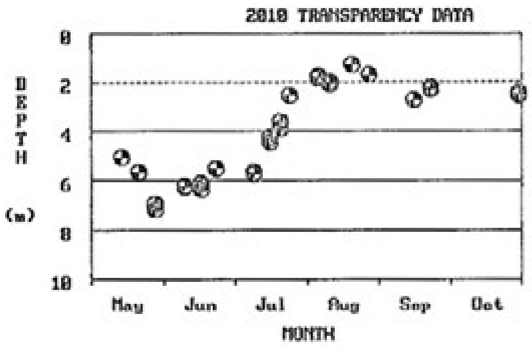
MIDAS: 5448
TRUE BASIN: 1
SAMPLE STATION: 1

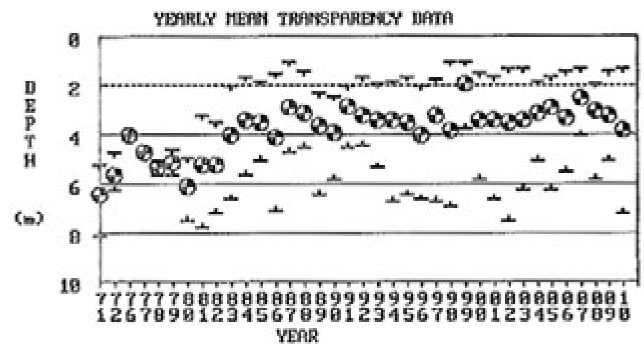
WHOLE LAKE INFORMATION
MAX. DEPTH: 26 m. (85 ft.)
MEAN DEPTH: 9 m. (28 ft.)
DELORME ATLAS #: 13
USGS QUAD: CHINA LAKE
IFW REGION B: Belgrade Lakes (Augusta)
IFW FISH. MANAGMENT: Warmwater & Coldwater

TRUE BASIN CHARACTERISTICS
SURFACE AREA: 650.0 ha. (1606.1 a.)
FLUSHING RATE: 0.65 flushes/yr.
VOLUME: 72000000.0 cu. m. (58406 ac.-ft.)
DIRECT DRAINAGE AREA: 17.14 sq. km. (6.62 sq. mi.)

PLEASE NOTE THE FOLLOWING: The SAMPLE STATION # refers to the location sampled. The term TRUE BASIN is used to define areas within a lake that are separated by shallow reefs or shoals and therefore function as separate lakes. There are approximately 50 lakes in the state that have more than 1 True Basin. True Basin Characteristics are now being included in the first section of these reports to enable users of the Phosphorous Loading Methodology to better evaluate the data. If there is no data for a particular True Basin, True Basin Characteristics must be obtained from the DEP. CHINA L has 2 True Basin(s).

SECCHI DISK TRANSPARENCY GRAPHS:





Note: 2010 graphs may indicate multiple readings taken on a given day.

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

[* indicates that Secchi disk was visable at bottom of lake (or one reading used in calculation was visable)].

YEAR	MEAN COLOR (SPU)	MEAN pH	MEAN ALK (mg/l)	MEAN COND. (us /cm)	TOTAL PHOS. MEANS (ppb) EPI CORE	SURF GRAB	BOT. GRAB	PRO. GRAB	SECCHI DISK (m.) MIN.	MEAN	MAX.	N	CHLOROPHYLL A(ppb) MIN.	MEAN	MAX.	TROPHIC STATE INDICES EPI PHOS C	G	SEC	CHL
1971	-	-	-	-	-	-	-	-	5.2*	6.4	8.1	4	-	-	-	-	-	-	-
1972	-	-	-	-	-	-	-	-	4.7	5.6	6.2	5	-	-	-	-	-	-	-
1976	-	-	-	-	15	-	-	-	4.0	4.0	4.0	1	4.1	4.1	4.1	-	-	-	-
1977	-	-	-	-	12	-	-	-	4.7	4.7	4.7	1	-	-	-	-	-	-	-
1978	-	-	-	-	-	-	-	-	5.0	5.3	5.6	4	2.9	2.9	2.9	-	-	-	-
1979	-	-	-	-	-	-	43	30	4.6	5.1	5.6	5	-	-	-	-	-	47	-
1980	-	-	-	-	-	-	-	-	4.9	6.1	7.5	6	-	-	-	-	-	38	-
1981	-	-	-	-	-	-	-	-	3.2	5.2	7.8	6	-	-	-	-	-	46	-
1982	20	7.20	19.0	-	12	-	10	-	3.5	5.2	7.2	6	4.2	4.2	4.2	-	-	46	-
1983	-	-	-	-	16	-	25	20	2.0	4.0	6.6	6	10.0	10.0	10.0	-	-	60	-
1984	17	7.26	15.5	63	-	-	21	18	1.6	3.4	5.6	4	5.0	11.5	20.0	-	-	-	-
1985	-	-	-	-	-	-	22	19	1.8	3.5	5.0	5	4.4	7.8	10.9	-	59	68	65
1986	20	7.50	14.0	-	-	-	22	20	1.5	4.1	7.1	6	2.3	10.5	24.7	-	60	59	73
1987	-	7.40	21.0	67	-	-	-	-	1.0	2.9	4.7	5	3.3	14.6	35.4	-	-	78	83
1988	-	-	-	-	-	-	24	22	1.4	3.1	4.5	6	4.1	14.4	29.3	-	63	75	83

LAKE: CHINA L (VLMP 11)
TOWN: CHINA
COUNTY: KENNEBEC

MIDAS: 5448
*TRUE BASIN: 1
*SAMPLE STATION: 1

SUMMARY OF CHEMICAL AND TROPHIC STATE PARAMETERS:

YEAR	MEAN COLOR (SPU)	MEAN pH	MEAN ALK (mg/l)	MEAN COND. (uS /cm)	TOTAL PHOS. MEANS (ppb) EPI CORE	SURF GRAB	BOT. GRAB	PRO. GRAB	SECCHI DISK (m.) MIN.	MEAN	MAX.	N	CHLOROPHYLL A(ppb) MIN.	MEAN	MAX.	TROPHIC STATE INDICES EPI PHOS C	G	SEC	CHL
1989	-	-	-	-	17	-	19	19	2.3	3.6	6.4	6	5.4	9.9	19.3	-	58	66	72
1990	20	-	-	-	-	-	23	18	2.4	3.9	5.8	6	1.9	8.8	17.3	-	58	62	68
1991	-	-	-	-	17	-	24	20	2.0	2.8	4.5	4	4.7	14.2	21.9	-	-	-	-
1992	-	-	-	-	15	-	16	15	1.6	3.2	4.4	6	3.2	9.3	18.1	-	-	73	70
1993	-	-	-	-	16	-	18	18	1.9	3.4	5.3	6	3.6	11.8	21.1	-	57	69	77
1994	-	-	-	-	17	-	23	23	1.8	3.4	6.7	5	3.7	13.5	26.6	-	64	69	81
1995	15	-	17.0	-	21	-	24	19	1.6	3.5	6.4	5	-	-	-	62	59	68	-
1996	-	-	-	-	18	-	24	22	2.0	4.0	6.6	6	3.5	10.5	16.7	57	64	60	74
1997	10	-	-	-	18	-	31	26	1.7	3.2	6.7	6	4.0	13.0	26.1	58	68	73	80
1998	31	7.38	18.0	83	15	-	20	19	1.0	3.8	6.9	6	2.6	13.8	30.7	53	59	63	81
1999	58	6.83	15.1	98	26	-	25	23	1.0	1.9	3.7	6	6.3	24.5	44.4	67	64	103	98
2000	34	7.04	16.6	153	18	-	23	21	1.5	3.4	5.8	6	4.1	14.8	29.1	58	-	69	83
2001	30	7.20	15.5	83	15	-	27	24	1.6	3.4	6.6	6	3.5	10.7	18.6	-	-	69	-
2002	35	7.29	17.3	87	17	-	32	29	1.3	3.5	7.5	6	3.0	14.1	31.8	56	71	68	82
2003	40	6.59	12.3	90	18	-	20	19	1.3	3.4	6.2	5	2.9	11.4	26.5	57	59	69	76
2004	30	7.23	19.8	62	20	-	45	37	1.0	3.1	5.0	6	4.0	12.3	17.0	60	78	75	78
2005	35	7.17	19.5	66	19	-	25	22	1.6	2.9	6.2	6	4.2	10.5	15.5	58	63	78	74
2006	28	7.04	18.9	56	18	-	49	39	1.4	3.3	5.5	6	3.2	13.3	36.0	58	79	71	80
2007	34	6.98	-	62	20	-	28	24	1.3	2.5	4.0	7	6.6	16.0	27.0	60	66	87	86
2008	31	7.44	20.2	82	19	-	27	25	1.9	3.0	5.8	7	2.0	15.5	42.0	60	-	76	85
2009	-	7.89	-	81	18	-	24	21	1.4	3.2	5.0	7	4.2	15.2	45.0	57	62	73	84
2010	-	5.84	-	84	17	-	36	34	1.3	3.8	7.2	6	2.9	14.5	48.0	56	76	63	83
SUMMARY:	29	6.81	17.3	81	17	-	26	23	1.0	3.8	8.1	37	1.9	11.9	48.0	59	64	67	79

LATE SUMMER TEMPERATURE / DISSOLVED OXYGEN PROFILES:

SAMPLE DATE

DEPTH m	09/10/09 °C	ppm	09/17/09 °C	ppm	08/05/10 °C	ppm	08/10/10 °C	ppm	08/19/10 °C	ppm	08/26/10 °C	ppm	09/15/10 °C	ppm	09/22/10 °C	ppm
0.0	21.4	8.1	19.6	8.0	24.3	8.1	25.6	9.4	23.4	10.5	21.5	7.5	19.4	7.5	17.9	8.9
1.0	21.4	8.2	19.6	8.1	24.3	8.1	24.5	9.9	23.4	10.8	21.4	7.5	19.5	7.4	17.9	8.9
2.0	21.3	8.3	19.5	8.1	24.3	8.1	24.2	9.9	23.3	10.5	21.4	7.4	19.5	7.5	17.9	8.9
3.0	21.1	8.5	19.5	7.9	24.2	8.0	23.8	9.2	23.3	10.9	21.3	7.4	19.5	7.5	17.9	9.0
4.0	22.1	7.9	19.5	8.0	24.1	8.0	23.3	8.6	23.2	10.5	21.3	7.3	19.5	7.5	17.9	9.0
5.0	23.2	7.2	19.5	7.9	23.6	7.7	23.2	8.4	23.0	8.8	21.3	7.3	19.5	7.4	17.9	9.0
6.0	23.4	6.8	19.5	8.0	23.5	7.4	22.9	7.8	22.8	8.5	21.3	7.3	19.5	7.4	17.9	9.0
7.0	23.1	6.8	19.5	7.9	23.3	7.2	22.6	6.9	22.7	8.0	21.3	7.3	19.5	7.4	17.9	9.0
8.0	22.4	6.1	19.5	7.9	22.6	6.6	19.0	0.7	22.0	6.3	21.3	7.4	19.5	7.4	17.9	9.0
9.0	19.7	1.0	-	-	17.9	4.2	16.1	0.6	21.5	6.8	18.4	2.2	19.5	7.4	17.9	9.0
10.0	18.5	0.9	19.5	7.7	16.7	1.1	14.9	0.4	20.0	0.8	14.6	0.2	19.4	6.6	17.9	9.0
11.0	17.2	0.9	-	-	14.6	0.5	13.8	0.7	-	-	13.6	0.1	14.9	0.9	17.9	9.0
12.0	15.9	0.9	14.8	0.1	13.9	1.3	13.4	0.8	13.8	0.8	13.0	0.1	13.6	0.4	16.3	2.3
13.0	15.6	0.9	-	-	13.2	0.5	13.1	0.9	-	-	12.8	0.1	13.1	0.3	14.3	0.8
14.0	15.3	0.9	13.1	0.1	13.0	1.3	12.7	0.8	13.0	0.8	12.6	0.1	12.8	0.3	13.0	0.8
15.0	15.1	0.9	-	-	12.3	0.5	12.3	0.8	-	-	12.4	0.1	12.5	0.2	12.8	0.8
16.0	-	-	12.4	0.1	12.4	1.1	-	-	12.4	0.7	-	-	-	-	-	-
17.0	14.7	0.9	-	-	-	-	12.1	0.5	-	-	12.2	0.1	12.2	0.2	12.5	0.7
18.0	-	-	12.1	0.1	12.3	0.8	-	-	12.2	0.6	-	-	-	-	-	-
19.0	14.6	0.9	-	-	-	-	11.9	0.3	-	-	12.0	0.1	12.0	0.2	12.2	0.7
20.0	-	-	11.9	0.1	12.1	0.5	-	-	12.0	0.6	-	-	-	-	-	-
21.0	14.4	0.9	-	-	12.0	0.5	11.8	0.2	-	-	11.8	0.1	11.9	0.2	12.1	0.7
22.0	-	-	11.7	0.1	-	-	-	-	12.0	0.6	-	-	-	-	-	-
23.0	14.3	1.0	-	-	12.0	0.4	11.8	0.2	-	-	11.7	0.1	11.8	0.2	-	-
24.0	-	-	-	-	-	-	-	-	12.0	0.6	-	-	-	-	12.0	0.6
25.0	14.2	0.9	-	-	-	-	11.8	0.2	-	-	11.7	0.1	11.8	0.2	-	-
26.0	14.0	0.9	-	-	-	-	-	-	-	-	-	-	11.7	0.2	-	-
27.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

WATER QUALITY SUMMARY

China Lake, China
Midas: 5448, Basin: West (Basin 1)

The Maine Department of Environmental Protection (Maine DEP), Kennebec Water District (KWD), China Regional Lakes Alliance (CRLA), and the Volunteer Lake Monitoring Program (VLMP) have collaborated in the collection of lake data to evaluate present water quality, track algal blooms, and determine historical water quality trends. This dataset does not include bacteria, mercury, or nutrients other than total phosphorus.

Water quality monitoring datasets for China Lake (western basin) has been collected since 1971. During this period, 13 years of basic chemical information was collected in addition to 32 years of Secchi Disk Transparencies (SDT). In summary, the water quality of China Lake is considered to be poor based on measures of SDT, total phosphorus (TP), and chlorophyll-a (Chla). The potential for nuisance summertime algal blooms on China Lake is moderate to high.

Water Quality Measures (western basin): China Lake is a lightly-colored lake (average color 28 SPU) with an average SDT of 3.9 meters (12.8 feet). The range of upper water column TP for China Lake is 12 - 26 parts per billion (ppb) with an average of 18 ppb, while Chla ranges from 1.9 - 40.4 ppb with an average of 11.0 ppb. Recent dissolved oxygen (DO) profiles show high DO depletion in deep areas of the lake. The potential for TP to leave the bottom sediments and become available to algae in the water column (internal loading) is high. Oxygen levels below 5 parts per million stress certain coldwater fish, and a persistent loss of oxygen may eliminate or reduce habitat for sensitive coldwater species (e.g., lake trout/togue and landlocked Atlantic salmon).

Comments: China Lake is managed and continually monitored directly through the China Regional Lakes Alliance (CRLA) and the Kennebec Water District. China Lake is also on the State listing of lakes non-attaining water quality standards. A volunteer watershed survey was completed in 1989 with the assistance of the Kennebec County Soil and Water Conservation District, and follow-up water-shed BMP implementation work has been completed in subsequent years through CRLA efforts.

Nutrient Management: A China Lake Total Maximum Daily (Annual Phosphorus) Load (TMDL) report was prepared by Maine DEP during 2000-01, with assistance from the Maine Association of Conservation Districts (MACD) project team. Following China Lake stakeholder and public reviews, this document was approved by US-EPA (New England) on November 5, 2001. This final report, with the EPA-New England review summary/approval letter, can be found on the Maine DEP webpage: http://www.maine.gov/dep/blwq/docmonitoring/tmdl2.htm

Further Information: See Maine DEP Lake Water Quality Monitoring Report for measured variable explanations. Additional lake information can be found on the Internet at http://www.pearl.maine.edu and/or http://www.maine.gov/dep/blwq/lake.htm, or contact Maine DEP at 207-287-3901 or VLMP at 207-783-7733.

Filename: chi15448, revised: 03/2006, by dbh

Invasive Aquatic Plant Screening Survey Activity Reported: 2002-2010

Note: The number of waterbodies with infestations in this table may differ from the official DEP listing on page 24. This is generally the result of one list grouping infested waterbodies (e.g. Messalonskee Lake and Belgrade Stream) and the other listing waterbodies separately.

Key to Appendix E

MIDAS refers to the unique four-digit identification code for a lake.

Year Surveyed: Survey data is organized by the year in which the survey was completed. Blank cells indicate survey data not reported for that year. For surveys conducted between 2002 and 2009, activity is indicated with a single dot (•) only. More detailed information for each year of reported survey activity on a given waterbody can be found on the VLMP website. Visit the VLMP Lake Search at www.MaineVolunteerLakeMonitors.org/lakes to find more survey information for the lake of interest.

Survey Data: Surveys for 2010 are characterized by a listing of abbreviations under the following columns: Survey Level, Surveyor Type and Certified. The Survey Level and Surveyor Type abbreviation explanations are below.

Survey Level refers to the scope of the survey conducted. In several cases, more than one level was conducted either during the same year, or from one year to the next. The following abbreviations are used to indicate survey level:

- **IS** Infestation Surveillance
- **LT** Limited: Only a relatively small portion of the littoral zone of the waterbody was surveyed
- **1** Level 1: The high risk areas such as points of public access, marinas, etc. were surveyed, including at least 100 meters (~300 feet) on either side of the high risk area, and extending into the lake to the outermost depth or the littoral zone or a depth of at least 4 meters (~ 13 feet)
- **2** Level 2: The Level 1 areas were surveyed, plus the areas of the shoreline that were likely to provide suitable habitat for aquatic plants, such as shallow, sheltered coves.
- **3** Level 3: Entire shoreline area and littoral zone was surveyed.
- **RA** Rapid Assessment: This refers to the Rapid Assessment screening survey methodology developed by the Maine Natural Areas Program; at a minimum, the inlet, outlet, boat launch areas and 1/3 of the total littoral zone were surveyed. In some cases a full Level 3 survey was conducted.

Surveyor Type: refers to the individual or group conducting the survey. In some cases multiple surveyors conducted surveys. The following abbreviations are used:

- **Prf** Professional: Trained professional, usually hired by the lake association and/or stakeholders
- **Rsr** Researcher: Students and/or faculty of a research institution (such as college or university)
- **Agn** Agency Personnel: Staff from various public or quasi-public agencies. Example agencies are the Maine Department of Environmental Protection, and Maine Department of Conservation Natural Areas Program, Auburn Water District.
- **Vol** Volunteer: Invasive Plant Patrol trained volunteer (or team of volunteers)

Certified refers to whether a survey was conducted by a Certified Invasive Plant Patroller. A 'Y' in the "Certified" columns represents a yes.

