

EXECUTIVE SUMMARY

Thank you for your continued hard work sampling **Jenness Pond** this year! Your monitoring group sampled the deep spot **four** times this year. We congratulate your monitoring group on increasing the number of sampling events conducted this year. As you know, conducting multiple sampling events each year enables DES to more accurately detect water quality changes. Keep up the great work!

As part of the Environmental Protection Agency's (EPA) National Lake Assessment (NLA) initiative and the Probabilistic Lake Assessment (PLA), DES biologists performed a comprehensive lake assessment on **Jenness Pond** in **July** during **2009**. The NLA and PLA serve to assess the Nation's lake and determine the percentage of our Nation's lakes that are in good, fair or poor condition. Lakes were randomly selected based on a statistical survey representing the population of lakes in their ecological region, but had to be at least one meter deep and over ten acres in size. Lakes were assessed using standard protocols, and the following parameters were measured: temperature, dissolved oxygen, nutrients, chlorophyll-a, water clarity, turbidity, color, zooplankton and phytoplankton, bacteria, macroinvertebrates, habitat condition, and sediment cores. Some data from this assessment has been included in your annual report and added to the historical database for your pond. The lake's data will help to determine the regional and national condition of lakes. Those volunteer monitoring groups with historical data can compare the condition of their lakes on a statewide, regional or national level. Data from the National Lake Assessment will be compiled, entered into a national database, analyzed, and a draft report will be made available for public review. For more information about EPA's NLA please visit www.epa.gov/owow/lakes/lakessurvey.

Volunteers from your pond participated in the Lake Host™ Program this year. The Lake Host™ Program is funded through DES and Federal grants. The program was developed in 2002 by NH LAKES and NHDES to educate and prevent boaters from spreading exotic aquatic plants to lakes and ponds in New Hampshire. Since then, the number of participating lakes and ponds and volunteers has doubled, the number of boats inspected has tripled, and the number of "saves" (exotic plants discovered) has increased from four in 2002 to a total of 297 in 2009. The program is invaluable in educating boaters and protecting NH's waterbodies from exotic aquatic plant infestations, thereby preventing recreational hazards, property value decline, aquatic ecosystem decline, aesthetic issues, and saving costly remediation efforts. Lake Host™ staff discovered the following suspicious aquatic vegetation entering or leaving your pond in 2009:

Bladderwort (native)

Great work! We encourage volunteers to continue participating in the Lake Host™ Program to protect the future of your pond.

OBSERVATIONS & RECOMMENDATIONS

DEEP SPOT

➤ **Chlorophyll-a**

Chlorophyll-a, a pigment found in plants, is an indicator of algal or cyanobacteria abundance. Algae are typically microscopic plants that are naturally found in the lake ecosystem. The measurement of chlorophyll-a in the water gives biologists an estimation of the algal concentration or lake productivity. Table 14 in Appendix A lists the current year chlorophyll-a data.

Figure 1 depicts the historical and current year chlorophyll-a concentration in the water column.

The median summer chlorophyll-a concentration for New Hampshire's lakes and ponds is 4.58 mg/m³.

The current year data (the top graph) show that the chlorophyll-a concentration **increased** from **June** to **July**, **decreased** from **July** to **August**, and then **increased** from **August** to **September**.

