INTEGRATING PUBLIC WATER SUPPLY PROTECTION INTO THE STATE OF MAINE'S VISION

The Report of the Resolve Chapter 140 Public Process
Submitted to the Joint Standing Committee on Natural Resources

Prepared by
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Center for Disease Control
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February, 2007

Executive Summary
Resolve, Regarding Source Water Protection Regulations Chapter 140

The safety and security of public drinking water supplies is strongly influenced by Maine laws, regulations and policies. In 2005, the Maine DHHS Drinking Water Program led an interagency review of these laws. This evaluation (Resolve 029), after review and approval by the Legislature, has been the subject of a public process in 2006. Citizens representing a variety of governmental, land use, water resource, and development interests met four times this fall. Their consensus was that the primary risk to public water systems lies in unmanaged development in areas contributing water to their wells and intakes. Public water systems have limited tools to use in managing land use, and water supply protection is not a consideration in many state and local decisions.

Development of formerly rural areas has increased risks to many water supplies. New residential and commercial development has displaced forestry, recreational, and agricultural land uses in water supply protection areas. Smaller systems, like nursing homes and mobile home parks, have very limited capacity to protect their water supplies, and are often not recognized as water suppliers in development decisions. Even the largest suppliers, with active protection programs, face challenges in maintaining water quality and availability.

We propose three recommendations to improve the protection of public water supplies. First, that all state agencies explicitly consider the impact of their actions and decisions on public water supplies. This provides leadership from the state, and a framework for building sustainable supplies. Secondly, the state should use this framework to encourage forestry, low intensity recreation and agricultural land use in water supply protection areas. Both national and local experience shows that these land uses consistently provide better water quality, and help to maintain adequate quantities of water for both human and aquatic uses. Finally, we recommend that the area immediately around public water supplies be declared a protected natural resource, and any new activities in the area be reviewed for impact at the state level. This will provide a base level of protection for smaller supplies, and give larger systems a new tool to help them work with their neighbors.

I. Introduction

Maine has about 2,000 public water systems (entities providing water to more than 25 people per day for more than 60 days a year) serving water to more than 800,000 of our citizens and visitors. Fifty-one community systems (systems that serve a year-round population) use surface water to serve towns and cities. They serve, in total, about 400,000 people. An additional 326 community systems utilize groundwater to serve 200,000 more people. These systems provide a vital resource: clean and safe drinking water.

Larger public water systems, when they have adequate technical and financial resources, often work with towns and landowners to provide protection for their supplies, through land ownership, easements, and ordinances. Even these systems struggle to maintain the quality of their supplies. Smaller community systems, like nursing homes, apartment complexes, and mobile home parks, do not have the resources to establish effective control over the areas that provide water for their systems. They also have few resources to deal with contamination of their supplies, putting the health of the population they serve at risk.

The Maine DHHS Drinking Water Program (DWP) has been working with public water systems to develop and implement protection plans for nearly 20 years. So far, only 20% of the 377 community systems have implemented protection plans that meet EPA standards. An effective protection plan includes land ownership, agreements, easements, and local and state regulations that work together to manage activities that may contaminate the water supply. Systems without protection are at much higher risk of contamination. Once contaminated, a system must either find a new source, or treat the water to remove the contaminant. The costs often are in the millions of dollars, and must be paid for by the state's taxpayers and water users.

The DWP conducted an assessment of the risks to public water systems under an EPA funded program from 1998-2003. The key findings of those assessments were that:

- ✓ Most systems currently have moderate levels of risk, primarily because their sources are located in historically relatively undeveloped areas.
- ✓ Only 1 in 5 community systems has adequate protection in place, so new development often includes land uses that increase the threat level for the supply.
- ✓ Managing and guiding growth in public water supply protection areas is essential to maintaining a safe and secure water supply.
- ✓ There are 218 community public water sources in fast growing towns and these systems face increasing threat levels without the tools to manage and reduce risks.

The 122nd Legislature adopted a resolve in 2005 directing the DWP, in cooperation with the Departments of Conservation, Environmental Protection and Agriculture, Food and Rural Resources, to evaluate the existing laws and regulations that provide protection for public water systems. The report from that evaluation *Integrating Public Water Supply Protection into the State of Maine's Vision* (Appendix A) identified significant gaps in state policy and law, and made three recommendations. It was accepted by the Legislature in 2006, with the directive that the DWP conduct a public process to flesh out the recommendations and report back in 2007. This report is the product of that process.

We invited representatives of a variety of interests to the meetings, and also provided information to the public through our newsletter and website. A list of invitees and attendees is in Appendix B. We held four meetings to discuss the three recommendations in the initial report. Records of the meetings are in Appendix C. The group reached consensus around versions of all three recommendations.

II. Summary of Existing Public Water Supply Protection

A. Resolve 029 findings on state policies and laws

Although there are many laws that provide protection to water quality and quantity, none are targeted at protecting public water supplies, and the overall effect is to create a situation where the state (DEP) is very good at cleaning up problems that threaten water supplies, but has very limited reach in limiting the risk to supplies. In many cases, the state steps in and cleans up the results of poor individual, local, or state decisions at significant cost. The DEP Oil Spill Cleanup Fund has born a significant share of these costs, as has the Uncontrolled Sites Fund. Examples discussed during the project include Rumford ($600,000 to remediate two leaking residential heating oil tanks to protect a municipal supply), Windham CITGO gasoline overfill ($2,000,000 in Portland Water District costs, abandonment of two highly productive wells, and more than $1,000,000 in investigation and clean-up costs), and Lisbon Maine Electronics solvent disposal ($2,680,000 so far in remediation and treatment costs to maintain the quality of the public water supply). More detail on these topics is included in the appendices.

B. Gaps in the protection strategy

Our most significant gap is the inability to manage development in public water supply protection areas to keep risks at an acceptable level. Neither state agency activities nor state and local decisions about private development consistently recognize the potential effect of development on public water supplies. Since most decisions about development are made without considering water supplies, it's not surprising that there are unintended consequences like the clean up costs cited above.

III. Recommendations for Improving Public Water Supply Protection

A. State Policy Refinement

All state agencies consider public water supply protection in their actions and decisions. We propose that the legislature adopt a policy that will ensure coordination among state agencies on this subject. The policy will be implemented primarily through memoranda of understanding between various agencies, as well as through the Land and Water Resources Council.

From the Resolve 029 report:

Recommendation 1: Establish consistent policies among all State agencies to enhance source protection in all state decision making, development, and practices.

A number of state agencies have authority over activities that can either enhance or detract from protection of public water supplies. In many cases, public water supply protection is not part of the framework for site selection and permitting decisions. The Maine DWP should provide leadership and coordination for decisions that may influence source protection. Agencies that can assist source protection include:

- Department of Conservation: shoreland and boat launch development, park water supply development, forest management assistance and enforcement prioritization in source water protection areas.
- Inland Fisheries and Wildlife: surface use management of water supply lakes, boat launch development and management, wildlife area management, hatchery management.
- Department of Environmental Protection: shoreland zoning review, Natural Resources Protection Act permitting, enforcement prioritization in source protection areas. Spill response and clean-up and siting of new UST's are good models of how source protection areas can be prioritized in environmental activities.
- Department of Agriculture: prioritization of enforcement, technical and financial assistance activities when correcting environmental problems to give greater priority to source protection areas.
- State Planning Office: assistance to local entities with source protection land use planning, comprehensive plan and ordinance review.
- Land for Maine's Future Board: assistance with protection of open space; protection of water supplies currently not a criterion for conservation.
- Maine Department of Transportation: road location and maintenance in source protection areas.

Proposed Implementing Language:
WHEREAS, the citizens of the State of Maine have invested significant resources in the development of public water supplies for towns and cities within the State, and
WHEREAS, a safe, abundant, and well-protected supply of drinking water is essential for the public health and economic vitality of the State, and
WHEREAS, water supply protection provides major economic and social benefits to the People of Maine by conserving open space and increasing the security of our resources, and
WHEREAS, the decisions of many state agencies can either foster or threaten public water supply protection, and
WHEREAS, water supply protection is not officially considered in many state decisions,
THEREFORE, we find and declare that all state agencies shall explicitly consider the impact of their decisions and actions on public water supplies, evaluate alternatives to minimize those impacts, and prescribe or conduct mitigation of unavoidable impacts on the water supply resulting from the activity.

B. Encouragement of Low Intensity Land Use in protection areas

Provide assistance and incentives to encourage low-impact recreational, forestry, and agricultural uses in public water supply protection areas. Some parts of protection areas can have multiple uses and still conserve water quality and quantity

From the Resolve 029 Report:

Recommendation 2: Create an effective program to maintain agricultural and forestry land uses in source protection areas.
National research shows that well-managed forestry and agricultural uses help maintain water quality and availability. Many source protection areas are currently being converted from forestry and agricultural uses to residential and commercial development. These more intensive land uses, also known as "sprawl" pose greater risks to water quality, and often reduce the availability of both ground and surface waters by altering the hydrology of the area.
2.1 Existing programs (e.g., Nutrient Management, Sustainable Forestry) that maintain environmentally responsible agricultural and forestry uses should be provided with resources and given a focus to work in source protection areas to encourage land conservation.

2.2 Provide resources and direction to Agricultural and Forestry programs including nutrient management, sustainable forestry, and right to farm to work with landowners in source protection areas to minimize the impact of their activities.

Although agricultural and forestry land uses represent the lowest level of threat to water quality, poor management can lead to a variety of problems, ranging from erosion and sedimentation to hydrocarbon and pesticide contamination of ground and surface waters. A combination of landowner education, conservation incentives, and, where needed, enforcement can significantly reduce these risks.

Implementation:
1. Utilize the Manure Management and other Agricultural programs and provide resources to farms in public water supply protection areas;

2. Focus agricultural and forestry land owner assistance in these areas:
3. Encourage land conservation in low-intensity recreational, forestry and agricultural uses in public water supply protection areas through Land for Maine's Future (LMF) and other programs. Amend LMF to allow purchase of land/easements where public water supply protection and other LMF goals are congruent;
4. Provide a dedicated bond-based fund to match a portion of the cost of land and easement acquisition to conserve lands in forestry, farmland, or low intensity recreation for water supply protection. The program to be administered by the DWP-Maine Municipal Bond Bank land acquisition loan program, with authorization expanded to allow working with land trusts as well as public water systems.

C. Specific program refinements

1. Statewide

DEP Site Location and NRPA review and enforcement will explicitly include public water supplies. The group supported having DEP and the Drinking Water Program develop and implement review standards for activities in public water supply protection areas.

From the Resolve 029 Report:

Recommendation 3: Mitigate the effects of existing and new development on drinking water quality through the use of education, incentives and enforcement.

Statewide activities:

3.1: Encourage active management (BMP's) of existing potentially threatening uses in source protection areas through municipal, PWS and state inspection of activities.
3.2 Develop a plan to target enforcement of existing environmental laws in source protection areas.
3.3 Add proximity to public water supplies as a review criterion for Environmental review programs, particularly NRPA and Site Location.

A number of public water supplies are located in relatively developed areas. It is not realistic to expect that businesses and residences will leave a source protection area. It is possible, through the use of education, incentives, and enforcement to mitigate the impact these activities have on water quality.
Maine has a strong array of environmental laws. We also have limited resources to enforce these laws. Programs like Pollution Prevention, Resource Conservation and Recovery Act and Underground Storage Tank inspection, Site Location, and Natural Resources Protection Act (NRPA) enforcement all can assist in reducing risks to public water supplies as well as helping maintain general environmental quality. Source protection areas should be identified on NRPA and Site Location applications, and minimizing the impact of development on water supplies should be an explicit review item under these laws. Focusing the energy in programs like these, as well as agricultural and forestry education and enforcement can reduce risks to public health.

Implementation:

1. Areas within 1,000 feet of public surface water intakes may be zoned resource protection based on proximity to the intake. (regulation change, Shoreland Zoning)
2. Community public water supplies are declared a protected natural resource under NRPA or a new parallel designation. This would include:
   - 2.1. The shoreland zone of 47 lakes and ponds. About ¾ of this area is under protective ownership or easement. The remaining area is generally zoned for development, and would generate applications requiring review.
   - 2.2. Sections of ten rivers and streams (1/2 mile upstream from the intake), currently in shoreland zoning.
   - 2.3. The primary protection area of 326 community ground water systems' supplies (either a 300 foot sanitary protection radius for ~360 wells or a primary model calculated area for 142 wells serving larger populations). We estimate that 80% of the area to be regulated is in water system ownership.
   - 2.4. Public Water Suppliers with adequate technical capacity will be able to request delegation of review, approval, and inspection authority.
   - 2.5. The Drinking Water Program will be a review agency for the public water supply, where necessary. DWP staff can provide technical review and field inspection of the regulated areas and activities.
   - 2.6. Residential activities would be conducted under Permit By Rule standards, and larger commercial/industrial activities would require activity-specific review and permitting.
   - 2.7. Standards for review are outlined in Appendix D.
   - 2.8. It is important to note that most (between 70 and 80%) of the land in these protection areas are owned or controlled by public water suppliers and thus will not generate applications. It is the edges of the areas that have the potential to generate applications and require review. These areas will present risks if not managed well.
3. Explicitly consider public water supply locations in Site Location and NRPA permitting and enforcement.
4. Consider future public water supply locations identified by Public Water Systems or the Maine Geological Survey in Site Location and NRPA permitting and enforcement.

2. Local Government Activities

The group did not reach consensus on requiring additional regulation on the part of local government. The group believes that utilizing statewide programs (including the NRPA regulation above), while still offering encouragement to localities, is a more effective strategy. The group agrees that local government should be a partner in development and implementation of source protection, but does not recommend that a

mandatory local zoning approach be implemented at this time. Thus, the recommendations below ***do not represent a consensus*** of the group, although they were supported by some group members.

From the Resolve:

Local Government activities:

3.4 Set minimum standards for local source protection ordinances.

3.5 Amend PL 761 to require that a PWS's written response to notification of proposed changes in land use activities in source protection areas be required prior to approval of a local permit. Make the adoption of ordinances meeting or exceeding state standards a municipal requirement, using an approach similar to shoreland zoning. Only 21% of all community public water supplies have effective land use controls on their source protection area. These systems serve a large portion of the PWS population (about 60%), but smaller systems have been unable to work successfully with local officials to develop and implement local protection plans. The DWP and its partners have been working with systems and towns for more than 15 years to encourage the adoption of local ordinances with outreach, small grants, technical assistance and model ordinances. Standards should be simple and risk-based.

For ground water sources, a small inner zone would have no new contaminant sources allowed and high levels of management at existing sources. A larger outer zone would require a review of risks associated with proposed development, and would encourage open-space conserving uses, like agriculture and forestry.