IAP Conf indicates waterbodies in which Invasive Aquatic Plants have been confirmed, and identifies which invasive species is present. Invasive Species are abbreviated as follows:

- **CP** Curly Leaf Pondweed (*Potamogeton crispus*)
- **EM** Eurasian Water-milfoil (*Myriophyllum spicatum*)
- **EN** European Naiad (*Najas minor*)
- **HY** Hydrilla (*Hydrilla verticillata*)
- **VM** Variable Water-milfoil (*Myriophyllum heterophyllum*)
- **VMh** Variable Water-milfoil Hybrid (*Myriophyllum heterophyllum x M. laxum*)
- **( )** Parentheses indicates successful eradication, followed by year removed from State List of Infested Waterbodies

Waterbody	MIDAS	TOWN	2002	2003	2004	2005	2006	2007	2008	2009	2010 IAP Surveys			IAP Conf
											Survey Level	Surveyor Type	IPP Cert?	
ANDROSCOGGIN COUNTY														
ANDROSCOGGIN L	3836	LEEDS	•			•			•	•	1	Vol	Yes	
AUBURN L	3748	AUBURN	•	•	•	•	•	•	•	•	IS	Prf	Yes	VM
BASIN (THE)	71	AUBURN	•	•	•	•	•		•		IS	Prf	Yes	VM
BRETTUN'S P	3608	LIVERMORE	•											
NO NAME P	3802	LEWISTON	•			•			•					
PLEASANT POND	3822	TURNER						•			LT, 3	Vol	Yes	
RANGE P (LOWER)	3760	POLAND					•							
RANGE P (MIDDLE)	3762	POLAND		•	•	•	•	•	•	•	IS	Agn	Yes	VM
RANGE P (UPPER)	3688	POLAND	•	•		•	•			•	1	Agn	Yes	
SABATTUS LAKE	3796	GREENE						•						
TAYLOR P	3750	AUBURN	•	•	•									
WILSON P (LITTLE)	3784	TURNER			•						LT	Vol	Yes	
AROOSTOOK COUNTY														
BLACK L	1506	T15 R09 WELS				•								
BLACK P (LITTLE NO)	1508	T15 R09 WELS				•								
BLACK P (LITTLE SO)	1510	T15 R09 WELS				•								
CRATER P	487	T15 R09 WELS				•								
CROSS L	1674	T17 R05 WELS				•								
DEBOULLIE L	1512	T15 R09 WELS				•								
DENNY P	1524	T15 R09 WELS				•								
ECHO L	1776	PRESQUE ISLE		•										
GALILEE P	1526	T15 R09 WELS				•								
GARDNER L	1528	T15 R09 WELS				•								
MATTAWAMKEAG L	1686	TWP T4RS							•					
MONSON P	1820	FORT FAIRFIELD		•										
NUMBER NINE L	1756	T09 R03 WELS			•									
PENNINGTON P	1612	T15 R06 WELS		•										
PLEASANT P	1728	ISLAND FALLS							•					
PORTAGE L	1602	PORTAGE LAKE		•		•	•	•	•	•	1	Vol	Y	
SAINT CROIX L	1774	ST CROIX TWP			•									
SAINT JOHN RIVER		ST FRANCIS & T14 R14 WELS									LT	Agn	Y	
SLY BROOK L (FIRST)	1642	NEW CANADA			•									
THIRD L	1552	ST. JOHN PLT				•								
UPPER P	1521	T15 R09 WELS				•								
CUMBERLAND COUNTY														
BAY OF NAPLES (BRANDY P)	9685	NAPLES			•	•	•				3	Prf	Y	VM
COFFEE P	3390	CASCO			•	•				•	3	Prf	Y	
COLD RAIN P	3376	NAPLES								•				
COLLINS P	3728	WINDHAM			•				•	•	IS	Vol	Y	VMh
CRESCENT L	3696	RAYMOND	•	•	•	•	•		•	•	3	Agn, Vol		
CRYSTAL L (DRY P)	3708	GRAY	•					•	•	•	3	Vol	Y	
DINGLEY BROOK		CASCO, RAYMOND				•			•	•				
DUMPLING P	3698	CASCO				•				•				
FOREST L	3712	WINDHAM	•	•	•	•	•		•	•	2, 3	Agn, Vol	Y	
GORHAM P	9705	GORHAM					•	•		•				
GREAT P	5648	CAPE ELIZABETH			•	•								
GRONDIN P		SCARBOROUGH				•								
HIGHLAND (DUCK) L	3734	FALMOUTH		•		•				•				
HIGHLAND L	3454	BRIDGTON			•					•				
INGALLS P	3372	BALDWIN				•								
JORDAN RIVER (PANTHER RUN)		RAYMOND	•			•			•	•	3	Vol	Y	VM
LILY BROOK (PARKER P OUTLET)		CASCO		•	•	•				•	3	Vol	Y	VM
MASSACRE P	5642	SCARBOROUGH				•								
NOTCHED P	3706	RAYMOND	•	•	•									
OWL P	3386	CASCO			•	•								
PANTHER P	3694	RAYMOND	•	•	•	•	•		•	•	3	Vol	Y	

Survey Level: IS=Infestation Surveillance LT=Limited 1=Level 1 2=Level 2 3=Level 3 RA=Rapid Assessment

Surveyor Type: Prf=Professional Rsr=Researcher Agn=Agency Personnel Vol=Volunteer

IAP Conf: CP=Curly Leaf Pondweed EM=Eurasian Water-milfoil HY=Hydrilla VM=Variable Water-milfoil VMh=Variable Water-milfoil Hybrid EN=European Naiad

Waterbody	MIDAS	TOWN	2002	2003	2004	2005	2006	2007	2008	2009	2010 IAP Surveys			IAP Conf
											Survey Level	Surveyor Type	IPP Cert?	
PARKER P	3388	CASCO	•	•	•	•			•	•	3	Prf	Y	
PEABODY P	3374	SEBAGO		•				•		•	3	Prf	Y	
PLEASANT HILL P	6436	SCARBOROUGH			•	•	•	•	•	•	IS	Agn	Y	EM
PRESUMPSCOT RIVER		WINDHAM												VM
RAYMOND P	3690	RAYMOND	•		•	•	•		•	•	3	Agn	Y	
SABBATHDAY L	3700	NEW GLOUCESTER	•								1, 3	Vol	Y	
SAND P	3394	BALDWIN	•					•						
SEBAGO L	5786	SEBAGO	•	•	•		•	•	•	•	IS	Agn	Y	VM
SEBAGO L (LITTLE)	3714	WINDHAM	•	•	•	•	•		•	•	1	Agn	Y	VMh
SONGO RIVER		CASCO			•	•			•					VM
SONGO RIVER, LOWER		NAPLES									3	Agn	Y	
TENNY RIVER		RAYMOND	•	•		•	•		•	•	3	Agn	Y	
THOMAS P	3392	CASCO	•	•	•	•	•	•	•	•	3	Agn, Vol	Y	
TRICKEY P	3382	NAPLES	•					•		•	3	Vol	Y	
UNNAMED P (HAIGIS PKWY)		SCARBOROUGH				•								
UNNAMED P (WILLOWDALE RD)		SCARBOROUGH				•								
UNNAMED P (CLEARWATER DR)		SCARBOROUGH				•								
UNNAMED P (FOGG RD)		SCARBOROUGH				•								
UNNAMED P (HEATHER LANE)		SCARBOROUGH				•								
UNNAMED P (NE of GREAT P)		SCARBOROUGH				•								
UNNAMED P (OLD NECK RD)		SCARBOROUGH				•								
UNNAMED P (PROSPECTOR LN)		SCARBOROUGH				•								
WATCHIC P	5040	STANDISH	•	•										
WOOD P	3456	BRIDGTON		•				•						
FRANKLIN COUNTY														
BEAVER MOUNTAIN L	3562	SANDY RIVER PLT		•		•	•	•	•	•	2, 3	Rsr, Vol	Y	
CHAIN OF PONDS	5064	CHAIN OF PONDS TWP									LT	Agn	Y	
CLEARWATER P	5190	INDUSTRY		•			•		•					
CUPSUPTIC RIVER		CUPSUPTIC TWP		•		•								
DODGE P	3528	RANGELEY		•		•					3	Rsr	Y	
GULL P	3532	DALLAS PLT		•							3	Rsr	Y	
HALEY P	3534	DALLAS PLT		•							3	Rsr	Y	
KENNEBAGO L (BIG)	2374	DAVIS TWP								•	3	Vol	Y	
KENNEBAGO L (LITTLE)	3958	STETSONTOWN TWP			•		•		•	•				
KENNEBAGO LOGANS		RANGELEY		•			•	•	•					
LOCKE P	5202	CHESTERVILLE									3	Vol	Y	
LOON L	2384	DALLAS PLT		•	•	•	•	•		•				
MOOSELOOKMEGUNTIC L	3302	RANGELEY		•	•		•		•		3	Vol	Y	
NORCROSS P	5214	CHESTERVILLE	•											
PORTER L	12	STRONG		•			•		•		2	Rsr	Y	
QUIMBY P	3526	RANGELEY		•	•	•					3	Rsr	Y	
RANGELEY L	3300	RANGELEY		•	•	•					LT, 3	Vol	Y	
ROUND P	3524	RANGELEY		•							3	Rsr	Y	
SADDLEBACK L	3536	DALLAS PLT			•									
SANDY RIVER P (LOWER)	3564	SANDY RIVER PLT									3	Rsr	Y	
SANDY RIVER P (MID)	3566	SANDY RIVER PLT		•		•					3	Rsr	Y	
SANDY RIVER P (UPPER)	3568	SANDY RIVER PLT		•		•					3	Rsr	Y	
TOOTHAKER P	2336	PHILLIPS						•			LT	Vol		
WEBB L	3672	WELD					•							
WILSON P	3682	WILTON			•		•		•		2	Rsr	Y	
HANCOCK COUNTY														
ABRAMS P	4444	EASTBROOK			•	•	•		•	•	3	Vol	Y	
ALAMOOSOOK L	4336	ORLAND			•	•	•	•	•	•	1	Vol	Y	
ALLEN P	4516	T35 MD			•									
ALLIGATOR L	4498	T34 MD			•			•						
BEECH HILL P	4352	OTIS						•	•	•	LT, 2	Vol	Y	
BRANCH L	4328	ELLSWORTH	•	•	•	•	•	•	•	•	LT, 3	Vol	Y	

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BRANCH P (UPPER MID)	4492	AURORA			•									
CHICKEN MILL P	4462	GOULDSBORO			•		•							
CRAIG P	4332	ORLAND			•	•	•	•	•	•	2	Vol	Y	
DEER L	4512	T34 MD			•									
DONNELL P	4412	T09 SD			•	•	•	•	•	•	1	Vol	Y	
DUCK L	4746	T04 ND						•						
EAGLE L	4606	BAR HARBOR			•	•	•	•	•	•	1	Vol	Y	
ECHO L	4624	MOUNT DESERT			•	•	•	•	•	•	1	Vol	Y	
FLANDERS P	4388	SULLIVAN							•					
FLOODS P	4370	OTIS			•									
FORBES P	4464	GOULDSBORO					•							
FOX P	4438	T10 SD			•			•	•	•				
FRENCH HILL P	4593	BAR HARBOR								•	3	Vol	Y	
GEORGES P	4406	FRANKLIN			•		•	•	•	•				
GILES P	4548	AURORA			•									
GRAHAM L	4350	MARIAVILLE			•	•	•	•	•	•				
GREAT P	4378	FRANKLIN			•	•	•	•	•	•	1	Vol	Y	
GREAT P	4604	GREAT POND			•			•						
GREEN L	4294	DEDHAM			•	•	•	•	•	•	LT	Vol	Y	
GREEN L #1	4518	T35 MD			•									
HADLOCK P (LOWER)	4610	MOUNT DESERT			•			•	•	•	3	Vol		
HADLOCK P (UPPER)	4612	MOUNT DESERT			•		•	•	•	•	1	Agn	Y	
HANCOCK P	4318	BUCKSPORT			•		•							
HEART P	4338	ORLAND			•		•							
HODGDON P	4628	MOUNT DESERT				•			•	•	1			
HOPKINS P	4538	MARIAVILLE								•				
HORSESHOE L	4788	T35 MD			•									
HURD P	4302	DEDHAM			•		•		•					
JACOB BUCK P	4322	BUCKSPORT			•		•							
JONES P	4466	GOULDSBORO			•		•							
JORDAN P	4608	MOUNT DESERT			•		•	•	•	•	1	Agn	Y	
KING P	4600	GREAT POND			•									
LEAD MTN P (LO & MD)	4484	T28 MD			•	•	•	•	•	•				
LEAD MTN P (UPPER)	4482	T28 MD			•	•	•							
LEONARD LAKE	9663	ELLSWORTH						•	•					
LONG P	4430	T10 SD			•		•		•	•				
LONG P	4598	GREAT POND			•									
LONG (GREAT) P	4622	MOUNT DESERT			•	•	•	•	•	•	1	Agn, Vol	Y	
LONG P (LITTLE)	4424	T10 SD							•					
MOLASSES P	4448	EASTBROOK			•	•	•		•		1	Agn	Y	
MORRISON P	4364	OTIS							•					
MUD P	4420	T10 SD							•					
NICATOUS L	4766	T40 MD			•	•	•	•	•					
PATTEN P (LOWER)	4344	SURRY			•	•	•	•	•	•	LT	Vol	Y	
PATTEN P (UPPER)	4342	ORLAND			•									
PHILLIPS (LUCERNE) L	4300	DEDHAM		•	•	•	•	•	•	•	LT	Vol	Y	
PICKEREL P	4587	T32 MD			•									
PIERCE P	4660	PENOBSCOT			•	•								
PISTOL L (SIDE)	4752	T04 ND							•					
ROCKY P	4330	ORLAND				•	•							
ROCKY P	4358	OTIS						•						
ROCKY P	4476	T22 MD							•					
ROUND P	5576	FRYEBURG									3	Prf	Y	
ROUND P	4620	MOUNT DESERT								•				
SABAO L (LOWER)	4784	T35 MD			•									
SALMON P	4422	T10 SD							•					

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SCAMMONS P	4446	EASTBROOK					•		•	•				
SEAL COVE P	4630	TREMONT			•		•	•	•	•	1	Agn	Y	
SILVER L	5540	BUCKSPORT			•	•	•	•	•	•				
SOMES P	4614	MOUNT DESERT			•	•	•	•		•				
SPECTACLE P	4450	OSBORN PLT					•							
SPRING BROOK P	4572	AMHERST			•									
SPRING RIVER L	4432	T10 SD			•									
SPRINGY P	4540	OTIS							•					
THE TARN	4456	BAR HARBOR							•					
TILDEN P	4418	T10 SD							•					
TODDY P	4340	SURRY		•	•		•	•	•	•	LT, 2	Vol		
TUNK L	4434	T10 SD					•	•	•	•				
WALKER P	4640	BROOKSVILLE							•					
WEBB P	4346	EASTBROOK					•		•					
WEST L	503	T03 ND			•	•	•	•						
WIGHT P	4662	PENOBSCOT			•	•	•		•					
YOUNGS P	4360	OTIS			•				•					
KENNEBEC COUNTY														
ANNABESSACOOK L	9961	MONMOUTH			•					•	2	Vol	Y	
BELGRAGE STREAM		BELGRADE	•	•	•	•	•	•						VM
BERRY P	3828	WINTHROP								•	2	Vol	Y	
BUKER P	5242	LITCHFIELD	•			•			•	•	2	Vol	Y	
CARLTON P	5310	WINTHROP							•					
CLAY P	5566	FRYEBURG									3	Prf	Y	
COBBOSEECONTEE L (LTL)	8065	WINTHROP						•	•					
COBBOSSEECONTEE L	5236	WINTHROP								•	2	Vol	Y	
COBBOSEE STREAM		GARDINER	•		•			•		•				VM
COCHNEWAGON P	3814	MONMOUTH	•			•				•	2	Vol	Y	
DAVID P	5666	FAYETTE							•	•	LT	Vol	Y	
DEXTER P	3830	WINTHROP			•					•	2	Vol	Y	
ECHO L (CROTCHED P)	5814	FAYETTE					•		•	•	LT, 3	Vol	Y	
FLYING P	5182	VIENNA	•			•	•		•		LT	Vol	Y	
GREAT MEADOW STREAM		VARIOUS									IS, 3	Vol	Y	VM
GREAT P	5274	BELGRADE	•	•	•	•	•	•		•	IS, LT, 1	Agn, Vol	Y	VM
HATCHERY BROOK		BELGRADE							•					
HORSESHOE P	5252	WEST GARDINER				•		•		•				VM
JAMIES (JIMMIE) P	5302	MANCHESTER				•								
JIMMY P	5244	LITCHFIELD							•	•				
KENNEBEC RIVER		VARIOUS						•			LT	Agn	Y	
KIMBALL P	5330	VIENNA				•			•	•	3	Vol	Y	
LONG P	5272	BELGRADE	•	•	•	•	•	•			1, 3	Vol	Y	
LOVEJOY P	5664	FAYETTE	•	•							LT	Vol	Y	
MARANACOOK L	5312	WINTHROP								•	2	Vol	Y	
MCGRATH P	5348	OAKLAND			•		•	•	•					
MESSALONSKEE L	5280	BELGRADE	•	•	•		•	•	•		3	Rsr	Y	VM
MESSALONSKEE STREAM		BELGRADE			•									VM
MINNEHONK L	5812	MOUNT VERNON								•	LT, 3	Vol	Y	
NARROWS P (LOWER)	103	WINTHROP								•				
NARROWS P (UPPER)	98	WINTHROP				•				•				
NORTH & LITTLE PONDS	5344	ROME	•	•	•	•	•	•			1, 3	Vol	Y	
PARKER P	5186	FAYETTE			•				•	•	2	Vol	Y	
PLEASANT (MUD) P	5254	GARDINER	•		•		•	•	•	•				VM
POCASSET L	3824	WAYNE	•											
PURGATORY P (LITTLE)	5250	LITCHFIELD									2	Vol	Y	
PURGATORY STREAM		LITCHFIELD									IS	Agn	Y	EM
SALMON L	5352	BELGRADE		•	•	•			•	•	IS, 3	Agn, Vol	Y	EM

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SAND P (TACOMA LKS)	5238	LITCHFIELD	•				•		•	•	2	Vol	Y	
SPECTACLE P	5410	VASSALBORO							•					
TAYLOR (MILL) P	5668	MOUNT VERNON	•						•	•	3	Vol	Y	
THREEMILE P	5416	CHINA		•										
TILTON P	5658	FAYETTE							•					
TORSEY (GREELEY) P	5307	MOUNT VERNON			•	•			•	•	2	Vol	Y	
WEBBER P	5408	VASSALBORO		•										
WILSON P	3832	WAYNE			•			•		•	2	Vol	Y	
WOODBURY P	5240	LITCHFIELD			•	•	•	•	•	•	2	Vol	Y	
KNOX COUNTY														
ALFORD L	4798	HOPE		•										
CHICKAWAUKIE P	4822	ROCKPORT	•											
CRAWFORD P	4810	UNION	•											
HOBBS P	4806	HOPE	•											
MEGUNTICOOK L	4852	CAMDEN				•								
SENNEBEC P	5682	APPLETON		•										
SEVEN TREE P	5686	UNION		•										
SOUTH P	5716	WARREN		•										
LINCOLN COUNTY														
ADAMS P	5366	BOOTHBAY	•											
BISCAY P	5710	DAMARISCOTTA	•						•					
CLARY L (PLEASANT P)	5382	JEFFERSON				•								
DAMARISCOTTA L	5400	JEFFERSON	•	•	•	•	•	•	•	•	IS, 2, 3	Agn, Vol	Y	HY
DAVIS STREAM		DAMARISCOTTA	•					•	•					
DUCKPUDDLE P	5702	NOBLEBORO			•									
KNICKERBOCKER P	5368	BOOTHBAY	•											
PEMAQUID P	5704	NOBLEBORO			•						LT	Vol	Y	
SHERMAN L	5404	EDGECOMB	•											
WEST HARBOR P	5372	BOOTHBAY HARBOR						•	•	•				
OXFORD COUNTY														
ANASAGUNTICOOK L	3604	HARTFORD		•					•					
BACK (5 KEZARS) P	3199	STONEHAM	•	•	•	•	•	•	•	•	3	Vol	Y	
BEAR P	3624	TURNER						•			3	Vol	Y	
BICKFORD P	3158	PORTER								•				
BRADLEY P	3220	LOVELL	•		•		•			•				
BRYANT P	3464	WOODSTOCK	•	•	•	•	•		•					VM
BURNT MEADOW P	5572	BROWNFIELD						•		•				
CLEMONS P (BIG)	3174	HIRAM						•						
CLEMONS P (LITTLE)	3176	HIRAM						•		•	2	Vol	Y	
COLCORD P	3160	PORTER						•		•				
CONCORD P (BIG)	3466	WOODSTOCK		•										
CONCORD P (LITTLE)	3468	WOODSTOCK			•									
COON SWAMP		OTISFIELD				•			•	•				
CUPSUPTIC P	7726	OXBOW TWP				•								
CUSHMAN P	3224	LOVELL	•	•	•	•			•					VM
ELLIS (ROXBURY) P	3504	BYRON		•										
FARRINGTON P	3200	LOVELL	•		•		•			•				
HANCOCK P	3132	DENMARK			•	•		•						
HEALD P	3222	LOVELL	•		•		•			•				
HICKS P	3484	GREENWOOD		•										
HOGAN P	3770	OXFORD	•	•	•			•		•				VM
HORSESHOE P	3196	LOVELL			•		•		•	•				
INDIAN P	3480	GREENWOOD		•										
JEWETT (5 KEZARS) P	3198	WATERFORD	•	•	•	•	•	•	•	•	3	Vol	Y	
KEEWAYDIN L	3272	STONEHAM		•										
KEOKA L	3416	WATERFORD	•			•	•		•		3	Prf	Y	
KEZAR L	97	LOVELL	•	•	•		•			•				