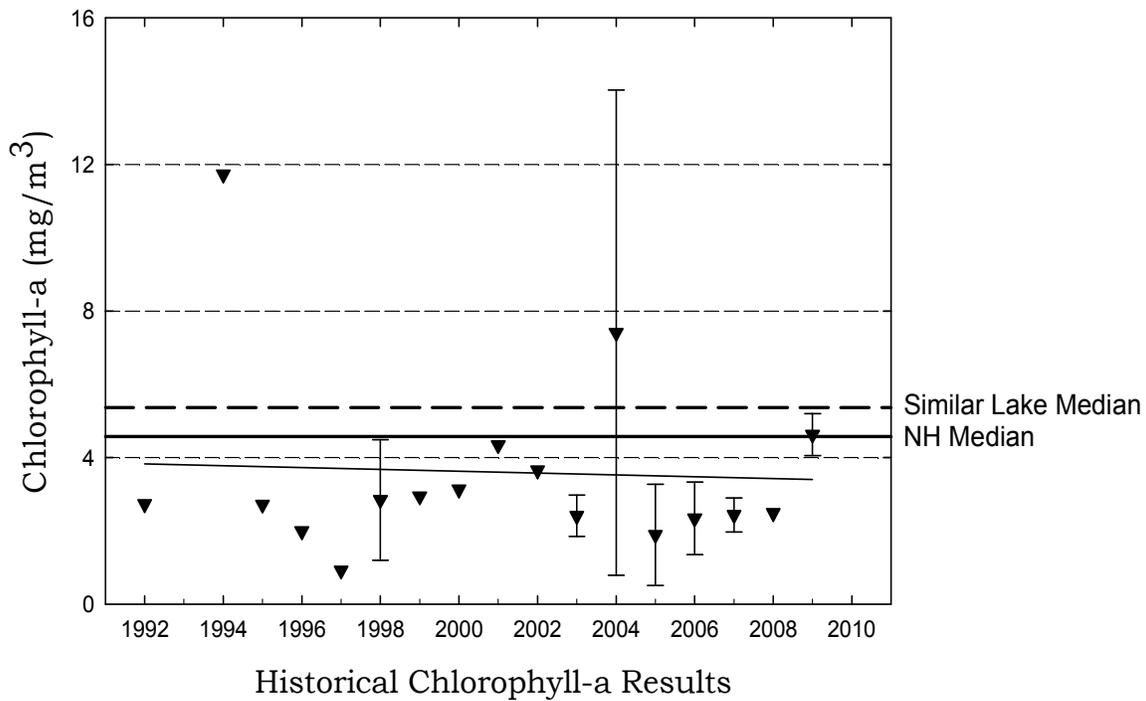
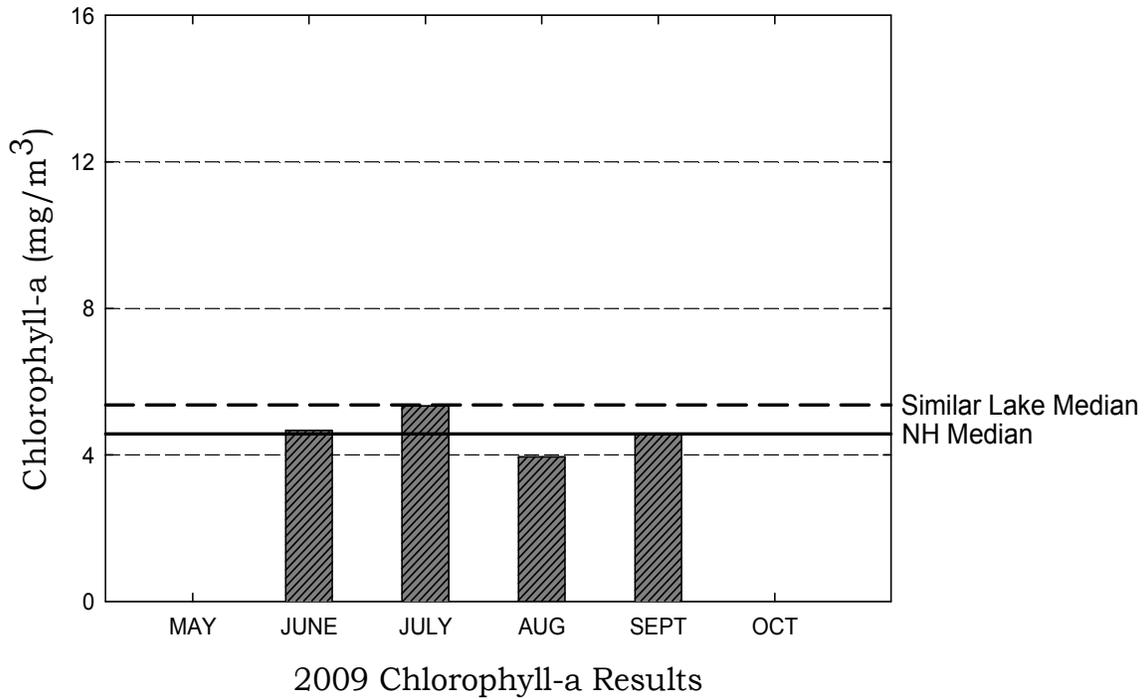
The historical data (the bottom graph) show that the **2009** chlorophyll-a mean is **approximately equal to** the state median and is **slightly less than** the similar lake median. For more information on the similar lake median, refer to Appendix D.

Overall, visual inspection of the historical data trend line (the bottom graph) shows a **variable** in-lake chlorophyll-a trend since monitoring began. Specifically the mean chlorophyll concentration has **fluctuated between approximately 0.92 and 11.73 mg/m³** since **1992**.

While algae are naturally present in all waterbodies, an excessive or increasing amount of any type is not welcomed. Phosphorus is the nutrient that algae typically depend upon for growth in New Hampshire lakes and ponds. Algal concentrations increase as nonpoint sources of phosphorus from the watershed increase, or as in-lake phosphorus sources increase. Increased Chlorophyll-a concentrations can also affect water clarity, causing Secchi-disk transparency to decrease (worsen) and turbidity to increase (worsen). Therefore, it is extremely important for volunteer monitors to continually educate all watershed residents about management practices that can be implemented to minimize phosphorus loading to surface waters.

Jenness Pond, Northwood

Figure 1. Monthly and Historical Chlorophyll-a Results



➤ **Phytoplankton and Cyanobacteria**

Table 1 lists the phytoplankton (algae) and/or cyanobacteria observed in the pond in **2009**. Specifically, this table lists the three most dominant phytoplankton and/or cyanobacteria observed and their relative dominance in the sample.

Table 1. Dominant Phytoplankton/Cyanobacteria (June 2009)

Division	Genus	% Dominance
Bacillariophyta	Asterionella	46.0
Bacillariophyta	Tabellaria	19.0
Chrysophyta	Dinobryon	11.1

Phytoplankton populations undergo a natural succession during the growing season. Please refer to the “Biological Monitoring Parameters” section of this report for a more detailed explanation regarding seasonal plankton succession. Diatoms and golden-brown algae populations are typical in New Hampshire’s less productive lakes and ponds.

➤ **Secchi Disk Transparency**

Volunteer monitors use the Secchi disk, a 20 cm disk with alternating black and white quadrants, to measure how far a person can see into the water. Transparency, a measure of water clarity, can be affected by the amount of algae and sediment in the water, as well as the natural color of the water. Table 14 in Appendix A lists the current year transparency data. **The median summer transparency for New Hampshire’s lakes and ponds is 3.2 meters.**

Figure 2 depicts the historical and current year transparency *with and without* the use of a viewscope.