For surface water sources, the inner zone would be a part of shoreland zoning, and would include surface use restrictions near the intake, as well as resource protection zoning near the intake. For the watershed, a preference for sustainable agricultural and forestry uses and risk-based review standards for new development would be key components.

Although PWS's are nominally required to be notified of permit applications in source protection areas under PL 761, this provision has not been widely followed by local government. If a written response from the PWS was always a part of the record when the permit was processed, we could be sure that the PWS had been notified and had the opportunity to participate in the process. In many cases, the response might be that the PWS saw no threat in the change in land use. Even if the PWS intervened in the process, the decision would still lie with the local government.

Implementation

Require written acknowledgement from permit applicants that they are developing in a source protection area. Developers would make this informed consent statement a part of the record of local permits. A NRPA permit would be evidence of compliance.

List of Appendices:
A: Resolve 029 Report to the Legislature
B: List of those invited and attending Chapter 140 meetings
C: Notes of meetings.
D: Review Standards (NRPA) for public water supply protection areas

INTEGRATING PUBLIC WATER SUPPLY PROTECTION INTO THE STATE OF MAINE'S VISION

The Report of the Resolve 029 Task Force
Submitted to the Joint Standing Committee on Natural Resources

Prepared by
Maine Department of Health and Human Services
Center for Disease Control
Division of Environmental Health
Drinking Water Program

February, 2006

Executive Summary

Water supply protection is the first line of defense in protecting public health. Protecting a water supply source has long been recognized as the cornerstone of providing safe drinking water. The most effective source protection method is to keep the area contributing water to the supply open and undeveloped. The Maine Drinking Water Program's (DWP) recently completed five year assessment of source protection for public water supplies identified rapid residential and commercial development in source protection areas as the most significant threat to water quality and quantity, and few water suppliers are prepared to deal with these risks. Public Water Systems (PWS) have a very limited suite of tools for source protection: they can purchase land, inspect existing activities, and ask local government to enact (and enforce) protective ordinances. Only one in five of Maine's community water systems have effective source protection plans in place after more than fifteen years of encouragement and incentives.

The effectiveness of water supply protection depends on numerous state and local government decisions and activities. Most of the programs that influence source protection exist for another purpose, and usually do not consider water supply protection in their decision making. PWS operators have few resources to intervene in local and state decision making, so their concerns are often not heard. To protect Public Health, state and local authorities should include water supply protection as a required part of their decision making criteria, and state agencies should adopt a consistent policy favoring source protection. Based on our review of existing statutes and practices, and in light of the current threat of development in source protection areas, we offer the following recommendations:

Recommendation 1: Establish consistent policies among all State agencies to enhance source protection in all state decision making, development, and practices.

Recommendation 2: Create an effective program to maintain agricultural and forestry land uses in source protection areas.

2.1 Existing programs to maintain environmentally responsible agricultural and forestry uses should be provided with resources and given a focus to work in source protection areas to encourage land conservation.
2.2 Provide resources and direction to Agricultural and Forestry programs including nutrient management, sustainable forestry, and right to farm to work with landowners in source protection areas to minimize the impact of their activities.

Recommendation 3: Mitigate the effects of existing and new development on drinking water quality through the use of education, incentives and enforcement.

3.1: Encourage active management (BMP's) of existing potentially threatening uses in source protection areas through municipal, PWS and state inspection of activities.
3.2 Develop a plan to target enforcement of existing environmental laws in source protection areas.
3.3 Add proximity to public water supplies as a review criterion for Environmental review programs, particularly NRPA and Site Location.
3.4 Set minimum standards for local source protection ordinances.
3.5 Amend PL 761 to require that a PWS's written response to notification of proposed changes in land use activities in source protection areas be required prior to approval of a local permit.

Our review shows that the second phase of Resolve 029, a public discussion of source protection options, refinement of these recommendations, and a report to the 123rd Legislature, is appropriate and necessary. The protection of water supply sources is a crucial part of Maine's economy, public health, and environment. We have the opportunity to build this understanding into existing state and local programs and make them more effective. As more land is developed in source protection areas, it becomes increasingly difficult and expensive to provide safe and adequate supplies of drinking water. Maine has been blessed with abundant, clean water. Unless we consider our actions carefully, we will lose that advantage.

Introduction

In 2005, the first regular session of the 122nd Legislature adopted Resolve 029 (LD 1265, as amended). The resolve states:

> ***Sec. 1. Report.*** *The Drinking Water Program within the Department of Health and Human Services, in consultation with the Department of Environmental Protection, the Department of Conservation, Maine Geological Survey and the Department of Agriculture, Food and Rural Resources shall submit a report as provided in this section to the Joint Standing Committee on Natural Resources by February 1, 2006. The report must address whether additional requirements are needed for source water protection in this State and describe recommended options to address those needs. Options may include, but are not limited to, water supply source water protection approaches modeled after shoreland zoning, use of statutory performance standards and use of specific land use prohibitions or controls. The report may not address minimum state standards for excavations of 5 or more acres for borrow, clay, topsoil or silt.*
>
> *After receipt and review of the report, the Joint Standing Committee on Natural Resources may report out legislation to the Second Regular Session of the 122nd Legislature requiring the Drinking Water Program within the Department of Health and Human Services to establish a process to allow public comment on the options recommended by the department and to report to a future Legislature with subsequent recommendations after consideration of the public comments by the Drinking Water Program within the Department of Health and Human Services, the Department of Environmental Protection, the Department of Conservation, Maine Geological Survey and the Department of Agriculture, Food and Rural Resources.*
>
> ***SUMMARY***
>
> *This amendment changes the title and replaces the bill with a resolve. The amendment requires the Drinking Water Program within the Department of Health and Human Services, in consultation with the Department of Environmental Protection, the Department of Conservation, Maine Geological Survey and the Department of Agriculture, Food and Rural Resources to submit a report to the Joint Standing Committee on Natural Resources by February 1, 2006. The report must address whether additional requirements are needed for source water protection in Maine and describe recommended options to address those needs. The amendment also authorizes the Joint Standing Committee on Natural Resources to report out legislation to the Second Regular Session of the 122nd Legislature requiring the Drinking Water Program to establish a process to allow public comment and to report to the joint standing committee of the Legislature having jurisdiction over natural resources matters with any subsequent recommendations after consideration of the comments.*

In considering how to verify whether our current legislative framework provides a foundation for good source protection, we started by considering the principles of source protection, as developed by both water suppliers and the United States Environmental Protection Agency (EPA) over a number of years. The overall goal of source protection is to minimize the risk of aquifer or surface water contamination in areas contributing water to public water supplies. The most effective way to accomplish this is to maintain the area contributing water to the source as open and undeveloped. Ideally, the Public Water System (PWS) should own or control (through easements or other binding agreements) land use activities in the contributing area to their source.

For areas where ownership is not feasible, the PWS should work with local and state agencies to manage land use in the contributing area to minimize risks to water quality. Wellhead protection and watershed protection ordinances coupled with active monitoring appear to be the most effective local tools for land use management. State-wide restrictions on practices that pose an unacceptable risk to water supplies (e.g., underground storage tanks) are an important component of protection.

As directed by the Legislature, representatives from the Maine Drinking Water Program (DWP), Maine Geological Survey (MGS), Maine Department of Environmental Protection (DEP), and Maine Department of Agriculture, Food and Rural Resources (DAFRR) met during 2005 to evaluate these principals and how effectively they are applied in Maine's laws and regulations. Participants included:

- Andrews Tolman, DWP
- Thomas Weddle, MGS
- John Hopeck, DEP
- William Seekins, DAFRR

A number of individuals from Maine Rural Water Association, Maine Water Utilities Association, the DEP and the DWP provided significant support and content to the review. They include Beth Pratte, David Braley, Robin Frost, and Nancy Beardsley from the DWP, Andrew Fisk, George Seel and Bruce Hunter from DEP, Susan Breau and Alex Wong from MRWA, Jeffrey McNelly, MWUA and Paul Hunt, PWD.

Maine's source protection status: results of the source water assessments

From 1999-2003 the DWP conducted a comprehensive assessment of risks to over 2,000 public water supplies in Maine. This work was funded by, and required by the 1996 amendments to the Safe Drinking Water Act. The assessments revealed some significant new factors contributing to risks to PWS. They identified future development as the major risk to Maine's water supplies. We have been fortunate in having many of our water supplies located in relatively rural, undeveloped areas. Many of these areas are currently experiencing significant development pressure, and many sources are at increasing risk.

Certain activities that pose risks to water sources are regulated by the state, and although many have provisions for source protection, the protection of water supplies is addressed through a large number of programs, none of which has complete control over water-quality related activities. Many of these regulations are reactive: they respond to either proposed land use changes, or to contamination events that have already occurred.

An analysis of growth patterns in Maine indicates that public water supplies are at risk in two areas. Many systems are losing customers as both residents and industries leave urban areas. At the same time, the rural areas where their sources are located (Figure 1) are experiencing unprecedented growth of low-density residential and commercial/industrial development, usually self-supplied with water, and using septic systems for waste disposal. Managing future development in source protection areas is the responsibility of almost 500 towns, and coordinating that effort represents a major challenge for Maine. We are working to build awareness of the importance and fragility of our water supplies. Part of this process includes attempting to "imbed" the source protection message into other, allied programs, like the Non-point Education for Municipal Officials (NEMO) program, as well as in guidance for town comprehensive planning.

Certain activities that pose risks to water sources are regulated by the state, and although many have provisions for source protection, the protection of water supplies is addressed through a large number of programs, none of which has complete control over water-quality related activities. Many of these regulations are reactive: they respond to either proposed land use changes, or to contamination events that have already occurred.

Recent work by Ayotte et al (United States Geological Survey, New Hampshire, 2004) involved an evaluation of low level MTBE (Methyl-tert-butyl Ether) concentrations in ground water. MTBE is a water-soluble gasoline additive used to improve air quality, and has been found to be a common contaminant from underground tank leaks and spills. In this study, low levels of MTBE were found to be strongly correlated with general development, road networks, and housing density. Even in the absence of gasoline stations or known spills and losses, development has resulted in MTBE being present in groundwater. Since MTBE is a 'leading edge' contaminant, it is likely that other substances are also present in the flow system, but moving

more slowly. The widespread detection of MTBE in developed areas suggests that development, even when well-designed and managed, is a threat to groundwater quality.

More than 65% of all public water supplies serving more than 1,000 people are located in fast growing towns (Figure 1).

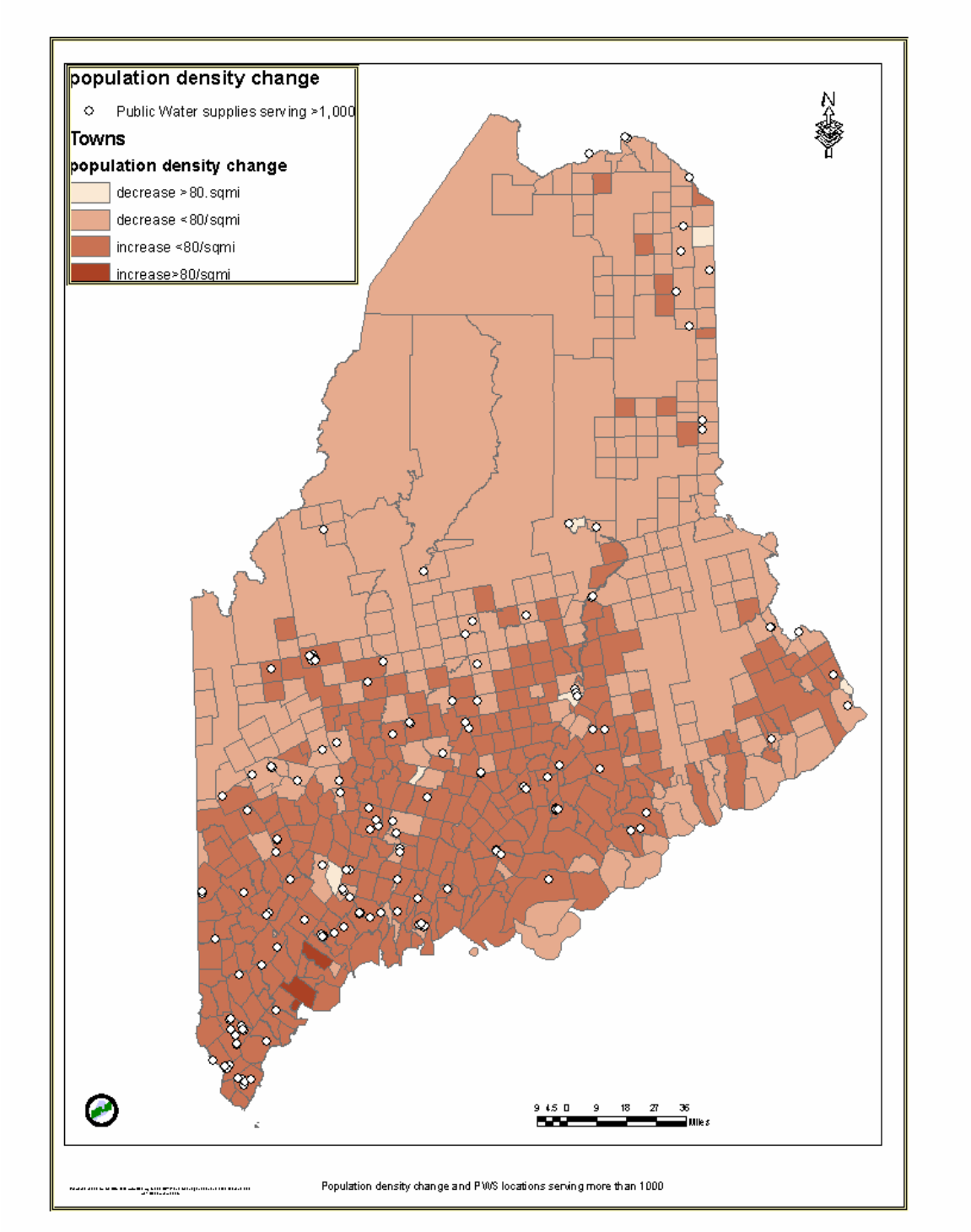

Figure 1

This means that their source protection areas are under development pressure, and only about 20% of Maine towns have source protection ordinances in place that manage development. Land use in groundwater source protection areas, according to an analysis of 1990 imagery, is about 15% developed (Figure 2, land use in

wellhead protection areas), and almost 20% is agriculture. Lake watersheds have, on the whole, low percentages of development (Figure 3, land use in PWS Lake Watersheds), but development is concentrated

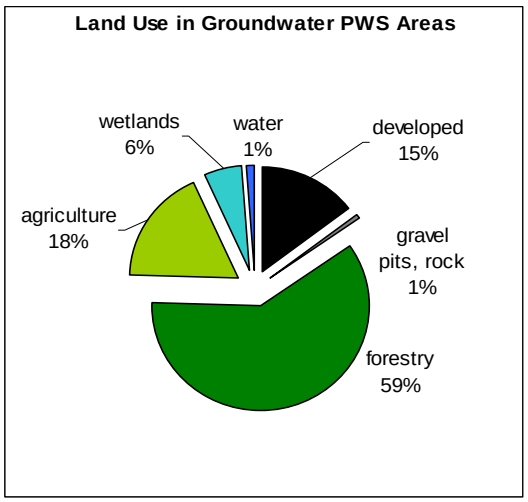

Figure 2

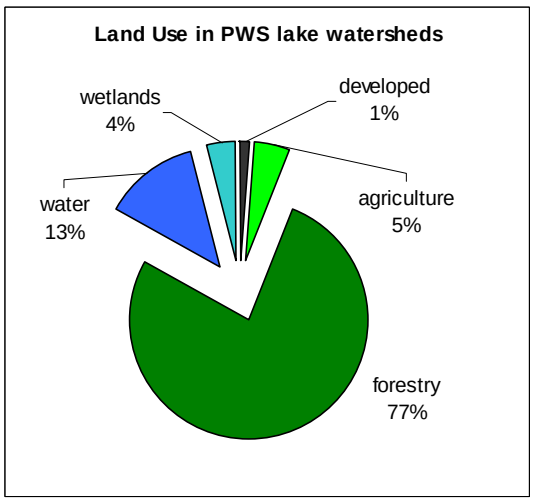

Figure 3

on and near the lake shoreline, where it has the most impact. Source Protection is the first link in EPA's multiple barrier approach to public health protection. The shoreland of lakes is under intense pressure for development. The Drinking Water Program and public water suppliers have a very limited suite of tools they can use directly to accomplish protection. By finding partners and working with them, we can make progress in areas that would otherwise be impossible.