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KEZAR P	9709	FRYEBURG	•	•						•	LT, 3	Prf, Vol	Y	
LABRADOR P (BIG)	3598	SUMNER		•										
LITTLE P	3436	OTISFIELD							•	•				
LITTLE ADROSCOGGIN RIVER		OXFORD			•									VM
LONG (MCWAIN) P	3418	WATERFORD									3	Prf	Y	
LOVEWELL P	3254	FRYEBURG			•				•	•				
MIDDLE (5 KEZARS) P	3201	WATERFORD	•	•	•	•	•	•	•	•	3	Vol	Y	
MOOSE P	3134	DENMARK								•				
MOOSE P	3438	OTISFIELD		•	•	•	•		•	•	3	Prf	Y	
MOOSE P	3496	WEST PARIS		•										
MOOSE P (LITTLE)	3128	DENMARK						•						
MUD (5 KEZARS) P	3422	WATERFORD	•	•	•	•	•	•	•	•	3	Vol	Y	
MUD P	3486	GREENWOOD		•										
NEZINSCOT RIVER		BUCKFIELD		•										
NEZINSCOT W BRANCH		WOODSTOCK		•										
NOAH EASTMAN P	3204	LOVELL	•											
NORTH P	3460	WOODSTOCK	•	•										
NORTH P	3500	NORWAY	•			•	•	•	•	•	3	Prf	Y	
PENNESSEEWASSEE (LT)	367	NORWAY	•			•	•	•	•	•	3	Prf	Y	
PENNESSEEWASSEE L	3434	NORWAY	•			•	•	•	•	•	3	Prf	Y	
PERLEY P	3140	DENMARK								•				
PLEASANT L	3446	OTISFIELD		•	•	•	•		•	•	IS, 3	Agn, Vol	Y	(VM) 2010
SAND (WALDEN) P	3130	DENMARK	•			•								
SAND P	3432	NORWAY	•				•	•	•	•	3	Prf	Y	
SATURDAY P	3440	OTISFIELD		•	•	•	•		•	•	3	Prf	Y	
SHAGG P	3470	WOODSTOCK		•	•	•	•	•	•	•				VM
SONGO P	3262	ALBANY TWP		•										
SOUTH & ROUND PONDS	9683	GREENWOOD	•	•	•	•								
STANLEY P	3182	HIRAM						•		•				
STEARNS P	3234	SWEDEN	•											
THOMPSON L	3444	OXFORD			•	•	•	•	•	•	IS, 1, 2, 3	Vol	Y	VM
TROUT BROOK		LOVELL	•											
TROUT P	3212	STONEHAM	•		•		•			•				
TWITCHELL P	3478	GREENWOOD		•		•								
WASHBURN P	3476	WOODSTOCK		•										
WHITNEY P	3772	OXFORD	•					•						
PENOBSCOT COUNTY														
ETNA P	2274	ETNA	•											
GARLAND P	4128	GARLAND	•											
GRAND LAKE SEBOIS	3011	T07 R07 WELS			•									
MATAGAMON L	4260	T06 R08 WELS								•	1	Agn	Y	
MUD P	2182	T06 R08 WELS			•									
PUFFERS P (ECHO L)	744	DEXTER							•					
PUSHAW P (LITTLE)	2156	HUDSON								•	1, 3	Agn, Vol	Y	
SAWTELLE DEADWATER	2174	T06 R07 WELS			•									
SCRAGGLY L	4264	T7R8 WELS						•						
SEBASTICOOK L	2264	NEWPORT		•	•		•							
WASSOOKEAG L	227	DEXTER				•		•		•	LT, 2, 3	Vol	Y	
PISCATAQUIS COUNTY														
BELL P	4210	T04 R09 WELS								•				
BOYD L	2158	ORNEVILLE									LT	Agn	Y	
CENTER P	760	SANGERVILLE		•										
DEBSCONEAG L (4th)	582	T01 R10 WELS						•						
DEBSCONEAG L (5th)	602	RAINBOW TOWNSHIP						•						
DEBSCONEAG L (6th)	580	T01 R10 WELS						•						

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DEBSCONEAG L (8th)	608	RAINBOW TOWNSHIP						•						
DEEP P	9616	T04 R09 WELS								•				
DRAPER P	4194	T04 R09 WELS								•				
FITZGERALD P	269	BIG SQUAW TWP								•				
GOULD	620	RAINBOW TWP						•						
MANHANOCK P	758	PARKMAN	•											
MOOSEHEAD L	390	GREENVILLE							•	•				
PRONG P	9791	GREENVILLE								•				
WASSATAQUOIK L	4212	T04 R10 WELS								•				
WASSATAQUOIK L (LIT)	4214	T04 R10 WELS								•				
WHETSTONE P	296	BLANCHARD PLT			•						LT	Vol	Y	
SAGADAHOC COUNTY														
NEQUASSET P	5222	WOOLWICH	•						•					
SEWALL P	9943	ARROWSIC			•	•	•	•	•	•	2	Vol	Y	
SOMERSET COUNTY														
ATTEAN P	2682	ATTEAN TWP								•				
BRASSUA L (LTL)	4120	ROCKWOOD STRIP						•		•				
COLD STREAM P	2538	PARLIN POND TWP								•				
EAST P	5349	SMITHFIELD		•	•	•	•	•			1	Vol	Y	
EMBDEN P	78	EMBDEN				•	•	•	•	•	3	Vol	Y	
FLAGSTAFF L	38	FLAGSTAFF TWP									1	Vol	Y	
GRACE P	152										LT	Vol	Y	
HOLEB P	2652	HOLEB TWP			•			•						
INDIAN P	4090	INDIAN STREAM TWP						•		•				
KENNEBEC RIVER		VARIOUS									LT	Agn	Y	
LAKE GEORGE	2608	CANAAN	•					•						
LONG P	2536	LONG POND TWP						•						
LONG P	2646	FORSYTH TWP								•				
LONG P	4118	TAUNTON & RAYNHAM								•				
MCKENNEY P	2650	HOLEB TWP								•				
MOOSE (GREAT) P	2590	HARTLAND						•	•	•	1	Prf	Y	
PARLIN P	2544	PARLIN POND TWP								•				
RIPLEY P	746	RIPLEY	•											
SIBLEY P	2612	CANAAN	•											
SPENCER STREAM		KING & BARTLETT TWP									LT	Agn	Y	
TURNER P (BIG)	2642	FORSYTH TWP								•				
WESSERUNSETT L	70	MADISON	•	•	•	•				•				
WALDO COUNTY														
CARGILL P	4884	LIBERTY					•		•	•	3	Vol	Y	
LAWRY P	4834	SEARSMONT							•		3	Vol	Y	
LITTLE P	7665	LIBERTY								•	2, 3	Vol	Y	
NORTON P	4850	LINCOLNVILLE				•								
PITCHER P	4848	NORTHPORT	•				•			•				
SAINT GEORGE L	9971	LIBERTY		•			•	•	•	•	LT, 1, 3	Vol	Y	
SANDY (FREEDOM) P	5174	FREEDOM	•											
SHEEPSCOT P	4896	PALERMO			•									
STEVENS P	4886	LIBERTY	•				•		•	•	1	Vol	Y	
SWAN L	5492	SWANVILLE				•								
UNITY P	5172	UNITY			•					•				
WASHINGTON COUNTY														
BOG L	1258	NORTHFIELD						•						
BOYDEN L	1404	ROBBINSTON						•	•					
CATHANCE L	9661	NO 14 PLT			•	•	•	•		•	1, 3	Agn	Y	

Survey Level: IS=Infestation Surveillance LT=Limited 1=Level 1 2=Level 2 3=Level 3 RA=Rapid Assessment

Surveyor Type: Prf=Professional Rsr=Researcher Agn=Agency Personnel Vol=Volunteer

IAP Conf: CP=Curly Leaf Pondweed EM=Eurasian Water-milfoil HY=Hydrilla VM=Variable Water-milfoil VMh=Variable Water-milfoil Hybrid EN=European Naiad

Waterbody	MIDAS	TOWN	2002	2003	2004	2005	2006	2007	2008	2009	2010 IAP Surveys			IAP Conf
											Survey Level	Surveyor Type	IPP Cert?	
INDIAN L	1362	WHITING			●									
MEDDYBEMPS L	177	MEDDYBEMPS						●		●	3	Agn	Y	
MOPANG L	1172	DEVEREAUX TWP						●						
PLEASANT RIIVER L	1210	BEDDINGTON	●											
ROCKY L	1348	WHITING					●							
SCHOODIC L	1230	CHERRYFIELD						●						
YORK COUNTY														
ADAMS P (ROCK HAVEN)	3890	NEWFIELD		●			●	●		●				
BALCH & STUMP PONDS	3898	NEWFIELD			●	●		●						VM
BAUNEAG BEG L	3992	NORTH BERWICK					●	●						
BRANCH P (MIDDLE)	3936	WATERBORO						●		●				
BUNGANUT P	3980	LYMAN								●				
ESTES L	7	SANFORD				●	●	●		●	LT	Vol	Y	
GOODWINS' MILL P		LYMAN						●						
GOOSE P	137	SHAPLEIGH								●	2	Vol	Y	
GREAT EAST L	3922	ACTON		●		●		●	●	●	1, 2	Vol	Y	
HOLLAND (SOKOSIS) P	3942	LIMERICK		●			●	●		●				
HORN P	3924	ACTON	●				●	●		●	1, 2	Vol	Y	
HORNE (PEQUAWKET) P	3408	LIMINGTON						●			2	Vol	Y	
ISINGLASS P	5010	WATERBORO			●			●						
KENNEBUNK P	3998	LYMAN				●		●	●	●	3	Vol	Y	
KNIGHTS P	3884	SOUTH BERWICK					●	●		●				
LEGION P	115	KITTERY									3	Agn	Y	CP, EN
LONG P	9701	PARSONSFIELD		●		●		●		●	3	Vol	Y	
LOON P	9695	ACTON				●		●		●				
MOOSE P	3926	ACTON						●		●				
MOUSAM L	3838	ACTON			●	●		●	●	●	LT, 3	Prf, Vol	Y	
MOUSAM RIVER		SANFORD									3	Vol	Y	
MURDOCK P	3931	BERWICK						●						
OSSIPEE FLWG (LIT) (ARROWHEAD)	9715	WATERBORO		●	●	●	●	●	●	●	3	Agn	Y	VM
OSSIPEE L (LITTLE)	5024	WATERBORO		●		●		●		●				
OSSIPEE RIVER (LITTLE)		LIMINGTON					●			●				VM
PICKEREL P	3940	LIMERICK	●	●	●	●	●	●	●	●	3	Agn	Y	HY
PINKHAM L	3896	WEST NEWFIELD						●						
POVERTY P (BIG)	157	NEWFIELD		●			●			●				
POWDERHOUSE HILL P		SO. BERWICK			●									
PROVINCE L	9887	PARSONSFIELD								●				
ROUND P	5586	SOUTH BERWICK			●									
ROUND P	5038	LYMAN						●						
SACO RIVER		BAR MILLS						●						VM
SCITUATE P	5596	YORK					●	●						
SHAPLEIGH P (NORTH)	3950	SHAPLEIGH				●		●		●				
SPAULDING P	3872	LEBANON							●		3	Agn	Y	VM
SQUARE P	3916	ACTON			●	●								
SYMMES P	3892	NEWFIELD		●		●		●		●				
TURNER P (MIRROR L)	3894	NEWFIELD								●				
UNNAMED P (OGUNQUIT RD)		SO. BERWICK			●									
UNNAMED P (OLD KENNEBUNK RD)		LYMAN			●									
WARREN P	5584	SOUTH BERWICK			●									
WEBSTERS MILL P	6889	LIMINGTON						●		●				
WELCHS P	5588	YORK			●						LT	Agn	Y	
WEST P	3186	PARSONSFIELD		●	●	●	●	●	●	●	1	Vol	Y	CP
WILSON L	3920	ACTON	●	●			●	●		●	1	Vol	Y	

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Surveyor Type: Prf=Professional Rsr=Researcher Agn=Agency Personnel Vol=Volunteer

IAP Conf: CP=Curly Leaf Pondweed EM=Eurasian Water-milfoil HY=Hydrilla VM=Variable Water-milfoil VMh=Variable Water-milfoil Hybrid EN=European Naiad

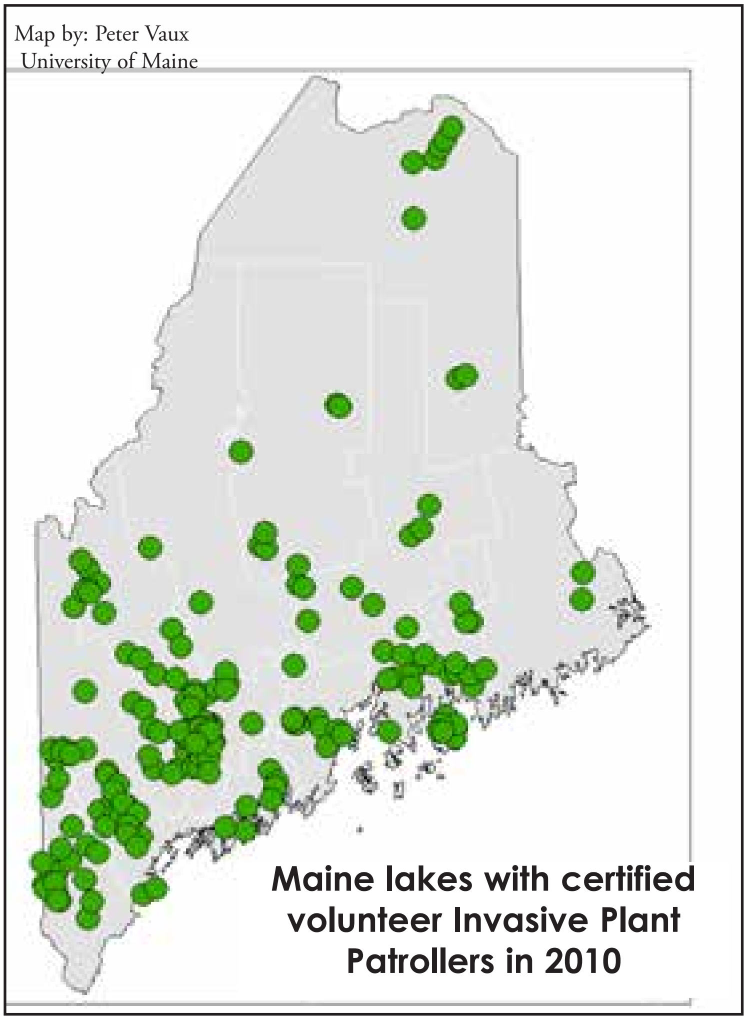
2010 Certified Volunteer Lake Monitors

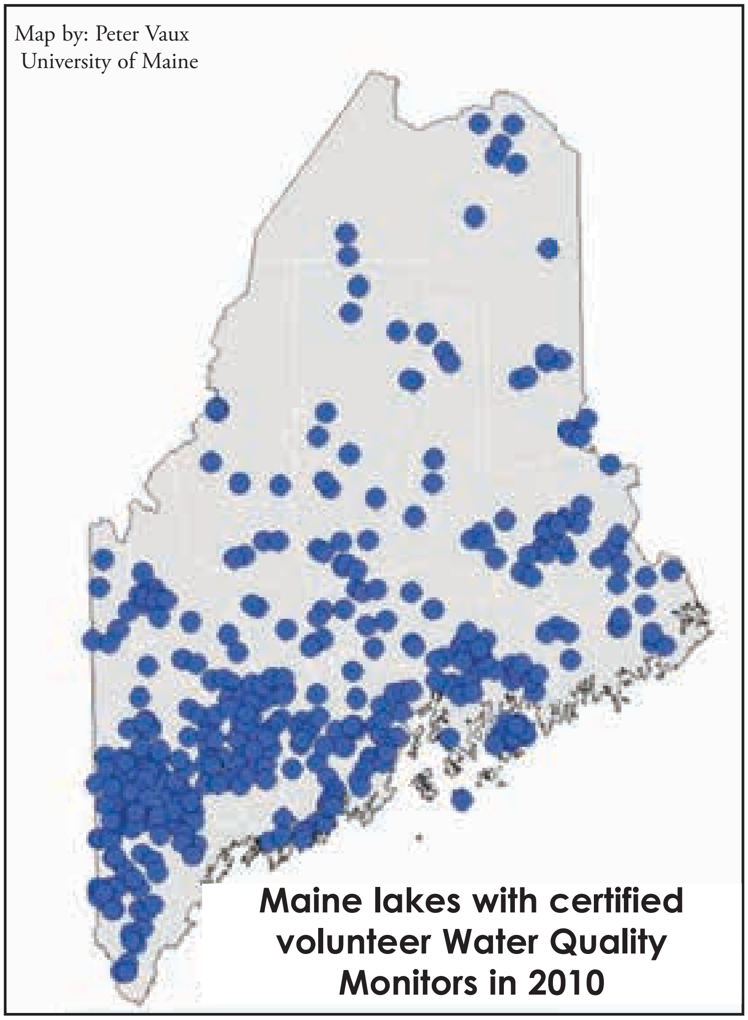
Listing of all volunteer lake monitors in the VLMP in 2010, including each volunteer's 'Years of Service' listed after their name. The list is organized by County and then by lake name.

In 2010 more than 40 new certified Water Quality Monitors joining the program and 82 new certified Invasive Plant Patrollers. The VLMP staff welcomes all new volunteers and commends their dedication and enthusiasm!

Many VLMP volunteers have been continuously active for more than a decade, and a growing number have been monitoring their lakes for 10, 15, 20 and even 25 years!

For a separate listing of volunteers who have been with the VLMP for more than **10 years** see page 85.





LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
ANDROSCOGGIN COUNTY			
ALLEN P	GREENE	Katie Carville, 6	
ALLEN P	GREENE	Richard Dubois, 11	
ANDROSCOGGIN L	LEEDS	Bill Messer, 3	John Cummings, 2
ANDROSCOGGIN L	LEEDS	Beth Anne Pobopien, 11	Jean Gardner, 4
ANDROSCOGGIN L	LEEDS		Pamela Davis Green, 2
ANDROSCOGGIN L	LEEDS		Debbie Hite, 6
ANDROSCOGGIN L	LEEDS		Joe Moore, 6
ANDROSCOGGIN L	LEEDS		Suzanne Waterman, 5
AUBURN L	AUBURN	Dan Fortin, 10	Mary Jane Dillingham, 7
AUBURN L	AUBURN	Mary Jane Dillingham, 10	Dan Fortin, 7
AUBURN L	AUBURN	Maurice Vachon, 12	Maurice Vachon, 7
BRETTUN'S P	LIVERMORE	Churchill Barton, 12	
BRETTUN'S P	LIVERMORE	Dennis Mancine, 2	
BRETTUN'S P	LIVERMORE	Dot Young, 2	
CRYSTAL (BEALS) P	TURNER	Tom Mower, 15	
LARD P	TURNER	Lucien Bedard, 4	
LARD P	TURNER	Maurice St. Pierre, 6	
LOON (SPEAR) P	SABATTUS	Robert Gobeil, 21	
LOON (SPEAR) P	SABATTUS	Rosemarie Gobeil, 21	
MOOSE HILL P	LIVERMORE FALLS	Rob Taylor, 10	
NO NAME P	LEWISTON	Sue Glann, 9	Eileen Fair, 7
NO NAME P	LEWISTON	Mike Ranocourt, 9	
PLEASANT P	TURNER	Penny Appleby, 3	Penny Appleby, 4
PLEASANT P	TURNER		Janet Terry, 4
RANGE P (LOWER)	POLAND	Poppy Connor-Crouch, 12	
RANGE P (LOWER)	POLAND	John Crouch, 12	
RANGE P (MIDDLE)	POLAND	Barry Kutzen, 26	
RANGE P (UPPER)	POLAND	Matthew Brettler, 3	
RANGE P (UPPER)	POLAND	Anne Gagne, 15	
ROUND P	TURNER	Bert Breton, 19	
ROUND P	LIVERMORE	Bill Mann, 29	
SABATTUS P	GREENE	Robert Boulette, 13	
SABATTUS P	GREENE	Pete Clarke, 6	
SABATTUS P	GREENE	Christine Guerette, 5	
SABATTUS P	GREENE	Dan Guerette, 17	
SABATTUS P	GREENE	Leon Rioux, 11	
SANDY BOTTOM P	TURNER	Roland Johnson, 12	
SANDY BOTTOM P	TURNER	Tim Tetu, 14	
TAYLOR P	AUBURN	Ralph Gould, 12	
TAYLOR P	AUBURN	Dana Little, 8	
TAYLOR P	AUBURN	Elwood Trask, 2	
TRIPP P	POLAND	John Laskey, 28	
WILSON P (LITTLE)	TURNER	Philomena McPhee-Brown, 8	Colleen Bennett, 1
WILSON P (LITTLE)	TURNER	Dick Thibodeau, 12	Philomena McPhee-Brown, 7
AROOSTOOK COUNTY			
BLACK L	FORT KENT	Mike Bouchard, 8	
BRACKETT L	WESTON	Ron Langworthy, 4	
COCHRANE L	NEW LIMERICK	Tricia McCarthy, 6	
CROSS L	T17 R05 WELS	Reynold Martin, 15	Casey Bowie, 2
DEERING L	ORIENT	Sherrie McKissick, 4	
DEERING L	ORIENT	Tim McKissick, 4	
DREWS(MEDUXNEKEAG) L	LINNEUS	Tana McNutt, 13	
EAGLE L	EAGLE LAKE		Casey Bowie, 2
ECHO L	PRESQUE ISLE	Mike Gudreau, 1	
ECHO L	PRESQUE ISLE	Patty Hutchings, 13	
FAULKNER L	WESTON	Lynda Palmer, 8	
GRAND L (EAST)	WESTON	Bob Anderson, 4	
GRAND L (EAST)	WESTON	Dennis Blair, 7	
GRAND L (EAST)	WESTON	Pat Coville, 4	
GRAND L (EAST)	WESTON	Bob Ellis, 7	
GRAND L (EAST)	WESTON	Nichole Grant, 7	
GRAND L (EAST)	WESTON	Peter Morley, 4	
GRAND L (EAST)	WESTON	Bill Walton, 4	
GRAND L (EAST)	WESTON	Heather Walton, 4	
LONG L	T17 R04 WELS	Richard Cayer, 2	Casey Bowie, 2
LONG L	T17 R04 WELS	Maurice Collin, 1	Maurice Collin, 2