The current year *non-viewscope* in-lake transparency *decreased* from **June** to **July**, and then *increased* from **July** to **September**.

It is important to note that as the chlorophyll concentration *increased* from **June** to **July**, the transparency *decreased*. We typically expect this *inverse* relationship in lakes. As the amount of algal cells in the water increases, the depth to which one can see into the water column typically decreases, and vice-versa.

The current year *viewscope* in-lake transparency *decreased* from **June** to **July** and then *increased* from **July** to **August**.

The transparency measured with the viewscope was generally *greater than* the transparency measured without the viewscope this summer. A comparison of

the transparency readings taken with and without the use of a viewscope shows that the viewscope typically increases the depth to which the Secchi disk can be seen into the lake, particularly on sunny and windy days. We recommend that your group measure Secchi disk transparency with and without the viewscope on each sampling event.

It is important to note that viewscope transparency data are not compared to a New Hampshire median or similar lake median. This is because lake transparency with the use of a viewscope has not been historically measured by DES. In the future, the New Hampshire and similar lake medians for viewscope transparency will be calculated and added to the appropriate graphs.

The historical data (the bottom graph) show that the **2009** mean non-viewscope transparency is ***slightly greater than*** the state and similar lake medians. Please refer to Appendix D for more information about the similar lake median.

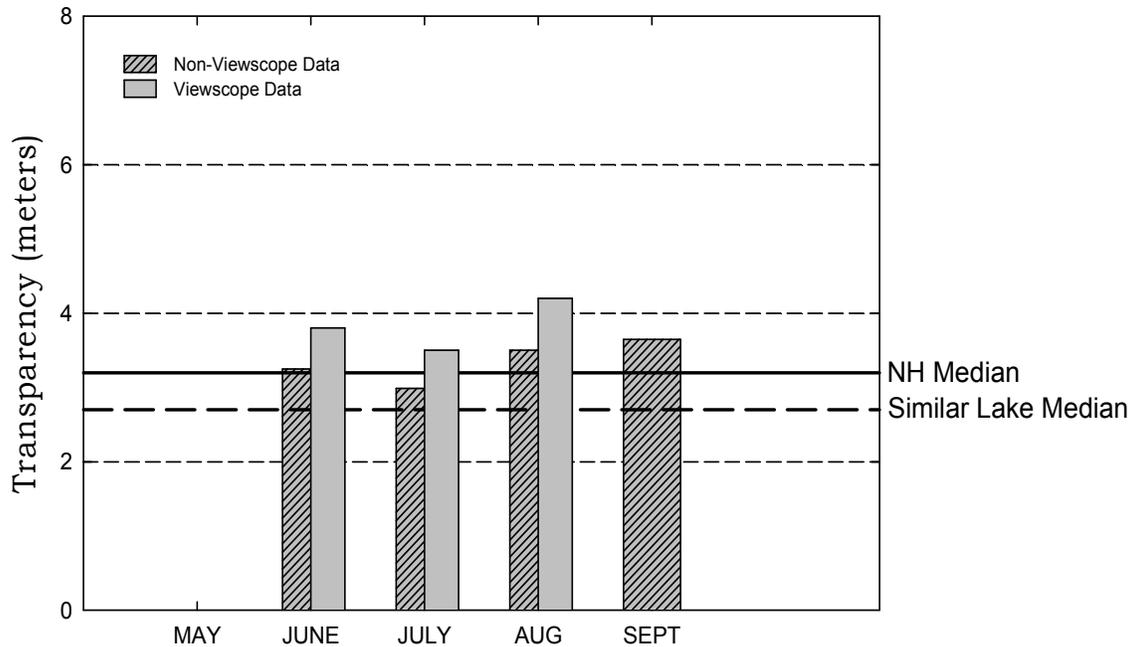
Visual inspection of the historical data trend line (the bottom graph) shows a ***decreasing*** trend, meaning that the transparency has ***worsened*** since monitoring began in **1994**.

Typically, high intensity rainfall causes sediment-laden stormwater runoff to flow into surface waters, thus increasing turbidity and decreasing clarity. Efforts should continually be made to stabilize stream banks, pond shorelines, disturbed soils within the watershed, and especially dirt roads located immediately adjacent to the edge of tributaries and the pond. Guides to best management practices that can be implemented to reduce, and possibly even eliminate, nonpoint source pollutants, are available from DES upon request.

