OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **Mirror Lake, Tuftonboro,** the program coordinators have made the following observations and recommendations.

Thank you for your continued hard work sampling the lake this year! Your monitoring group sampled the tributaries **12** times this year! As you know, conducting multiple sampling events each year enables DES to more accurately detect water quality changes. Keep up the good work!

If your monitoring group's sampling events this year were limited due to not having enough time to pick-up or drop-off samples at the Limnology Center in Concord, please remember the Plymouth State University Center for the Environment Satellite Laboratory is open in Plymouth. This laboratory was established to serve the large number of lakes and ponds in the greater North region of the state. This laboratory is inspected by DES and operates under a DES approved quality assurance plan. We encourage your monitoring group to utilize this laboratory next summer for all sampling events, except for the annual DES biologist visit. To find out more about the Center for the Environment Satellite Laboratory, and/or to schedule dates to pick up bottles and equipment, please call Adam Baumann, laboratory manager, at (603) 535-3269.

DES conducted several inspection of Mirror Lake in 2008 to verify the presence or absence of cyanobacteria in the lake. A Hydrolab data sonde was deployed at the deep spot to measure chlorophyll concentrations at each meter from the lake bottom to the surface. In late June, elevated chlorophyll measurements were detected in the hypolimnion. Discrete hypolimnetic plankton samples were collected and microscopic analysis verified the presence of the cyanobacteria *Oscillatoria*. By mid-September, clumps of *Oscillatoria* were observed in the water column, and a warning was issued to lake residents.

A Weed Watcher training was conducted at **Mirror Lake** during **2008**. Volunteers were trained to survey the lake once a month from **May** through **September**. To survey, volunteers slowly boat, or even snorkel, around the perimeter of the lake or pond and any islands it may contain. Using the materials provided in the Weed Watcher kit, volunteers look for any species that are suspicious. After a trip or two around the lake or pond, volunteers will have a good knowledge of its plant community and will immediately notice even the most subtle changes. If a suspicious plant is found, the volunteers immediately send a specimen to DES for identification. If the plant specimen is an exotic species, a biologist will visit the site to determine the extent of the problem and to formulate a management plan to control the nuisance infestation. Remember that early detection is the key to controlling the spread of exotic plants.

FIGURE AND TABLE INTERPRETATION (DEEP SPOT)

- **Table 1: Chlorophyll-a**
  Appendix A shows the historical and current year chlorophyll-a concentration in the water column. Table 1 in Appendix B lists the maximum, minimum, and mean concentration for each sampling year that the lake has been monitored through VLAP.

  Chlorophyll-a, a pigment found in plants, is an indicator of the algal abundance. Algae (also known as phytoplankton) are typically microscopic, chlorophyll producing plants that are naturally occurring in lake ecosystems. The chlorophyll-a concentration measured in the water gives biologists an estimation of the algal concentration or lake productivity. **The median summer chlorophyll-a concentration for New Hampshire's lakes and ponds is 4.58 mg/m^3.**

  Chlorophyll-a data is not available for 2008. Deep spot sampling is not conducted as part of the routine VLAP sampling on Mirror Lake.

- **Tables 3a and 3b: Transparency**
  Appendix A shows the historical and current year data for transparency with and without the use of a viewscope. Table 3a in Appendix B lists the maximum, minimum and mean transparency data without the use of a viewscope and Table 3b lists the maximum, minimum and mean transparency data with the use of a viewscope for each year that the lake has been monitored through VLAP.

  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 lake color of the water. **The median summer transparency for New Hampshire's lakes and ponds is 3.2 meters.**

  Transparency data is not available for 2008. Deep spot sampling is not conducted as part of the routine VLAP sampling on Mirror Lake.

- **Table 8: Total Phosphorus**

  Appendix A shows the amount of epilimnetic (upper layer) and hypolimnetic (lower layer) phosphorus; the inset graphs show the current year data. Table 8 in Appendix B lists the annual maximum, minimum, and median concentration for each deep spot layer and each tributary since the lake has been sampled through VLAP.