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
LONG L	T17 R04 WELS	Gerard Plourde, 1	Rose Marie Collin, 2
LONG L	T11 R13 WELS	Meredith Podgursky, 7	Linda Daigle, 2
LONG L	T17 R04 WELS		Gisele Hall, 2
LONG L	T17 R04 WELS		Tom LaCrosse, 2
LONG L	T17 R04 WELS		Gerard Plourde, 2
MADAWASKA L	T16 R04 WELS	Dana Hallowell, 23	
MADAWASKA L	T16 R04 WELS	Gerard Plourde, 1	
MATTAWAMKEAG L	ISLAND FALLS	Norm Harte, 6	Norm Harte, 1
MATTAWAMKEAG L	ISLAND FALLS	Sherry Pettijohn, 6	
MUD L	T17 R04 WELS		Casey Bowie, 2
NICKERSON L	NEW LIMERICK	Paul Porter, 11	
NORTH L	ORIENT	Claude Crandlemere, 19	
PLEASANT L	T04 R03 WELS	Norm Harte, 6	Norm Harte, 1
PLEASANT L	T04 R03 WELS	Sherry Pettijohn, 6	Candy McKellar, 1
PLEASANT L	T04 R03 WELS	Jim Timmins, 3	Sherry Pettijohn, 1
PORTAGE L	PORTAGE LAKE	Kenneth Hodsdon, 15	Fred Edgecomb, 6
PORTAGE L	PORTAGE LAKE	Phillip Ouellette, 6	Phillip Ouellette, 6
SQUARE L	T16 R05 WELS	Kim Borges-Therien, 6	Casey Bowie, 2
SQUARE L	T16 R05 WELS	Stephen Hansen, 5	
UMSASKIS L	T11 R13 WELS	Meredith Podgursky, 7	
CUMBERLAND COUNTY			
Various			Jackey Bailey, 7
ADAMS P	BRIDGTON	Colin Holme, 11	
BAY OF NAPLES	NAPLES	Colin Holme, 11	
BEAVER P	BRIDGTON	Colin Holme, 11	
BONNY EAGLE L	STANDISH	Julie Carrell, 4	
BONNY EAGLE L	STANDISH	Peggy Farr, 4	
BROWNS P	SEBAGO	Maryleen Farrington, 4	
COFFEE P	CASCO	Bill Mansfield, 12	
COLD RAIN P	NAPLES	Andy Buck, 15	
COLD RAIN P	NAPLES	Richard Buck, 17	
COLD RAIN P	NAPLES	Colin Holme, 11	
COLLINS P	WINDHAM	Dennis Brooks, 6	Nancy Cleveland, 4
COLLINS P	WINDHAM	Richard Brown, 6	Paula Monaghan, 6
COLLINS P	WINDHAM	Paula Monaghan, 3	Andrea Morris, 4
COLLINS P	WINDHAM		Jennifer Sporzynsky, 4
CRESCENT L	RAYMOND	Elden Lingwood, 6	Kim Gass, 2
CRESCENT L	RAYMOND		Noralee Raymond, 4
CRYSTAL L (DRY P)	GRAY	Donald Richardson, 1	Denis M. Coffey, 4
CRYSTAL L (DRY P)	GRAY	Peter Thoits, 10	Harvey Gerry, 4
CRYSTAL L (DRY P)	GRAY		Donald Richardson, 3
CRYSTAL L (DRY P)	GRAY		Susan Sebestyen, 2
CRYSTAL L (DRY P)	GRAY		Cheryl Welch, 4
CRYSTAL L (DRY P)	GRAY		John Welch, 2
CRYSTAL(ANONYMOUS) P	HARRISON	Colin Holme, 11	
DUMPLING P	CASCO	Doug Webster, 12	
FOREST L	WINDHAM	Jim Gameros, 6	Mike Caiola, 3
FOREST L	WINDHAM	Bob Heyer, 10	Jim Gameros, 1
FOREST L	WINDHAM	Ed Keenan, 7	Janene Gorham, 3
FOREST L	WINDHAM		Karen Hall, 3
FOREST L	WINDHAM		Bob Heyer, 7
FOREST L	WINDHAM		Ed Keenan, 3
FOREST L	WINDHAM		Ivan Ossander, 3
FOREST L	WINDHAM		Duncan Smith, 3
GREAT P	CAPE ELIZABETH		Laurie Callahan, 6
HIGHLAND (DUCK) L	FALMOUTH	Tom Bannen, 11	Keith Williams, 7
HIGHLAND (DUCK) L	FALMOUTH	Ralph Johnston, 35	
HIGHLAND (DUCK) L	FALMOUTH	John Wilcox, 11	
HIGHLAND (DUCK) L	FALMOUTH	Keith Williams, 20	
HIGHLAND L	BRIDGTON	Colin Holme, 11	
HOLT P	BRIDGTON	Colin Holme, 11	
INGALLS (FOSTER'S) P	BRIDGTON	Janet Coulter, 15	
INGALLS (FOSTER'S) P	BRIDGTON	Colin Holme, 11	
INGALLS P	BALDWIN		Laurie Callahan, 6
LONG L	BRIDGTON	Colin Holme, 11	
MASSACRE P	SCARBOROUGH		Laurie Callahan, 6

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
NOTCHED P	RAYMOND	Gary Buckin, 8	
OTTER P	BRIDGTON	Colin Holme, 11	
PANTHER P	RAYMOND	Charles Turner, 35	David Brown, 2
PANTHER P	RAYMOND		Marie Connolly, 2
PANTHER P	RAYMOND		Connie Cross, 1
PANTHER P	RAYMOND		Sibyl French, 4
PANTHER P	RAYMOND		Robert French, 4
PANTHER P	RAYMOND		Neil Jensen, 1
PANTHER P	RAYMOND		Peggy Jensen, 1
PANTHER P	RAYMOND		Noralee Raymond, 4
PANTHER P	RAYMOND		'Bunny' Marilyn Wescott, 4
PARKER P	CASCO	Bob Francis, 13	Fred Cummings, 7
PARKER P	CASCO		Mary 'Pixie' Williams, 7
PEABODY P	SEBAGO	Colin Holme, 11	
RAYMOND P	RAYMOND	Charles Chapman, 14	Noralee Raymond, 4
RAYMOND P	RAYMOND	Bev Daniels, 3	
RAYMOND P	RAYMOND	Susan Moore, 3	
SABBATHDAY L	NEW GLOUCESTER	Mike Cloutier, 7	
SEBAGO L	SEBAGO	Rod Beaulier, 4	Noralee Raymond, 4
SEBAGO L	SEBAGO	Steve Herrick 4	
SEBAGO L	SEBAGO	Brie Holme, 5	
SEBAGO L	SEBAGO	Laurel Jackson, 1	
SEBAGO L	SEBAGO	Kirsten Ness, 10	
SEBAGO L	SEBAGO	Roger Paradis, 4	
SEBAGO L	SEBAGO	Richard Simpson, 4	
SEBAGO L	SEBAGO	Chad Thompson, 5	
SEBAGO L	SEBAGO	Toby Tyler, 3	
SEBAGO L	SEBAGO	Nate Whalen, 11	
SEBAGO L (LITTLE)	WINDHAM	Bruce Micucci, 21	Patricia Levesque, 3
SEBAGO L (LITTLE)	WINDHAM	Angela Micucci, 5	
THOMAS P	CASCO	Richard Horr, 4	Fred Cummings, 7
THOMAS P	CASCO	Mark Mattson, 18	Noralee Raymond, 4
THOMAS P	CASCO		Mary 'Pixie' Williams, 7
TRICKEY P	NAPLES	Colin Holme, 11	Richard Meyer, 4
TRICKEY P	NAPLES	Richard Meyer, 9	
WATCHIC P	STANDISH	Sam Campbell, 2	David Bradbury, 3
WATCHIC P	STANDISH	Eben Joslyn, 7	Donald Drew, 3
WOOD P	BRIDGTON	Colin Holme, 11	
FRANKLIN COUNTY			
Various			Daniel Buckley, 4
BEAVER MOUNTAIN L	SANDY RIVER PLT	Ed Simmons, 8	Trudy Christian, 6
BEAVER MOUNTAIN L	SANDY RIVER PLT		Martin Velishka, 2
BEAVER MOUNTAIN L	SANDY RIVER PLT		Barbara Zamierowski, 6
CLEARWATER P	INDUSTRY	Eileen Kreutz 6	Michael Camacho, 3
CLEARWATER P	INDUSTRY		Megan Devine, 3
CLEARWATER P	INDUSTRY		Adeline Harris, 3
CLEARWATER P	INDUSTRY		James Smith, 2
DODGE P	RANGELEY	Bob Silvia, 9	Martin Velishka, 2
EGYPT P	CHESTERVILLE	Marilyn Dailey, 9	
GULL P	DALLAS PLT	Victor Borko, 9	
HALEY P	DALLAS PLT	Linda Decker, 9	
HILLS P	PERKINS TWP	William Gilliland, 1	
HILLS P	PERKINS TWP		William Gilliland, 1
HILLS P	PERKINS TWP		Leslie Gilliland, 1
KENNEBAGO L (BIG)	DAVIS TWP	Willis White, 9	Willis White, 5
KENNEBAGO L (BIG)	DAVIS TWP		Ellie White, 5
KENNEBAGO L (BIG)	DAVIS TWP		Willis White, 5
KENNEBAGO L (LITTLE)	STETSONTOWN TWP		Laura Warren, 7
LOCKE P	CHESTERVILLE	Ellie Hopkins, 11	Ellie Hopkins, 2
LOCKE P	CHESTERVILLE	Dawn Jepson, 6	
LOCKE P	CHESTERVILLE	Dennis Jepson, 6	
LOON L	DALLAS PLT	Ainsley Bodman, 1	Claudia Scholz 7
LOON L	DALLAS PLT	Chip Liversidge, 9	John Scholz 6
LOON L	DALLAS PLT	John Scholz 3	
MOOSELOOKMEGUNTIC L	RANGELEY	Bob Kramer, 8	Elaine Holcombe, 5

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
MOOSELOOKMEGUNTIC L	RANGELEY	Jim Proctor, 4	
MOOSELOOKMEGUNTIC L	RANGELEY	Joan Proctor, 4	
MOOSELOOKMEGUNTIC L	RANGELEY	Shelby Rousseau, 9	
MOOSELOOKMEGUNTIC L	RANGELEY	Rollie Stemland, 8	
MOOSELOOKMEGUNTIC L	RANGELEY	Randy Widmer, 6	
NORCROSS P	CHESTERVILLE	Mike Rowland, 3	
PARKER P (MIRROR L)	JAY	Rob Taylor, 10	
PEASE P	WILTON	Kendall Brann, 8	
PORTER L	STRONG	Alden Wattles, 8	Glenda Hargreaves, 2
PORTER L	STRONG	Ann Wattles, 13	Kyle Hargreaves, 2
PORTER L	STRONG		Richard Hargreaves, 5
PORTER L	STRONG		Mike Weinstein, 6
PORTER L	STRONG		Penny Weinstein, 6
QUIMBY P	RANGELEY	Susan Motley, 9	Susan Motley, 1
QUIMBY P	RANGELEY		Martin Velishka, 2
RANGELEY L	RANGELEY	Roger Barras, 4	
RANGELEY L	RANGELEY	John Burgess, 8	
ROUND P	RANGELEY	Bob Silvia, 9	Martin Velishka, 2
TOOTHAKER P	PHILLIPS	Adrienne Rollo, 10	
WEBB (WELD) L	WELD	Gert Downs, 16	James Stewart, 5
WEBB (WELD) L	WELD	Janet Hall, 6	
WEBB (WELD) L	WELD	Warren Keene, 8	
WEBB (WELD) L	WELD	Barbara Paiton, 16	
WEBB (WELD) L	WELD	Donald Smart, 6	
WEBB (WELD) L	WELD	James Stewart, 10	
WEBB (WELD) L	WELD	Ozzo Swett, 8	
WILSON P	WILTON	Mary Ryan, 25	Sandra Muller, 2
WILSON P	WILTON		Wynn Muller, 2
WILSON P	WILTON		James Smith, 2
HANCOCK COUNTY			
Various			Beth Arsenault, 4
Various			Megan Facciolo, 4
Various			Meghan Goff, 3
Various			Rodney Kelshaw, 6
ABRAMS P	EASTBROOK	Johanna Bazzlo, 3	Kathleen Cotter, 3
ABRAMS P	EASTBROOK	Bobbi Twitchell, 7	Richard DiBiase, 2
ALAMOOSOOK L	ORLAND	Richard Dodge, 2	Richard Dodge, 6
ALAMOOSOOK L	ORLAND		John Laslie, 3
ALLIGATOR L	T34 MD		Melissa Brandt, 2
AUNT BETTY'S P	BAR HARBOR	Meghan Goff, 3	Joan Boyce, 2
BEAVER DAM P	BAR HARBOR	Meghan Goff, 3	Patricia Dyer, 4
BEECH HILL P	OTIS	Patricia Dyer, 16	Joanne Howard, 2
BEECH HILL P	OTIS	Linda Fuller, 8	Larry Johnston, 2
BEECH HILL P	OTIS	Gloria Wheaton, 2	Carolyn Johnston, 2
BEECH HILL P	OTIS		Gloria Wheaton, 2
BEECH HILL P	OTIS		Ethan Whitegiver, 2
BEECH HILL P	OTIS		Matt Whitegiver, 2
BRANCH L	ELLSWORTH	Emily Brodsky, 8	Susan Bailey, 7
BRANCH L	ELLSWORTH	John Wedin, 7	Charla Bansley, 3
BRANCH L	ELLSWORTH		Robert Beal, 1
BRANCH L	ELLSWORTH		Virginia Bourne, 5
BRANCH L	ELLSWORTH		Brian Dodge, 7
BRANCH L	ELLSWORTH		Pam Dodge, 7
BRANCH L	ELLSWORTH		Amy Dodge, 2
BRANCH L	ELLSWORTH		Carol Gabransky, 7
BRANCH L	ELLSWORTH		Emily Gabransky, 7
BRANCH L	ELLSWORTH		Anne Hayes, 7
BRANCH L	ELLSWORTH		Don Hayes, 5
BRANCH L	ELLSWORTH		Erika Higgins, 1
BRANCH L	ELLSWORTH		Bill Higgins, 1
BRANCH L	ELLSWORTH		Jane Ley, 5
BRANCH L	ELLSWORTH		George Lewis, 5
BRANCH L	ELLSWORTH		Sarah Roach, 5
BRANCH L	ELLSWORTH		Rosemary Robbins, 5
BRANCH L	ELLSWORTH		Susan Rylander, 5
BRANCH L	ELLSWORTH		Kim Shaves, 5

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
BRANCH L	ELLSWORTH		Carroll D. Snyder, 3
BRANCH L	ELLSWORTH		John Wedin, 4
BRANCH L	ELLSWORTH		Bud Weiland, 3
BRANCH L	ELLSWORTH		Ralph Whedon, 7
BRANCH L	ELLSWORTH		Laura Wilson, 6
BREAKNECK P (LOWER)	BAR HARBOR	Meghan Goff, 3	
BREAKNECK P (UPPER)	BAR HARBOR	Bill Gawley, 22	
BUBBLE P	BAR HARBOR	Bill Gawley, 22	
BUBBLE P	BAR HARBOR	Meghan Goff, 3	
CHAIN L (MIDDLE)	T04 ND	Joe Musante, 7	
CHAIN L (UPPER)	T04 ND	Joe Musante, 7	
CRAIG P	ORLAND	Jamie Crowell, 8	Jamie Crowell, 5
DONNELL P	T09 SD	Connie Mahaffey, 2	Alan Dorr, 3
DONNELL P	T09 SD		Crystal Hitchings, 6
DONNELL P	T09 SD		Connie Mahaffey, 3
EAGLE L	BAR HARBOR	Bill Gawley, 22	Pamela Parvin, 3
EAGLE L	BAR HARBOR	Meghan Goff, 3	
EAGLE L	BAR HARBOR	Kit Sheehan, 8	
ECHO L	MOUNT DESERT	Bill Gawley, 22	Pamela Parvin, 3
ECHO L	MOUNT DESERT	Meghan Goff, 3	
FLANDERS P	SULLIVAN	Megan Facciolo, 3	Rob Eaton, 2
FLOODS P	OTIS	Charles Prahm, 8	
FOX P	T10 SD	Richard Brey, 9	
FRENCH HILL P	BAR HARBOR	David Lind, 2	David Lind, 2
GEORGES P	FRANKLIN	Shari Latulippe, 9	Rod Fuentola, 3
GEORGES P	FRANKLIN		Shari Latulippe, 4
GRAHAM L	MARIAVILLE	Bill Reynolds, 5	Patricia J MacFarlane, 3
GREAT P	FRANKLIN	Nick Davidson, 2	Cathy Goddard, 7
GREAT P	FRANKLIN	Cathy Goddard, 2	
GREAT P	FRANKLIN	Shari Latulippe, 9	
GREEN L	DEDHAM	Dick Cook, 15	Charla Bansley, 3
GREEN L	DEDHAM	Bob Dunlap, 15	Bob Dunlap, 7
GREEN L	DEDHAM	Edward Farwell, 2	Cynthia Dunlap, 7
GREEN L	DEDHAM	Milt Gilmore, 5	Sally LaVertu, 3
GREEN L	DEDHAM		Mike Weinstein, 6
GREEN L	DEDHAM		Penny Weinstein, 6
HADLOCK P (LOWER)	MOUNT DESERT	Stuart Burr, 4	
HADLOCK P (LOWER)	MOUNT DESERT	Shawn McLane, 2	
HADLOCK P (LOWER)	MOUNT DESERT	Steve Montminy, 4	
HADLOCK P (LOWER)	MOUNT DESERT	Paul Slack, 7	
HADLOCK P (UPPER)	MOUNT DESERT	Stuart Burr, 4	
HADLOCK P (UPPER)	MOUNT DESERT	Bill Gawley, 22	
HADLOCK P (UPPER)	MOUNT DESERT	Meghan Goff, 3	
HADLOCK P (UPPER)	MOUNT DESERT	Steve Montminy, 4	
HADLOCK P (UPPER)	MOUNT DESERT	Paul Slack, 7	
HATCASE P	DEDHAM	Fred Grant, 8	
HOPKINS P	MARIAVILLE	Steve Kahl, 13	
JORDAN P	MOUNT DESERT	Stuart Burr, 4	
JORDAN P	MOUNT DESERT	Bill Gawley, 22	
JORDAN P	MOUNT DESERT	Meghan Goff, 3	
JORDAN P	MOUNT DESERT	Shawn McLane, 2	
JORDAN P	MOUNT DESERT	Steve Montminy, 4	
JORDAN P	MOUNT DESERT	Paul Slack, 7	
KILLMAN P	T04 ND	Joe Musante, 7	
LEAD MTN P (LO & MD)	T28 MD		Mark Whiting, 7
LEAD MTN P (UPPER)	T28 MD		Mark Whiting, 7
LONG (GREAT) P	MOUNT DESERT	Bill Gawley, 22	Julie Rumrill, 2
LONG (GREAT) P	MOUNT DESERT	Meghan Goff, 3	
LONG P	MOUNT DESERT		David Lamon, 7
MOLASSES P	EASTBROOK	Dennis Ellis, 11	
NICATOUS L	T40 MD	John Devin, 14	
PATTEN P (LOWER)	SURRY	Jessica Ahern, 15	Dr Donald Ahern, 7
PATTEN P (LOWER)	SURRY	Dr Donald Ahern, 21	Jessica Ahern, 7
PATTEN P (LOWER)	SURRY		Sarah Ahern, 7
PATTEN P (LOWER)	SURRY		Susan Sobel, 7

