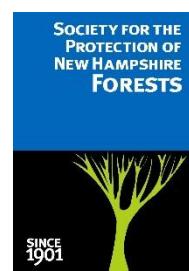




A ONCE IN A GENERATION OPPORTUNITY

THE DRINKING WATER AND GROUNDWATER TRUST FUND AND PROTECTING
NEW HAMPSHIRE'S SOURCE WATER



September 2017

New Hampshire's most precious resource

"Of all the questions which can come before this nation, short of the actual preservation of its existence in a great war, there is none which compares in importance with the great central task of leaving this land even a better land for our descendants than it is for us.

President Theodore Roosevelt

Water. We use it every day. To drink, to cook, to clean, to shower. To water our lawns. To brush our teeth. A human being can live for weeks without food. But water? 3-5 days at most, and can any of us really imagine going without water for that long? The truth is, every moment of every day, for our health, our business and our quality of life, we rely upon a good, clean, always available supply of water.



We take for granted that when we turn the knob on our faucet, water that we can use will flow. Typically that's where our appreciation of water ends. But where does it come from? In New Hampshire, water typically is drawn from either surface water sources - such as Lake Massabesic in Manchester - or ground water, taken together called source water.

Natural source watersheds, particularly forested, are essential to keeping our water clean. A watershed is an area of land that drains into a common water source, and they provide a wide variety of valuable services. Natural landscapes preserved from development and contamination serve two important roles in maintaining safe drinking water. First, they serve as a natural filter, reducing pollutants that enter drinking water systems. Second, a lack of upstream development as a result of protected watershed land reduces the amount of pollutants loaded into the water system to begin with.

Indeed, the ability of a well-maintained watershed to moderate water flows and purify drinking water supplies is one of their most tangible and beneficial services. So, if we protect source water, we protect water quality. Is this important? Our fellow Granite Staters dealing with PFOA contamination or any number of countless communities throughout America whose source water has been tainted over the years would probably say yes, it is.

Water is New Hampshire's most precious resource. And if we agree that source water is essential, then protecting it must be essential as well. The next few pages deal with the how, when and why of protecting source water, and the importance of taking advantage of the once in a generation opportunity created with the Drinking Water and Groundwater Trust Fund to do so.

The Exxon judgment and SB 380

*"The general court recognizes that the widespread and persistent contamination of the state's drinking water and groundwater by MTBE requires a comprehensive strategy designed to ensure the continued availability of safe drinking water for all New Hampshire citizens... existing groundwater resources shall be preserved and protected and alternative sources of drinking water shall be made available. In meeting these goals, the general court recognizes the connection between groundwater and surface water, the magnitude of the problem that must be resolved, the number of alternatives that may best provide safe drinking water...The general court hereby declares that the purpose of RSA 485-F is to provide for the protection, preservation, and enhancement of the drinking water and groundwater resources of the state." - **SB 380, establishing the Drinking Water and Groundwater Trust Fund.***

In 2003 New Hampshire sued 22 gasoline manufacturers and refiners due to MtBE groundwater contamination. A settlement between the state and 21 of the defendants resulted in the state receiving \$81,630,000 in compensation that is being used to fund MtBE cleanup projects.

A trial against ExxonMobil - the 22nd defendant - finally resolved in May 2016, resulting in the state receiving \$307,172,716.28 in compensation from the company, which was placed in a fund governed by SB 380.

Of this more than \$300 million from the Exxon verdict, 90% was set aside in a fund created through SB 380 to implement the goals and objectives of that legislation. It is this second fund, holding nearly \$278 million currently, from which funds have largely remained unallocated as of yet, that we believe creates the unique opportunity to protect source water in New Hampshire for generations to come, by funding critical source water protection projects throughout the state.

As indicated above, in establishing the Drinking Water and Groundwater Trust Fund, the General Court agrees - "existing groundwater resources shall be preserved and protected"...and..."the purpose of RSA 485-F is to provide for the protection, preservation and enhancement of the drinking water and groundwater resources of the state."

We take note of the language contained in the FY'18/FY'19 state budget that amends RSA 485-F:3 and 485-F:4 concerning the New Hampshire Drinking Water and Groundwater Advisory Commission. It establishes that the Commission shall "Award grants, revolving loan funds and matching funds to projects on a competitive basis from the drinking water and groundwater trust fund in a manner consistent with the purpose statement." The revised statutory language further states that funds may be awarded if a project meets just one of several criteria, including that:

- "The project protects against future contamination or impacted drinking water sources through measures including, but not limited to, the expansion of drinking water infrastructure or drinking water source protection." (emphasis added). RSA 485-F:4, VII(a)(3)

The revised statute also states that "The commission shall take land preservation into consideration." (emphasis added). RSA 485-F:4, VII(b).