Existing protection statutes and rules

Source water protection in Maine is influenced by a large number of existing laws, ordinances, rules, and practices in state and local government. In most cases, protection of public water supplies is not the main aim of the regulation. Table 1, below, summarizes the protection tools and threats and applicable laws and regulations.

Land-use management and activities management: Ownership and control options. Public water systems have authority to purchase, by eminent domain, land that is integral to the protection of their source. For many systems, financial and political constraints have kept this option out of their reach. The ultimate source of funds for land purchase is water rates, and rate increases are often difficult and contentious, particularly if used to buy land to keep it in open space, reducing the local tax base. While there are a number of systems who have purchased land and/or development rights in source protection successfully, it often requires partnerships with conservation organizations and local government to obtain land for source protection. For this to be a viable option for more systems, we need to both reduce both political and economic barriers and increase incentives for systems, landowners, and towns.

State and town level protection: Activities regulation can take two forms: management of existing land uses that may pose a threat and control of new activities. Existing threats pose the highest level of risk to water quality. Water Suppliers have authority to inspect and request the local health officer or code enforcement officer to abate any discharge, particularly from a wastewater disposal system. Any discharge other than domestic wastewater requires a DEP license, and the activity may be inspected and monitored by DEP staff. Suppliers, towns, and DEP all have extremely limited staff for inspection and monitoring.

Towns are also authorized to adopt source protection regulations, including both ground and surface water supplies. While nearly all (96%) community water systems have developed plans for source water protection, only 1/5 of community systems have towns with effective source protection ordinances. While there are a number of reasons for this gap, it appears to result primarily from a combination of limited water system ability to advocate for source protection and municipal resistance to restricting land use around water

supplies. Source protection is not a requirement for either the supplier or the town under current law. Towns are also required, under PL 761, to notify Public Water Suppliers of proposed land use changes in their source protection areas. Towns were sent maps showing the locations of source protection areas and material concerning the law's requirements in 2001, 2002, and 2003. A 2004 survey of PWS's indicated that towns were not notifying PWS's of applications as required by the law.

Specific threats to water quality are regulated by a variety of laws. In many cases, local regulation is authorized by statute, and ordinances are quite variable from town to town. Even when local ordinances are in place, their enforcement often is extremely limited. Generally speaking, Public Water Systems must rely on either state or municipal regulation to manage the location, operation, and management of potential threats.

Table 1: Summary of Existing Laws and Regulations

Protection Tool	**Public Water System**	**Municipal Government**	**DEP**	**Other State Agencies**
Source Protection area ownership	Authorized by 35-A MRSA §6408	As part of open space plan?	No	DWP funding, open space programs?
Active management of existing activities	Inspection authorized under 22 MRSA §2647-A for suspected releases.	Possible local ordinance-Code enforcement 30-A §3428, septic system malfunctions	Title 38, §413 requires a license for discharge, and the facilities may be inspected/monitored	
Wellhead/watershed Protection Zoning restrictions	No	Authorized by 22 MRSA §2642, 30-A, MRSA §4312	No	
Threat				
Underground Storage Tanks	No	Possible through zoning	38 MRSA §563-C prohibits new tanks in source protection areas Existing tanks regulated by Chapter 691.	
Aboveground Storage Tanks	No	Possible through zoning	Minimal standards for underground piping. SPCC for some facilities.	State Fire Marshal
Gravel Extraction	No	May be regulated by zoning	38 MRSA §490-D prescribes setbacks	
Sand Salt Piles Salting of roads	No	Possible zoning	Chapter 574 of DEP regulations prohibits new sites in source protection areas	DOT salt use policies?
Subsurface Waste disposal (septic systems)	No	LPI review	Industrial subsurface regulated by UIC and Discharge permits.	Plumbing Code, T 700.2 300 ft PWS setback
Underground Injection wells	No	No	DEP Rule Chapter 543: UIC program registers injection wells: Discharge Permits 38 MRSA § 413	
Landspreading of residuals	No	Local ordinance	Case-by case	
Landfills	No	Local ordinance	Case-by-case	
RCRA facilities	No	Local ordinance	Case-by-case	
Subdivision	No	Local ordinance	Site Location for larger developments	

Threat	Public Water System	Municipal Government	DEP	Other State Agencies
Above Ground storage tanks	No	Local ordinance	No	State Fire Marshal
Industrial /Commercial Development	No	Local ordinance?	Site Location for larger developments	
Fertilizers	No	Local ordinance	Some golf courses and related developments regulated	DAFFR nutrient mgt plans
Pesticides	No	Local ordinance	As above	Pesticides Control Board
Shore front development	No	Shore land Zoning may provide help	NRPA review of some activities	
Storm water disposal	No	Local Ordinance	Stormwater Regulations limit recharge in SWPA (Appendix D)	
Surface (land and water) Activities around intakes	No	Title 22, § 2642 authorizes municipal regulation	Certain lakes 12 MRSA § 13068-A limits motor size, type	I F&W 22 MRSA § 2648 400 ft intake radius
Animal husbandry/manure stockpiling.	No	Possible local ordinance	No	7 MRSA Ch747 nutrient management plans
GW/SW extraction	No	Local ordinance	Site Location, limited authority	LURC regulations
Boat launches/access	No	Local ordinance	Shoreland Zoning	IFW, DOC access program
Residential Uses	No	Local land use/zoning	Large subdivisions Site location review	LURC regulations
Overboard Discharges	No	No	38 MRSA §413 licenses all surface discharges	

Identification of opportunities for enhanced source protection

The authority to manage land use in areas contributing to public water supplies is widely scattered. Source protection is often a by-product of other land use decisions. Because water supply safety and security are the responsibility of the Supplier, land use decision makers often do not consider source protection in their deliberations unless it is a part of the list of requirements for approval. Even then, clear standards and linkage to water quality and quantity are needed for good decision making.

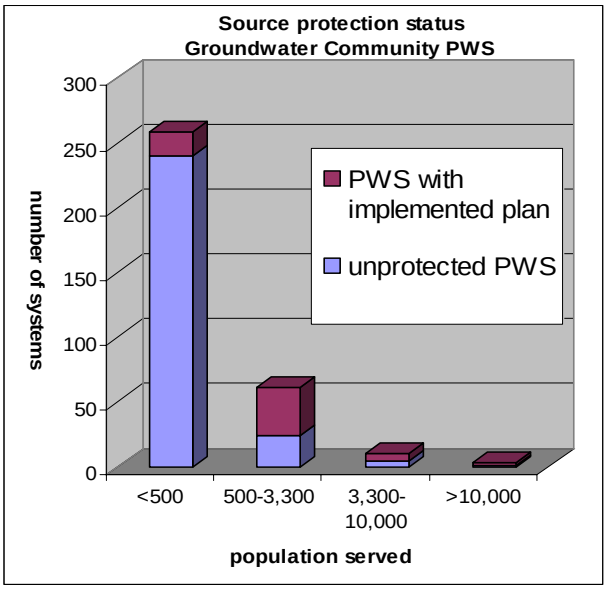

Figure 4

The protective ownership of land (or its development rights) avoids the necessity of regulating land development at the state and local level. Maintaining land in sustainable agricultural or forestry uses significantly lowers the risks to water supplies. The conservation of land in agriculture and forest uses in source protection area represents a cost-effective water quality management tool that also

can benefit the local economy. A combination of re-focusing existing resources and a fresh emphasis on land conservation would provide new opportunities for source protection.

After nearly 20 years of encouragement, authorization, grants, and pleading, 4 out of 5 community water supplies are without land ownership, control, or protective local ordinance. A high percentage of larger systems, serving more than 500, have effective land use controls, often through a local ordinance. However, most of Maine's community water supplies are small, with most serving fewer than 500 people (Figure 4, distribution of system size). These small systems usually do not have dedicated staff, trustees, or operators who can advocate for them with the local planning or select board. Protection of these small supplies requires understanding and motivation at the municipal level. Ninety percent of the 266 community systems serving fewer than 500 people do not have adequate source protection. For Non-transient Non Community systems, like schools, the percentage of protected systems is even lower.

Summary and Recommendations

Recommendation 1: Establish consistent policies among all State agencies to enhance source protection in all state decision making, development, and practices.

A number of state agencies have authority over activities that can either enhance or detract from protection of public water supplies. In many cases, public water supply protection is not part of the framework for site selection and permitting decisions. The Maine DWP should provide leadership and coordination for decisions that may influence source protection. Agencies that can assist source protection include:

- Department of Conservation: shoreland and boat launch development, park water supply development, forest management assistance and enforcement prioritization in source water protection areas.
- Inland Fisheries and Wildlife: surface use management of water supply lakes, boat launch development and management, wildlife area management, hatchery management.
- Department of Environmental Protection: shoreland zoning review, Natural Resources Protection Act permitting, enforcement prioritization in source protection areas. Spill response and clean-up and siting of new UST's are good models of how source protection areas can be prioritized in environmental activities.
- Department of Agriculture: prioritization of enforcement, technical and financial assistance activities when correcting environmental problems to give greater priority to source protection areas.
- State Planning Office: assistance to local entities with source protection land use planning, comprehensive plan and ordinance review.
- Land for Maine's Future Board: assistance with protection of open space; protection of water supplies currently not a criterion for conservation.

Recommendation 2: Create an effective program to maintain agricultural and forestry land uses in source protection areas.

National research shows that well-managed forestry and agricultural uses help maintain water quality and availability. Many source protection areas are currently being converted from forestry and agricultural uses to residential and commercial development. These more intensive land uses, also known as "sprawl" pose greater risks to water quality, and often reduce the availability of both ground and surface waters by altering the hydrology of the area.

2.1 Existing programs(e.g., Nutrient Management, Right to Farm, Sustainable Forestry) to maintain environmentally responsible agricultural and forestry uses should be provided with resources and given a focus to work in source protection areas to encourage land conservation.

2.2 Provide resources and direction to Agricultural and Forestry programs including nutrient management, sustainable forestry, and right to farm to work with landowners in source protection areas to minimize the impact of their activities.

Although agricultural and forestry land uses represent the lowest level of threat to water quality, poor management can lead to a variety of problems, ranging from erosion and sedimentation to hydrocarbon and pesticide contamination of ground and surface waters. A combination of landowner education, conservation incentives, and, where needed, enforcement can significantly reduce these risks.

Recommendation 3: Mitigate the effects of existing and new development on drinking water quality through the use of education, incentives and enforcement.

Statewide activities:

3.1: Encourage active management (BMP's) of existing potentially threatening uses in source protection areas through municipal, PWS and state inspection of activities.

3.2 Develop a plan to target enforcement of existing environmental laws in source protection areas.

3.3 Add proximity to public water supplies as a review criterion for Environmental review programs, particularly NRPA and Site Location.

A number of public water supplies are located in relatively developed areas. It is not realistic to expect that businesses and residences will leave a source protection area. It is possible, through the use of education, incentives, and enforcement to mitigate the impact these activities have on water quality.

Maine has a strong array of environmental laws. We also have limited resources to enforce these laws. Programs like Pollution Prevention, Resource Conservation and Recovery Act and Underground Storage Tank inspection, Site Location, and Natural Resources Protection Act (NRPA) enforcement all can assist in reducing risks to public water supplies as well as helping maintain general environmental quality. Source protection areas should be identified on NRPA and Site Location applications, and minimizing the impact of development on water supplies should be an explicit review item under these laws. Focusing the energy in programs like these, as well as agricultural and forestry education and enforcement can reduce risks to public health.

Local Government activities:

3.4 Set minimum standards for local source protection ordinances.

3.5 Amend PL 761 to require that a PWS's written response to notification of proposed changes in land use activities in source protection areas be required prior to approval of a local permit.

Make the adoption of ordinances meeting or exceeding state standards a municipal requirement, using an approach similar to shoreland zoning. Only 21% of all community public water supplies have effective land use controls on their source protection area. These systems serve a large portion of the PWS population (about 60%), but smaller systems have been unable to work successfully with local officials to develop and implement local protection plans. The DWP and its partners have been working with systems and towns for more than 15 years to encourage the adoption of local ordinances with outreach, small grants, technical assistance and model ordinances. Standards should be simple and risk-based.

For ground water sources, a small inner zone would have no new contaminant sources allowed and high levels of management at existing sources. A larger outer zone would require a review of risks associated with proposed development, and would encourage open-space conserving uses, like agriculture and forestry.

For surface water sources, the inner zone would be a part of shoreland zoning, and would include surface use restrictions near the intake, as well as resource protection zoning near the intake. For the watershed, a preference for sustainable agricultural and forestry uses and risk-based review standards for new development would be key components.