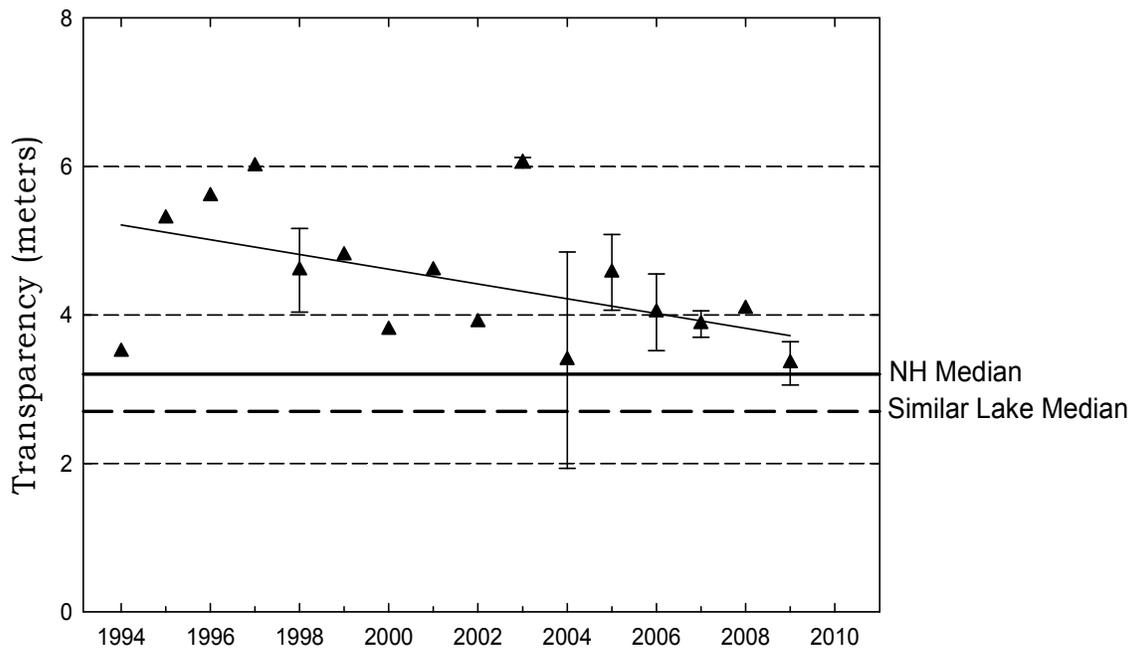
We recommend that your group continue to measure the transparency with and without the use of the viewscope on each sampling event. Ultimately, we would like all monitoring groups to use a viewscope to take Secchi disk readings as the use of the viewscope results in less variability in transparency readings between monitors and sampling events. At some point in the future, when we have sufficient data to determine a statistical relationship between transparency readings collected with and without the use of a viewscope, it may only be necessary to collect transparency readings with the use of a viewscope.

Jenness Pond, Northwood

Figure 2. Monthly and Historical Transparency Results



2009 Transparency Viewscope and Non-Viewscope Results



Historical Transparency Non-Viewscope Results

➤ **Total Phosphorus**

Phosphorus is typically the limiting nutrient for vascular plant and algae growth in New Hampshire's lakes and ponds. Excessive phosphorus in a pond can lead to increased plant and algal growth over time. Table 14 in Appendix A lists the current year total phosphorus data for in-lake and tributary stations.

The median summer total phosphorus concentration in the epilimnion (upper layer) of New Hampshire's lakes and ponds is 12 ug/L. The median summer phosphorus concentration in the hypolimnion (lower layer) is 14 ug/L.

The graphs in Figure 3 depict the historical amount of epilimnetic (upper layer) and hypolimnetic (lower layer) total phosphorus concentrations; the inset graphs depict current year total phosphorus data.

The current year data for the epilimnion (the top inset graph) show that the phosphorus concentration **increased** from **June** to **July**, **decreased** from **July** to **August**, and then **increased** from **August** to **September**.

The historical data show that the **2009** mean epilimnetic phosphorus concentration is **less than** the state and similar lake medians. Refer to Appendix D for more information about the similar lake median.

The current year data for the hypolimnion (the bottom inset graph) show that the phosphorus concentration **increased** from **June** to **July**, **decreased** from **July** to **August**, and then **increased** from **August** to **September**.

The hypolimnetic (lower layer) turbidity sample was **slightly elevated** on the **7/13/2009** and **8/24/2009** sampling events (**2.30** and **3.83 NTUs**). This suggests that the pond bottom may have been disturbed by the anchor or by the Kemmerer Bottle while sampling and/or that the pond bottom is covered by an easily disturbed thick organic layer of sediment. When the pond bottom is disturbed, phosphorus rich sediment is released into the water column. When collecting the hypolimnion sample, make sure that there is no sediment in the Kemmerer Bottle before filling the sample bottles.

The historical data show that the **2009** mean hypolimnetic phosphorus concentration is **less than** the state and similar lake medians. Please refer to Appendix D for more information about the similar lake median.