The plain meaning of the language contained in this year's budget, make clear that the New Hampshire Drinking Water and Groundwater Advisory Commission, which will be tasked with administering the nearly \$278 million in MtBE settlement funds originally set aside through SB 380, considers as a high priority projects that protect, preserve and enhance drinking water source protection, while also taking land preservation into consideration.

We couldn't agree more.



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Three big reasons to protect source water

"There's plenty of water in the universe without life, but nowhere is there life without water."

- Sylvia Earle, American Marine Biologist and National Geographic Explorer-in-Residence

It isn't easy to distill into only three points the importance of protecting a fundamental resource like source water. But for ease of discussion, we will focus on three major reasons why it is in New Hampshire's interest to protect source water as soon as possible.



Reason #1: New Hampshire's Source Water is Vulnerable – Right Now

Naturally occurring infrastructure is critical for all communities in New Hampshire. Over the past 20 years, New Hampshire – particularly the southern part of our state – has grown rapidly. As our population and economy continue to grow – and we share the enthusiasm for our state's families and businesses thriving – our limited resources become permanently developed and increasingly scarce.

This is not intended as an exclusive list, but the following provides some context for reservoirs, lakes and rivers in New Hampshire with large, developed watersheds:

- Ammonoosuc River – serving Woodsville
- Arlington Mill Reservoir – serving Salem
- Bellamy Reservoir – serving Portsmouth
- Berry River and Rochester Reservoir – serving Rochester
- Connecticut River – Cheshire County
- Contoocook River – serving Concord
- Lake Sunapee – serving Sunapee
- Lake Waukewan – serving Meredith
- Lamprey River – serving Newmarket, Durham/UNH
- Salmon Falls River – serving Somersworth
- Sugar River – serving Claremont
- Toby Reservoir – serving Greenville

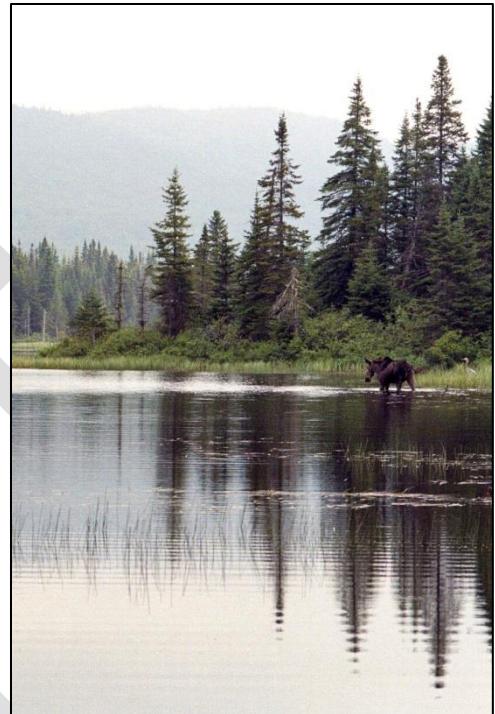
Watersheds in fast-growing communities too often remain unprotected and threatened by development, which can alter landscapes and generate pollution and contaminants threatening source water. As water from precipitation runs over developed land and impervious surfaces and into the ground, it absorbs pollutants in its path. The US EPA estimates that over 60

percent of water pollution comes from runoff from lawns, farms, cities and highways, as well as leachate from septic systems and landfills.

Nationally, forested lands are the source of over half of the surface water supplies in the lower 48 states, providing a public or private water supply to over 210 million Americans. This is important, as healthy watersheds collect, store and filter water, while providing additional benefits such as wildlife habitat, biodiversity conservation, outdoor recreational opportunities, while providing quality of life for residents, visitors and tourists in New Hampshire.

A recent report from NH Department of Environmental Services (NHDES) compiled data from various sources on the state of watershed protection in New Hampshire, finding:

- Only 11% of the lands through which water flows to sources of public drinking water supplies were protected through either ownership or conservation easement;
- 39% of community water systems don't own a minimal radius - 150 to 400 feet - around their wells
- Half of community surface water sources have 25% or less of their watershed areas in conservation land;
- Only 11% of New Hampshire's aquifers are suitable for large community wells, and only a small fraction of that 11% is permanently protected from development;



The threat of poorly planned development is immediate in New Hampshire. In 2009, for example, the US Forest Service ranked the Merrimack watershed as the most likely to experience increased housing density, and the fourth most likely to experience the greatest deterioration in water quality because of this increased density.