Although PWS's are nominally required to be notified of permit applications in source protection areas under PL 761, this provision has not been widely followed by local government. If a written response from the PWS was always a part of the record when the permit was processed, we could be sure that the PWS had been notified and had the opportunity to participate in the process. In many cases, the response might be that the PWS saw no threat in the change in land use. Even if the PWS intervened in the process, the decision would still lie with the local government.

Our review shows that the second phase of Resolve 029, a public discussion of source protection options, refinement of these recommendations, and a report to the 123rd Legislature, is appropriate and necessary. The protection of water supply sources is a crucial part of Maine's economy, public health, and environment. We have the opportunity to build this understanding into existing state and local programs and make them more effective. As more land is developed in source protection areas, it becomes increasingly difficult and expensive to provide safe and adequate supplies of drinking water. Maine has been blessed with abundant, clean water. Unless we consider our actions carefully, we will lose that advantage.

First Name	Last Name	Company Name	Sept 14	Sept 28	Oct 12	Oct 26
Andrew	Fisk	Maine Department of Environmental Prote	☑	☐	☐	☑
Robert	Marvinney	Maine Geological Survey, DOC	☑	☑	☐	☑
Mark	Hedrich	Maine Department of Agriculture, Food an	☑	☑	☑	☑
Chris	Martin	Maine Department of Conservation	☐	☑	☑	☑
Steve	Timpano	Maine Department of Inland Fisheries and	☑	☑	☑	☑
Judy	Gates	Maine Department of Transportation	☑	☐	☑	☐
Martha	Freeman	Maine State Planning Office	☐	☐	☐	☐
Tim	Glidden	Land for Maine's Future	☑	☑	☐	☑
Chris	Lyman	Healthy Maine Partnerships	☐	☐	☐	☐
Ronald	Phillips	Coastal Enterprises, Inc	☐	☐	☐	☐
Maggie	Shannon	Congress of Lake Associations	☐	☐	☐	☐
Maggie	Drummond	GrowSmart Maine	☐	☐	☐	☐
Jeremy	Paine	Maine Association of Realtors	☑	☑	☑	☑
Linda	Gifford	Central Maine Title	☐	☐	☐	☐
Jeffrey	Romano	Maine Coast Heritage Trust	☑	☑	☑	☑
Jon	Olson	Maine Farm Bureau	☐	☐	☐	☐
Jeff	Austin	Maine Municipal Association	☑	☐	☐	☑
Patrick	Strauch	Maine Forest Products Council	☐	☐	☐	☐
Mike	Barden	Maine Pulp and Paper Association	☑	☐	☐	☐
LouAnna	Perkins	Maine Farmland Trust	☐	☐	☐	☐
Jeff	McNelly	Maine Water Utilities Association	☐	☑	☐	☑
Susan	Breau-Kelley	Maine Rural Water Association	☐	☐	☑	☐
Shelly	Clark	Maine Real Estate & Development Associa	☐	☐	☐	☐
Ted	Koffman	College of the Atlantic	☐	☑	☐	☐
Russell	Libby	Maine Organic Farmers and Gardiners As	☐	☐	☐	☐
Jamie	Py	Maine Oil Dealers Association	☐	☐	☐	☐
Brownie	Carson	Natural Resources Council of Maine	☐	☐	☐	☐
Raina	Rippel	PSR/Maine	☐	☐	☐	☐
Tom	Rumpf	The Nature Conservancy	☐	☐	☐	☐
Alex	Wong	Maine Rural Water Association	☑	☐	☑	☑
Paul	Hunt	Portland Water District	☑	☑	☑	☑
Michele	Gagnon	City of Ellsworth	☑	☐	☐	☐
John	Wedin	City of Ellsworth	☑	☑	☑	☑
Andrews	Tolman	Maine Drinking Water Program	☑	☑	☑	☑

First Name	Last Name	Company Name	Sept 14	Sept 28	Oct 12	Oct 26
David	Braley	Maine Drinking Water Program	☑	☑	☑	☑
Teresa	Trott	Maine Drinking Water Program	☑	☑	☑	☑
Stirling	Kendall	Muskie School	☑	☑	☑	☑
Kirsten	Hebert	Maine Rural Water Association	☐	☑	☐	☐
Ted	Lavery	US EPA	☐	☐	☑	☐
Anne	Hayes	Branch Pond Ass'n	☑	☑	☐	☑
Torbert	Macdonald	York River Watershed	☐	☐	☐	☐
Sebastian	Belle	Maine Aquaculture Association	☐	☐	☐	☐
Karl	Honkonen	Weston & Sampson Engineers	☑	☑	☑	☑
Nancy	Beardsley	Maine Drinking Water Program	☐	☐	☐	☑

The Maine Drinking Water Program is a public health agency, and is part of DHHS in the CDC Division of Environmental Health. Our mission is to work with public water suppliers to provide safe drinking water to the people of Maine. We provide water quality assurance, engineering and geologic review, technical assistance, infrastructure loans, and education to water suppliers.

Maine has about 2,000 Public Water Systems. 377 of these serve communities as their primary water supply. They range from systems serving 25 individuals at a mobile home park or nursing home to the 200,000 customers served by Portland Water District. A roughly equal number of public water systems serve schools, businesses and industries, and about 1,300 serve a transient population: restaurants, motels, and campgrounds. Overall, over 800,000 Maine citizens use public water at home, work, or in their travels.

For most water systems, state agencies, and municipalities, protecting water supplies is a by-product of other decisions and actions. A wide variety of public and private activities can degrade or enhance water quality protection, but few of those choices take water supply protection into consideration, even when it's a nominal requirement, as it is with PL 761, which the Legislature enacted in 2001. Programs tend to focus on their central mission, and it is important that they also consider the secondary effects of their decisions. Water Supply Protection is not on the checklist, so it isn't considered.

We are fortunate to have a large, rural state with high-quality natural water and relatively few areas where water supplies are at high risk. Well-managed agriculture and forestry are good neighbors to water supplies. Residential and commercial development present higher risks. The rapid growth in many rural towns has increased the pressure on water supplies over the last ten years. Shoreland and upland development, as well as suburbanization of recharge areas make it difficult to maintain high quality water supplies.

Only 21% of our larger community water systems have effective source protection programs. Even those with strong programs have constant challenges from individuals and groups who want to increase the local tax base through development. In an ideal situation, a water supplier would own the area that contributes water to its source, as Bangor does. Most water systems have neighbors whose primary motivations are not water supply protection.

National studies indicate that forestry and agriculture, practiced with good management, are effective at conserving water quality and quantity. If forestry and agricultural conservation and management efforts considered water supply protection a priority, public water supply risks would be reduced, and development pressure alleviated.

Maine has a strong array of environmental protection laws, and a great deal of knowledge of how to minimize the influence of existing development on water quality. Source protection would benefit significantly if those tools and knowledge were focused on

protection of water supplies. Code Enforcement Officer's time and resources are stretched thin, and DEP education and enforcement is limited by staffing constraints.

We have a success story to tell that is also the story of long-term failure to plan. Rumford Water District has two wells known as "Scotty's Wells" located between Scotty's Brook and the Swift River in a sand and gravel aquifer. The wells have been in operation since the early 1950's. Sometime later, a subdivision was developed north of the wells, in the same aquifer. As the homes aged, at least two developed leaks in their oil heating systems. DEP responded aggressively to both leaks in 1992-1997 and 2003-2004. The 2004 spill response included lifting the house off its foundation to recover contaminated soil, as well as installation of new piping for oil tanks in many of the homes in the area. Total cost of the responses exceeded $600,000.

DEP's response was both timely and effective, and served to protect the water supplies. However, had the subdivision been located perhaps another 1,000 feet north, a much more modest clean up and remediation would have served to protect general ground water quality, and the water supply would not have been at risk. Although a number of public water systems are able to manage their water quality in aquifers with development, it is an ongoing challenge. If we can re-direct development away from water supplies, we will save money and conserve open space, agriculture, and forestry land uses.

Another example of hard and expensive work to protect public water supply is the Lisbon area. The Lisbon Water Department has to cope with an aquifer that is also much of downtown. Lisbon's wells have been contaminated with gasoline (from a site which underwent aggressive DEP remediation), chlorinated solvents, and salt, among other things. The largest contamination event was associated with waste disposal at the nearby Maine Electronics site. Once again, DEP's response was strong and appropriate, requiring Maine Electronics to both control the contaminated area and treat the water reaching the water supply. Lisbon still has an aquifer with a number of adverse land uses, and associated long-term management costs. Although the Department has searched diligently for other sources, this aquifer, even with its difficulties, remains their best option. Had more care been used in developing the area, both the public and industry would not have needed to participate in a long term and expensive clean-up effort.

Brunswick-Topsham Water District has worked diligently with the towns of Brunswick and Topsham to craft and improve a wellhead protection ordinance. Under the ordinance, there has been significant discussion about use of pesticides and fertilizers by both the Town and Bowdoin College. The District, the Town, the Pesticides Control Board and the DWP have spent several years in crafting management tools and restrictions for these uses. The ordinance is not able to regulate individual homeowner applications, and there is significant residential development in the wellhead protection area. Nitrate concentrations, while still well below drinking water standards, have slowly increased, almost certainly from lawn and garden fertilization. In addition to these non-point sources, a portion of the Brunswick Naval Air Station lies within the wellhead protection area. Fortunately, it is the far end of the runway from the Superfund site area.

The proposed closure and re-development of the base will provide new challenges for the water supply.

Maine's population has been moving from its historical city centers to the suburbs and surrounding rural towns. This trend has two serious effects on public water supplies. First, the city centers are served with public water and sewer. As population is reduced, the water suppliers are left with stranded assets and fewer ratepayers to support infrastructure, security, and source protection efforts. Secondly, most of the larger public water supplies located sources in the rural areas near their service area 80-100 years ago. As development occurs in these rural areas, a significant part of the natural protection that was in place is reduced.

Gray Water District is an example of an area where, even with an active wellhead protection district, ongoing development is increasing the risk to the water supply. Much of the contributing area is developed, and analysis of satellite imagery (change detection analysis) indicates that there has been quite a bit of "infill" development in the source protection area. In some ways, this is a good thing, as this area is served by the Gray Water District PWS. However, at least a portion of the new development is commercial/industrial, and the Gray Water District has had chronic low-level volatile organic concentrations in the past, probably a result of earlier industrial activity. Systems like Gray are left with the options of managing a large area of development, and careful, frequent, and expensive monitoring.

The Ellsworth Water Department illustrates the amount of work and coordination required to begin to conserve the quality of a public water supply. The City of Ellsworth utilizes Branch Lake as its source. The lake has historically had seasonal camps on the northern end of the lake. A large portion of the central and southern end of the lake is relatively undeveloped, with a large parcel owned by Department of Conservation DOC, including a small day use area. The intake is in the southern part of the lake. The watershed, until recent years, was mostly forested. There have been ongoing controversies over an appropriate location and control for surface use access. Additionally, many of the small seasonal camps have been re-developed as larger, more elaborate structures, often without due care for the lake.

Ellsworth has worked hard over the past several years to improve their watershed control. Even with these efforts, the change detection analysis shows a significant amount of new clearing and development in the watershed. The seasonal up-conversions around the lake are at too small a scale to show up on this analysis (30 m pixels).

Recommendations, with some explanation

1 All State Agencies Favor Water Supply Protection in all their decisions.
A number of state agencies have authority over activities that can either enhance or detract from protection of public water supplies. In many cases, public water supply protection is not part of the framework for site selection and permitting decisions. The Maine DWP should provide leadership and coordination for decisions that may influence source protection. Agencies that can assist source protection include:

- Department of Conservation: shoreland and boat launch development, park water supply development, forest management assistance and enforcement prioritization in source water protection areas.
- Inland Fisheries and Wildlife: surface use management of water supply lakes, boat launch development and management, wildlife area management, hatchery management.
- Department of Environmental Protection: shoreland zoning review, Natural Resources Protection Act permitting, enforcement prioritization in source protection areas. Spill response and clean-up and siting of new UST's are good models of how source protection areas can be prioritized in environmental activities.
- Department of Agriculture: prioritization of enforcement, technical and financial assistance activities when correcting environmental problems to give greater priority to source protection areas.
- State Planning Office: assistance to local entities with source protection land use planning, comprehensive plan and ordinance review.
- Land for Maine's Future Board: assistance with protection of open space; protection of water supplies currently not a criterion for conservation.

First thoughts on a legislative/executive order:
WHEREAS, the citizens of the State of Maine have invested significant resources in the development of public water supplies for towns and cities within the State, and
WHEREAS, a safe, abundant, and well-protected supply of drinking water is essential for the public health and economic viability of the State, and
WHEREAS, water supply protection provides major economic and social benefits to the people of Maine, conserving open space and increasing the security of our resources, and
WHEREAS, the decisions of many state agencies can either foster or threaten public water supply protection, and
WHEREAS, water supply protection is not officially considered in many state decisions,
THEREFORE, we find and declare that all state agencies shall explicitly consider the impact of their actions on public water supplies, and document the impacts and prescribe or conduct any appropriate mitigation of impacts on the water supply resulting from the activity.

2 Foster Sustainable Agriculture and Forestry in Water Supply Protection areas
National research shows that well-managed forestry and agricultural uses help maintain water quality and availability. Many source protection areas are currently being converted from forestry and agricultural uses to residential and commercial development. These more intensive land uses, also known as "sprawl" pose greater risks to water quality, and often reduce the availability of both ground and surface waters by altering the hydrology of the area.

2.1 Existing programs(e.g., Nutrient Management, Right to Farm, Sustainable Forestry) to maintain environmentally responsible agricultural and forestry uses should be provided with resources and given a focus to work in source protection areas to encourage land conservation.

2.2 Provide resources and direction to Agricultural and Forestry programs including nutrient management, sustainable forestry, and right to farm to work with landowners in source protection areas to minimize the impact of their activities.

Although agricultural and forestry land uses represent the lowest level of threat to water quality, poor management can lead to a variety of problems, ranging from erosion and sedimentation to hydrocarbon and pesticide contamination of ground and surface waters. A combination of landowner education, conservation incentives, and, where needed, enforcement can significantly reduce these risks.

Possible list of activities:
-amend right to farm, manure management and related legislation to focus (new?) resources on farms in public water supply protection areas (PWSPA)

-focus agricultural landowner assistance in PWSPA's (new resources?)

-encourage land conservation in forestry and agricultural uses in PWSPA through Land for Maine's future and other programs. Integrate PWS efforts with land trusts and private conservation.

-focus forestry landowner assistance in PWSPA's (new resources?)

3 Mitigate the effects of existing and new development on drinking water quality

Statewide activities:

3.1: Encourage active management (BMP's) of existing potentially threatening uses in source protection areas through municipal, PWS and state inspection of activities.

3.2 Develop a plan to target enforcement of existing environmental laws in source protection areas.

3.3 Add proximity to public water supplies as a review criterion for Environmental review programs, particularly NRPA and Site Location.