  Phosphorus is typically the limiting nutrient for vascular aquatic plant and algae growth in New Hampshire's lakes and ponds. Excessive phosphorus in a lake or pond can lead to increased plant and algal growth over time. **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.**

  In-lake phosphorus data is not available for 2008. Deep spot sampling is not conducted as part of the routine VLAP sampling on Mirror Lake.

- **Table 2: Phytoplankton**

  Table 2 in Appendix B lists the current and historical phytoplankton and/or cyanobacteria observed in the lake. Specifically, this table lists the three most dominant phytoplankton and/or cyanobacteria observed in the sample and their relative abundance in the sample.

  Phytoplankton data are not available for 2008. Deep spot sampling is not conducted as part of the routine VLAP sampling on Mirror Lake.

- **Table 5: Acid Neutralizing Capacity**

  Table 5 in Appendix B presents the current year and historical epilimnetic ANC for each year the lake has been monitored through VLAP.

  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 **4.8 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 ANC was not measured in 2008. Deep spot sampling is not conducted as part of the routine VLAP sampling on Mirror Lake.

- **Table 7a and Table 7b: Total Kjeldahl Nitrogen and Nitrite+Nitrate Nitrogen**
  Table 7a in Appendix B presents the current year and historical Total Kjeldahl Nitrogen and Table 7b presents the current year and historical nitrite and nitrate nitrogen. Nitrogen is another nutrient that is essential for the growth of plants and algae. Nitrogen is typically the limiting nutrient in estuaries and coastal ecosystems. However, in freshwater, nitrogen is not typically the limiting nutrient. Therefore, nitrogen is not typically sampled through VLAP. However, if phosphorus concentrations in freshwater are elevated, then nitrogen loading may stimulate additional plant and algal growth. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

  During the most recent DES Lake Assessment Program survey, conducted during the Summer of **2007**, the ratio of the total nitrogen concentration to total phosphorus (TN:TP) concentration in the epilimnion sample was **45,** which is ***greater than*** **15**, indicating that the lake is **phosphorus-limited**. This means that any additional **phosphorus** loading to the pond will stimulate additional plant and algal growth. Therefore, it is not critical to conduct nitrogen sampling.

- **Table 9 and Table 10: Dissolved Oxygen and Temperature Data**
  Table 9 in Appendix B shows the dissolved oxygen/temperature profile(s) collected during **2008**. Table 10 in Appendix B shows the historical and current year dissolved oxygen concentration in the hypolimnion (lower layer). The presence of sufficient amounts of dissolved oxygen in the water column is vital to fish and amphibians and bottom-dwelling organisms. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

  A dissolved oxygen and temperature profile is not available for 2008. Deep spot sampling is not conducted as part of the routine VLAP sampling on Mirror Lake.

FIGURE AND TABLE INTERPRETATION (TRIBUTARIES)

- **Figure 1 and Table 4: pH**
  Figure 1 in Appendix A and Table 4 in Appendix B presents the in-lake and tributary current year and historical pH data.

  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 mean pH along the tributary system into Mirror Lake ranged from **6.00** to **6.66**, which means that the water is ***slightly acidic***.

The pH tends to decrease along the tributary from Abenaki Lagoon to the West and East Inlets. This is likely due to a wetland system located between Waumbeck Rd. and the West and East Inlets. Wetland systems often contribute tannic, humic and fulvic acids to a waterbody. Organic 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.

- **Figure 2 and Table 6: Conductivity**

Figure 2 in Appendix A and Table 6 in Appendix B presents the current and historical conductivity values for tributaries and in-lake data. 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 **38.4 uMhos/cm**. For a more detailed explanation, please refer to the "Chemical Monitoring Parameters" section of this report.

The **2008** conductivity results for the tributary system were ***lower than*** those measured **since monitoring began**.

It is likely that the slow spring snowmelt allowed any chloride contributions to infiltrate into the groundwater and not directly into surface waters. Also, the record rainfall during the **2008 summer season** possibly diluted the ion concentration in surface waters throughout the watershed. Specifically, the significant summer rainfalls likely increased the flushing rate for many lakes and ponds allowing potential watershed pollutants to flush through the system and not concentrate in the stratified surface waters.