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
PATTEN P (LOWER)	SURRY		Ted Webersinn, 3
PHILLIPS (LUCERNE) L	DEDHAM	Charles McClead, 34	Charles McClead, 6
PISTOL L (SIDE)	T03 ND	Joe Musante, 7	
SARGENT P	MOUNT DESERT	Bill Gawley, 22	
SARGENT P	MOUNT DESERT	Meghan Goff, 3	
SEAL COVE P	TREMONT	Bill Gawley, 22	
SEAL COVE P	TREMONT	Meghan Goff, 3	
SILVER L	BUCKSPORT	Ralph White, 13	
SOMES P	MOUNT DESERT	David Lamon, 7	David Lamon, 7
SOMES P	MOUNT DESERT	Julie Rumrill, 2	Julie Rumrill, 2
SOMES P	MOUNT DESERT	Jake Vangoarder, 4	
SOMES P	MOUNT DESERT	Jesse Wheeler, 7	
SPRING RIVER L	T10 SD		Crystal Hitchings, 6
SPRINGY P (LOWER)	OTIS	Todd Sekera, 17	
THE BOWL	BAR HARBOR	Bill Gawley, 22	
THE BOWL	BAR HARBOR	Meghan Goff, 3	
TODDY P	SURRY	Richard Salminen, 1	
WALKER P	BROOKSVILLE	Crista Straub, 2	Fred Stine, 3
WALKER P	BROOKSVILLE	Elizabeth Whitmore, 3	Nancy Stine, 3
WEBB P	EASTBROOK	Matt Montgomery, 1	
WEST L	T03 ND	Linda Ilse, 6	
WITCH HOLE P	BAR HARBOR	Bill Gawley, 22	
WITCH HOLE P	BAR HARBOR	Meghan Goff, 3	
KENNEBEC COUNTY			
Various			Corinne Dawson, 1
Various			Adrien Polky, 3
Various			Alecia Tenney, 3
ANNABESSACOOK L	MONMOUTH	Mike Becker, 10	Leslie Bowe, 2
ANNABESSACOOK L	MONMOUTH	Ryan Burton, 9	Mike Bowe, 2
ANNABESSACOOK L	MONMOUTH		Cameron DuFour, 2
ANNABESSACOOK L	MONMOUTH		Whitney Grass, 1
ANNABESSACOOK L	MONMOUTH		Katie Jennings, 2
ANNABESSACOOK L	MONMOUTH		Ethan McGuire, 1
ANNABESSACOOK L	MONMOUTH		
ANNABESSACOOK L	MONMOUTH		
APPLE VALLEY L	WINTHROP		Cameron DuFour, 2
APPLE VALLEY L	WINTHROP		Whitney Grass, 1
APPLE VALLEY L	WINTHROP		Katie Jennings, 2
APPLE VALLEY L	WINTHROP		Ethan McGuire, 1
BASIN P	FAYETTE	Barbara Kinney, 11	
BERRY P	WINTHROP	Ryan Burton, 9	Cameron DuFour, 2
BERRY P	WINTHROP		Whitney Grass, 1
BERRY P	WINTHROP		Katie Jennings, 2
BERRY P	WINTHROP		Ethan McGuire, 1
BRAINARD P	READFIELD		Cameron DuFour, 2
BRAINARD P	READFIELD		Whitney Grass, 1
BRAINARD P	READFIELD		Katie Jennings, 2
BRAINARD P	READFIELD		Ethan McGuire, 1
BUKER P	LITCHFIELD	Ryan Burton, 9	Judy Bourget, 5
BUKER P	LITCHFIELD		Diane Clay, 7
BUKER P	LITCHFIELD		Buffy DeMatteis, 7
BUKER P	LITCHFIELD		Cameron DuFour, 2
BUKER P	LITCHFIELD		Whitney Grass, 1
BUKER P	LITCHFIELD		Katie Jennings, 2
BUKER P	LITCHFIELD		Ethan McGuire, 1
CARLTON P	WINTHROP	Ryan Burton, 9	Cameron DuFour, 2
CARLTON P	WINTHROP		Whitney Grass, 1
CARLTON P	WINTHROP		Katie Jennings, 2
CARLTON P	WINTHROP		Ethan McGuire, 1
CHINA L	CHINA	Allen Chamberlain, 18	
CHINA L	CHINA	Douglas Clark, 2	
CHINA L	CHINA	James Hart, 4	
CHINA L	CHINA	Emile Nicol, 14	
CHINA L	CHINA	Peter Wilkens, 4	
COBBOSSEECONTEE (LT)	WINTHROP	Ryan Burton, 9	Cameron DuFour, 2

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
COBBOSSEECONTEE (LT)	WINTHROP		Whitney Grass, 1
COBBOSSEECONTEE (LT)	WINTHROP		Katie Jennings, 2
COBBOSSEECONTEE (LT)	WINTHROP		Ethan McGuire, 1
COBBOSSEECONTEE L	WINTHROP	Ryan Burton, 9	Cameron DuFour, 2
COBBOSSEECONTEE L	WINTHROP	Cheryl Soucy, 21	Whitney Grass, 1
COBBOSSEECONTEE L	WINTHROP		Katie Jennings, 2
COBBOSSEECONTEE L	WINTHROP		Ethan McGuire, 1
COCHNEWAGON P	MONMOUTH	Ryan Burton, 9	Cameron DuFour, 2
COCHNEWAGON P	MONMOUTH	Joe Saunders, 3	Whitney Grass, 1
COCHNEWAGON P	MONMOUTH		Katie Jennings, 2
COCHNEWAGON P	MONMOUTH		Ethan McGuire, 1
DAVID P	FAYETTE	Barbara Kinney, 11	Sarah Lafond, 1
DAVID P	FAYETTE	Rene Mathieu, 9	Joe Longtin, 1
DESERT P	MOUNT VERNON		Cameron DuFour, 2
DESERT P	MOUNT VERNON		Whitney Grass, 1
DESERT P	MOUNT VERNON		Katie Jennings, 2
DESERT P	MOUNT VERNON		Ethan McGuire, 1
DEXTER P	WINTHROP	Ryan Burton, 9	Cameron DuFour, 2
DEXTER P	WINTHROP		Whitney Grass, 1
DEXTER P	WINTHROP		Katie Jennings, 2
DEXTER P	WINTHROP		Ethan McGuire, 1
ECHO L (CROTCHED P)	FAYETTE	Bill Latham, 12	Horatio Castle, 4
ECHO L (CROTCHED P)	FAYETTE		Dan Koniec[illegible], 4
ECHO L (CROTCHED P)	FAYETTE		Bill Latham, 2
ECHO L (CROTCHED P)	FAYETTE		Richard McKeen, 2
ECHO L (CROTCHED P)	FAYETTE		Doug Phillips, 5
ECHO L (CROTCHED P)	FAYETTE		Alison Smith, 1
ECHO L (CROTCHED P)	FAYETTE		Lea Stabinsky, 5
ECHO L (CROTCHED P)	FAYETTE		Ken Stabinsky, 5
ECHO L (CROTCHED P)	FAYETTE		Norman Stiles, 5
FIGURE EIGHT P	SIDNEY	Heidi Chadbourne, 12	
FLYING P	VIENNA	Brian Canwell, 14	Marsha Clark, 1
FLYING P	VIENNA		Peter Goffin, 1
GREAT P	BELGRADE	Alan Brackett, 3	Cheryl Abbott, 2
GREAT P	BELGRADE	Bruce Fenn, 8	Michael Bernstein, 7
GREAT P	BELGRADE	Maggie Shannon, 12	Bruce Fenn, 7
GREAT P	BELGRADE	Susan Therrien-Fenn, 8	Lea Ramirez, 7
GREAT P	BELGRADE		Maggie Shannon, 7
GREAT P	BELGRADE		Richard Sharf, 1
GREAT P	BELGRADE		Jackie Tanner, 5
GREAT P	BELGRADE		Susan Therrien-Fenn, 7
HALES P	FAYETTE	Roberta Manter, 10	
HOPKINS P	MOUNT VERNON	Jennifer Jespersen, 5	
HOPKINS P	MOUNT VERNON	Jennifer Jespersen, 5	
HORSESHOE P	WEST GARDINER	Martin Blaney, 5	Martin Blaney, 7
HORSESHOE P	WEST GARDINER	Christian Poulin, 6	Cameron DuFour, 2
HORSESHOE P	WEST GARDINER		Whitney Grass, 1
HORSESHOE P	WEST GARDINER		Katie Jennings, 2
HORSESHOE P	WEST GARDINER		Ethan McGuire, 1
HORSESHOE P	WEST GARDINER		Christian Poulin, 7
HUTCHINSON P	MANCHESTER		Cameron DuFour, 2
HUTCHINSON P	MANCHESTER		Whitney Grass, 1
HUTCHINSON P	MANCHESTER		Katie Jennings, 2
HUTCHINSON P	MANCHESTER		Ethan McGuire, 1
JAMIES (JIMMIE) P	MANCHESTER	Ryan Burton, 9	Cameron DuFour, 2
JAMIES (JIMMIE) P	MANCHESTER		Whitney Grass, 1
JAMIES (JIMMIE) P	MANCHESTER		Katie Jennings, 2
JAMIES (JIMMIE) P	MANCHESTER		Ethan McGuire, 1
JIMMY P	LITCHFIELD	Ryan Burton, 9	Judy Bourget, 5
JIMMY P	LITCHFIELD	Diane Clay, 8	Cameron DuFour, 2
JIMMY P	LITCHFIELD		Whitney Grass, 1
JIMMY P	LITCHFIELD		Katie Jennings, 2
JIMMY P	LITCHFIELD		Ethan McGuire, 1
KEZAR P	WINTHROP		Cameron DuFour, 2

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
KEZAR P	WINTHROP		Whitney Grass, 1
KEZAR P	WINTHROP		Katie Jennings, 2
KEZAR P	WINTHROP		Ethan McGuire, 1
KIMBALL P	VIENNA	Carol Bassett, 8	
LONG P	WINDSOR	Gary Emond, 6	
LONG P	BELGRADE	Dick Greenan, 2	Bruce Fenn, 7
LONG P	BELGRADE	Susan Therrien-Fenn, 8	Peter Kallin, 2
LONG P	BELGRADE	Fred Weston, 22	Maggie Shannon, 7
LONG P	BELGRADE		Susan Therrien-Fenn, 7
LOON P	LITCHFIELD		Cameron DuFour, 2
LOON P	LITCHFIELD		Whitney Grass, 1
LOON P	LITCHFIELD		Katie Jennings, 2
LOON P	LITCHFIELD		Ethan McGuire, 1
LOVEJOY P	FAYETTE	Richard Jennings, 5	
LOVEJOY P	FAYETTE	Wally Penrod, 16	
MARANACOOK L	WINTHROP	Ryan Burton, 9	Cameron DuFour, 2
MARANACOOK L	WINTHROP	Edward Dodge, 10	Eric Falconer, 2
MARANACOOK L	WINTHROP	Eric Falconer, 1	Whitney Grass, 1
MARANACOOK L	WINTHROP		Katie Jennings, 2
MARANACOOK L	WINTHROP		Katie Jennings, 2
MARANACOOK L	WINTHROP		Ethan McGuire, 1
MCGRATH P	OAKLAND	Ron Purnell, 4	Cathy Meyer, 2
MCGRATH P	OAKLAND	Christie Souza, 7	Robert Meyer, 2
MCGRATH P	OAKLAND		Diane Smith, 2
MCGRATH P	OAKLAND		Brian Smith, 2
MILL P	READFIELD		Cameron DuFour, 2
MILL P	READFIELD		Whitney Grass, 1
MILL P	READFIELD		Katie Jennings, 2
MILL P	READFIELD		Ethan McGuire, 1
MINNEHONK L	MOUNT VERNON	Linda Fish, 4	Linda Fish, 2
MINNEHONK L	MOUNT VERNON	Jennifer Jespersen, 5	Tim Kinney, 1
NARROWS P (LOWER)	WINTHROP	Ryan Burton, 9	Cameron DuFour, 2
NARROWS P (LOWER)	WINTHROP		Whitney Grass, 1
NARROWS P (LOWER)	WINTHROP		Katie Jennings, 2
NARROWS P (LOWER)	WINTHROP		Ethan McGuire, 1
NARROWS P (UPPER)	WINTHROP	Ryan Burton, 9	Cameron DuFour, 2
NARROWS P (UPPER)	WINTHROP	Joe Emerson, 38	Whitney Grass, 1
NARROWS P (UPPER)	WINTHROP		Katie Jennings, 2
NARROWS P (UPPER)	WINTHROP		Ethan McGuire, 1
NEHUMKEAG P	PITTSTON	Andy Fisk, 7	
NORTH & LITTLE PONDS	ROME	Nicholas Boulette, 4	
NORTH & LITTLE PONDS	ROME	Harvey Chelsey, 8	
NORTH & LITTLE PONDS	ROME	Dan Lagueux, 3	
PARKER P	FAYETTE	Fiora Arnold, 3	Deb Cayer, 3
PARKER P	FAYETTE	Martin Arnold, 11	Bill Dunham, 3
PARKER P	FAYETTE	Deb Cayer, 15	Linda Nelson, 1
PARKER P	FAYETTE		Zoe Onion, 1
PARKER P	FAYETTE		Susan Onion, 1
PARKER P	FAYETTE		Lidie Robbins, 3
PATTEE P	WINSLOW	Betty Lee, 6	
PLEASANT (MUD) P	GARDINER	Ryan Burton, 9	Cameron DuFour, 2
PLEASANT (MUD) P	GARDINER		Whitney Grass, 1
PLEASANT (MUD) P	GARDINER		Katie Jennings, 2
PLEASANT (MUD) P	GARDINER		Ethan McGuire, 1
POCASSET L	WAYNE	Debbie Duplisea, 7	
POCASSET L	WAYNE	David Randall, 7	
PURGATORY P (LITTLE)	LITCHFIELD	Ryan Burton, 9	Cameron DuFour, 2
PURGATORY P (LITTLE)	LITCHFIELD	Ray O'Hara, 3	Whitney Grass, 1
PURGATORY P (LITTLE)	LITCHFIELD		Katie Jennings, 2
PURGATORY P (LITTLE)	LITCHFIELD		Ethan McGuire, 1
SALMON L	BELGRADE	Rob True, 4	Mal Dawson, 2
SALMON L	BELGRADE		Betsy Enright, 2
SALMON L	BELGRADE		Dick Martin, 2
SALMON L	BELGRADE		Rob True, 2

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
SAND P (TACOMA LKS)	LITCHFIELD	Ryan Burton, 9	Judy Bourget, 5
SAND P (TACOMA LKS)	LITCHFIELD	Roger Champagne, 10	Buffy DeMatteis, 7
SAND P (TACOMA LKS)	LITCHFIELD		Cameron DuFour, 2
SAND P (TACOMA LKS)	LITCHFIELD		Whitney Grass, 1
SAND P (TACOMA LKS)	LITCHFIELD		Robert Hill, 1
SAND P (TACOMA LKS)	LITCHFIELD		Katie Jennings, 2
SAND P (TACOMA LKS)	LITCHFIELD		Patricia Levesque, 3
SAND P (TACOMA LKS)	LITCHFIELD		Ethan McGuire, 1
SAND P (TACOMA LKS)	LITCHFIELD		Susan Hill Vangeli, 1
SHED P	MANCHESTER	Ryan Burton, 9	Cameron DuFour, 2
SHED P	MANCHESTER		Whitney Grass, 1
SHED P	MANCHESTER		Katie Jennings, 2
SHED P	MANCHESTER		Ethan McGuire, 1
SPECTACLE P	VASSALBORO	Paul Mitnik, 6	
THREECORNERED P	AUGUSTA	Alex Kenoyer, 11	
THREECORNERED P	AUGUSTA	Clint Peterson, 4	
THREECORNERED P	AUGUSTA	Andrea Tyler, 4	
THREECORNERED P	AUGUSTA	Peter Wilkins, 4	
THREEMILE P	CHINA	Sharron Carey, 4	Eva Baughman, 1
THREEMILE P	CHINA	Peter Wilkins, 4	
TOGUS P	AUGUSTA	John Puciarelli, 13	
TOGUS P (LOWER)	CHELSEA	Mary Corr, 8	
TORSEY (GREELEY) P	MOUNT VERNON	Ryan Burton, 9	Cameron DuFour, 2
TORSEY (GREELEY) P	MOUNT VERNON	Fran Zambella, 3	Whitney Grass, 1
TORSEY (GREELEY) P	MOUNT VERNON		Katie Jennings, 2
TORSEY (GREELEY) P	MOUNT VERNON		Ethan McGuire, 1
WARD P	SIDNEY	Christina Lahaye, 2	
WATSON P	ROME	John Schooley, 23	
WEBBER P	VASSALBORO	Charlie Bakinstose, 6	
WEBBER P	VASSALBORO	Frank Richards, 2	
WEBBER P	VASSALBORO	Peter Wilkins, 4	
WILSON P	WAYNE	Ryan Burton, 9	Cameron DuFour, 2
WILSON P	WAYNE		Whitney Grass, 1
WILSON P	WAYNE		Katie Jennings, 2
WILSON P	WAYNE		Ethan McGuire, 1
WOODBURY P	LITCHFIELD	Ryan Burton, 9	Judy Bourget, 5
WOODBURY P	LITCHFIELD	Susie Wilding-Hartford, 20	Diane Clay, 7
WOODBURY P	LITCHFIELD		Buffy DeMatteis, 7
WOODBURY P	LITCHFIELD		Cameron DuFour, 2
WOODBURY P	LITCHFIELD		Whitney Grass, 1
WOODBURY P	LITCHFIELD		Katie Jennings, 2
WOODBURY P	LITCHFIELD		Ethan McGuire, 1
WOODBURY P	LITCHFIELD		Susie Wilding-Hartford, 7
KNOX COUNTY			
Various			Cheryl Parizale, 2
Various			Bill Rudy, 4
ALFORD L	HOPE	Alvena Buckingham, 8	
ALFORD L	HOPE	Dave Preston, 11	
CRAWFORD P	UNION	Paul Geisler, 11	
CRAWFORD P	UNION	Jack Lane, 4	
CRYSTAL P	WASHINGTON	Richard Bouchard, 14	
HOSMER P	CAMDEN	Sarah Gross, 4	
LERMOND P	HOPE	Tom Baum, 20	
LERMOND P	HOPE	Marshall Sonksen, 10	
LONG P (TURNERS L)	ISLE AU HAUT	Meghan Goff, 3	
MEGUNTICOOK L	CAMDEN	Ken Bailey, 27	Pat Durkin, 1
MEGUNTICOOK L	CAMDEN	Mike Bridges, 3	
NORTH P	WARREN	Joe Destefano, 4	
SOUTH P	WARREN	Joe Destefano, 4	
WASHINGTON P	WASHINGTON	Larry Esancy, 3	
LINCOLN COUNTY			
ADAMS P	BOOTHBAY	Adam Macy, 1	
ADAMS P	BOOTHBAY	Thomas Mansfield, 10	
ADAMS P	BOOTHBAY	John Orne, 3	
BISCAY P	DAMARISCOTTA	Steve O'Bryan, 20	Bill Bausch, 3
BISCAY P	DAMARISCOTTA		Cyndy Fairbanks, 4

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
BOYD P	BRISTOL	Peter Fischer, 22	
BOYD P	BRISTOL	Shawn Sprague, 7	
CLARK COVE P	SOUTH BRISTOL	Dirk Brunner, 23	
CLARK COVE P	SOUTH BRISTOL	Larry Mayer, 11	
CLARY L (PLEASANT P)	JEFFERSON	David Hodsdon, 36	
CLARY L (PLEASANT P)	JEFFERSON	Jack Holland, 10	
DAMARISCOTTA L	JEFFERSON	Suzanne Dwyer, 4	Sharon Abair, 3
DAMARISCOTTA L	JEFFERSON	Bob Lord, 6	Dick Butterfield, 2
DAMARISCOTTA L	JEFFERSON	Julia McLeod, 1	Steve Carroll, 1
DAMARISCOTTA L	JEFFERSON	Alice Phillips, 3	Suzanne Dwyer, 1
DAMARISCOTTA L	JEFFERSON	Carl Stillwell, 3	Bruce Hanke, 1
DAMARISCOTTA L	JEFFERSON		Carolyn Hardman, 3
DAMARISCOTTA L	JEFFERSON		Dean Krouse, 1
DAMARISCOTTA L	JEFFERSON		Nancy Krouse, 1
DAMARISCOTTA L	JEFFERSON		Beth Langton, 4
DAMARISCOTTA L	JEFFERSON		Janet Lewin, 1
DAMARISCOTTA L	JEFFERSON		Ted Lewin, 1
DAMARISCOTTA L	JEFFERSON		Tom Lyons, 1
DAMARISCOTTA L	JEFFERSON		Julia McLeod, 1
DAMARISCOTTA L	JEFFERSON		Tim Merten, 1
DAMARISCOTTA L	JEFFERSON		Phil Miller, 1
DAMARISCOTTA L	JEFFERSON		Amanda Moeser, 1
DAMARISCOTTA L	JEFFERSON		Jim Olson, 3
DAMARISCOTTA L	JEFFERSON		Alice Phillips, 3
DAMARISCOTTA L	JEFFERSON		Jeanne Sivisk, 1
DAMARISCOTTA L	JEFFERSON		Ben Thompson, 1
DAMARISCOTTA L	JEFFERSON		Priscilla Watson, 2
DAMARISCOTTA L	JEFFERSON		Bill Watson, 2
DAMARISCOTTA L	JEFFERSON		Scott Williams, 6
DAMARISCOTTA L	JEFFERSON		Bill Williamson, 2
DAMARISCOTTA L	JEFFERSON		Steve Woodard, 1
DUCKPUDDLE P	NOBLEBORO	Joe Cirigliano, 4	Barbara Boardman, 2
KNICKERBOCKER P	BOOTHBAY	Adam May, 1	
KNICKERBOCKER P	BOOTHBAY	Thomas Mansfield, 10	
KNICKERBOCKER P	BOOTHBAY	John Orne, 3	
LILY P	EDGECOMB		Beth Langton, 4
LITTLE P	DAMARISCOTTA	Scott Abbottoni, 8	
LITTLE P	DAMARISCOTTA	Lee Anna Hutchings, 9	
LITTLE P	DAMARISCOTTA	Sal Bartolotta, 7	
LITTLE P	DAMARISCOTTA	Mary Bowers, 14	
LITTLE P	DAMARISCOTTA	Deborah Suchar, 3	
MCCURDY P	BREMEN	John 'Ed' Knapp, 10	
PARADISE (MUDDY) P	DAMARISCOTTA	Steve O'Bryan, 20	
PEMAQUID P	NOBLEBORO	Mike Cahill, 9	Louise Riley, 1
PEMAQUID P	NOBLEBORO	Gail Clark, 8	
PEMAQUID P	NOBLEBORO	Gerry Clark, 8	
WEST HARBOR P	BOOTHBAY HARBOR	Joan Chase, 1	Elin Haugen, 4
WEST HARBOR P	BOOTHBAY HARBOR	Robert Chase, 1	
WEST HARBOR P	BOOTHBAY HARBOR	Elin Haugen, 3	
WEST HARBOR P	BOOTHBAY HARBOR	Leslie Muir-Volpe, 1	
WEST HARBOR P	BOOTHBAY HARBOR	Dennis Volpe, 1	
NEW BRUNSWICK, CANADA			
MAC DAM P	MAC DAM	Lee Schasky, 18	
SKIFF L	CANTERBURY	Bud Stewart, 11	
OXFORD COUNTY			
Various			Daniel Bishop, 2
Various			Matt Bolduc, 4
Various			Thomas Fanning, 4
Various			Beverly Smith, 2
ANASAGUNTICOOK L	HARTFORD	Thomas Hamilton, 14	Biff Atwater, 3
ANASAGUNTICOOK L	HARTFORD		Beth Convey, 3
ANASAGUNTICOOK L	HARTFORD		John Convey, 3
ANASAGUNTICOOK L	HARTFORD		Albert P. (Buzz) Croston, 3
ANASAGUNTICOOK L	HARTFORD		Tom 'Rusty' Knight, 2
AZISCOHOS L	LINCOLN PLT	Charlie Adkins, 9	
BACK (5 KEZARS) P	STONEHAM	Colin Holme, 11	Linda Stetson Amar, 7