A number of public water supplies are located in relatively developed areas. It is not realistic to expect that businesses and residences will leave a source protection area. It is possible, through the use of education, incentives, and enforcement to mitigate the impact these activities have on water quality.

Maine has a strong array of environmental laws. We also have limited resources to enforce these laws. Programs like Pollution Prevention, Resource Conservation and Recovery Act and Underground Storage Tank inspection, Site Location, and Natural Resources Protection Act (NRPA) enforcement all can assist in reducing risks to public water supplies as well as helping maintain general environmental quality. Source protection areas should be identified on NRPA and Site Location applications, and minimizing the impact of development on water supplies should be an explicit review item under these laws. Focusing the energy in programs like these, as well as agricultural and forestry education and enforcement can reduce risks to public health.

Local Government activities:

3.4 Set minimum standards for local source protection ordinances.

3.5 Amend PL 761 to require that a PWS's written response to notification of proposed changes in land use activities in source protection areas be required prior to approval of a local permit.

Make the adoption of ordinances meeting or exceeding state standards a municipal requirement, using an approach similar to shoreland zoning. Only 21% of all community public water supplies have effective land use controls on their source protection area. These systems serve a large portion of the PWS population (about 60%), but smaller systems have been unable to work successfully with local officials to develop and implement local protection plans. The DWP and its partners have been working with systems and towns for more than 15 years to encourage the adoption of local ordinances with outreach, small grants, technical assistance and model ordinances. Standards should be simple and risk-based.

For ground water sources, a small inner zone would have no new contaminant sources allowed and high levels of management at existing sources. A larger outer zone would require a review of risks associated with proposed development, and would encourage open-space conserving uses, like agriculture and forestry.

Recommendation three possible implementation steps:
Statewide: amend NRPA and Site Location to include explicit consideration of public water supplies. Targeted enforcement plan, BMP education and enforcement strategy. (more detail to come, input needed)

Local:
Source protection ordinance definitions and standards:
PWS wells have at least two zones: a primary protection zone of either a calculated fixed radius or flow-modeled area, and a secondary zone similarly calculated where risks are lower but still significant. A third zone, the total contributing area (watershed) may also be regulated, if local conditions indicate that it is an important source of water for the well. Maine DWP has provided all towns with default zones for all PWS wells.
PWS intakes have three zones: an intake zone of 1,000 feet around the intake, the shoreland zone around the water body (250 feet, to parallel shoreland zoning) and the watershed of the water body. Maine DWP has provided all towns with default zones for all PWS wells.
Acute contaminants: nitrate, bacteria, produced by septic systems, animal husbandry, manure spreading, boat toilets.
Chronic contaminants: metals, organics, pesticides and related substances regulated by the Safe Drinking Water Act that are associated with residential, commercial, industrial, agricultural and silvicultural land uses.

-no new activities that produce acute or chronic contaminants (nitrate, bacteria) are permitted within the primary protection zone. Existing activities shall use applicable Best Management Practices and may be subject to monitoring and inspection. (note: ideally, the water supplier should own or control this zone).

-any development in the secondary zone is subject to a 'no adverse impact on water quality or quantity' test. Industrial/commercial uses may be restricted or conditioned on use of BMP's for handling of toxic materials. DWP has developed a BMP manual for these zones.

-Zoning shall encourage the retention of lands in low intensity forestry and agricultural uses.

Public Water Supply Protection Meeting – Maine Drinking Water Program
September 14, 2006

Chart Transcriptions

Individual's Definitions of Water Supply Protection
- allowing public use for other resources
- protecting water quality through wise land use
- preventing contamination
- not doing too much of what humans do too close to water sources
- best and highest use of water is recognized

- provide drinking water at lowest cost – balance competing public interests
- everyone drinks water without needing to think about its quality
- Maine needs a DW EPA to protect water sources
- include ground and surface water – think about "Do I want to drink this?"
- prevent adverse public health effects
- mediate the influence of transportation
- conflicting objectives
- maintain water quality and quantity (this one was repeated 4 times)
- smart development
- think long-range too
- minimize water treatments

Implications, Recommendation #1

- for DOC, the boat launch development issue is the biggest – how to balance this with PWS protection
- list information sources each agency has that are available to other agencies – if you list it will get focused on
- awareness of where 2500 day areas are and how they effect operations
- how to translate PWS needs into day-to-day work
- how does DOT balance needs with PWS
- impact of transportation development

Implications, Recommendation #2

- LMF visible in the 4th bullet
- land (watersheds) conserved for recreation purposes – balance with PWS protection
- low impact recreation
- conflict between 'sprawl' and water protection in downtown areas
- LMF – recognizing existing scoring system is problematic. Instead, define the problem up front (flagging the trade-off issues).
- support farmers with education – need for funding
- small land owners need technical assistance

Implications, Recommendation #3

- how municipalities might be forced to do this – do we have to use a hammer?
- any prioritization isn't evident
- further specifying 'activities' – which development do you mean? Building the house at all or just fertilizing the lawn?
- does 'no adverse impact' really mean no development?
- alternative funding methods, e.g. septic system utility
- exception to zoning ordinance
- look at what other states are doing

Next Steps

- what other New England states are doing, including how they pay for it and the effects on private property values.
- taking everyone's 'temperature'
- dissect specifics of the model ordinance
- postpone next meeting (because Alex can't be there)?
- what's the problem – at risk for what, when?
- can we hear from towns that have done it?

Integrating Water Supply Protection into the State of Maine's Vision

The Municipal Role in Public Water Supply Protection
Resolve, Chapter 140
Second Meeting
September 28, 2006
Senator Inn Conference Room
Augusta, Maine

Impressions of Sept. 14, 2006 meeting:

- Helpful overview of program's efforts for protection of water supplies, layout of accomplishments
- Overview, presentation was helpful
- Overview, ditto
- Water tastes better than it did two weeks ago
- A lot of threats and contaminants we need to get a hold of
- Interesting to hear perspective and thoughts on this as an insider
- It is much easier for the public to accept to pay millions for clean up rather than to protect the resource in the absence of an identified event
- There is a long way to go with public education and the job at hand
- I am interested to hear what is from the other New England states
- Overview was helpful I wish there had been more discussion of surface water supplies instead of ground water, importance of precautionary principal of water supplies
- There are a lot of interests and complexities in this topic that have not been focused on the subject and broader than we previously realized

Presentations
Municipal-level source protection - Andy Tolman

Comments/questions from the floor:

- Á Are circular protection zones conservative? Is this in the sense of minimal protection? No, they usually err on the side of protecting more area, although in fractured rock, they can miss significant areas.
- Á What is the significance in inflections on the graph? (Water radius graph): the radius calculation is based on a range of populations, and uses a straight line approximation between ranges
- Á Which was there first I-95 or the well house in Augusta? The well pre-dates the road. (interesting protection note – DOT wanted to put in a flow through system

of pipes in the road deck to prevent freezing. They would pull water from the brook pipe it through the deck and return it to the brook. To my knowledge they did not do this. I spoke with them on underground injection rules, possible pinhole leaks and contaminants going back into the streambed. There was substantial protection weights here – icing might cause accidents – accidents could be tankers, fuel might contaminate ground water – deicing has runoff – well did show elevated chlorides seasonally and steadily icreasing over decades of use. Not only who came first but what mitigation efforts are "best" all round protection)

- Describe criteria for high, medium and low. (Bedrock flow approximation determination): High probability of contribution is predicted as more than 85% likelihood, Moderate probability is a 60% likelihood.
- How many wells were delineated (bedrock) this way? 40 (serving 27 community water systems).
- 40 out of 400 wells? A total of 217 active commuity wells have delineations. The remainder of the community (323) and NTNC wells (about 400) have calculated radius circles.

(For the following, the abbreviation PP refers to the title of the PowerPoint slide and comments made in reference to the slide are bulleted)

PP: Basic features of zoning:

PP: Types of Contaminants:

PP: What is crucial to protect at the municipal level:

- 0.35 % is acreage? Average total land area within a town in community and NTNC well source protection areas is 0.35%
- Transient means restaurants? Transient systems are those who serve 25 or more people 60 or more days a year, and the population served changes from day to day. They include restaurants, campgrounds, motels, and similar establishments. The proposal for regulation does not include transient supplies in those required to be protected.

PP: Top 20 towns:

Casco

- Does Casco have an ordinance? No
- When you say that it has the well protection does this mean it should or has? Towns noted with wellhead protection have active ordinances.
- Can the towns find their well protection plans? Some can, many have filed them.

Morrill

- What is the white on the map? Higher and moderate probability areas are in white.

PP: What's working:

PP: What needs to change:

PP: Other New England States:

- Á What is the level of protection and exceptions of protection, development of these states? Southern NE requires protection, particularly in the inner zone. They are working to manage development in the outer zone as best they can.
- Á For CT there is a level A and B mapping for all community supplies.
- Á The regulations of activity increases as the zones are closer to the well Massachusetts Water Resources Authority is protecting sources so that they can continue to serve unfiltered water to 2.5 million people. (Handout passed out by attendee)
- Á Protection for a new community source? DWP regulations require written land use control. Until the completion of the assessments, we didn't have a good handle on this requirement. We now require active management plans and land use control for all new community sources.
- Á How many community wells in Maine have been approved that would fall into that? In the last year, there have been 12 new sources with protection plans
- Á Going down that list of top 20, towns have had water catastrophes so they have been bitten once. They pass an ordinance because of past problems.

PP: Summary:

PP: Source protection status graph:

PP: Next steps**:**

Costs of No Wellhead Protection – David Braley

PPs: The cost of No Wellhead protection in Maine
Norway -
Lisbon –
Pittsfield –
Elementary School in West Forks –
Limerick –

Comments from the floor regarding Braley's presentation:

- Many of these examples point out impediments. Who ends up paying? The towns can make land use decision with out regard to costs. The state comes in and fixes the problem and they may not be reimbursed.

- Portland Water District operated a well system that supplied North Windham A gas station was proposed right on the edge of the wells' source protection area. The Town and the public were aware that it was not an appropriate site, but the applicant's geologist indicated that the area was isolated from the wells by a bedrock ridge. The gas station went in and MTBE was detected in wells

monitoring the area near the water supply. The cost of it to water district was 1.5 million dollars. It was close enough to Sebago Lake so that piping could be run from the existing source to replace the wells. It was fixed relatively quickly. DEP spent about one million dollars responding to this incident.

- What is the number one reason that towns are so reluctant for ordinances for water protection? It is primarily the individuals that perceive that they would lose use of their land. Changes in zonings were defeated in several towns. They weren't willing to have a protection zone on their property…local politics.

- Comment on same question, Windham wells still are a resource, although currently off-line. Since the time they were abandoned, there are more box stores going in. An applicant hired a consultant, got new data, and determined the data showed that where Home Depot was to go was out of the area the model indicated required protection. The Town re-zoned the area for development, but did not change the zoning in other areas where the model indicated that the protection area should be expanded. What are we going to do now? What will the best management practices be now for these businesses in the wellhead protection area now?

- Land owners fear of being trampled on.

- Have there been attempts to compensate landowners via taxation relief? Response: Not that I know of. The closest to that is that we encourage them is to see if the water system can negotiate a conservation easement in return for protection. On a municipal level for the outer zone, there is typically a change in the way you can use your land, but it doesn't take significant value from it. There is a variety of opinions about what a person should be able to do with their land.

- Affirmative control by buying of land from willing sellers is an important piece of source protection. Regulation is a back-up for areas where this is not feasible.

- Regarding the handing out of the 5 or more sets of maps you have done modeling for. Mandate should be that towns post the maps.

- Can we get a map of some of the protection zones proposed and then pick a few towns around the state and bring them back to them and ask them how this would affect them. What would that do to local listings of realtors etc? We can do that sort of thing. As an example of the benefits to landowners from source protection, Kittery and York have bought most of their watersheds. For the remaining private lands on or near the lakes, the suppliers have working relationships with the owners and have purchased easements on the shore front areas. Upland areas are regulated by a watershed protection ordinance. These lands are more valuable because they are adjacent to open space, and will be even more valuable later on. It is a mixed bag. For a landowner in a source protection

area, there are advantages as well as limitations. We will provide more materials on examples for the next meeting.

Impressions about positive and negative reactions of the presentations

Positive impressions:

- Of all the information, any provided from New England states and what an accident can cause. The data is interesting and the effects it can have.

- The basic framework on groundwork protection zones and to present it graphically allows you to make a strong case to legislators and whether or not they do it is another question. It seems like a pretty solid case and that you have tools there to advise them to start it.

- How do we implement it and develop the resolve.

- I was impressed on the data. I was struck with the value of science and the case on the engineering data but there was still a problem, that is amazing and for me it says that using precautions there should be things that should not be around a protection water supply. I hope we can have a strong case for water protection to get something through.

- For years I have been telling people that only 50 out of 6000 Maine lakes are used for drinking water supply. Well protection areas are less than one percent in every town. But as a society, we're unwilling to accept that only 1 percent of the land needs to be zoned for protection is amazing.

- Looking ahead for future water supply needs, is that calculated in? A: That is not part of the number, but there has been some discussion of future water supply needs. As a result of the North Windham incident, the DEP is now required to look carefully at applications for underground storage of gasoline in potentially high-yielding aquifers which may represent future sources for public supply. There are a handful of towns that have looked at future water sources and provided zoning for protection of these areas through their comprehensive planning process.

- When IF&W reviewed significant wild life habit and its loss, 85% of development did not come into state scrutiny for protection. The Municipal decision-making process governs most development.

- Protecting our future supplies: education with communities, they are leery of state involvement. The planning board I was on there was never anyone there to

explain things, like centers for communities and landowners. Just a willingness to acknowledge these precursors to protect the sources. We need to treat them differently. Not just to come down on them with ordinances, it can make that defensive.

- The fact that you created a framework for protection, speaks to how critical these resources are and the larger areas that need protection. It allows you to tailor the protection and the larger area doesn't exclude activities. So unless you think about different tools, our approach, is it useful to their approach.

- I am encouraged by the shore land zoning model proposed. It is a state requirement and the only the state enforces it, so it does not work very well and if it were left local then there will be varying degrees of protection and enforcement. There should be a standard for communities to follow. Shore land zoning is a code officer in town that knows what is going on. This is a good model.

Negative impressions:

- We would all like to see the water protected, but we have concerns about private property rights. If this were to occur and compromise like MA for compensation would …we might want to see what is not allowed in the zones.

- Realtors are required to disclose to buyers problems and need to know. Water supply protection would need to be disclosed to the buyer as well as future protections. Past legislation, when put up against competing uses, the balances is not what it should be. Drinking water is most important and the rest of the uses should be less important.