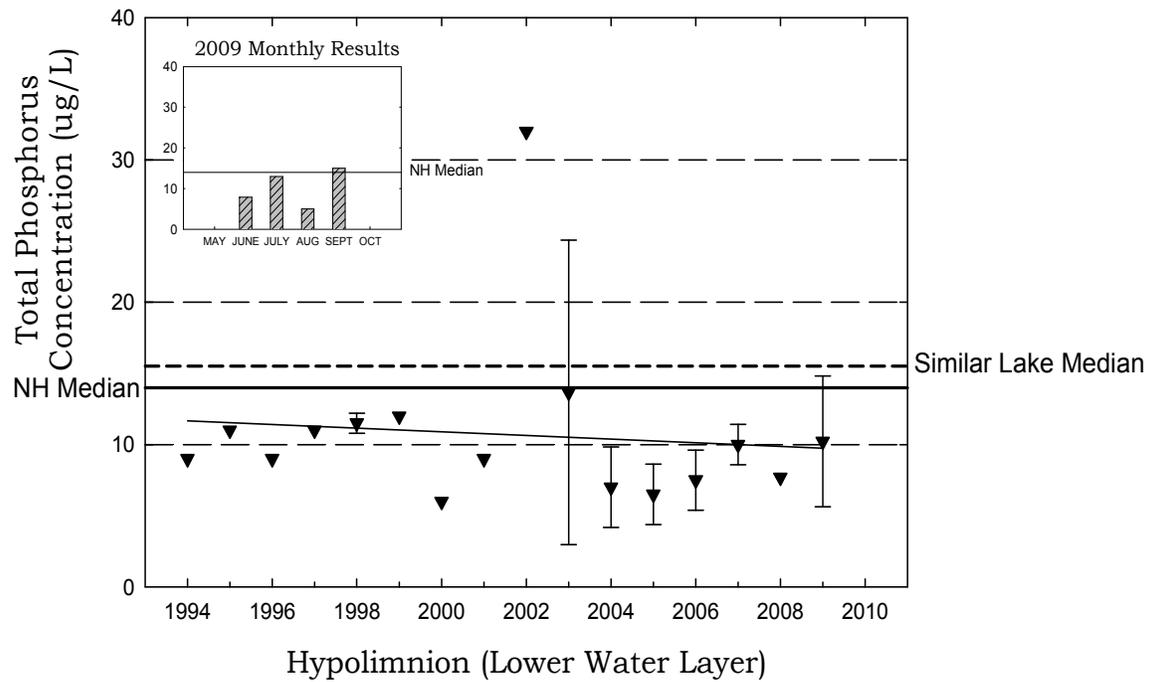
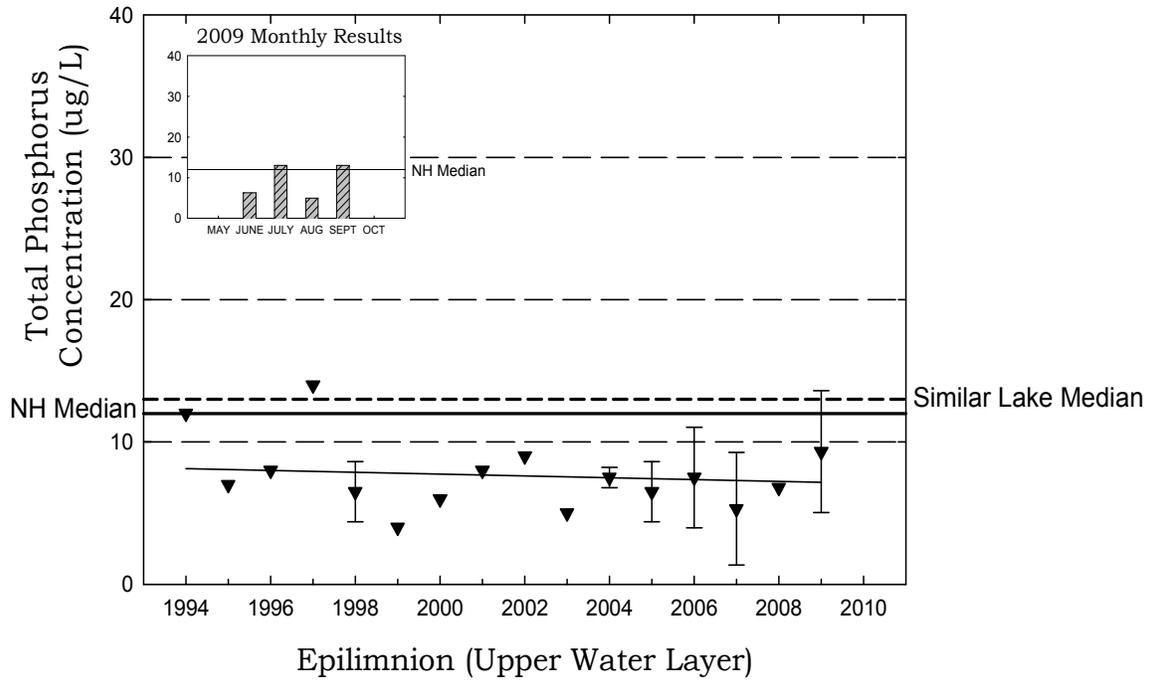
Overall, visual inspection of the epilimnetic and hypolimnetic historical data trend lines shows a **relatively stable** phosphorus trend since monitoring began. Specifically the mean annual epilimnetic and hypolimnetic phosphorus concentration has **remained approximately the same** since monitoring began in **1994**.

One of the most important approaches to reducing phosphorus loading to a waterbody is to continually educate watershed residents about the watershed sources of phosphorus and how excessive phosphorus loading can negatively

affect the ecology and the recreational, economical, and ecological value of lakes and ponds.

Jeness Pond, Northwood

Figure 3. Monthly and Historical Total Phosphorus Data



➤ pH

Table 14 in Appendix A presents the current year pH data for the in-lake stations.

pH is measured on a logarithmic scale of 0 (acidic) to 14 (basic). pH is important to the survival and reproduction of fish and other aquatic life. A pH below 6.0 typically limits the growth and reproduction of fish. A pH between 6.0 and 7.0 is ideal for fish. The median pH value for the epilimnion (upper layer) in New Hampshire's lakes and ponds is **6.6**, which indicates that the state surface waters are slightly acidic. For a more detailed explanation regarding pH, please refer to the "Chemical Monitoring Parameters" section of this report.

The pH at the deep spot this year ranged from **6.07 to 6.73** in the epilimnion and from **5.98 to 6.23** in the hypolimnion, which means that the water is **slightly acidic**.

It is important to point out that the hypolimnetic (lower layer) pH was **lower (more acidic)** than in the epilimnion (upper layer). This increase in acidity near the bottom is likely due to the decomposition of organic matter and the release of acidic by-products into the water column.