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
BACK (5 KEZARS) P	STONEHAM		Morris Amar, 7
BACK (5 KEZARS) P	STONEHAM		Jane Davis, 7
BACK (5 KEZARS) P	STONEHAM		Margaret Kennedy, 7
BACK (5 KEZARS) P	STONEHAM		Ron Schutt, 7
BARKER P	HIRAM	Chuck Strandburg, 27	
BEAR P	WATERFORD	Colin Holme, 11	
BEAR P	WATERFORD	Carol Rothenberg, 4	
BEAR P (BIG)	HARTFORD	Rich Bray, 14	Rich Bray, 4
BEAR P (BIG)	HARTFORD	Kenneth Holt, 33	John Sabine, 4
BEAR P (BIG)	HARTFORD	Kent Mitchell, 14	
BEAR P (BIG)	HARTFORD	John Sabine, 2	
BEAVER P	DENMARK	Colin Holme, 11	
BICKFORD P	PORTER	Charles Miller, 17	
BRADLEY P	LOVELL		Katrina Soucy, 4
BRYANT P	WOODSTOCK	Lois Ruff, 3	
BRYANT P	WOODSTOCK	Lyndsey Smith, 2	
BURNT MEADOW P	BROWNFIELD	Susan Eland, 5	
CLEMONS P (BIG)	HIRAM	Victor Lerish, 6	
COLCORD P	PORTER	Lori Oransky, 5	
CUSHMAN P	LOVELL	Gerry Nelson, 14	
CUSHMAN P	LOVELL	Meg Nelson, 6	
ELLIS (ROXBURY) P	BYRON	Christine Greenleaf, 1	
ELLIS (ROXBURY) P	BYRON	Ross Swain, 17	
FARRINGTON P	LOVELL	David Littell, 6	
GRANGER P	DENMARK	Colin Holme, 11	
GRANGER P	DENMARK	Bob Simmons, 15	
GREEN P	OXFORD	Terri Marin, 15	
GREEN P	OXFORD	Gary Vanpelt, 4	
HALLS P	PARIS	Lewis Williams, 10	
HANCOCK P	DENMARK	Colin Holme, 11	
HANCOCK P	DENMARK	Richard Johnson, 14	
HEALD P	LOVELL		Katrina Soucy, 4
HORSESHOE P	LOVELL	Steve Lewis, 15	Katrina Soucy, 4
HOWARD P	HANOVER	Robert Susbury, 37	Dorothy 'Dot' Adams, 2
HUTCHINSON P	ALBANY TWP	Davis Martin, 3	
HUTCHINSON P	ALBANY TWP	Stephen Martin, 3	
INDIAN P	GREENWOOD	Tom Goodridge, 8	
INDIAN P	GREENWOOD	Lonny Schneider, 8	
INDIAN P	GREENWOOD	Richard Schneider, 8	
ISLAND P	WATERFORD	Colin Holme, 11	
JAYBIRD P	HIRAM	Martha Tracy, 19	
JEWETT (5 KEZARS) P	WATERFORD	Colin Holme, 11	Jane Davis, 7
JEWETT (5 KEZARS) P	WATERFORD		Robert Estes, 4
JEWETT (5 KEZARS) P	WATERFORD		Betsy Huebner, 7
JEWETT (5 KEZARS) P	WATERFORD		Ron Schutt, 7
KEOKA L	WATERFORD	Colin Holme, 11	
KEOKA L	WATERFORD	Don Rung, 13	
KEYS P	SWEDEN	Colin Holme, 11	
KEYS P	SWEDEN	Michele Windsor, 2	
KEZAR L	LOVELL	Katrina Soucy, 6	Katrina Soucy, 4
KEZAR L	LOVELL	Herman Voigt, 6	Aaron Tripp, 4
KEZAR P	FRYEBURG	Colin Holme, 11	Joyce Gosselin, 1
KEZAR P	FRYEBURG	Edward Thomas, 4	Pat Thomas, 1
KEZAR P	FRYEBURG	Pat Thomas, 1	
KIMBALL P (LOWER)	FRYEBURG	Joseph P. McMenimen, 2	
LITTLE P	OTISFIELD	Colin Holme, 11	
LONG (MCWAIN) P	WATERFORD	Colin Holme, 11	
LONG P	DENMARK	Colin Holme, 11	
LOVEWELL P	FRYEBURG	Susan Eland, 5	Michelle Broyer, 3
LOVEWELL P	FRYEBURG	Paul Fortin, 7	
MARSHALL P	HEBRON	Marilyn Dailey, 9	
MIDDLE (5 KEZARS) P	WATERFORD	Colin Holme, 11	Linda Stetson Amar, 7
MIDDLE (5 KEZARS) P	WATERFORD		Jane Davis, 7
MIDDLE (5 KEZARS) P	WATERFORD		Rick Johnson, 7
MIDDLE (5 KEZARS) P	WATERFORD		Irene Krysko, 1
MIDDLE (5 KEZARS) P	WATERFORD		Mike Krysko, 1

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
MIDDLE (5 KEZARS) P	WATERFORD		Ron Schutt, 7
MIDDLE (5 KEZARS) P	WATERFORD		John Shambroom, 1
MOOSE P	DENMARK	Susan Eland, 5	
MOOSE P	OTISFIELD	Donna Heavel, 9	
MOOSE P	WATERFORD	Colin Holme, 11	
MOOSE P	DENMARK	Colin Holme, 11	
MOOSE P	DENMARK	Peter Lowell, 17	
MOOSE P	DENMARK	Robert Meeken, 19	
MOOSE P	OTISFIELD	Scott Vlaun, 11	Fred Cummings, 7
MOOSE P	OTISFIELD	Zizi Vlaun, 11	Mary 'Pixie' Williams, 7
MUD (5 KEZARS) P	WATERFORD	Colin Holme, 11	Jane Davis, 7
MUD (5 KEZARS) P	WATERFORD		Arthur Schilling, 7
MUD (5 KEZARS) P	WATERFORD		Ron Schutt, 7
MUD P	OXFORD	Terri Marin, 15	
MUD P	OXFORD	Gary Vanpelt, 4	
NORTH P	WOODSTOCK	Peter Seamans, 4	
PAPOOSE P	WATERFORD	Janet Healey, 4	Tom Nigro, 1
PAPOOSE P	WATERFORD	Colin Holme, 11	Marcia Nigro, 1
PARMACHENEE L	LYNCHTOWN TWP	Charlie Adkins, 9	
PENNESSEEWASSEE (LT)	NORWAY	Ray Snedeker, 3	
PENNESSEEWASSEE L	NORWAY	Warren Bryant, 16	
PEQUAWKET L	BROWNFIELD	Lee Bernazzani, 2	
PERLEY P	DENMARK	Colin Holme, 11	
PICKEREL P	DENMARK	Colin Holme, 11	
PLEASANT L	OTISFIELD	Lew Wetzel, 7	Peter Barber, 1
PLEASANT L	OTISFIELD		Marygrace Barber, 1
PLEASANT L	OTISFIELD		Fred Cummings, 7
PLEASANT L	OTISFIELD		Mary 'Pixie' Williams, 7
PLEASANT P	FRYEBURG	Colin Holme, 11	
POND IN THE RIVER	TOWNSHIP C	Kris Thompson, 5	
RICHARDSON LAKES	RICHARDSONTOWN TWP	Honey Cronin, 7	
SAND (WALDEN) P	DENMARK	Nelson Gouterman, 3	
SAND (WALDEN) P	DENMARK	Colin Holme, 11	
SAND P	NORWAY	Patti-Ann Douglas, 9	
SATURDAY P	OTISFIELD	Henry Anderson, 4	Fred Cummings, 7
SATURDAY P	OTISFIELD	Eric Groves, 4	Mary 'Pixie' Williams, 7
SATURDAY P	OTISFIELD	Ruth Wilson, 6	
SONGO P	ALBANY TWP	Paula Wheeler, 15	
SOUTH & ROUND PONDS	GREENWOOD	Jon Chase, 3	
STANLEY P	HIRAM	George Derby, 2	
STEARNS P	SWEDEN	Kenneth Forde, 30	
STEARNS P	SWEDEN	Colin Holme, 11	
THOMPSON L	OXFORD	Tom Ray, 10	Ewald Bender, 5
THOMPSON L	OXFORD	Bob Tracy, 7	Scott Bernardy, 6
THOMPSON L	OXFORD		Lerry Besancon, 2
THOMPSON L	OXFORD		Roberta Hodson, 3
THOMPSON L	OXFORD		Christian Oren, 2
THOMPSON L	OXFORD		Tyler Oren, 2
THOMPSON L	OXFORD		Candace 'Kansas' Wight, 5
TWITCHELL P	GREENWOOD	Dave Brainard, 9	
TWITCHELL P	GREENWOOD	Alan Hamilton, 16	
UMBAGOG L	MAGALLOWAY PLT	Bob Folsom, 2	
WHITNEY P	OXFORD	Russ Perham, 15	
WORTHLEY P	PERU	Bruce Eastman, 19	Charles Day, 1
PENOBSCOT COUNTY			
BOTTLE L	LAKEVILLE PLT	David Parker, 14	
BOTTLE L	LAKEVILLE PLT	Freda Parker, 14	
BREWER L	ORRINGTON	Charlotte Lawton, 1	Charlotte Lawton, 2
BREWER L	ORRINGTON	Jon Lawton, 1	Jon Lawton, 2
BREWER L	ORRINGTON	Nancy Swanson, 14	
CARIBOU,EGG,LONG P	LINCOLN		Diane Freelove, 7
CEDAR L	T03 R09 NWP	Mark Labbe, 6	
CEDAR L	T03 R09 NWP	Michelle Labbe, 6	
CEDAR L	T03 R09 NWP	Betty Parsons, 6	
CHEMO P	BRADLEY	Charlie Baker, 3	Vernita Leins, 2
CHEMO P	BRADLEY	Susan Gramlich, 3	Robert Leins, 2

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
CHEMO P	BRADLEY	Robert Leins, 2	Carolyn Miller, 2
CHEMO P	BRADLEY	Vernita Leins, 2	
CHEMO P	BRADLEY	Carolyn Miller, 2	
COLD STREAM P	ENFIELD	Clayton Harvey, 15	Bradford Boone, 4
COLD STREAM P	ENFIELD		Keith Strange, 4
COLD STREAM P(UPPER)	LINCOLN	Kathy Parlee, 2	Fred Leisentritt, 2
EDDINGTON (DAVIS) P	EDDINGTON	Charlie Baker, 3	
ESCUTASIS L	BURLINGTON	Linda Ilse, 6	
GARLAND P	GARLAND	Peter Devine, 27	
HAMMOND P	HAMPDEN	Scott Cianchette, 13	
HAY L	T06 R08 WELS	Barry Burgason, 8	
HERMON P	HERMON	Scott Cianchette, 13	
HOLBROOK P	HOLDEN	Joe Bukata, 2	
JERRY P	T05 R07 WELS	Barry Burgason, 8	
JUNIOR L	T05 R01 NBPP	Joe Musante, 7	
MATTAKEUNK L	LEE	Robert Brown, 7	
MILL PRIVILEGE L	T05 R01 NBPP	Joe Musante, 7	
PEMADUMCOOK CHAIN L	T4 INDIAN PURCHASE	Waldo Preble, 11	
PLEASANT (STETSON) L	STETSON	Andrew Desrosiers, 15	
PLEASANT (STETSON) L	STETSON	Ernest Desrosiers, 15	
PLYMOUTH P	PLYMOUTH	David Richardson, 3	
PUFFERS P (ECHO L)	DEXTER	Beth Lagasse, 6	Sandy Graham, 4
PUFFERS P (ECHO L)	DEXTER		Ed Graham, 4
PUSHAW L	OLD TOWN	David Cloutier, 15	Terry Bellman, 2
PUSHAW L	OLD TOWN	Dorothy Cloutier, 4	Louis Cloutier, 2
PUSHAW L	OLD TOWN	Louis Cloutier, 4	Dorothy Cloutier, 2
PUSHAW L	OLD TOWN	Jeff Hayward, 15	Sandi Duchesne, 2
PUSHAW L	OLD TOWN	Barb Hildreth, 15	Kathleen Lukas, 2
PUSHAW P (LITTLE)	HUDSON	Jack Heineman, 1	Pamela Griffith, 2
PUSHAW P (LITTLE)	HUDSON	Robert Stessel, 7	Roger Griffith, 2
PUSHAW P (LITTLE)	HUDSON	Samuel Stessel, 7	Phyllis Heineman, 2
PUSHAW P (LITTLE)	HUDSON		Christine Stevens, 2
SAPONAC P	GRAND FALLS TWP	Linda Ilse, 6	
SCRAGGLEY L	T05 R01 NBPP	Joe Musante, 7	
SEBASTICOOK L	NEWPORT	Deborah Ferrell, 6	Deborah Ferrell, 7
SEBASTICOOK L	NEWPORT		Larry Ferrell, 7
SEBASTICOOK L	NEWPORT		Ralph Fowler, 4
SEBASTICOOK L	NEWPORT		Pamela McKinley, 4
SEBASTICOOK L	NEWPORT		Linda Miller, 4
SWETTS (SWEETS) P	ORRINGTON	Nancy Swanson, 14	
WASSOOKEAG L	DEXTER	Bob Crawford, 10	Vernon Crane, 2
WASSOOKEAG L	DEXTER	Randy Webber, 8	Neil Crane, 2
WASSOOKEAG L	DEXTER		Doug Crane, 2
WASSOOKEAG L	DEXTER		Retha Crawford, 2
WASSOOKEAG L	DEXTER		Ed Graham, 4
WASSOOKEAG L	DEXTER		Sandy Graham, 4
WASSOOKEAG L	DEXTER		Dan Hutchins, 2
WASSOOKEAG L	DEXTER		Peggy Kaufman, 2
WASSOOKEAG L	DEXTER		Laura Peaks, 2
WASSOOKEAG L	DEXTER		Adrienne Strout, 2
WASSOOKEAG L	DEXTER		Jana Wood, 2
PISCATAQUIS COUNTY			
Various			Austin Georgiades, 2
CENTER P	SANGERVILLE	George Cross, 19	Ray Dickey, 2
CENTER P	SANGERVILLE	Robert Warren, 12	Brenda Dickey, 2
CENTER P	SANGERVILLE	Thomas Warren, 12	Thomas Warren, 2
CHURCHILL L	T09 R12 WELS	Patrick Emery, 4	
DAICEY P	T03 R10 WELS		Laurie Rich, 2
DAVIS P (THIRD)	WILLIMANTIC	Brendan Curran, 2	
EAGLE L (BIG)	EAGLE LAKE TWP	Patrick Emery, 4	
HARLOW P	PARKMAN	Steve Mendrzykowski, 2	
HEBRON L	MONSON		Diana Lueck, 7
KIDNEY P	T03 R10 WELS		Diane Freelove, 7
KIDNEY P	T03 R10 WELS		Laurie Rich, 2
LOBSTER L	LOBSTER TWP	Norton ‘Buzz’ Lamb, 1	
MANHANOCK P	PARKMAN	Dick Bell, 26	

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
MANHANOCK P	PARKMAN	Pat Bell, 26	
MANHANOCK P	PARKMAN	Pat Bell,	
MITCHELL P	T07 R09 WELS	Barry Burgason, 8	
MOOSEHEAD L	GREENVILLE		Charlie Anderson, 2
MOOSEHEAD L	GREENVILLE		Susan Poole, 2
MOOSEHEAD L	GREENVILLE		Anthony Violette, 2
PIPER P	ABBOT	Ed Gelina, 2	Ed Gelina, 1
PRONG P	GREENVILLE	Thomas O'Neil ɗ , 5	
ROACH P (FIRST)	FRENCHTOWN TWP	Mik Wisher, 2	
SCHOODIC L	LAKE VIEW PLT	Brenda Rib , 6	
SCHOODIC L	LAKE VIEW PLT	ɗ ɏ Rowland, 4	
SEBEC L	WILLIMANTIC	Bob Hall, 8	
SEBEC L	WILLIMANTIC	Renee Rawinsk , 2	
SILVER L	KATAHDIN IRN WKS TWP	Ruth Eleanor Cɏ , 27	
SIX PONDS #4	T04 R09 WELS	Brendan Curran, 2	
SPENCER P	E MIDDLESEX CANAL GR	Bob Croe , 13	
THIRD L	T07 R10 WELS	Barry Burgason, 8	
WASSATAQUOIK L	T04 R10 WELS	Brendan Curran, 2	
WHETSTONE P	BLANCHARD PLT	Ken Beab , 4	
WHETSTONE P	BLANCHARD PLT	Thomas Greene, 2	Thomas Greene, 2
WILSON P (UPPER)	BOWDOIN COL GR WEST	Frank Mb ver, 6	
SAGADAHOC COUNTY			
HOUGHTON P	BATH	Fran Zaborowsk , 4	
NEQUASSET P	WOOLWICH	Mark Courtenay, 8	
NEQUASSET P	WOOLWICH	Mary Ellen Bell, 1	
SEWALL P	ARROWSIC	William C. Blaik ok 15	Karen Robbins, 7
SEWALL P	ARROWSIC	Noreen Blaik ok 15	
SEWALL P	ARROWSIC	ɗ sephine Ewing, 21	
SEWALL P	ARROWSIC	Karen Robbins, 5	
SOMERSET COUNTY			
CARRY P (EAST)	CARRYING PLC TWN TWP	Rik Young, 14	
CARRY P (WEST)	CARRYING PLC TWN TWP	Audrey Kallob , 2	
CARRY P (WEST)	CARRYING PLC TWN TWP	Norman Kallob , 2	
DUNCAN P	PRENTISS TWP	ɗ e Musante, 7	
EAST P	SMITHFIELD	Dennis Anderson, 3	Andrew Dumont, 1
EAST P	SMITHFIELD	Charles Andrews, 10	Brue Fenn, 7
EAST P	SMITHFIELD	Kristin Ditz er, 3	Cindy Hesson, 1
EAST P	SMITHFIELD		Ted Hesson, 1
EAST P	SMITHFIELD		Rob ɗ nes, 1
EAST P	SMITHFIELD		Susan Therrien-Fenn, 7
EAST P	SMITHFIELD		Gordon Woods, 1
EMBDEN P	EMBDEN	Chris Everett, 2	Pam Stephens, 2
EMBDEN P	EMBDEN	Mik Whitmore, 14	ɗ k Stephens, 2
EMBDEN P	EMBDEN		Brainard Tripp, 7
EMBDEN P	EMBDEN		Mik Whitmore, 1
FLAGSTAFF L	FLAGSTAFF TWP		Peter Farnsworth, 1
HALL P	PRENTISS TWP	ɗ e Musante, 7	
HANCOCK P	EMBDEN	Mib ael Corson, 8	
HANCOCK P	EMBDEN	Andy Gilson, 8	
INDIAN P	INDIAN STREAM TWP	David Trask 9	
INDIAN P (BIG)	ST ALBANS	Levi Ladd, 2	
LAKE GEORGE	CANAAN	Laura Rib ter, 7	
LAKE GEORGE	CANAAN	Bethany Stetk s, 5	
MARY PETUCHE P	PRENTISS TWP	ɗ e Musante, 7	
MOOSE P	HARTLAND	Don Childs, 9	
MOOSE P	HARTLAND	ɗ hn Plummer, 5	
MOOSE P	HARTLAND	So tt Thies, 11	
MOXIE P	EAST MOXIE TWP	David Trask 9	
OAKS P	SKOWHEGAN	Steve Dionne, 15	
OAKS P	SKOWHEGAN	Bethany Stetk s, 5	
PARLIN P	PARLIN POND TWP	Dave Drouin, 9	
PARLIN P	PARLIN POND TWP	Rib ard ɗ q ues, 9	
PLEASANT P	CARATUNK	David MA llister, 11	
PLEASANT P	CARATUNK	Dorthy MA llister, 11	
SIBLEY P	CANAAN	Bethany Stetk s, 5	
STARBIRD P	HARTLAND	Carol Weɏ outh, 4	