The mean tributary conductivity ranged from **169.91 uMhos/cm** at **Abenaki Lagoon** to **71.17 uMhos/cm** at **East Inlet**. Conductivity values generally decreased from January through April. Then, conductivity values steadily rose through July, decreased slightly in August, peaked again in September and October, and decreased greatly by November.

The conductivity continued to remain ***much greater than*** the state median in the tributaries this year. Typically, elevated conductivity indicates the influence of pollutant sources associated with human activities. These sources include failed or marginally functioning septic systems, agricultural runoff, and road runoff, which contain road salt during the spring snow-melt. New development in the watershed can alter runoff patterns and expose new soil and bedrock areas, which could also contribute to increasing conductivity. In addition, natural sources, such as iron and manganese deposits in bedrock, can influence conductivity.

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

A limited amount of chloride sampling was conducted during ***2008****. Please refer to the discussion of* ***Table 13*** *for more information.*

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.

- **Figure 3 and Table 8: Total Phosphorus**

  Figure 3 in Appendix A and Table 8 in Appendix B presents the current year and historical total phosphorus data for in-lake and tributary stations. Phosphorus is the nutrient that limits the algae's ability to grow and reproduce. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

  The mean total phosphorus concentration ranged from **72 ug/L** at the **East Inlet** station to **27 ug/L** at the **West Inlet A** station.

  The phosphorus concentration in **Abenaki Lagoon** ***decreased*** from **January** to **March**, ***increased*** from **April** to **June**, and then ***remained relatively stable*** from **July** to **November**. Phosphorus concentrations in June **(95 ug/L)** were ***elevated***, and the turbidity was also ***elevated*** **(6.61 NTUs)**. Weather records indicate **0.5 inches of rainfall 24 hours prior to sampling**. The storm event likely contributed sediment and phosphorus laden stormwater runoff to the lagoon. Or, an algal bloom was occurring in the Lagoon and flushed downstream post storm event.

The phosphorus concentration in **Waumbeck Rd.** ***decreased greatly*** from **1/7/2008** to **1/29/2008**, ***increased greatly*** from **1/29/2008** to **2/4/2008**, ***decreased greatly*** from **2/4/2008** to **March**, ***increased*** from **March** to **June**, and then ***decreased*** from **June** to **November**. Phosphorus concentrations were ***elevated*** in **January (290 ug/L)** and **February (160 ug/L)**. The turbidity of the samples was also ***elevated*** **(10.2 and 10.3 NTUs)**. Weather records indicate **0.5 inches of rainfall 24 hours prior to sampling** on the **2/4/2008** sampling event. The storm event likely contributed sediment and phosphorus laden stormwater runoff to the tributary, or the tributary bottom was disturbed while sampling.

When the stream bottom is disturbed, phosphorus rich sediment is released into the water column. When collecting tributary samples, please be sure to sample where the tributary is flowing and where the stream is deep enough to collect a "clean" sample free from organic debris and sediment.

The phosphorus concentration in **East Inlet** ***decreased greatly*** from **1/7/2008** to **April**, ***increased*** from **April** to **June**, and then ***fluctuated*** from **July** to **November**. Phosphorus concentrations were ***elevated*** **(480 ug/L)** on the **1/7/2008** sampling event, however the turbidity was not elevated. Phosphorus concentrations were ***elevated*** in **June, July** and **September (57, 52 and 55 ug/L)**. Due to the unusually high water levels and amount of rainfall during the spring and summer of **2008,** it is possible that watershed wetland systems released phosphorus-enriched water into the tributary and ultimately into the lake.

The phosphorus concentration in **West Inlet A** and **West Inlet B** ***remained relatively stable*** from **January** to **March**, ***increased*** from **March** to **July**, and then ***decreased*** from **July** to **November**. Phosphorus concentrations were ***elevated*** in **June** and **July (52, 62, 85 and 63 ug/L)**, and the turbidity was also ***slightly elevated*** **(2.55, 3.14, 4.57, and 4.12 NTUs)**. Weather records indicate **0.5 inches of rainfall 24 hours prior to sampling** on the 6/15/2008 sampling event. The storm event likely contributed sediment and phosphorus laden storwater runoff to the tributary, or the tributary bottom was disturbed while sampling. Or, wetland systems were contributing phosphorus-enriched water to the tributaries and lake.