Due to the state's abundance of granite bedrock and acid deposition received from snowmelt, rainfall, and atmospheric particulates, there is little that can be feasibly done to effectively increase pond pH. The pH at the deep spot, however, is sufficient to support aquatic life.

➤ Acid Neutralizing Capacity (ANC)

Table 14 in Appendix A presents the current year epilimnetic ANC for the deep spot.

Buffering capacity (ANC) describes the ability of a solution to resist changes in pH by neutralizing the acidic input. The median ANC value for New Hampshire's lakes and ponds is **4.9 mg/L**, which indicates that many lakes and ponds in the state are at least "moderately vulnerable" to acidic inputs. For a more detailed explanation about ANC, please refer to the "Chemical Monitoring Parameters" section of this report.

The acid neutralizing capacity (ANC) of the epilimnion (upper layer) ranged from **1.4 mg/L to 3.2 mg/L**. This indicates that the pond is **moderately vulnerable** to acidic inputs.

➤ Conductivity

Table 14 in Appendix A presents the current conductivity data for in-lake

stations.

Conductivity is the numerical expression of the ability of water to carry an electric current, which is determined by the number of negatively charged ions from metals, salts, and minerals in the water column. The median conductivity value for New Hampshire's lakes and ponds is **40.0 uMhos/cm**. For a more detailed explanation, please refer to the "Chemical Monitoring Parameters" section of this report.

The in-lake conductivity has **decreased** (meaning **improved**) in the pond since **2006**. Increases in conductivity typically indicate the influence of human activities on surface water quality. Septic system leachate, agricultural runoff, iron deposits, and road runoff which typically contains road salt during the spring snow melt, can each influence conductivity readings. This **decreasing** conductivity trend suggests the reduction of pollutants and erosion in the watershed. We hope that this improving trend continues!

It is possible that de-icing materials applied to nearby roadways during the winter months may be influencing the conductivity in the pond. In New Hampshire, the most commonly used de-icing material is salt (sodium chloride).

*A limited amount of chloride sampling was conducted during **2009**. Please refer to the chloride discussion for more information.*

Therefore, we recommend that the **epilimnion** (upper layer) be sampled for chloride next year. This additional sampling may help us identify what areas of the watershed are contributing to the increasing in-lake conductivity.

Please note that the DES Limnology Center in Concord is able to conduct chloride analyses, free of charge. As a reminder, it is best to conduct chloride sampling in the spring as the snow is melting and during rain events.

➤ **Dissolved Oxygen and Temperature**

Table 9 in Appendix A depicts the dissolved oxygen/temperature profile(s) collected during **2009**.

The presence of sufficient amounts of dissolved oxygen in the water column is vital to fish and amphibians and also to bottom-dwelling organisms. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

The dissolved oxygen concentration was greater than **100 percent** saturation between the **surface** and **four** meters on the **June** sampling event, and between the **surface** and **two** meters at the deep spot on the **July** sampling event. Wave action from wind can also dissolve atmospheric oxygen into the upper layers of the water column. Layers of algae can also increase the dissolved oxygen in the water column, since oxygen is a by-product of photosynthesis. Considering

that the depth to which sunlight could penetrate into the water column was approximately **3.25 and 3.37** meters on these sampling events, as shown by the Secchi disk transparency depth, we suspect that an abundance of algae in the epilimnion caused the oxygen super-saturation.

The dissolved oxygen concentration was ***lower in the hypolimnion (lower layer) than in the epilimnion (upper layer)*** at the deep spot on the **June and July** sampling events. Also, the dissolved oxygen concentration ***decreased in the hypolimnion as the summer progressed***. As stratified ponds age, and as the summer progresses, oxygen typically becomes ***depleted*** in the hypolimnion by the process of decomposition. Specifically, the reduction of hypolimnetic oxygen is primarily a result of biological organisms using oxygen to break down organic matter, both in the water column and particularly at the bottom of the pond where the water meets the sediment. When the hypolimnetic oxygen concentration is depleted to less than 1 mg/L, the phosphorus that is normally bound up in the sediment may be re-released into the water column, a process referred to as ***internal phosphorus loading***.

The ***lower*** hypolimnetic oxygen level is a sign of the pond's ***aging*** health. This year the DES biologist collected the dissolved oxygen profile in **June and July**. We recommend that the annual biologist visit for the **2010** sampling year be scheduled during **August** so that we can determine if oxygen is depleted in the hypolimnion ***later*** in the sampling year.

➤ **Turbidity**

Table 14 in Appendix A presents the current year data for in-lake turbidity.

Turbidity in the water is caused by suspended matter, such as clay, silt, and algae. Water clarity is strongly influenced by turbidity. Please refer to the "Other Monitoring Parameters" section of this report for a more detailed explanation.

As discussed previously, the hypolimnetic (lower layer) turbidity was ***slightly elevated (2.30 and 3.83 NTUs)*** on the **7/13/2009 and 8/24/2009** sampling events. This suggests that the pond bottom may have been disturbed by the anchor or by the Kemmerer Bottle while sampling and/or that the lake bottom is covered by an easily disturbed thick organic layer of sediment. When the pond bottom is disturbed, phosphorus rich sediment is released into the water column. When collecting the hypolimnion sample, make sure that there is no sediment in the Kemmerer Bottle before filling the sample bottles.

TRIBUTARY SAMPLING

➤ **Total Phosphorus**

Table 14 in Appendix A presents the current year total phosphorus data for tributary stations. Please refer to the “Chemical Monitoring Parameters” section of the report for a detailed explanation of total phosphorus.