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
WESSERUNSETT L	MADISON	Elizabeth Payne, 7	
WESSERUNSETT L	MADISON	William Reid, 29	
WOOD P (BIG)	ATTEAN TWP	Sara Paradise, 2	
WALDO COUNTY			
Various			Karen Keller, 4
CARGILL P	LIBERTY		Linda Breslin, 5
CARGILL P	LIBERTY		Carole Merrifield, 5
CROSS P	MORRILL	John Kistner, 5	
CROSS P	MORRILL	Ed Lajoie, 5	
HALFMOON P	PROSPECT	Nancy Staples, 2	
KNIGHT P	NORTHPORT		Frank Getchell, 7
LAWRY P	SEARSMONT	Ken Alboum, 5	Yvonne Burkhardt, 6
LAWRY P	SEARSMONT	Yvonne Burkhardt, 14	
LAWRY P	SEARSMONT	Ruth Herz, 6	
LITTLE P	LIBERTY	HL Whitney, 2	HL Whitney, 1
LITTLE P	LIBERTY	Willy Wilmoth, 2	
MASON P (LOWER)	BELFAST	Todd Johnson, 1	
NORTON P	LINCOLNVILLE	Ken Bailey, 27	
PITCHER P	NORTHPORT	James Cook, 18	Frank Getchell, 7
PITCHER P	NORTHPORT	Kyle Emery, 2	Tom Tuttle, 3
QUANTABACOOK L	SEARSMONT	Don Berry, 16	Martin Bartlett, 1
SAINT GEORGE L	LIBERTY	Dana Valleau, 12	
SAINT GEORGE L	LIBERTY		Kerry Blake, 5
SAINT GEORGE L	LIBERTY		Linda Breslin, 5
SAINT GEORGE L	LIBERTY		Jim Caldwell, 5
SAINT GEORGE L	LIBERTY		Toni Clark, 5
SAINT GEORGE L	LIBERTY		Charlie Evans, 1
SAINT GEORGE L	LIBERTY		Susan Frewert, 1
SAINT GEORGE L	LIBERTY		Kevin Frewert, 1
SAINT GEORGE L	LIBERTY		Karen McLean, 1
SAINT GEORGE L	LIBERTY		Jeff Melanson, 5
SAINT GEORGE L	LIBERTY		Suzanne Uhl-Melanson, 5
SAINT GEORGE L	LIBERTY		Willy Wilmoth, 1
SANBORN P	BROOKS	Mertie Moore, 13	
SANBORN P	BROOKS	Richard Moore, 13	
SANDY (FREEDOM) P	FREEDOM	David Bridges, 2	
SANDY (FREEDOM) P	FREEDOM	Glen Bridges, 2	
SANDY (FREEDOM) P	FREEDOM	Mertie Moore, 13	
SANDY (FREEDOM) P	FREEDOM	Richard Moore, 13	
SHEEPSCOT P	PALERMO	John Bradstreet, 17	
SHEEPSCOT P	PALERMO	Georgann Dickey, 1	
STEVENS P	LIBERTY	Charlie Hudson, 2	Linda Breslin, 5
STEVENS P	LIBERTY	John Stetson, 2	Ian Collins, 1
STEVENS P	LIBERTY		Charlie Hudson, 5
SWAN L	SWANVILLE	Paul Holweger, 11	
SWAN L	SWANVILLE	Bruce Mailloux, 17	
SWAN L	SWANVILLE	Stan Wood, 31	
TODDY P	SWANVILLE	Dan Reeve, 11	
UNITY P	UNITY	CJ Kersbergen, 4	Mickey Dipesa, 2
UNITY P	UNITY	Gary Kersbergen, 4	Dave Potter, 7
UNITY P	UNITY	Rick Kersbergen, 4	
UNITY P	UNITY	Jim Wescott, 3	
WASHINGTON COUNTY			
BEDDINGTON L	BEDDINGTON	Tom Hansen, 10	
BIG L	GRAND LAKE STREAM PL	Joe Musante, 7	
BIG L	GRAND LAKE STREAM PL	Trevor White, 18	
BIG L	GRAND LAKE STREAM PL	Trevor White, 18	
BOG L	NORTHFIELD	Bill Blaine, 5	
BOG L	NORTHFIELD	Eric Burke, 3	
BOG L	NORTHFIELD	Kathy Burke, 7	
CATHANCE L	NO 14 PLT	Richard Offinger, 34	Peggy Hallee, 5
CATHANCE L	NO 14 PLT		Mark Whiting, 7
CRAWFORD L	CRAWFORD	David Tozier, 4	
FULTON L	NORTHFIELD	Bill Blaine, 5	
GARDNER L	EAST MACHIAS	Thomas Finlay, 10	
GARDNER L	EAST MACHIAS	Edgar Johnson, 10	

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
GARDNER L	EAST MACHIAS	Rib ard Young, 10	
GRAND FALLS FLOWAGE	INDIAN TWP	ď e Musante, 7	
GRAND FALLS FLOWAGE	INDIAN TWP	Trevor White, 18	
GRAND FALLS FLOWAGE	INDIAN TWP	Trevor White, 18	
GRAND L (WEST)	T05 ND BPP	ď e Musante, 7	
INDIAN L	WHITING	David Rier, 7	
LEWY L	INDIAN TWP	ď e Musante, 7	
LEWY L	INDIAN TWP	Trevor White, 18	
LEWY L	INDIAN TWP	Trevor White, 18	
LONG L	T19 ED BPP	Bill Blaine, 5	
LONG L & THE BASIN	INDIAN TWP	ď e Musante, 7	
LONG L & THE BASIN	INDIAN TWP	Trevor White, 18	
LONG L & THE BASIN	INDIAN TWP	Trevor White, 18	
MEDDYBEMPS L	MEDDYBEMPS	Edward Ketb en, 25	Pete Trouant, 5
MEDDYBEMPS L	MEDDYBEMPS	Pete Trouant, 6	Eliz beth Trouant, 5
MUSQUASH L (EAST)	TOPSFIELD	ď e Musante, 7	
MUSQUASH L (WEST)	T06 R01 NBPP	ď e Musante, 7	
NASHS L	CALAIS	Lawrene Lane, 19	
NASHS L	CALAIS	Noel MP herson, 4	
NASHS L	CALAIS	Ron MP herson, 4	
PLEASANT L	T06 R01 NBPP	ď e Musante, 7	
PLEASANT RIVER L	BEDDINGTON	Charles Furlong, 14	
POCAMOONSHINE L	ALEXANDER	Liz Carter, 9	
POCUMCUS L	T06 ND BPP	ď e Musante, 7	
PRETTY P	T24 MD BPP	Daniel Bowk r, 2	
SCHOODIC L	CHERRYFIELD	Marvin Anderson, 7	
SCHOODIC L	CHERRYFIELD	Charles Corliss, 7	
SECOND L	MARION TWP	Rib ard Young, 10	
SHAW L	T06 R01 NBPP	ď e Musante, 7	
SPEDNIK L	VANCEBORO	Dennis Blair, 7	
SPEDNIK L	VANCEBORO	Don Doherty, 2	
SPEDNIK L	VANCEBORO	Nio le Grant, 7	
SPEDNIK L	VANCEBORO	Fran Samek 4	
SYSLADOBSIS L (LO)	T05 ND BPP	ď e Musante, 7	
SYSLADOBSIS L (LO)	T05 ND BPP	Beatty Watts, 3	
SYSLADOBSIS L (LO)	T05 ND BPP	Bill Watts, 3	
YORK COUNTY			
Various			Dwight Sewell, 6
BALCH & STUMP PONDS	NEWFIELD	Thomas Dionis, 33	
BAUNEAG BEG L	NORTH BERWICK	Chip Bry e, 3	
BAUNEAG BEG L	NORTH BERWICK	Halina Bry e, 3	
BAUNEAG BEG L	NORTH BERWICK	Cay Dalton, 3	
BAUNEAG BEG L	NORTH BERWICK	Larry Gaudreau, 3	
BUNGANUT P	LYMAN	a mes Vantassell, 12	
COX P	SOUTH BERWICK	Fred Flammia, 11	
COX P	SOUTH BERWICK	Denise ď y, 20	
ELL (L) P	WELLS	David Ak ey, 8	
ELL (L) P	WELLS	Wade Colby, 2	
ESTES L	SANFORD	Rebea Southwik 6	Laurie Callahan, 6
ESTES L	SANFORD	Rib ard Southwik 6	Ann Dugovic 6
ESTES L	SANFORD		George Dugovic 6
ESTES L	SANFORD		Fred Frody a, 1
ESTES L	SANFORD		Gloria Pasquini, 1
GRANNY KENT P	SHAPLEIGH	Robert Lemelin, 10	
GREAT EAST L	ACTON	So tt Dunham, 7	Dee Kaspra k 2
GREAT EAST L	ACTON	Charles Hodsdon, 30	Carol Lafond, 4
GREAT EAST L	ACTON		Lloy Mason, 2
GREAT EAST L	ACTON		e an Proab , 2
GREAT EAST L	ACTON		Nany Smith, 2
GREAT EAST L	ACTON		Pat Theisen, 2
HOLLAND (SOKOSIS) P	LIMERICK	a k Butler, 2	Roy Bagley, 2
HOLLAND (SOKOSIS) P	LIMERICK		ď e Callahan, 2
HORN P	ACTON	Rib ard Neal, 8	Rib Melanson, 2
HORNE (PEQUAWKET) P	LIMINGTON	George Boub ard, 14	George Boub ard, 4
HORNE (PEQUAWKET) P	LIMINGTON	Carden Welsh, 4	William Moore, 1

LAKE	TOWN	Water Quality Monitor, Years of Service	Plant Patrol Monitor, Years of Service
HORNE (PEQUAWKET) P	LIMINGTON		Helen Presz, 3
HORNE (PEQUAWKET) P	LIMINGTON		Joseph Presz, 3
KENNEBUNK P	LYMAN	John Wasileski, 31	Laurie Callahan, 6
KENNEBUNK P	LYMAN		Sue Carrington, 1
KENNEBUNK P	LYMAN		Sal Gebbia, 2
KENNEBUNK P	LYMAN		Tom Larned, 3
KENNEBUNK P	LYMAN		Jack Richardson, 1
KNIGHT P	SOUTH BERWICK	Teegan French, 14	
KNIGHT P	SOUTH BERWICK	Anita Weidknecht, 20	
LEIGH'S MILL P	SOUTH BERWICK	Michael Cannon, 8	
LONG P	PARSONSFIELD	Art Bubar, 15	Dwight Aspinwall, 2
LONG P	PARSONSFIELD		Gayle Aspinwall, 2
LONG P	PARSONSFIELD		Cindy Fahey, 2
LONG P	PARSONSFIELD		Mark Fahey, 2
LOON P	ACTON	Richard Neal, 8	Laurie Callahan, 6
LOON P	ACTON	Mark Rix, 5	
MOOSE P	ACTON	Richard Neal, 8	
MOUSAM L	ACTON	Bill 'Skip' Bartosch, 5	Taylor Ligay, 1
MOUSAM L	ACTON	Stuart Rose, 11	Dennis Roberge, 4
MOUSAM L	ACTON		Lynn Roberge-Ligay, 1
OSSIPEE FLOWAGE(LIT)	WATERBORO	Carol Carey, 4	
OSSIPEE L (LITTLE)	WATERBORO	Wayne Gautreau, 5	Wayne Gautreau, 6
OSSIPEE L (LITTLE)	WATERBORO	Robert LaBelle, 7	
OSSIPEE L (LITTLE)	WATERBORO	Sandra LaBelle, 4	
OSSIPEE L (LITTLE)	WATERBORO	Bob Maxfield, 9	
OSSIPEE L (LITTLE)	WATERBORO	Michael Taflas, 7	
PARKER (BARKER) P	LYMAN	Joel Croteau, 7	
POVERTY P (BIG)	NEWFIELD	Kenneth Webb, 4	
PROVINCE L	PARSONSFIELD		Stephen Craig, 1
SAND P	SANFORD	George Tranchemontagne, 13	
SAND P	SANFORD	Jackie Tranchemontagne, 13	
SHAPLEIGH P (NORTH)	SHAPLEIGH		Laurie Callahan, 6
SQUARE P	ACTON	Dave Cabanna, 6	Marsha Letourneau, 2
SQUARE P	ACTON	Rob Caron, 6	Donna Rosenkrans, 1
SYMMES P	NEWFIELD		Laurie Callahan, 6
TURNER P (MIRROR L)	NEWFIELD	Pat Dolbec, 20	
WEST P	PARSONSFIELD	Bill Buchanan, 11	
WEST P	PARSONSFIELD	Nicole Buchanan, 11	
WILSON L	ACTON	Peter Holtby, 7	Jeanne Achille, 2
WILSON L	ACTON	Dan Orino, 6	
WILSON L	ACTON	Teg Rood, 14	

Life Long Volunteers

Distinguished Service to Maine Lakes for Ten Years or More

Name	Years of Servie	LAKE	Town, County
Joe Emerson	38	NARROWS P (UPPER)	WINTHROP, KENNEBEC
Robert Susbury	37	HOWARD P	HANOVER, OXFORD
David Hodsdon	36	CLARY L (PLEASANT P)	JEFFERSON, LINCOLN
Ralph Johnston	35	HIGHLAND (DUCK) L	FALMOUTH, CUMBERLAND
Charles Turner	35	PANTHER P	RAYMOND, CUMBERLAND
Charles MC lead	34	PHILLIPS (LUCERNE) L	DEDHAM, HANCOCK
Richard Offinger	34	CATHANCE L	NO 14 PLT, WASHINGTON
Thomas Dionis	33	BALCH & STUMP PONDS	NEWFIELD, YORK
Kenneth Holt	33	BEAR P (BIG)	HARTFORD, OXFORD
Kenneth Holt	33	BEAR P (BIG)	HARTFORD, OXFORD
John Wasilesk	31	KENNEBUNK P	LYMAN, YORK
Stan Wood	31	SWAN L	SWANVILLE, WALDO
Kenneth Forde	30	STEARNS P	SWEDEN, OXFORD
Charles Hodsdon	30	GREAT EAST L	ACTON, YORK
Bill Mann	29	ROUND P	LIVERMORE, ANDROSCOGGIN
William Reid	29	WESSERUNSETT L	MADISON, SOMERSET
John Laskey	28	TRIPP P	POLAND, ANDROSCOGGIN
Ken Bailey	27	NORTON P	LINCOLNVILLE, WALDO
Ken Bailey	27	MEGUNTICOOK L	CAMDEN, KNOX
Ken Bailey	27	MEGUNTICOOK L	CAMDEN, KNOX
Ruth Eleanor Cyr	27	SILVER L	KATAHDIN IRN WKS TWP, PISCATAQUIS
Peter Devine	27	GARLAND P	GARLAND, PENOBSCOT
Chuck Strandburg	27	BARKER P	HIRAM, OXFORD
Dick Bell	26	MANHANOCK P	PARKMAN, PISCATAQUIS
Pat Bell	26	MANHANOCK P	PARKMAN, PISCATAQUIS
Barry Kutzen	26	RANGE P (MIDDLE)	POLAND, ANDROSCOGGIN
Edward Ketchen	25	MEDDYBEMPS L	MEDDYBEMPS, WASHINGTON
Mary Ryan	25	WILSON P	WILTON, FRANKLIN
Dirk Brunner	23	CLARK COVE P	SOUTH BRISTOL, LINCOLN
Dana Hallowell	23	MADAWASKA L	T16 R04 WELS, AROOSTOOK
Dana Hallowell	23	MADAWASKA L	T16 R04 WELS, AROOSTOOK
John Schooley	23	WATSON P	ROME, KENNEBEC
Peter Fischer	22	BOYD P	BRISTOL, LINCOLN
Bill Gawley	22	BREAKNECK P (UPPER)	BAR HARBOR, HANCOCK
Bill Gawley	22	WITCH HOLE P	BAR HARBOR, HANCOCK
Bill Gawley	22	HADLOCK P (UPPER)	MOUNT DESERT, HANCOCK
Bill Gawley	22	THE BOWL	BAR HARBOR, HANCOCK
Bill Gawley	22	SEAL COVE P	TREMONT, HANCOCK
Bill Gawley	22	SARGENT P	MOUNT DESERT, HANCOCK
Bill Gawley	22	LONG (GREAT) P	MOUNT DESERT, HANCOCK
Bill Gawley	22	JORDAN P	MOUNT DESERT, HANCOCK
Bill Gawley	22	EAGLE L	BAR HARBOR, HANCOCK
Bill Gawley	22	BUBBLE P	BAR HARBOR, HANCOCK
Bill Gawley	22	ECHO L	MOUNT DESERT, HANCOCK
Fred Weston	22	LONG P	BELGRADE, KENNEBEC
Fred Weston	22	LONG P	BELGRADE, KENNEBEC
Dr Donald Ahern	21	PATTEN P (LOWER)	SURRY, HANCOCK
Josephine Ewing	21	SEWALL P	ARROWSIC, SAGADAHOC
Robert Gobeil	21	LOON (SPEAR) P	SABATTUS, ANDROSCOGGIN
Rosemarie Gobeil	21	LOON (SPEAR) P	SABATTUS, ANDROSCOGGIN
Brue Mioc	21	SEBAGO L (LITTLE)	WINDHAM, CUMBERLAND
Brue Mioc	21	SEBAGO L (LITTLE)	WINDHAM, CUMBERLAND
Brue Mioc	21	SEBAGO L (LITTLE)	WINDHAM, CUMBERLAND
Cheryl Soucy	21	COBBOSSEECONTEE L	WINTHROP, KENNEBEC
Cheryl Soucy	21	COBBOSSEECONTEE L	WINTHROP, KENNEBEC
Tom Baum	20	LERMOND P	HOPE, KNOX
Pat Dolbec	20	TURNER P (MIRROR L)	NEWFIELD, YORK
Denise Joy	20	COX P	SOUTH BERWICK, YORK
Steve O'Bryan	20	BISCAY P	DAMARISCOTTA, LINCOLN
Steve O'Bryan	20	PARADISE (MUDDY) P	DAMARISCOTTA, LINCOLN
Anita Weidknecht	20	KNIGHT P	SOUTH BERWICK, YORK
Susie Wilding-Hartford	20	WOODBURY P	LITCHFIELD, KENNEBEC
Keith Williams	20	HIGHLAND (DUCK) L	FALMOUTH, CUMBERLAND
Bert Breton	19	ROUND P	TURNER, ANDROSCOGGIN
Claude Crandlemere	19	NORTH L	ORIENT, AROOSTOOK
Claude Crandlemere	19	NORTH L	ORIENT, AROOSTOOK
George Cross	19	CENTER P	SANGERVILLE, PISCATAQUIS
Brue Eastman	19	WORTHLEY P	PERU, OXFORD
Brue Eastman	19	WORTHLEY P	PERU, OXFORD
Lawrene Lane	19	NASHS L	CALAIS, WASHINGTON
Lawrene Lane	19	NASHS L	CALAIS, WASHINGTON
Robert Meeken	19	MOOSE P	DENMARK, OXFORD
Robert Meeken	19	MOOSE P	DENMARK, OXFORD
Martha Tracy	19	JAYBIRD P	HIRAM, OXFORD