- **Table 11: Turbidity**
  Table 11 in Appendix B lists the current year and historical data for in-lake and tributary 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.

The mean turbidity ranged from **4.91 NTUs** at the **Waumbeck Rd.** station to **1.56 NTUs** at the **West Inlet A** station.

The turbidity in the **Abenaki Lagoon** sample was ***elevated*** (**6.16 NTUs**) on the **6/15/2008** sampling event, which suggests that erosion is occurring in this area of the watershed, or an algal bloom occurred in the lagoon. Weather records indicate **0.5 inches of rainfall 24 hours prior to sampling**. Storm events can wash sediment-laden stormwater into the lagoon, and also can flush water through the lagoon causing surface algal concentrations to discharge downstream.

The turbidity in the **Waumbeck Rd.** samples was ***elevated*** (**10.2, 10.3, 11.6, and 11.1 NTUs**) on the **1/17/08, 2/4/2008, 8/14/2008** and **9/18/2008** sampling events, which suggests that the stream bottom may have been disturbed while sampling or that erosion is occurring in this area of the watershed.

The turbidity in the **East Inlet** samples was ***slightly elevated*** (**4.16 and 3.44 NTUs**) on the **6/15/2008** and **7/8/2008** sampling events, which suggests that the stream bottom may have been disturbed while sampling or that erosion is occurring in this area of the watershed.

The turbidity in the **West Inlet A and B** samples was ***slightly elevated*** (**2.55 and 3.14 NTUs**) on the **6/15/2008** sampling event, and (**4.57 and 4.12 NTUs**) on the **7/8/2008** sampling event, which suggests that the stream bottom may have been disturbed while sampling or that erosion is occurring in this area of the watershed.

When the stream bottom is disturbed, sediment, which typically contains attached phosphorus, is released into the water column. When collecting tributary samples please be sure to sample where the stream is flowing and where the stream is deep enough to collect a “clean” sample free from debris and sediment.

- **Table 12: Bacteria (*E.coli*)**
  Table 12 in Appendix B lists the current year and historical 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.

  Bacteria sampling was not conducted this year. 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.

- **Table 13: Chloride**
  Table 13 in Appendix B lists the current year and the historical data for chloride sampling. The chloride ion (Cl^-) is found naturally in some surfacewaters 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 chloride concentration ranged from **14 mg/L to 53 mg/L** at **Abenaki Lagoon**, and ***increased*** from **June** to **November**.

  The chloride concentration ranged from **< 5 mg/L to 19 mg/L** at **East Inlet**, and tended to ***increase slightly*** from **June** to **October**.

  The chloride concentration ranged from **10 mg/L to 35 mg/L** at **Waumbeck Rd.**, and ***increased*** from **May** to **September**.

  The chloride concentration ranged from **11 mg/L to 32 mg/L** at **West Inlet A and B**, and ***increased*** from **May** to **September**.

  Overall, chloride concentrations followed a similar pattern at Abenaki Lagoon, Waumbeck Rd. and West Inlet A and B for the sampling season. Concentrations decreased heading downstream from Abenaki Lagoon to West Inlet A and B. The chloride concentrations in East Inlet remained relatively stable, however spiked in October following a rain event. Also, the chloride concentration at all stations tended to correlate with conductivity levels measured throughout the season.

  Chloride concentrations at all stations were ***less than*** the state acute and chronic chloride criteria. However, these concentrations are ***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 along the tributary system, particularly in the spring during snow-melt and during rain events during the summer. This will establish a baseline of data that will assist your monitoring group and DES to determine 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. In addition, it is best to conduct chloride sampling in the spring as the snow is melting and during rain events.

- **Table 14: Current Year Biological and Chemical Raw Data**
  Table 14 in Appendix B lists the most current sampling year results. Since the maximum, minimum, and annual mean values for each parameter are not shown on this table, this table displays the current year "raw," meaning unprocessed, data. The results are sorted by station, depth, and then parameter.