- Of the most importance, monetizing some of the impacts on positive and negative. Make sure the risk is spread where the risk might be. For example, the development of the area, the monetized risk in the previous examples. Risk and reward and risk exposure must be presented. All of these concepts were explored before and these things have to be presented.

- Wildlife conservation and sustainable forestry would put a positive spin that the water is contributing a valuable water supply to the public. This would be an interesting consequence to see what would be the value lost if the water source became contaminated.

- When we are talking about municipalities, I hadn't heard it before this group but when their bad decisions are bailed out by a third party a host of examples come to mind, a land use decision, a municipality and person of land use, municipality does not have feedback. Municipalities do not have the resources to pick up after big mistakes. Can we use this observation to go when we need to go?

- Home Depot example: we have the science to say we can go there but future problems what if their development had to put a performance bond that these funds well be in place to take care of future problems.

- I don't want to speak for developers, but as far as realtors, I don't know about this.

- We are sort of wresting with broad classes: compensation of rights from loss and the other exercise of the state police power through regulations for public use and benefit. The two-tier approach. I would want this group to stay away from the regulatory model. It is deeply ground to protect public health especially drinking water. It is a public resource and benefit. I hope we don't focus our energy on what it would take legislature to put up money.

- Examples of costs, if I were on a select board, maybe in all those towns would have to go through hardship. I would want to avoid these problems. Why haven't you brought their stories out to the towns?

- Example: If it came from the state, the town would not do what the state suggests. It almost feels to me that someone else should present these.

- Performance bond issue: my first reaction is this is an insurance policy. All it does for me is to transfer costs from state to developer rather that reduce the risk that reduce the cost. The risk to the consumer needs to be reduced. A benefit is that a developer may want to take into consideration certain aspects of their project.

- BIW example: What do we have there for tools and resources. Public water supplies are public safety issues. These are the conclusion we came to.

- Bond idea: I would wonder the fairness of that? Would you ask the homeowner to retain a bond? You are laying down a whole new layer of requirements.

- The current model, you don't require the bond. If you have an event, you go after the person responsible to get reimbursement for the costs.

- The model for petroleum storage and retailing is similar to developer bonding.

- It did boil down to private property land use. We wanted to replace the old comprehensive plan. The local real estate rallied to defeat the plan. Another group has come along to work on it. The private property owners defeated the plan.

- The water under your property is being consumed by the public. People are already drinking the water, so passing an ordinance to protect the water is

acknowledging the current state of affairs. Once a town is drawing water, a town should draw up protection for what is currently going on.

- Timber harvesting: Protection of water though education, outreach, focusing on best practices…best way to is to educate instead of implementing ordinances. Get some support from DEP for this.

- Surface water discussion: I was hoping of have examples of some of the cost and consequences of not protecting it in the past, but these have been on wells. The problem is that the surface water supplies, but the mentality or change that needs to take place hits everyone in the watershed. Stopping pollution in the area is important. Everyone in the area is somewhat responsible. I am looking for examples of what the costs are for treating problems etc.

- Did we hear anything back from the other states on affect on property values? They did not have any more than I do, they do not have a sense of any loss due to zoning. Some places where the water supply needs exclusive use, we are advocating buying it in those locations. Where there is shared use, our goal is minimizing the risk. We are talking about education as well as regulation. The shoreland zone near a Public Water Supply intake, we think it should be in resource protection. It should be in a conservation easement, and compensation should be given. It is a very complex answer. What are the current concerns for the area.

- Compensation: Shore land zoning compensation: No financial implication. That the purpose that the water is protected. They gain value because of shore land zoning. It increases land value. It is a concept more than a spreadsheet. The perception of a town can affect land values. Benefit is that the land value increases. Sebago Lake's property is still very valuable regardless of the current position.

- The compensation lies that their status quo was protected and they gained protection from what their neighbor might do. The same analysis could be used for ground water supply.

- Sales position is using a protection quote on the sales agreement…an advantage for them. We bought one… protection by conservation easements or next to conservation area. It is appealing now.

Andy:

Are we at a point that we can talk about what municipalities should be required to do to protect water supplies like refining shore land zoning and some level of protection required for ground water supplies? We are proposing that municipalities provide basic protection for community and non-community non-transient water supplies. We have been encouraging suppliers to work towards protection, although they have very limited tools to do it. They have no power to pass ordinances. In the sanitary protection zone,

we are talking about serious protection, no new septic systems. Although new septic systems are not allowed in this area under the Plumbing Code, they sometimes still get through. No toxic materials to be used in these areas. The secondary areas there would be a higher standard of review for anything new going in before for best management practices. There would be a provision there is one that allows inspection for activities in these zones. This has been reduced to the essentials of what we are to propose. Basic standards are what we would like to see.

- Do we use the shore land zoning model? We have talked about this, it might fly. We have a skeleton problem coming down from the state, but they could do their good work.

Andy:
State policy to protect water supply is on the list of things. This is encompassed in Paul's suggestion of a National Environmental Policy Act equivalent for public water supply protection. We had talked about shore land zoning. The question is, can you all agree with the concept of a state mandate for local zoning and agree to support it or not?

- The shore land zone model and 2 tier approach is good. Most of us support that but need to see the next level of detail. Andy: This is where I am trying to get us to. We need to agree on the concept before a model ordinance is developed. We're looking for concept approval first.

- I can support an ordinance, but how is this going to be achieved? Work for compliance through technical assistance. I think this will go further.

- If I presented that list of 3 things to my mom, her response would be would be these things are not being done? She would be stunned that this is not happening.

- People are stunned when I make presentations when I tell them what is happening out on the ice. They can't believe that it is not being control and monitored. The general public would be stunned about this.

- All we heard fifteen years ago was that Maine doesn't need mandatory water protection. What is flushed out is that the municipalities are the major players and they participate the least. They need to actively participate. They are the missing piece. This is why we are sitting here.

- If the reluctance for municipal participation is the reason that they are not interested. Then how do we address this? Most communities do not think they have great risk.

- In a lot of communities the decisions being made by people who are the power brokers and landowners of the communities. There has to be some sort of bonding, somehow they have to be made to feel that they would be made responsible for anything thing that would happened in the future. In the case

where the city owns and operates the water supplies, the councils act as trustees of the water supply. It is a serious responsibility and should there be a person financially responsible. It would be good if there were something going through the municipal communities to address this issue.

- What is the process going forward as we move towards sessions? Natural resources committee to listen in to see what they may be dealing with? Andy-this is designed for a four-meeting process. After this meeting, I was hoping to figure out how these 3 recommendations would happen. On the 3rd recommendation, we are making good progress. We have an incentive level recommendation to keep resource protection areas clean. Then how to we deal with existing problems and how people may want to do with their land. It comes down to education and enforcement. Present standards and show them how to achieve them.

- It might be good to have a meeting with some of the folks from MMA since they are not here.

- What I would hope to happen in the next meeting is to work on recommendation 3 and to talk about recommendation 2 primarily.

- Draft of the details will be presented before the next meeting. The model has everything. We have to decide what we need.

- Wellhead protection is the ordinance. Will this be a model for surface supplies? What we need for that would be shoring mandate. We haven't gone far with DEP. In terms of protecting watershed, we were focusing on surface use and shore land zoning. The biggest gap is that we have 80 percent without protection. Surface is at 35-40% with protection. Bangor owns their entire watershed. This is not a model we see elsewhere. What is the risk we are willing to accept?

- Model ordinance: Are you going to try to extract from that a skeleton version? Yes, because I am trying to … on a conceptual level it is about developing detail level of triage.

Next steps:

- Do some preparation and writing a draft
- For the next meeting on October 12, 2006
    - Focus on 3rd recommendation and shift to recommendation #2 discussion with more detail. Maybe we should come back with primary ideas to start.
    - Perhaps email to Andy these ideas prior to the next meeting. (Materials are out on the web-site for review from the meetings). If you have something to be posted, send it to Andy.
- Best management process manual on the web site for viewing.

Resolve, Chapter 140
Integrating Water Supply Protection
Senator Inn, Augusta
October 12, 2006

Details of "shoreland zoning model" presentation – Andy Tolman

(PP=PowerPoint Slide)
-comment or question
A: answer to question

Comments on the following:
PP: Agreement
PP: New England Update
PP: Northern NE
PP: Proposal for shoreland zone model
PP: Primary protection zone
-How would this work if I had a house that needs a new septic system? A: We use the best technology (keep it as far away as feasible and, if needed, use advanced treatment) to replace it to minimize the risk.
-Is the existing authority that if there is a problem the water system can inspect? A: Yes, the water system can enter a property if they suspect an immediate health-threatening problem.
PP: Secondary Protection Zone
-Who conducts the review of all new activities? A: The planning boards would conduct the review. There is an existing provision that allows boards to require the developer to fund an independent technical review. Do the planning boards exercise this option? A: Many boards in southern and coastal Maine use this option now.
PP: Durham map
-Are the blue dots the 300 hundred-foot circles? A: Yes.
-300-foot protection radius is about 6 ½ acres. A: In most cases, the well owner is the property owner for much of the protection area.
PP: New Gloucester map
PP: Machias, Marshfield, E. Machias map
PP: E. Machias map
-If the inclination is to call salt a toxic substance we would be reducing applications of road salts in front of schools. A: This one is a balancing act; we have two activities that influence public safety: safe transportation and safe drinking water. The intent is to manage both the activities to minimize the overall risk.
PP: Greater Augusta map: Sidney
PP: Zoom in of Augusta map (Bond Brook area)
-In the area near the south well, the land is used for hay. In years past, they have been asked not to spread manure.
-There are a lot of above ground oil tanks that require management. There's not much developable land in the protection areas.

PP: Gardiner

-Are both the wells on the Gardiner estate? A: They are very close to the Gardiner estate, although located next to Route 201. A lot of the land in there is Gardiner estate.

PP: Other Considerations

-RE: Shoreland zoning: Are you proposing the 1000-foot circle to measure where it comes out on the water? A: The measurement is from the intake-location on the water. The area where that radius touches land would be a candidate for Resource Protection Zoning.

PP: What can we make work?

-Shorebird nesting thing, I think that it would be key to have developers, contractors etc. to inform them this is coming. Request a separate meeting. They need to know this is coming. My association is likely to oppose this. We all agree that we need to maintain the quality of water. We would prefer to see a town do this own their own rather that a state mandate. Compensation would soften this.

-Existing zoning, land uses and how these meld together. A lot of the reluctance on the part of towns is fear of land use controls. Small water suppliers, schools and mobile home parks have very limited technical capacity. They often own enough land to protect their supplies, if they manage their property well. So the town doesn't want to tell them what to do. There is a place for larger communities.

-If there is going to be this restriction it needs to go both ways.

-If the end result is that the Legislature has to resolve the conflict between property owners and public rights. What if when the town approves the new development and the developer signs an acknowledgment to restrict activities to reduce their risk? No developer wants to contaminate a water supply well. At least the development decision is made with everyone being aware of the situation.

-Is this taken to the developer and homeowner? Who could oppose just an acknowledgement at the time of approval? At least it is out front. At least when the water is sold future owners would be aware as well. This would be better that nothing at all.

-This would still require that all towns show source protection areas on their maps.

-This would give an opportunity for outreach and education. As ownership of the subdivision changes, the new owners would be responsible as the original owners were when it was approved.

-If I buy a house that is in a wellhead protection area, would I be liable if I polluted in any way? A: Technically polluting the water is a crime, but proving it is difficult.

-It can be looked at as protection of property for new owners and the rights of purchasers of property. Perhaps this idea could be endorsed.

-Didn't TPL come out last year with a study that showed that property values increased in and near conservation zones?

-What does your organization perceive to be overly restricted? A: First, there are concerns with taking any rights to land from a person. They have bought the land to do what they want. It sets a precedent. Buyers and sell are moving constituents. People only get involved in the buying and selling. Beyond that, people (other organizations) are not watching this. The other issue, if the tax rolls are reduced, other people are taking up the slack for that lack of development. The tax would have to be paid of the land that is taken off the rolls. Lands for Maine Future Program could help. We should compensate the owner for loss of use of property.

-They already can't put ground water contamination sources in a protection area (like a septic system) now. What is it besides not putting a septic that is going to change with this proposal?
-Restricting activities should be reviewed by the buyer with full knowledge of what they can or cannot do. Existing owners should know that there is a restriction.
-What is the taking if you are still able to use the land with restriction? A: One is that the wellhead protection area in a downtown area. There are still parcels that still could be developed years ago, but now cannot. If an individual goes to a town that has no zoning and buys land now, and things change in the future, this greatly affects their plans.
-There is a risk for a buyer, because changes are going to come down the pike. There is a risk assumed when you have to buy a piece of land. There is an inherent risk in land purchases.
-Talking about purchasing protection areas, for the larger ones, that have expanded zones, did you say that some of them have development conservations easements? Is this a potential solution to land owner property rights. It would be a required purchase of development rights. A: some systems have successfully used conservation easements to protect critical areas for their supplies.
-The case is that person came in to put in a replacement septic system, a four bedroom one. They didn't have room on the lot for a four-bedroom system, because the lot was too small. They installed a 2-bedroom system. The house was put up for sale, and the seller was advertising it as a four-bedroom home. We notified the realtor and had them change the advertising. It is illegal to falsely advertise real estate. The buyer and the seller have to know that their land might impact the public water supply. I see it as a positive for the buyer. The seller made promises that only 2 bedrooms would be occupied. Legally we had no choice to approve the two-bedroom system. The seller had provided the information that it was a four bedroom house. I do think that protecting buyers and sellers rights would be a good thing.
-Well location restrictions for public roads. A: the standard is that the well cannot be in the right of way, which is 33 feet from the centerline of the road. It should be as far away as possible. We have a different standard for protection in that area for the right of way. Reducing salt use, there are technologies to reduce salt and pesticide use.
-Keeping a water supply more that 300 feet away from the road, whenever possible, is a benefit to the owner.
-New water supply source approval requires that a protection plan be implemented. The water supplier's consultant makes a recommendation as to what needs to be done for the protection area, and the supplier does their best to implement the plan. Protection is not a priority at the local level. I have many copies of comprehensive plans that go to great lengths to ensure pornography should not be sold in the area around a school, but don't have anything about public water supply protection for the school.
-The abutter notification law, how many has that increased in terms of notifications to water suppliers? A: The Portland Water District's watershed is about 200 square miles. We have received one notice in four years.

PP: Agreement
-What are you asking for agreement on? A: Pieces of recommendation three we can support.