Life Long Volunteers

Distinguished Service to Maine Lakes for Ten Years or More

Name	Years of Servie	LAKE	Town, County
Allen Chamberlain	18	CHINA L	CHINA, KENNEBEC
Allen Chamberlain	18	CHINA L	CHINA, KENNEBEC
Allen Chamberlain	18	CHINA L	CHINA, KENNEBEC
James Cook	18	PITCHER P	NORTHPORT, WALDO
Mark Mattson	18	THOMAS P	CASCO, CUMBERLAND
Lee Sochasky	18	MCADAM P	MCADAM, N.B., CANADA
Lee Sochasky	18	MCADAM P	MCADAM, N.B., CANADA
Trevor White	18	GRAND FALLS FLOWAGE	INDIAN TWP, WASHINGTON
Trevor White	18	BIG L	GRAND LAKE STREAM PL, WASHINGTON
Trevor White	18	LEWY L	INDIAN TWP, WASHINGTON
Trevor White	18	LONG L & THE BASIN	INDIAN TWP, WASHINGTON
Trevor White	18	BIG L	GRAND LAKE STREAM PL, WASHINGTON
Trevor White	18	GRAND FALLS FLOWAGE	INDIAN TWP, WASHINGTON
Trevor White	18	LONG L & THE BASIN	INDIAN TWP, WASHINGTON
Trevor White	18	LEWY L	INDIAN TWP, WASHINGTON
John Bradstreet	17	SHEEPSCOT P	PALERMO, WALDO
Richard Buck	17	COLD RAIN P	NAPLES, CUMBERLAND
Dan Guerette	17	SABATTUS P	GREENE, ANDROSCOGGIN
Peter Lowell	17	MOOSE P	DENMARK, OXFORD
Bruce Mailloux	17	SWAN L	SWANVILLE, WALDO
Charles Miller	17	BICKFORD P	PORTER, OXFORD
Todd Sekera	17	SPRINGY P (LOWER)	OTIS, HANCOCK
Ross Swain	17	ELLIS (ROXBURY) P	BYRON, OXFORD
Don Berry	16	QUANTABACOOK L	SEARSMONT, WALDO
Warren Bryant	16	PENNESSEEWASSEE L	NORWAY, OXFORD
Gert Downs	16	WEBB (WELD) L	WELD, FRANKLIN
Patricia Dyer	16	BEECH HILL P	OTIS, HANCOCK
Alan Hamilton	16	TWITCHELL P	GREENWOOD, OXFORD
Barbara Paiton	16	WEBB (WELD) L	WELD, FRANKLIN
Wally Penrod	16	LOVEJOY P	FAYETTE, KENNEBEC
Jessica Ahern	15	PATTEN P (LOWER)	SURRY, HANCOCK
Noreen Blaiklock	15	SEWALL P	ARROWSIC, SAGADAHOC
William C. Blaiklock	15	SEWALL P	ARROWSIC, SAGADAHOC
Art Bubar	15	LONG P	PARSONSFIELD, YORK
Andy Buck	15	COLD RAIN P	NAPLES, CUMBERLAND
Deb Cayer	15	PARKER P	FAYETTE, KENNEBEC
David Cloutier	15	PUSHAW L	OLD TOWN, PENOBSCOT
David Cloutier	15	PUSHAW L	OLD TOWN, PENOBSCOT
David Cloutier	15	PUSHAW L	OLD TOWN, PENOBSCOT
Dick Cook	15	GREEN L	DEDHAM, HANCOCK
Dick Cook	15	GREEN L	DEDHAM, HANCOCK
Dick Cook	15	GREEN L	DEDHAM, HANCOCK
Janet Coulter	15	INGALLS (FOSTER'S) P	BRIDGTON, CUMBERLAND
Andrew Desrosiers	15	PLEASANT (STETSON) L	STETSON, PENOBSCOT
Ernest Desrosiers	15	PLEASANT (STETSON) L	STETSON, PENOBSCOT
Steve Dionne	15	OAKS P	SKOWHEGAN, SOMERSET
Bob Dunlap	15	GREEN L	DEDHAM, HANCOCK
Bob Dunlap	15	GREEN L	DEDHAM, HANCOCK
Bob Dunlap	15	GREEN L	DEDHAM, HANCOCK
Anne Gagne	15	RANGE P (UPPER)	POLAND, ANDROSCOGGIN
Clayton Harvey	15	COLD STREAM P	ENFIELD, PENOBSCOT
Clayton Harvey	15	COLD STREAM P	ENFIELD, PENOBSCOT
Jeff Hayward	15	PUSHAW L	OLD TOWN, PENOBSCOT
Jeff Hayward	15	PUSHAW L	OLD TOWN, PENOBSCOT
Jeff Hayward	15	PUSHAW L	OLD TOWN, PENOBSCOT
Barb Hildreth	15	PUSHAW L	OLD TOWN, PENOBSCOT
Kenneth Hodsdon	15	PORTAGE L	PORTAGE LAKE, AROOSTOOK
Steve Lewis	15	HORSESHOE P	LOVELL, OXFORD
Terri Marin	15	MUD P	OXFORD, OXFORD
Terri Marin	15	GREEN P	OXFORD, OXFORD
Reynold Martin	15	CROSS L	T17 R05 WELS, AROOSTOOK
Tom Mower	15	CRYSTAL (BEALS) P	TURNER, ANDROSCOGGIN
Tom Mower	15	CRYSTAL (BEALS) P	TURNER, ANDROSCOGGIN
Russ Perham	15	WHITNEY P	OXFORD, OXFORD
Bob Simmons	15	GRANGER P	DENMARK, OXFORD
Paula Wheeler	15	SONGO P	ALBANY TWP, OXFORD
George Bouchard	14	HORNE (PEQUAWKET) P	LIMINGTON, YORK
Richard Bouchard	14	CRYSTAL P	WASHINGTON, KNOX
Mary Bowers	14	LITTLE P	DAMARISCOTTA, LINCOLN
Rich Bray	14	BEAR P (BIG)	HARTFORD, OXFORD
Rich Bray	14	BEAR P (BIG)	HARTFORD, OXFORD
Yvonne Burckhardt	14	LAWRY P	SEARSMONT, WALDO
Brian Canwell	14	FLYING P	VIENNA, KENNEBEC
Charles Chapman	14	RAYMOND P	RAYMOND, CUMBERLAND
John Devin	14	NICATOUS L	T40 MD, HANCOCK
Teegan French	14	KNIGHT P	SOUTH BERWICK, YORK
Charles Furlong	14	PLEASANT RIVER L	BEDDINGTON, WASHINGTON

Life Long Volunteers

Distinguished Service to Maine Lakes for Ten Years or More

Name	Years of Servie	LAKE	Town, County
Thomas Hamilton	14	ANASAGUNTICOOK L	HARTFORD, OXFORD
Rib ard d hnson	14	HANCOCK P	DENMARK, OXFORD
Kent Mitb ell	14	BEAR P (BIG)	HARTFORD, OXFORD
Kent Mitb ell	14	BEAR P (BIG)	HARTFORD, OXFORD
Gerry Nelson	14	CUSHMAN P	LOVELL, OXFORD
Emile Nio l	14	CHINA L	CHINA, KENNEBEC
Emile Nio l	14	CHINA L	CHINA, KENNEBEC
Emile Nio l	14	CHINA L	CHINA, KENNEBEC
David Parle r	14	BOTTLE L	LAKEVILLE PLT, PENOBSCOT
Freda Parle r	14	BOTTLE L	LAKEVILLE PLT, PENOBSCOT
Teg Rood	14	WILSON L	ACTON, YORK
Nanç Swanson	14	SWETTS (SWEETS) P	ORRINGTON, PENOBSCOT
Nanç Swanson	14	BREWER L	ORRINGTON, PENOBSCOT
Tim Tetu	14	SANDY BOTTOM P	TURNER, ANDROSCOGGIN
Mile Whitmore	14	EMBDEN P	EMBDEN, SOMERSET
Rik Young	14	CARRY P (EAST)	CARRYING PLC TWN TWP, SOMERSET
Robert Boulette	13	SABATTUS P	GREENE, ANDROSCOGGIN
So tt Cianb ette	13	HAMMOND P	HAMPDEN, PENOBSCOT
So tt Cianb ette	13	HERMON P	HERMON, PENOBSCOT
Bob Croe	13	SPENCER P	E MIDDLESEX CANAL GR, PISCATAQUIS
Bob Franc s	13	PARKER P	CASCO, CUMBERLAND
Patty Hutb ings	13	ECHO L	PRESQUE ISLE, AROOSTOOK
Steve Kahl	13	HOPKINS P	MARIAVILLE, HANCOCK
Tana Mb utt	13	DREWS(MEDUXNEKEAG) L	LINNEUS, AROOSTOOK
Mertie Moore	13	SANBORN P	BROOKS, WALDO
Mertie Moore	13	SANDY (FREEDOM) P	FREEDOM, WALDO
Rib ard Moore	13	SANDY (FREEDOM) P	FREEDOM, WALDO
Rib ard Moore	13	SANBORN P	BROOKS, WALDO
d hn Puc arelli	13	TOGUS P	AUGUSTA, KENNEBEC
Don Rung	13	KEOKA L	WATERFORD, OXFORD
Don Rung	13	KEOKA L	WATERFORD, OXFORD
George Tranb emontagne	13	SAND P	SANFORD, YORK
a k e Tranb emontagne	13	SAND P	SANFORD, YORK
Ann Wattles	13	PORTER L	STRONG, FRANKLIN
Ralph White	13	SILVER L	BUCKSPORT, HANCOCK
Churb ill Barton	12	BRETTUN'S P	LIVERMORE, ANDROSCOGGIN
Heidi Chadbourne	12	FIGURE EIGHT P	SIDNEY, KENNEBEC
Poppy Connor-Croub	12	RANGE P (LOWER)	POLAND, ANDROSCOGGIN
d hn Croub	12	RANGE P (LOWER)	POLAND, ANDROSCOGGIN
Ralph Gould	12	TAYLOR P	AUBURN, ANDROSCOGGIN
Roland d hnson	12	SANDY BOTTOM P	TURNER, ANDROSCOGGIN
Bill Latham	12	ECHO L (CROTCHED P)	FAYETTE, KENNEBEC
Bill Mansfield	12	COFFEE P	CASCO, CUMBERLAND
Maggie Shannon	12	GREAT P	BELGRADE, KENNEBEC
Dik Thibodeau	12	WILSON P (LITTLE)	TURNER, ANDROSCOGGIN
Maurie Vab on	12	AUBURN L	AUBURN, ANDROSCOGGIN
Dana Valleau	12	SAINT GEORGE L	LIBERTY, WALDO
a mes Vantassell	12	BUNGANUT P	LYMAN, YORK
Robert Warren	12	CENTER P	SANGERVILLE, PISCATAQUIS
Thomas Warren	12	CENTER P	SANGERVILLE, PISCATAQUIS
Doug Webster	12	DUMPLING P	CASCO, CUMBERLAND
Martin Arnold	11	PARKER P	FAYETTE, KENNEBEC
Martin Arnold	11	PARKER P	FAYETTE, KENNEBEC
Tom Bannen	11	HIGHLAND (DUCK) L	FALMOUTH, CUMBERLAND
Bill Bub anan	11	WEST P	PARSONSFIELD, YORK
Nio le Bub anan	11	WEST P	PARSONSFIELD, YORK
Rib ard Dubois	11	ALLEN P	GREENE, ANDROSCOGGIN
Dennis Ellis	11	MOLASSES P	EASTBROOK, HANCOCK
Fred Flammia	11	COX P	SOUTH BERWICK, YORK
Paul Geisler	11	CRAWFORD P	UNION, KNOX
Colin Holme	11	WOOD P	BRIDGTON, CUMBERLAND
Colin Holme	11	LONG (MCWAIN) P	WATERFORD, OXFORD
Colin Holme	11	TRICKEY P	NAPLES, CUMBERLAND
Colin Holme	11	STEARNS P	SWEDEN, OXFORD
Colin Holme	11	SAND (WALDEN) P	DENMARK, OXFORD
Colin Holme	11	COLD RAIN P	NAPLES, CUMBERLAND
Colin Holme	11	OTTER P	BRIDGTON, CUMBERLAND
Colin Holme	11	ADAMS P	BRIDGTON, CUMBERLAND
Colin Holme	11	BEAR P	WATERFORD, OXFORD
Colin Holme	11	BEAVER P	BRIDGTON, CUMBERLAND
Colin Holme	11	BEAVER P	DENMARK, OXFORD
Colin Holme	11	KEYS P	SWEDEN, OXFORD
Colin Holme	11	BACK (5 KEZARS) P	STONEHAM, OXFORD
Colin Holme	11	E WETT (5 KEZARS) P	WATERFORD, OXFORD
Colin Holme	11	BAY OF NAPLES	NAPLES, CUMBERLAND
Colin Holme	11	CRYSTAL(ANONYMOUS) P	HARRISON, CUMBERLAND
Colin Holme	11	ISLAND P	WATERFORD, OXFORD

Life Long Volunteers

Distinguished Service to Maine Lakes for Ten Years or More

Name	Years of Servie	LAKE	Town, County
Colin Holme	11	INGALLS (FOSTER'S) P	BRIDGTON, CUMBERLAND
Colin Holme	11	GRANGER P	DENMARK, OXFORD
Colin Holme	11	HOLT P	BRIDGTON, CUMBERLAND
Colin Holme	11	HIGHLAND L	BRIDGTON, CUMBERLAND
Colin Holme	11	HANCOCK P	DENMARK, OXFORD
Colin Holme	11	KEOKA L	WATERFORD, OXFORD
Colin Holme	11	LONG L	BRIDGTON, CUMBERLAND
Colin Holme	11	PICKEREL P	DENMARK, OXFORD
Colin Holme	11	PERLEY P	DENMARK, OXFORD
Colin Holme	11	PAPOOSE P	WATERFORD, OXFORD
Colin Holme	11	PEABODY P	SEBAGO, CUMBERLAND
Colin Holme	11	MOOSE P	DENMARK, OXFORD
Colin Holme	11	MUD (5 KEZARS) P	WATERFORD, OXFORD
Colin Holme	11	MIDDLE (5 KEZARS) P	WATERFORD, OXFORD
Colin Holme	11	LONG P	DENMARK, OXFORD
Colin Holme	11	PLEASANT P	FRYEBURG, OXFORD
Colin Holme	11	MOOSE P	WATERFORD, OXFORD
Colin Holme	11	LITTLE P	OTISFIELD, OXFORD
Colin Holme	11	KEZAR P	FRYEBURG, OXFORD
Paul Holweger	11	SWAN L	SWANVILLE, WALDO
Ellie Hopk ns	11	LOCKE P	CHESTERVILLE, FRANKLIN
Alex Kenoy r	11	THREECORNERED P	AUGUSTA, KENNEBEC
Barbara Kinney	11	BASIN P	FAYETTE, KENNEBEC
Barbara Kinney	11	DAVID P	FAYETTE, KENNEBEC
Barbara Kinney	11	DAVID P	FAYETTE, KENNEBEC
Larry May r	11	CLARK COVE P	SOUTH BRISTOL, LINCOLN
David MA llister	11	PLEASANT P	CARATUNK, SOMERSET
Dorthy MA llister	11	PLEASANT P	CARATUNK, SOMERSET
Beth Anne Pob opien	11	ANDROSCOGGIN L	LEEDS, ANDROSCOGGIN
Paul Porter	11	NICKERSON L	NEW LIMERICK, AROOSTOOK
Waldo Preble	11	PEMADUMCOOK CHAIN L	T4 INDIAN PURCHASE, PENOBSCOT
Dave Preston	11	ALFORD L	HOPE, KNOX
Dan Reeve	11	TODDY P	SWANVILLE, WALDO
Leon Rioux	11	SABATTUS P	GREENE, ANDROSCOGGIN
Stuart Rose	11	MOUSAM L	ACTON, YORK
Stuart Rose	11	MOUSAM L	ACTON, YORK
Bud Stewart	11	SKIFF L	CANTERBURY, N.B., CANADA
So tt Thies	11	MOOSE P	HARTLAND, SOMERSET
So tt Thies	11	MOOSE P	HARTLAND, SOMERSET
So tt Vlaun	11	MOOSE P	OTISFIELD, OXFORD
Ziz Vlaun	11	MOOSE P	OTISFIELD, OXFORD
Nate Whalen	11	SEBAGO L	SEBAGO, CUMBERLAND
o hn Wilo x	11	HIGHLAND (DUCK) L	FALMOUTH, CUMBERLAND
Charles Andrews	10	EAST P	SMITHFIELD, SOMERSET
Mike Beke r	10	ANNABESSACOOK L	MONMOUTH, KENNEBEC
Mike Beke r	10	ANNABESSACOOK L	MONMOUTH, KENNEBEC
Roger Champagne	10	SAND P (TACOMA LKS)	LITCHFIELD, KENNEBEC
Bob Crawford	10	WASSOOKEAG L	DEXTER, PENOBSCOT
Mary a ne Dillingham	10	AUBURN L	AUBURN, ANDROSCOGGIN
Edward Dodge	10	MARANACOOK L	WINTHROP, KENNEBEC
Thomas Finlay	10	GARDNER L	EAST MACHIAS, WASHINGTON
Dan Fortin	10	AUBURN L	AUBURN, ANDROSCOGGIN
Tom Hansen	10	BEDDINGTON L	BEDDINGTON, WASHINGTON
Bob Hey er	10	FOREST L	WINDHAM, CUMBERLAND
a k Holland	10	CLARY L (PLEASANT P)	E FFERSON, LINCOLN
Edgar o hnson	10	GARDNER L	EAST MACHIAS, WASHINGTON
o hn 'Ed' Knapp	10	MCCURDY P	BREMEN, LINCOLN
Robert Lemelin	10	GRANNY KENT P	SHAPLEIGH, YORK
Thomas Mansfield	10	KNICKERBOCKER P	BOOTHBAY, LINCOLN
Thomas Mansfield	10	ADAMS P	BOOTHBAY, LINCOLN
Roberta Manter	10	HALES P	FAYETTE, KENNEBEC
Kirsten Ness	10	SEBAGO L	SEBAGO, CUMBERLAND
Tom Ray	10	THOMPSON L	OXFORD, OXFORD
Adrienne Rollo	10	TOOTHAKER P	PHILLIPS, FRANKLIN
Marshall Sonke n	10	LERMOND P	HOPE, KNOX
a mes Stewart	10	WEBB (WELD) L	WELD, FRANKLIN
Rob Tay or	10	MOOSE HILL P	LIVERMORE FALLS, ANDROSCOGGIN
Rob Tay or	10	PARKER P (MIRROR L)	A Y, FRANKLIN
Peter Thoits	10	CRYSTAL L (DRY P)	GRAY, CUMBERLAND
Lewis Williams	10	HALLS P	PARIS, OXFORD
Rib ard Young	10	GARDNER L	EAST MACHIAS, WASHINGTON
Rib ard Young	10	SECOND L	MARION TWP, WASHINGTON

Glossary

Algae: Microscopic plants either suspended in water or attached to rocks and other substrates.

Alien Species: Any species (including its seeds, eggs, spores or other biological material) capable of propagating that species, which is not native to a particular ecosystem.

Alkalinity: A measure of the capacity of water to neutralize acids.

Chlorophyll a: A green pigment found in algae and other plants. The chlorophyll-a level in lake water is used to estimate the concentration of planktonic algae in the lake.

Clone: A form of asexual reproduction such as budding, fragmentation, and tubers that produces a genetically identical plant.

Color: Water color is determined by the natural concentration of dissolved humic acids from the watershed, and is measured in Standard Platinum Units (SPU).

Conductivity: The ability of water or other substance to carry an electric current.

Cultural Eutrophication: The enrichment of lakes with nutrients (especially phosphorus) as a result of human activity, resulting in an acceleration of the natural ageing process of the lake.

Dissolved Oxygen: The amount of oxygen dissolved in the water. The D.O. concentration in water is affected by the water temperature, water quality, and other factors.

Dystrophic: Dystrophic lakes are classified as such because they contain high concentrations of colored organic matter, sometimes referred to as "humic acids". Dystrophic lakes function differently than non-colored systems, due to light attenuation, the influence of humic acids on phosphorus levels, and other factors. Dystrophic lakes can range in productivity from oligotrophic to eutrophic.

Epilimnetic Core: An integrated water column sample taken from the upper temperature stratum of the lake.

Epilimnion: A layer of warm (less dense) water on the surface of a lake in summer. The depth of the epilimnion varies throughout the season.

Eutrophic: Eutrophic translates "well nourished, or fed". Eutrophic lakes are characterized by high concentrations of nutrients (primarily phosphorus), persistent algal blooms, and low Secchi transparency readings.

Eutrophication: The enrichment of a lake with nutrients, resulting in increased plant and algae growth.

Grab: A discrete sample taken at a determined depth in the lake water column.

Hypolimnion: The deepest layer of water in a lake when the water body is stratified by temperature and density differences in summer.

Invasive Species: An alien species whose introduction does, or is likely to, cause economic or environmental harm or harm to human health.

Littoral Zone: The near shore shallow water zone of a lake, where light penetrates to the bottom and aquatic plants grow. Some shallow ponds are entirely littoral.

Mesotrophic: Mesotrophic translates "medium nourished, or fed". Mesotrophic lakes are characterized by moderate concentrations of nutrients (phosphorus), moderate algal growth, and lower (compared to oligotrophic) Secchi transparency.

MIDAS #: A unique four digit identification code for Maine Lakes.

Morphometry: The study of shape, as in the physical shape of a lake's basin.

Native Species: A species naturally occurring or originating in a geographical region or in a specific ecosystem.

Oligotrophic: Oligotrophic translates "poorly nourished, or fed". Oligotrophic lakes are characterized by low concentrations of nutrients, primarily phosphorus, low concentrations of algae, and high Secchi transparency.

pH: A measure of the acidic or basic (alkaline) nature of water, relating to the number of hydrogen ions. A pH of 7 is neutral. Acid waters are below 7; alkaline waters are above 7.

Phosphorus: One of the major nutrients needed for plant growth. Phosphorus is the critical nutrient for algae growth in lakes and ponds.

Plankton: Small organisms that float passively (or swim weakly) in open water. The two groups of plankton are: phytoplankton, also called algae; and planktonic animals, also called zooplankton.

Profile Grab: A discrete sample taken at an indicated depth in the water column.

Secchi disk: A black and white disk that is used to measure water transparency.

Surface Grab: A water sample taken from the lake surface.

Thermal stratification: As lake water is warmed in the summer the water in a deep pond or lake is layered into three levels: 1) warmer (less dense) epilimnion layer at the surface; 2) the thin thermocline or transition layer; 3) the cold and deep hypolimnion layer.

Glossary

Thermocline: The narrow transition zone between the epilimnion and hypolimnion.

Total phosphorus: A measure of all forms of phosphorus (organic and inorganic) in the water.

Transparency: A measure of water clarity that, in lakes and ponds, indirectly measures algal productivity. Transparency is determined by the depth at which a Secchi disk lowered into the water column is no longer visible.

Trophic State Index: A simplified index of biological productivity in lakes.

Turbidity: The degree to which light in water is blocked because the water is muddy or cloudy. In general the turbidity of a lake is directly related to the amount of algae present in the water.

Turnover: The process of mixing that occurs in many lakes and ponds in the spring and fall of the year. Turnover takes place when the water temperature is uniform from the surface to the bottom.

Watershed: A region or area divided by points of high land that drains into a specific water body.

Water Column: A conceptual column of water from the surface of a water body to the bottom sediments.

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