- **Table 15: Station Table**
  As of the spring of 2004, all historical and current year VLAP data are included in the DES Environmental Monitoring Database (EMD). To facilitate the transfer of VLAP data into the EMD, a new station identification system had to be developed. While volunteer monitoring groups can still use the sampling station names that they have used in the past and are most familiar with, an EMD station name also exists for each VLAP sampling location. Table 15 in Appendix B identifies what EMD station name corresponds to the station names you have used in the past and will continue to use in the future.

DATA QUALITY ASSURANCE AND CONTROL

Annual Assessment Audit:

During the annual visit to your lake, the biologist conducts a sampling procedures assessment audit for your monitoring group. Specifically, the biologist observes the performance of your monitoring group and completes 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 samples that the volunteer monitors collect are truly representative of actual lake and tributary conditions.

A biologist visit was not conducted in 2008. Please contact the VLAP Coordinator in the spring of 2009 to schedule an annual biologist visit.

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 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 a ***very good*** job when collecting samples this year! Specifically, the members of your monitoring group followed the majority of the proper field sampling procedures when collecting and submitting samples to the laboratory. However, the laboratory did identify a few aspects of sample collection that your group could improve upon, as follows:

- **Sample bottle volume:** Please fill each sample bottle up to the neck of the bottle where the bottle curves in. This will ensure that the laboratory staff will have enough sample water to conduct all of the necessary tests.

  Please be careful to not overflow the small brown bottle used for phosphorus sampling since this bottle contains acid. If you do accidentally overflow the small brown bottle, please rinse your hands and the outside of the sample bottle and make a note of this on your field sampling sheet. The laboratory staff will put additional acid in the bottle in the laboratory to preserve the sample.

- **Tributary sampling:** Please do not sample tributaries that are not flowing. Due to the lack of flushing, stagnant water typically contains ***elevated*** amounts of chemical and biological constituents that will lead to results that are not representative of the quality of water that typically flows into the lake.

- **Tributary sampling:** Sediment and or organic debris was observed in the white sample bottle for **Waumbeck Rd.** on the **1/7/2008, 2/4/2008, 4/8/2008, 6/15/2008, and 11/17/2008** sampling events. Please do not sample tributaries that are too shallow to collect a “clean” sample free from organic debris and sediment and do not sample the stream if the stream bottom has been disturbed. You may need to move upstream or downstream to collect a “clean” sample. If you disturb the stream bottom while sampling, please rinse out the bottle and move to an upstream location and sample in an undisturbed area.

- **Sample labels:** Please label your sample bottles with a waterproof pen, preferably a black permanent marker, before sampling. ***Please***

label bottles with the Lake name, town, station name, date and time samples were collected. If your group has made its own sample bottle labels, please fold over one corner of each label before placing it on a sample bottle so that the label will not become permanently attached to the bottle. In addition, please make sure that the labels will stick to the bottles when they are wet.

USEFUL RESOURCES

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.

Cyanobacteria in New Hampshire Waters Potential Dangers of Blue-Green Algae Blooms, DES fact sheet WMB-10, (603) 271-2975 or www.des.nh.gov/organization/commissioner/pip/factsheets/wmb/documents/wmb-10.pdf.

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

Impacts of Development Upon Stormwater Runoff, DES fact sheet WD-WQE-7, (603) 271-2975 or www.des.nh.gov/organization/commissioner/pip/factsheets/aot/documents/wqe-7.pdf.

Lake Foam, DES fact sheet WD-BB-4, (603) 271-2975 or www.des.nh.gov/organization/commissioner/pip/factsheets/bb/documents/bb-5.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.

Proper Lawn Care In the Protected Shoreland, The Comprehensive Shoreland Protection Act, DES fact sheet WD-SP-2, (603) 271-2975 or www.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.

Shorelands Under the Jurisdiction of the Comprehensive Shoreland Protection Act, DES fact sheet SP-4, (603) 271-2975 or www.des.nh.gov/organization/commissioner/pip/factsheets/sp/documents/sp-4.pdf.