-If there are pieces you cannot support let us know.
-Notification could potentially be brought back to the board. Reasonable compromise. Everything else I have problems with. Where is the money going to come from for this? A: The proposal provides a requirement that the towns adopt the ordinance and they would have to change their zoning maps. If towns did not adopt the ordinance, the DEP or the Drinking Water Program would implement the plan. We might be able to redirect existing funds to provide mapping. The Drinking Water Program would have to provide the mapping (again) and the towns would have to redraw their maps.
-Majority of this is fine. Implementation, enforcement and inspection, the capacity of many towns is not there. Looking at future water supplies, that town could be looking at their comprehensive planning.
-Original recommendation # 3: NRPA already requires the protection of ground water. There may already be the ability to review activities for impacts on public water supplies. Environmental laws are not enforced a great deal. There are some existing mechanisms that are easy to refine to protect water supplies rather that make new ones. Setbacks between sources and potential threats need to be reciprocal. (Setbacks are reciprocal for new sources; existing sources and existing threats require management)
-We think it all looks good. Consequences, is there a way to make consequences felt with out having to pass a state wide minimum.
-The ordinance should point that things are not restricted or encouraged. And to proved solutions and other options. And provide other information to land owners. If this is rolled out at the same time, that is one package that can go out at one time this could moves things along easier.
-A lot of research needs to be done in these areas underground. We don't know what is there. The research is costly to determine what exists already. It does protect our current activity because we don't know what is currently there.
-No objection. It is overdue, is it perfect, probably not. By passing a minimal mandatory ordinance, the burden of proof falls on the developer. This should be part of it and should be built into the ordinance.
-Something needs to be done to see that municipalities are abiding by the ordinance.
-Of course it should be protected, but the details represent a difficulty. I would like to see the mapping of current surface water supply is and overlay it with current protection zones and the shoreland zoning in those areas. Expand or put under NRPA and how do we depict it and put it on GIS mapping. This only picks up the state regulated activities and not the NRPA.
-PL761 amendment is worthwhile. Minimum standards for ordinances are done with coordination with the towns and provision of that for state funding assistance to help the towns with this ordinance. The towns are not going to buy into it right away.
-I am in favor of everything here.
-We would object for to using Land for Maine's Future money if the land is not available for public recreational use.

PP: Recommendation #2
PP: Land Conservation
Identify tools, Sources of funds, Incentives

-How were these two land uses chosen? A: We looked at what local and national experiences have said concerning land uses that are compatible with maintaining water quality. Forestry and agricultural land use are the most compatible. We are trying to work with agencies and other organizations to bring positive pressure to sustain these lands in low-impact uses.
-I am aware of the tools and funds but I am not aware of the gaps.
-Where does the money for Land for Maine's Future come from? A: General Obligation Bonds provide the funding.
-What if there were two bond issues in the future, one directed specifically for drinking water protection. LMF's purpose is to provide public access on land throughout the state.
-Isn't there already a set-aside for agricultural lands? (Yes)
-Most farmers cannot have people running all of there property. Generally speaking a farm can be a dangerous place.
-Preserving those areas without intensive development and also allow public access. A: There are areas in southern Maine where water suppliers, land trusts, and towns are managing access to public water supply lands successfully.
-The Stormwater Law allows compensation fees be used to protect areas adjacent to protected water supplies. Make this a specific component of the plans DEP is making.
-The USDA Forest Service recently completed a National case study for conservation of farm and forest to commercial and residential. Out of 15 watersheds at risk nationally, 3 are in Maine. There is a need to pursue land conservation. If those lands are converted to other uses there could be significant down stream impacts. Bond allotments could be increased. Incentive wise, for land conservation for permanent protection, we administer a couple of programs to encourage them to retain their property as farm or forest. There are funds available to offset the cost of non-income activities. Cost share rates; there are additional funding from fish and wildlife service. NRCS has a conservation security program that could provide funding.
-Forestry: The Forest Stewardship Council has a program for forests that are harvested in a sustainable way. This also goes towards protecting water supplies as well. Green vs. non-green certified lumber.
-MA has issued grants to farmers for best management practices.
-There is some resistance for private landowners. They would have an obligation to the federal government. The biggest challenge is to ward off conversion of property. Certification, you have a market-based incentive. They snap to when they hear 3rd party audits. Market pressure for 'green' wood is encouraging adoption.
-Develop a program for agricultural lands where following some responsible standards would provide a reduction in taxes for farms in a resource protection area. Town could get reimbursed from the state. Development done in a certain way could also be included in such a program. Kind of like the tree growth model.
There is an incentive for responsible subdivision development in current Site Location standards: density bonuses for clustering.
-More support of water conservation districts and triple the funding, would provide much benefit. They just don't have the funding to provide the public outreach, etc. More people are needed here to do the work.

-The biggest hurdle is finding more money. If TABOR passes, we won't be looking for money. Otherwise, we present the programs in need of more money with reasons why they should be funded. The cost benefit is incredible in prevention compared to cleanup.
-Example of savings: the Catskill watershed system in NY. Saving money through watershed protection so water does not need to be filtered. NYC provides funds and resources to the Watershed Agricultural Council to encourage responsible agriculture.

Recommendation #2
-I support it.
-I would want to see the language.
-Wholehearted support as long as the agricultural techniques are identified and non-recommended uses and recommended uses are identified.

-Local water users, see what their needs are.
-No objections. I am trying to think of other land uses, when we are talking about land conservation, it is an issue.
-Agriculture and forestry can be seen compatible with outdoor recreation. Use this as well. Adding a third compatible land use.
-Ok. I would like to see what you come up with. I would like to know how you are identifying sustainable. A: Minimal environmental impact, not necessarily organic. They should be good neighbors that stay in business. Not necessary USDA Organic.
-Sustainability and certification didn't mean anything to anyone. Responsible did. This may be more of a term that would be more inclusive. The people using the property are using it in a responsible manner. Sustainability issue would bring the question up as to what is being sustained.
-Not speaking for our board, we believe the concept to be agreeable.
-Show me the money. The resources are the focus. Is there a correlation that can be derived from agriculture and forestry use to manage these land uses. There has to be some generated source of income for these ideas.

Next steps:
Goal for next meeting is to try to draft up the recommendation section of the final report. The background has all been written but my goal is to have some language for all three recommendations and fleshes out some level of detail as to what we are going to be asking for after the election as well as monetary figures.

Recommendation #3: How far would we have to notch back to see if people would be comfortable with it and if it would be any good?
-PL761 amendment: accountability and teeth in it.
Recommendation #1: state agencies considered their impact on their water supplies. Cooperation with other state agencies is a key for everyone to succeed.

Tiers 1 – 3, what if support isn't there for all of them? How would it be presented back to the legislature? I am open to how we can make the report work; we will consider discussing recommendations that have less than full support, and presenting the arguments for and against each.

-The IF&W has a mandate to protect resources and provide reasonable use of these resources. Protection of ground water and land protection protects the land for our uses. So we are looking at two parts of the public in terms of protection. I don't think you are going to capture that in this discussion. I am here with concerns about reasonable public use.

Andy: prepare draft for next meeting, outline level sent out with the meeting announcement.
The Group is to bring back thoughts and other material to the next meeting.

How can you possibly present to the legislature in February that would present enough details, but it still wouldn't not show all of the details. A: There may be some discomfort around agreeing to something where all of the details are not available. There will always be more details to work out in the implementation of the recommendations. Our goal is to provide a structure that we can use to develop workable protection.

Resolve, Chapter 140
Integrating Water Supply Protection in the State of Maine's Vision
Senator Inn, Augusta
October 26, 2006

What brought you back?

- I've been reading the notes and materials and there is a municipal component here.

- Came back because the work is worthy of doing and am appreciative of the process to come to the point. The atmosphere is one that encourages participation. Maine Forest Service knows that forestry is a compatible land use for protection of water supply.

- I think the issues here are important for both water supply and landowner interests.

- This is an important issue that I want to follow through on.

- I want to relay the opinions of our board to the group.

- Staying involved because I have been involved in several related group processes dealing with water resources. Want to see what conclusions can be reached and to provide the Legislature an opportunity for support. Curious to see the outcome.

- Our public and private water supply is under controversy. There is a lot of independent and private activity on water use and protection.

- An important issue that interconnects with other issues which are on going.

- I think there are some opportunities for Land for Maine's Future projects to be useful in protecting water supplies and that these opportunities are properly balanced or integrated with LMF's primary mission of providing recreational access.

- Representing my department's interest to maintain compatible uses. Coordinating with a number of other ground water and surface water dialogues that I am participating in.

- I am curious about what has been going on. Protecting public health by protecting our public drinking water.

- Want to get caught up with the process. Ellsworth water supply has been going through changes and this is critical to our success as well as smart growth zoning issues.

- I am encouraged by this effort because it was too easy for activities to occur that would adversely affect our drinking water supplies.

Recommendation 1

Establish consistent policies among all State agencies to enhance source protection in all state decision making, development, and practices.

-So, would you be also including some of the answers to the questions or recommendations to them? (yes)

-When you get back up to the upper part for Inland Fisheries, we also provide technical assistance to DEP in evaluating applications. How it plays out across all of the agencies with MOUs and regulations, there is a lot there. (The details could take a year or so to work out.)

-If we are going to consider treating water supplies as protected natural resources so it has the same importance as other natural resources, so that there are certain standards that have to be addressed. (This is the kind of thing that could flow out of the commitment to having a unified state policy.)

-How do DOT's activities affect ground water supplies? Should they be included as part of the mix? (Yes)

-Implementation of how this might work, but I look at the first question to be answered, mitigation means that these things would happen, so how would these be addressed. Is there an alternatives analysis that should be conducted before we consider mitigation? In a recent application, the water district had to do an alternatives analysis before installing a dock. In the course of putting things together, we found a different way to develop the dock that didn't require driving piles. (That might mean reworking the "therefore" to include alternative consideration. We don't want the next generation to wonder what we meant by that.)

-Is there a companion piece for municipalities to consider their actions? (What can a state do to provide additional protection?)

-Are municipalities held at the same standard as others? (yes)

-All state agencies shall explicitly consider the impact in consultation with other state agencies…drinking water and DEP…trying to avoid tunnel vision. Prompt decision making with other dept. in the state without having a negative affect. Using language that allows districts to acknowledge and respond to changes. (Finding the balance between your job and everyone else's job.)

-Two things, one is it clear to all agencies that the resource is what we are working on here and is there a way to devise some sort of the filter that would overlay these concerns on their work plans so it provides awareness and planning ahead to protect the resource. (Every agency has work plans they have to prepare. That is the end state we are hoping for, we work through implementation at a state level then work into the work plans.)

-I recall when the ADA came out, whenever a work plan was developed, they had to follow specific questions to aligned with the plan.

-Is there any reason why some of the criteria of NEPA couldn't be used? (I have to some extent. A lot of our decision goes through this review. Whatever action you are taking has impact. It forces a level of review and discussion.)

-All federal agencies were required to review their regulations that could impact the environment, and there were 3 bullets that maybe some of these could be brought in.

-Recommendation 1: it is not clear if the state is following the recommendation under recommendation 3. I don't see "prohibit actions" here. (The intent was that this was the big picture umbrella. Under that there is a series of choices under 2 and 3. There are a bunch of state and local choices we need to make.)

-I can see the wording…where depending on the outcome the outcome of Rec. 3. (Refine the "whereas")

-Protection of future water supplies…how to address this and plan ahead. (There is a level of protection for future sand and gravel aquifers and does prohibit detrimental activities on top of them. The state has taken steps in this as well as some towns.) Is it a layer of a compressive plan or a requirement? (Some towns have taken it to the zoning level.) Is that a consideration for future planning efforts? (We could feed our desires into the State Planning Office process. I have had discussion with folks at SPO but I think that could be one of the outfalls of this level of public water supply planning…how to implement comprehensive planning.)

-What makes something a potential future water supply? Would any and all be considered at one or how would it be done? (Need a local and regional decision to set it aside and there a few places where there might be many places and some others that may have none.)

-In some towns if you were restricted to prohibit activities on an aquifer, it would leave little space for anything. Also, there are places where there maybe only one place.

-I find it out of place in Recommendation 1, so why would it be in Recommendation. 1? So why does the state have to or not protect public water supply. Can we agree to protect the ones we are currently using?

-Water suppliers know they need to maintain a margin of safety and some have identified future supplies. These plans are periodically updated. (PUC does require some level of planning. Some places do it, but we ask them to have a plan.)

-Any planning does not become requirement for protection.

-Water supply plans (in other states) come with a level of protection for future resources.

-Is it safe to assume to be all ground water or there is a surface supply. (Nearly all would be ground water.)

-Verbiage around aquifers, when there are restrictions on underground storage tanks, what does that pertain to? (Ten gallons of water per minute. We can't map the bedrock aquifer in the same way.)

-Every town identifies significant sand and gravel aquifers. They are already of their radar screen now. As far as protecting future water supplies, we haven't addressed it yet. Contingency plans will require them to identify future water supplies. I think we are going to have to address this and report back to EPA in the next few years.

Recommendation 2

Create an effective program to maintain agricultural and forestry land uses in source protection areas.

-As more of a mechanical matter, down in the possible implantation of the Manure Management program, there is nothing in a sense now that prohibits us from doing this is to do through some administrative process to fold some sort of water source protection into that. There may be a more surgical way to get at this question. (There are already things happening that are good but we just want to nurture them.)

-When I read this the first time and add agriculture and forestry, I think walking trails have a lesser impact, but a well managed farm would as well. Conservation easements discussed with people got a positive response especially if the property became publicly available. Preserve rural character, provide recreational opportunities and protect water supplies. The "Land for Maine's Future Program" has been successful, but I don't think that it has to be that the water supply protection has to be through that program, but it makes it more than a good thing.

-Forestry issues, there are times when parcels are undeveloped, has there been a thought process on making the standard smaller or open space option, would there be any avenue for land owners to lump their property together to get into the tree growth tax reduction program? Folks would like to get a tax break to put their smaller parcels into undeveloped tree growth.

-One of the premises is to reduce taxes is that parcels and tree growth to have a forest management plan having a harvesting plan. Parcels under ten acres are difficult to achieve that with out over cutting. Cooperative joining of parcels is interesting if the parcels are contiguous if they were to come under one plan, but in the future if land transactions occur it may have an impact at the individual level.

-Open space taxation might be an alternative.

-This might be of importance especially if they are over a ground water source.

-Is there a tax incentive for open space? The benefit is tiered.

-There is flexibility with towns on open space.

-Tree growth valued is rigid, but open space is more flexible.

-If you are trying to blend those objectives, just use the permanent option of open space. If thy all agree to a conservation easement, I think that it gets more complicated with forestry. There are a fair amount of other administration issues. The next landowners could be an issue.

-Some people would be reluctant to the permanency of open space. A plus for tree growth…

-5 years of protection is better than none.