The phosphorus concentration in the **Coletti Brook** sample on the **6/8/2009 and 7/13/2009** sampling events was **elevated (28 and 31 ug/L)**, however, the turbidity was **not elevated (1.21 and 1.04 NTUs)**. In addition, the phosphorus concentration appears to have increased in the brook since monitoring began.

The phosphorus concentration in the **Morse Spring Brook** sample on the **6/8/2009, 7/13/2009 and 8/24/2009** sampling events was **elevated (37, 32 and 21 ug/L)**, however, the turbidity was **not elevated (1.10, 1.40 and 1.03 NTUs)**. In addition, the phosphorus concentration appears to have increased in the brook since monitoring began.

Record summer rainfall likely increased stormwater runoff and nutrient loading to the tributaries. As impervious surface cover increases in the watershed, stormwater runoff volumes increase. This transports phosphorus-laden stormwater into tributaries and eventually the pond. Efforts should be made in the watershed to reduce impervious surfaces and limit phosphorus sources such as fertilizer use, septic influences, agricultural impacts, and sediment/erosion control.

We also recommend that your monitoring group conduct a field survey and bracket sampling of **Coletti and Morse Spring Brook** to help identify potential sources of phosphorus in the sub-watershed.

The phosphorus concentration in the **Tupelo Brook** sample on the **7/13/2009 and 8/24/2009** sampling events was **elevated (33 and 38 ug/L)**, and the turbidity was also **elevated (2.23 and 10.6 NTUs)**. Further sampling was conducted to bracket Tupelo Brook in July. The **Tupelo East** sample had an **elevated** phosphorus concentration of **26 ug/L** but also had an **elevated** turbidity of **3.35 NTUs**.

Elevated turbidity levels are most often a result of sediment and/or organic material present in the sample. These materials typically contain attached phosphorus and when present in elevated amounts contribute to elevated tributary phosphorus levels. Please try to only collect samples from tributaries with sufficient flow to collect a “clean” sample.

➤ **pH**

Table 14 in Appendix A presents the current year pH data for the tributary

stations. Please refer to the “Chemical Monitoring Parameters” section of this report for a more detailed explanation of pH.

The pH of **Coletti Brook and Morse Spring Brook** ranged from **6.14 to 6.55 (> 6)** and is sufficient to support aquatic life.

The pH of the **Bapple Spring Brook, Horse Farm, Thurber Brook, and Tupelo Brook** appears to be slightly acidic. This can be caused by the presence of humic, tannic and fulvic acids. Humic, tannic and fulvic acids naturally occur as a result of decomposing organic matter such as leaves. These acids may also cause the water to be tea colored. In New Hampshire the presence of granite bedrock and acid deposition also naturally lowers the pH of freshwaters.

➤ **Conductivity**

Table 14 in Appendix A presents the current conductivity data for the tributary stations. Please refer to the “Chemical Monitoring Parameters” section of the report for a more detailed explanation of conductivity.

The **Bapple Spring Brook, Horse Farm and Morse Spring Brook** have experienced elevated or fluctuating conductivity since monitoring began. We recommend that your monitoring group conduct a conductivity survey of tributaries with **elevated** conductivity and along the shoreline of the pond to help identify the sources of conductivity. As previously mentioned increasing conductivity typically indicates the influence of pollutant sources associated with human activities.

To learn how to conduct a shoreline or tributary conductivity survey, please refer to the 2004 special topic article, which is posted on the VLAP website at <http://www.des.nh.gov/organization/divisions/water/wmb/vlap/categories/publications.htm>, or contact the VLAP Coordinator.

It is possible that de-icing materials applied to nearby roadways during the winter months may be influencing the conductivity in the tributaries. In New Hampshire, the most commonly used de-icing material is salt (sodium chloride).

Therefore, we recommend that the **tributaries** be sampled for chloride next year. This additional sampling may help us identify what areas of the watershed are contributing to the increasing in-lake conductivity.

Please note that the DES Limnology Center in Concord is able to conduct chloride analyses, free of charge. As a reminder, it is best to conduct chloride sampling in the spring as the snow is melting and during rain events.

➤ **Turbidity**

Table 14 in Appendix A presents the current year turbidity data for the tributary stations. Please refer to the “Other Monitoring Parameters” section of

the report for a more detailed explanation of turbidity.

The **Coletti Brook and Horse Farm** experienced turbid conditions in **August**, possibly the result of stormwater runoff from significant rain events prior to sampling. Rainfall creates runoff that washes sediment and organic materials into tributaries causing turbid water conditions. Eventually, the suspended solids settle out once the flow is reduced or the tributary flow enters the lake.

The **Tupelo Brook** experienced turbid conditions in **June and August** likely the result of low flow conditions. These conditions can lead bottom sediment contamination during sample collection. Please be careful to observe tributary flow conditions and only sample when sufficient flow is present.

➤ **Bacteria (*E. coli*)**

Table 14 in Appendix A lists the current year data for bacteria (*E. coli*) testing. *E. coli* is a normal bacterium found in the large intestine of humans and other warm-blooded animals. *E. coli* is used as an indicator organism because it is easily cultured and its presence in the water, in defined amounts, indicates that sewage **may** be present. If sewage is present in the water, potentially harmful disease-causing organisms **may** also be present. Please refer to the “Other Monitoring Parameters” section of the report for a more detailed explanation.