That was eight years ago. Source water in New Hampshire was vulnerable then. It is even more so right now.

Reason #2: It Makes Economic Sense

Protecting source water is not only good for our health and the viability of our community water supplies, it is also good for taxpayers and our economy. Water treatment is expensive, and there is evidence that protecting source water would provide cost-saving benefits to our state. One study determined that for every 10 percent increase in natural land in watershed areas, there is a 20 percent decrease in water treatment costs - nearly half of which can be explained by the percentage of forest cover in the source water area.

That makes sense. If natural watersheds can support the job that municipal water treatment facilities do, then municipalities will spend less on costly treatment. A recent NHDES study stated that:

"ensuring safe and adequate drinking water supplies requires maintaining the quality and availability of present and future water supply sources, because in the long run it is less expensive and more protective of public health to prevent

contamination than it is to treat water to meet health standards, and it is less expensive to use existing sources than it is to develop new ones."

Another study looking at numbers that compare the percentage of watershed forested against average annual treatment costs – based on treatment of 22 million gallons of water per day – bear this out:

- 60% forested watershed – average annual water treatment cost of \$297,110
- 50% forested watershed – average annual water treatment cost of \$369,380
- 40% forested watershed – average annual water treatment cost of \$465,740
- 30% forested watershed – average annual water treatment cost of \$586,190

The cost to treat water from a watershed that's 30% forested is 97% higher than it is to treat water from a watershed that's 60% forested, savings that will accrue to the benefit of a municipality annually.

The clear trend? The more forested a watershed is, the less expensive it is to treat water.

Furthermore, New Hampshire's economy benefits greatly from source water protection, while creating the opportunity for a significant return on investment. Based on per acre economic values, land conservation is valuable: 308,000 acres of conserved land is worth \$2.22 billion in terms of goods and services. A New Hampshire analysis found that every \$1 the state invested in conserving land returned \$11 to our economy through natural goods and services.

This comes as no surprise. We know that our forestry, agriculture and commercial fishing industries depend on maintaining the quality of our forests and water. These endeavors generate \$2.5 billion in economic output while supporting over 18,000 jobs in New Hampshire. Conservation lands are critical to supporting our tourism industries as well. Outdoor recreation activities generate \$4.2 billion in annual consumer spending, which supports local jobs and businesses, as well as the state and municipalities through tax receipts. This same spending supports approximately 49,000 jobs in New Hampshire, accounting for over \$1.1 billion in wages and salaries, which also gets sown back into the local communities.



Source water protection is not only necessary. It's a smart investment.

Reason #3: Granite State Voters Agree

We know that Granite Staters care about land conservation and its effect on our quality of life. One of the more common areas of bi-partisan agreement over the years has been Republicans

and Democrats coming together to support an evergreen New Hampshire, that conserves and protects our natural resources.

The data overwhelmingly supports this conclusion. A 2012 survey of likely New Hampshire voters found 97% - ninety seven percent! - agreed that New Hampshire should invest in land conservation to protect our state's quality of life for future generations. Another recent survey found that 94% of college students and recent graduates cited quality of life as a reason they planned to stay in New Hampshire. How do we ensure a high quality of life? In part, by preserving our natural environment.

Source water protection through land conservation is a critical and affordable tool at our disposal for maintaining the quality of life that annually makes New Hampshire one of the most livable states in the country.

DRAFT

How do we do it?

*"Optimism is the faith that leads to achievement. Nothing can be done without hope and confidence." **Helen Keller***

We recognize that SB 380 creates a roadmap for the use of the Drinking Water and Groundwater Trust Fund, in support of the General Court's stated objectives concerning source water protection.

Leaders may choose to fund source water projects through the principal Drinking Water and Groundwater Trust Fund in bulk as priority state projects. They may choose to do so create a model similar to how LCHIP operates today, based on a presentation of competitive projects, demonstrated need and the availability of community matching funds. They may choose to invest the Drinking Water and Groundwater Trust Fund and fund projects from interest earned. Or they may choose an entirely different path, or a hybrid of several different options.



We know New Hampshire can rise to the challenge of protecting important natural resources. We've done it before. More than twenty years ago, when first faced with a generational opportunity to protect critical properties, policy makers joined with the private and non-profit sector leaders to develop the successful LCIP program. By its conclusion, LCIP had successfully protected over 100,000 acres of precious New Hampshire land.

However the state decides to proceed, we recognize that some guardrails have been established, but that other steps remain yet to be taken. We do not recommend any one funding mechanism as preferable to another at this time.

Instead, we write with urgency and optimism that protecting source water watersheds be made a top priority. We look forward with hope and confidence to working with elected and state leaders on establishing an efficient, appropriate process to secure New Hampshire's source water resources for today and tomorrow – as soon as possible.