-I wonder in local zoning you may have some land that you can't do anything with already. For example the land with in a group of homes in a development.

-Maybe having a road owners association, so that a small percentage of their taxes come back to their association for road improvement. Maybe provide incentive this way.

-Under possible implementation the second line down you close that with green certification is like a procedure. Certification has limited value to land owners. Technical assistance for sustainable forestry is a better term.

-Provided a dedicated bond based fund. Are there other ways to get funding other than bonding? It seems problematic. If people are getting the water supply then maybe they should be …some sort of fee to protect that land added to their bill.

-PWS's do have the ability to set aside contingency funds.

-I would encourage you to think of public water supplies as statewide water significance. You benefit on a daily basis because the public water supply is available for commerce and industry. I look at other states that appropriate money to buy land every year. It is more forward looking to protect the major water supplies…to limit and provide more benefit overall to everyone.

-I wouldn't be opposed to have additional costs added to my bill for added protection of water supply.

-The water districts need to be part of the process, but they are resource limited.

-Does the PUC limit public water supplies from doing revenue bonding to protect its water supply?

-You don't get rates until you spend the money. Some systems are going into step rates.

-The Portland Water District watersheds' fund, we spent nine hundred thousand to buy an acre of land to protect the watershed. We couldn't make a dent in the process of buying the Sebago Lake watershed for protection.

-PUC rule that is limiting how much public water can buy to do water shed protection? It is the issue of priorities, it becomes a matter of what do we spend our money on? There just isn't enough money to do everything.

-Amend Manure management. I am not sure what we gain there, farm land is already required to have nutrient management plans.
(Maybe the amendment is that we have to find the money to do this.)

-Right to farm comes out and manure management stays? It is whether or not you want to the additional restrictions on it.

Recommendation 3

Mitigate the effects of existing and new development on drinking water quality through the use of education, incentives and enforcement.
Shoreland zoning revisions:
-Would there be an expansion of shoreland zoning to include streams near the intake?

-There are lots of little streams. (It is unusual for an intake to be close enough to shore so that the 1,000 foot zone extends more than 250 feet onto the shore.)

Diagram: Intake with 1000-foot radius, what we are talking about is there is a 250' and 75' shore land zone, if this 1000-foot expanded beyond it, what would be the benefit and cost of this? I could see if there are any of these pertaining to the 52 intakes. Is there a real world example of this? If you look at inlet streams, there are enough inlets that we could not do it. The inlet streams to Sebago, for example.

-Increase the mandatory zone to 250 feet is another possibility.

-I can see this might be significant elsewhere.

-If these are beefed up in the foot notes things like "52 intakes".

-I felt that the detail was missing. When issues came out, the scope of them came out, it seemed like that it could be useful in debate.

-Have a reason for zoning.

-If there was one page where there are facts listed about the specifics. Good framing would be useful.

-A map of Maine with water supplies and they could be numbered and use this as a reference using the data from GIS. This can be useful for debate.

-What is the origin of the 1000-foot radius? Administratively, it is to keep this as straight forward as possible.

Number 2

-Explain what the implications of this (including public water supplies as protected natural resources) would be just on surface water supplies? (No, both.) So if you only include them? How would the exiting standards work?

-NRPA there is a notification requirement to the public water supply so the supplier can comment. If it is considered a protected resource, then would the exiting standards apply, then there is a jurisdiction area around the resource. Water supplies are considered a state level protection of supply. So it can be done as simply as that. Right now that is broad enough for DEP to use the exiting standards…

-Great ponds already covered?

-So this would only affect ground water supplies. In theory, so the assumption is that there would be stricter scrutiny to those activities.

-Who could protect the activities, but are great ponds, so are ones being used as public water supplies being treated differently that one that is not? No.

-What is your latitude for scrutiny in this situation for dredge spoils? What is the guidance to us as the agency?

-All our discussion has focused around surface water, so how does this affect ground water? Default zones protect all ground water supplies, most are 300 feet. Do we want to put all 2,155 water supplies under this?

-We need to be clear on the definition. It is a 300 feet radius for more than 250 people for ground water.

-What typically is allowed within the 300 feet and what activities can get permits within the 300 feet? For ground water, we don't have permitting. The same activities that affect surface water may not be the same as those that affect ground water.

-Model municipal ordinance, do we look at what is or is not allowed? Look at the ordinance.

-I would like to see the numbers. Are the standards clearly referenced? Ordinance language somewhere, user friendly.

-Does DEP address ground water contamination under site law? (Yes)

-I need to communicate and get the feedback and I need to write this up and send this out to the towns, so the information needs to come first so they can make decision.

Numbers 3 and 4:

-The atlas, each town could have a one-pager, there needs to be a common ground that everyone can understand. The possible implications of NRPA.

-This only shows current natural resource areas.

-If you see an area that is in red, you would need…. so it would be easily for them to see what they can or cannot do in that area.

3.3 or 3.4
-This could be an either or NRPA protection of resources, can DEP manage the protection. I see potential overlap in local ordinance and NRPA permit.

-It is an overlap from the DEP perspective. You don't do both.

-Neither NRPA or local… (verbiage)

-What does it mean to be to be protected by local ordinance? Which of the two models is preferred?

-If NRPA were applied comprehensively, then direct local participation is not needed? Over time what is the impact of a number of project that don't need NRPA? What does it take to trigger NRPA at as a statewide basis?

-Draining or otherwise dewatering wetlands.
Filling, adding sand or other materials, alteration of the soil.
There are individual permits for major activities and permit by rule for smaller alterations.
Single-family residences could fall under permit by rule.

-Primary risks are septic systems and heating oil tanks. Permits by rule model here are the maps for each. I have to send in the notification, and as long as I am following these standards I can do it. If it were a bigger activity, it would need a full blown permit. Would it be better for the state or the towns, in some cases the town is better because they have a code office to observe these activities, sometimes not as effective. There are plusses and minuses in each situation being state or town level.

-Small towns while they would like to see some sort of protection they would fall more in the sentiment of letting the state do it as they have enough to do already.

-Language 3.2: Develop a plan to target enforcement (prioritize enforcement or increase compliance)

-State or municipal jurisdiction, protection from contaminants and level of technical expertise, and the level of case by case, smaller districts may be not have resources to call upon. Risk assessment to allow x number of residents treating lawns what is the risk factors and who has the expertise to evaluate this? (My underlying goal is to put a floor on protection not a ceiling. There are many places not doing much so a statewide system could include the 80 percent not doing any thing. There needs to be a way to make a difference. To recognize importance of the resources in their own towns that need managing.)

-Towns will still require building permits, so within this area you will recognize that it is a public water supply and give it an addition level of scrutiny? (Yes, there would be a zone that addition review would be apply or a certain level of standards.) If it were a protected resource by NRPA and at the state level or would it be permit by rule or permit by standards. (If either state or town applies standards, then they both don't do it. The town could issue the permit and there would not be an additional permit from the state.) Local control since they are already doing the permits. What is the additional benefit of having the state involved?

-Putting a floor under protection is what is important now. Many towns have none so we can establish this and they would have this to follow. There are standard that the state or the town can take over responsibility, there would be a choice. If the state has standards then there could be permit by rule. It seems pointless to have multiple levels of review. The town has the choice to review or pass it to the state.

-I think the towns would look closer at the maps if there is protection and permits were required.

-With ground water areas the towns are notified of our jurisdictions, some people are not going to know. It doesn't look like other areas.

-Don't the standards need to be different if it is a drinking water source, besides have a protected resource? Are the standards for any body of water sufficient for drinking water supply? (I think so, if they were strictly enforced. We need to work harder on the ones we have to drink.)

-Common theme: When you roll out all of the exiting laws etc., it give the impression we don't need any new, but how well and can they be enforced. The true protection …is the reality. This might not be the end of the world; you are in a drinking water supply watershed.

-Under NRPA permitting for great ponds, you give water quality certification…does it maintain water quality for public water supply? There is not enough guidance and statute, but overall I think it is minimal.

-NRPA review by the DEP instead of the local municipalities, because of capabilities and level of expertise. DEP could give a focus that may not be available at the municipal level. The level of focus is more than at the local levels.

-A town manages the town's land and water use and in another situation, a municipality may be overseeing many areas without authority to do anything. DEP enforcement would be my preference over local.

Implementation options:

PL 761 option feedback –
-I think the burden of proof should be on the landowner to show that they are not doing anything harmful.

-The public water supply was treated like being an abutter. This recommendation that that is a requirement that the water utility be notified, but there is no guarantee that the water utility was notified. They could at least have input if they know what is going on in the area.

-If the existing system didn't work, what about having the developer send the information to the water utility and to receive the notice from the water utility.

-Having a sign off sheet to show that you have done what you need to do.

-It is allowed, but whether or not you have to get a sign-off is up the municipality.

-You could have it but you have to show that you went through the process. Does the process work, the simple notification process?

-I think it would work. The letter would be needed before going to the planning board. They would be aware of what is happening in the area; kind of like "access by permission only".

-761 says that you must tell the water utility of potential activity.

-Would this require statutory changes at the town level? (No, you would need one to require towns to have to comply with it.)

#2:

Require written acknowledgement
-I know I am in it and this is what I doing to protect it.
-Is there any disagreement?

-If there is an itemized check off, people might not know what they are agreeing to. The comments on one, a lot of them are either or, but 761 put the burden on the municipality, but then it is suggested to put it on the developer. The utility and municipality are now working together. They are both waiting on the developer to show the notification. Putting the burden on the developer makes more sense.

-Is there a requirement for disclosure in terms of real estate? There are specifics that are needed to be included. Notification about what is allowed in these areas. It isn't local zoning, but it is NRPA jurisdiction, showing disclosure at transfer.

-What is required now and where do they come from as far as notification? And not much is required by state law? Radon is not required by state law? Flood zone?

-The developers oppose including more disclosers on the transfer. Shifting the "buyer beware" to the seller versus the "buyer beware" option.

-NRPA check off list would practically be needed each time a transaction occurred.

-How would they know the requirements now, it would have to be in the local ordinance. This states the developer would need to know there in order to do business.

Local ordinance option:

-If we assume that we want to establish a floor of protection, who would prefer to see it at a local or state level?

Local: none
State: half
Opposed: 1
No opinion: about half

Hybrid option:
-The idea is that the state would set standards they would have to be follow by the towns could administer or state could. NRPA model; or like it. State could administer the rule or could pass it on. This is a subset of state law. The legislature establishes that there should be protection.

This option is different from a model by-law.

-Under the local adoption, if the utility is unsatisfied that the town is enforcing the state standards, DEP could intervene if there would be lack of local enforcement? I don't think there is formal intervention authority. Can't the board be petitioned to review the actions of the town?

-Shore land zoning, to require the towns to send notice of any applies to the state so that the state may intervene at the appeals level. This model could have a model where this at the lower level.

-This would be where the utilities could get support to see that the standards are held without going through the town's authority.

Proposing two pieces:

-NRPA site location at state level for ground and surface water

-Informed consent notification to put burden of notification on the developer with an option to sign off on possible hazards.

-Included in the state umbrella is that the locality can go beyond the state recommendation. This is a state minimum and you can do more in terms of protection.

-Is the state umbrella on pg. 4 similar in detail to the local ordinance stuff on page 6? It is very similar. The implication for enforcement will be different. There are the concepts that go at either level.

Feedback on the process of doing it this way, was it useful? (4 meetings)

I learned a lot and we can get we can get.

This worked and this was a better solution.

Good process.

Good opportunity to make and get points of view.

Good information.

This was the first time she sat in a room where anything was getting accomplished.

I liked the four meetings.

I appreciated the beginning and ending.

I think we did a good job in a short amount of time.

The notes were great and the materials on-line were great. I have a level of ignorance here, so dumbing some of it down would help. I don't know how to explain it to others, but I now know what is not being dumbed down. Problem and impacts of doing it is not clear.

I think it went well.

A reflection of the work you did between meetings.

Screening level but there is a lot of detail left.

We will be working over the next few weeks on a draft of recommendations and resource materials.

Appendix D to Resolve Chapter 140 Report

Natural Resources Protection Review Standards for Public Water Supplies

Who will be protected: 326 Community Groundwater Systems and 51 Community Surface Water Systems.
Where are these resources:

1. An area within 300 feet for most wells, or a calculated (modeled) contributing area for large community wells.
2. The shoreland zone of 47 lakes and ½ mile stretches of shoreland for 10 rivers and streams used as community water sources.

What will be regulated:

1. Single-family residential development will by subject to Permit by Rule for earthmoving, septic location, design and installation, and oil or chemical storage.
2. New industrial/commercial/subdivision development will be reviewed by the DWP and/or the PWS for risk potential,
3. Approvals will be conditioned on the implementation of best management practices.
4. Activities required for operation and maintenance of the public water supply are allowed within these areas.

How do we propose to do this: Either as part of NRPA or under a parallel process. Maine DWP will provide technical review and some inspection. Authority can be delegated to a willing and technically capable PWS or municipality.

Existing NRPA standards to be applied:
4. Interfere with natural water flow. The activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.
5. Lower water quality. The activity will not violate any state water quality law, including those governing the classification of the State's waters.

Existing authority to be revised and expanded:
2. Water supply notification. If the resource subject to alteration or the underlying ground water is utilized by a water company, municipality or water district as a source of supply, the applicant for the permit shall, at the time of filing an application, forward a copy of the application to the water company, municipality or water district by certified mail and the department shall consider any comments concerning the application filed with the commissioner within a reasonable period, as established by the commissioner.

Applicability notes: For surface water supplies, a preliminary GIS analysis indicates that, statewide, ¾ of the area affected by this proposal is under protective ownership or control. The remaining ¼ is subject to normal shoreland zoning and would potentially generate applications. The DWP's wellhead protection database includes measurements of distance to property lines. An analysis of this information indicates that, on average, 80% of the area subject to this regulation is owned by the public water system. The remaining 20% would potentially be subject to development, and thus, review. Total area regulated statewide is approximately 6,000 acres.

Natural Resources Protection Review Checklist for Public Water Supplies

Public Water Supply Protection Area:	No	Yes, but no impact	Yes with impact	List resources used as a basis for conclusion or describe project
Is the proposed activity in a Community Public Water Supply Protection Area*				
Industrial or commercial development must be reviewed by the Public Water System or Drinking Water Program				
Does the project involve: earth moving				
Septic system				
oil or chemical storage				
Does the project interfere with the natural flow of any surface or subsurface waters?				
Will this activity violate any state water quality law?				

If the answers to any of the questions above are yes, with impact, describe mitigation measures below:

* 300Ft circumference or modeled primary contributing area. As noted on maps supplied by DWP.
shoreland zone of 47 lakes and ½ mile stretches of shoreland for 10 rivers and streams used as community water sources