Two in-lake locations were sampled for *E. coli* on the **July and August** DES NLA/PLA sampling events. The results were **30 counts or less** which are all ***much less than*** the state standard of 406 counts per 100 mL for recreational surface waters that are not designated public beaches and 88 counts per 100 mL for surface waters that are designated public beaches.

The *E. coli* concentration was **very low** at the **Horse Farm** sampled on the **6/8/2009** sampling event. Specifically, the result was **10 counts or less**, which is ***much less than*** the state standard of 406 counts per 100 mL for recreational surface waters that are not designated public beaches and 88 counts per 100 mL for surface waters that are designated public beaches.

If residents are concerned about sources of bacteria, such as failing septic systems, animal waste, or waterfowl waste, it is best to conduct *E. coli* testing when the water table is high, when beach use is heavy, or immediately after rain events.

➤ **Chlorides**

Table 14 in Appendix A lists the current year data for chloride sampling. The chloride ion (Cl⁻) is found naturally in some surface waters and groundwaters and in high concentrations in seawater. Research has shown that elevated chloride levels can be toxic to freshwater aquatic life. In order to protect freshwater aquatic life in New Hampshire, the state has adopted **acute and**

chronic chloride criteria of **860 and 230 mg/L** respectively. The chloride content in New Hampshire lakes is naturally low, generally less than 2 mg/L in surface waters located in remote areas away from habitation. Higher values are generally associated with salted highways and, to a lesser extent, with septic inputs. Please refer to the “Chemical Monitoring Parameters” section of this report for a more detailed explanation.

The **epilimnion** was sampled for chloride during the **7/27/2009** sampling event. The result was **11 mg/L**, which is ***much less than*** the state acute and chronic chloride criteria. However, this concentration is ***greater than*** what we would normally expect to measure in undisturbed New Hampshire surface waters.

We recommend that your monitoring group continue to conduct chloride sampling in the epilimnion at the deep spot, particularly in the spring during snow-melt and rain events during the summer. This will establish a baseline of data that will assist your monitoring group and DES to determine lake quality trends in the future.

Please note that chloride analyses can be run free of charge at the DES Limnology Center. Please contact the VLAP Coordinator if you are interested in chloride monitoring.

DATA QUALITY ASSURANCE AND CONTROL

Annual Assessment Audit

During the annual visit to your pond, the biologist conducted a sampling procedures assessment audit for your monitoring group. Specifically, the biologist observed the performance of your monitoring group while sampling and filled-out an assessment audit sheet to document the volunteer monitors’ ability to follow the proper field sampling procedures, as outlined in the VLAP Monitor’s Field Manual. This assessment is used to identify any aspects of sample collection in which volunteer monitors failed to follow proper procedures, and also provides an opportunity for the biologist to retrain the volunteer monitors as necessary. This will ultimately ensure that the samples volunteer monitors collect are truly representative of actual lake and tributary conditions.

Overall, your monitoring group did an ***excellent*** job collecting samples on the annual biologist visit this year! Specifically, the members of your monitoring group followed the proper field sampling procedures and there was no need for the biologist to provide additional training. Keep up the good work!

Sample Receipt Checklist

Each time your monitoring group dropped off samples at the laboratory this summer, the laboratory staff completed a sample receipt checklist to assess and

2009

document if your group followed proper sampling techniques when collecting the samples. The purpose of the sample receipt checklist is to minimize, and hopefully eliminate, improper sampling techniques.

Overall, the sample receipt checklist showed that your monitoring group did an **excellent** job when collecting samples and submitting them to the laboratory this year! Specifically, the members of your monitoring group followed the proper field sampling procedures and there was no need for the laboratory staff to contact your group with questions, and no samples were rejected for analysis.

USEFUL RESOURCES

Acid Deposition Impacting New Hampshire's Ecosystems, DES fact sheet ARD-32, (603) 271-2975 or www.des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-32.pdf.

Best Management Practices to Control Nonpoint Source Pollution: A Guide for Citizens and Town Officials, DES Booklet WD-03-42, (603) 271-2975 or www.des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-03-42.pdf.

Erosion Control for Construction in the Protected Shoreland Buffer Zone, DES fact sheet WD-SP-1, (603) 271-2975 or <http://des.nh.gov/organization/commissioner/pip/factsheets/sp/documents/sp-1.pdf>

Lake Protection Tips: Some Do's and Don'ts for Maintaining Healthy Lakes, DES fact sheet WD-BB-9, (603) 271-2975 or www.des.nh.gov/organization/commissioner/pip/factsheets/bb/documents/bb-9.pdf.

NH Stormwater Management Manual Volume 1: Stormwater and Antidegradation, DES fact sheet WD-08-20A, (603) 271-2975 or <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-08-20a.pdf>

NH Stormwater Management Manual Volume 2: Post-Construction Best Management Practices Selection and Design, DES fact sheet WD-08-20B, (603) 271-2975 or <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-08-20b.pdf>

NH Stormwater Management Manual Volume 3: Erosion and Sediment Controls During Construction, DES fact sheet WD-08-20C, (603) 271-2975 or <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-08-20c.pdf>

Proper Lawn Care In the Protected Shoreland, The Comprehensive Shoreland Protection Act, DES fact sheet WD-SP-2, (603) 271-2975 or <http://des.nh.gov/organization/commissioner/pip/factsheets/sp/documents/sp-2.pdf>.

Road Salt and Water Quality, DES fact sheet WD-WMB-4, (603) 271-2975 or www.des.nh.gov/organization/commissioner/pip/factsheets/wmb/documents/wmb-4.pdf.