Conclusion

"The three great essentials to achieve anything worthwhile are: Hard work, stick-tuitiveness, and common sense."

Thomas A. Edison

We believe protecting source water is worthwhile – to say the least.

Over the last Century, countless cities and states have made long-term investments in their water supplies by protecting source waters. Just last month in New Hampshire, the *Union Leader* ran a column by Brenda Charpentier at the Forest Society about the recent purchase of a 2.5 acre plot of land in Auburn by the Manchester Water Works. The land in question – located adjacent to Sucker Brook and Lake Massabesic, the drinking water supply for Manchester and several nearby towns – had previously hosted a welding business and junkyard, with paved parking lots, buildings, fuel storage tanks and industrial trash.



The land is zoned commercial and could have been sold and redeveloped. Instead, through the Manchester Water Works purchase, the land will be 'undeveloped' – part of the process of acquiring land surrounding the lakes and streams in the Massabesic watershed to re-establish forests or keep them intact.

Why does the Manchester Water Works care to acquire land like this and 'undevelop' or 'rewild' it? Because as the column pointed out:

"Because they filter and store rain water and snowmelt, forests are the first line of defense against contaminants getting into the water supply...nothing against the engineering geniuses, but healthy forests are still the best and the cheapest way to keep drinking water clean. Forests protect our drinking water in two ways. First, if the land buffering the water supply is in forest, it's not contributing pollutants the way it might if it was being used for housing or industry. Second, trees slow water down. Paved surfaces and structures prevent rain from soaking into the soil, so it runs off quickly, picking up contaminants along the way and dumping them into streams, ponds and lakes. Trees are constantly taking water up and storing it, and their roots anchor the soil, preventing erosion and rampant runoff and contributing to filtration – nature's detox."

Despite local efforts, source waters are typically regional in scope, and represent essential state resources. Municipalities alone cannot address this issue. Our state has much work to do, and through the Drinking Water and Groundwater Trust Fund we have the opportunity - through hard work, "stick-tuitiveness" and common sense - to take similarly visionary, bold steps to protect New Hampshire's vulnerable watersheds for generations to come.

Source water protection is a key ingredient to New Hampshire's continued health and vitality. By conserving and protecting land around source water areas, we can preserve our watershed areas from pollutants. Not only will these thoughtful, proactive steps preserve our water quality now and into the future for personal and business uses, but they will also decrease municipal water treatment costs, ultimately saving taxpayer dollars.

We recognize and appreciate the hard work of our elected officials and state employees in the area of water quality, and want you to know we are grateful for their service to the citizens of New Hampshire. We know that you share our goal of seeing that the MtBE funds fund be used prudently to conserve and protect our water resources.

Regardless of the ultimate structure that fund takes, we urge the state to seize this once in a generation opportunity to take meaningful steps to invest in protecting source water in New Hampshire for today and for future generations – while we still can. We look forward to the opportunity to work further with state leaders in developing a process that allocates resources from the Drinking Water and Groundwater Trust Fund to fund source water protection projects.

Seattle Case Study



In 1896, the people of Seattle agreed. Shortly after city leaders constructed its first public water system, they came to an important decision: Acquire the entire 100,000 acre Cedar River Watershed that provided water for the city and its inhabitants. Today that vision has been realized, resulting in the permanent protection of Seattle's water supply – secure from runoff, pollution and other man-made contaminants.

SOURCES REFERENCED

A few of the sources referenced in preparing this informational piece include:

[American Water Works Association](#) and [U.S. Endowment for Forestry and Communities, Inc.](#), "Effect of Forest Cover on Drinking Water Treatment Costs", 2016.

[American Water Works Association](#) and [The Trust for Public Land](#), "Protecting the Source", 2004.

[Natural Resources Forum](#), "Watershed protection: Capturing the benefits of nature's water supply services", Sandra L. Postel and Barton H. Thompson, Jr. 29 (2005) 98-108.

[New Hampshire Department of Environmental Services](#), "Water Supply Land Protection Grant Program", Sixth Report, August 2014.

[New Hampshire Legislature SB 388 Study Committee Report](#), "Land Conservation in New Hampshire: A Snapshot of Progress and Opportunities", October 2014.

[The Nature Conservancy](#), "Beyond the Source: The environmental, economic and community benefits of source water protection", January 2017.

[The Trust for Public Land](#), "New Hampshire's Return on Investment in Land Conservation", June 2014.

[Union Leader](#), "Brenda Charpentier's Forest Journal: Back to Nature to Preserve Our Water Supply", April 2017.