



The 2016 and 2020 droughts resulted in the lowest flows in the River's history.

Above: Ipswich River board members stand in the headwaters, where Martin's Brook should be flowing.

Below: Ipswich River staff members watch the river trickle over the Willowdale dam four years later.



Top Header: Once endangered, Bald Eagles are now recognized as a conservation success story. Nature lovers are delighted by more frequent sightings along the Ipswich River. What we do this year could result in similar success for the river. Photo: Michael Tomasellil

Ipswich River Declared One of the Most Endangered Rivers in America

Right Whales, Piping Plovers, Blanding's Turtles, and the Ipswich River. What do they all have in common? They're all listed as endangered. American Rivers, the leading national river advocacy group, has declared the Ipswich River one of 2021's Most Endangered Rivers in the country. The Ipswich joins other iconic rivers such as the Colorado, Cuyahoga, Flint, and Snake where communities have come together over the past few decades to defend their water. With the designation, a national spotlight is coming to the North Shore. The real question is, how do we respond?

Solutions for Residents, Towns, and the Commonwealth

For the second time in two decades, the Ipswich has received the dubious honor of most endangered due to excessive water withdrawals. But this time is different. New England has been hit with two severe droughts in the last five years. These droughts have had three major impacts. They put our drinking water supply at risk. They resulted in the lowest flows in recorded history. And they exposed serious flaws in the State's water policy framework. All of this has prompted State officials to finally turn the corner, proposing new rules that, if passed, will start reducing conflicts between users and get us on a path of resiliency.

The Ipswich is the most at risk major river in Massachusetts, due to overuse. An astounding 90% of Ipswich River water withdrawals are exempt from regulations even during drought. Part of the problem goes back to an outdated law known as the Water Management Act. The law legacied existing water use and gave limited management guidance to state agencies. While the state is among the national leaders addressing the climate crisis, antiquated water use policies have largely been exempted from this effort. Because of this, the vast majority of water use continues to be exempted from conservation measures, even as the river's flow slows to a halt.

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Here We Go (Again)!

When our River was declared one of the most endangered rivers in America back in 2003, we viewed it as an incredible opportunity to finally address the river's most vexing problem, water withdrawals. Indeed, the designation turned out to be a boon to our efforts. Suddenly the Ipswich River was a household name, its plight on national news and every local front page. In response, the State initiated the Sustainable Water Management Initiative and new water withdrawal regulations in 2014, which on paper was among one of the most progressive set of rules in the country. The designation helped to facilitate real on the ground changes as well. The Town of Reading chose to stop getting its water from the River entirely and since then the Reading stretch of the River went from an area that ran dry most years to one of the wettest parts, the only part of the River that didn't go dry during the 2016 drought.

It is possible to make dramatic improvements with enough of us paying attention and working together. Unfortunately, these changes didn't go far enough. Due to political opposition, the State continued to exempt existing withdrawals and only applied the regulations to new withdrawals. And significant other victories we've achieved, such as Reading switching to a new water source and Peabody shutting down its wells, have been offset by the steep increase of private wells and the severe impacts of climate change driven drought. So while we have shown that change can happen, our River continues to be endangered by both new and long-standing threats.

The old saying goes that "a crisis is a terrible thing to waste." Your Association stands at the ready to leverage this dubious designation. It's time to solve the excessive withdrawal problem once and for all. We have mobilized a statewide coalition of influential partners to push for reform. As exemplified in this issue, we have the know-how and tools to make the changes necessary. All we ask is three things:

- For the State to modernize their water resource management regulations and policies to be more equitable and to provide more resiliency in the face of climate change;
- For individual cities and towns to update their water, stormwater and land use regulations so that water is managed comprehensively at the local level, and;
- For each of us to change our behavior and treat water as the most important, life sustaining resource that it is.

With your help, we'll get there!

WAYNE

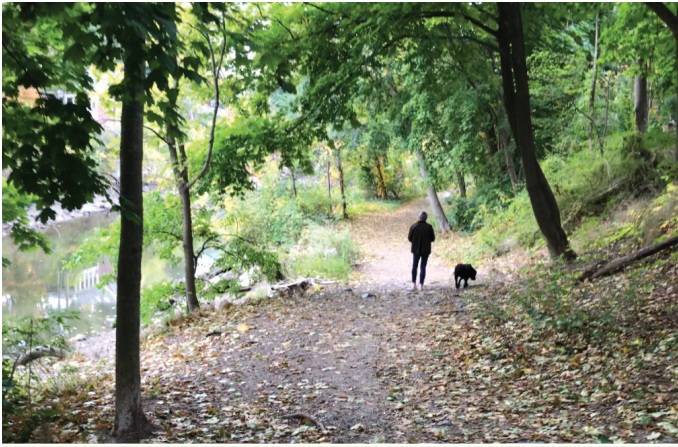
Wayne Castonguay
Executive Director

continued from page 1... The Northeast is one of the wettest regions in the country. Opponents argue drought isn't really a big problem, or that helping our communities is too costly. But the endangered river designation begs the question: if an area of the country with both plentiful rainfall and a usually temperate climate cannot fairly manage their water, what will happen to the rest of the country?

Massachusetts could lead the way by including water supply considerations in its climate planning. What we do as residents of the North Shore could become the national standard for municipal and residential water management. One approach to the complex problem of water management will not be enough. Changing the Ipswich's story from that of a river in trouble to a national success will take changes in state policy, local regulations, and resident behavior. In this issue, we invite you to learn more about the solutions we've proposed, and to support us in our work. We have a tremendous opportunity to leverage this national attention to address a problem that is years in the making. Now is the time to fix it. Together, we can reduce conflict between communities, spur greater collaboration between groups that have historically been at odds with each other, and safeguard the river upon which we all depend.

Executive Director Wayne Castonguay (far left) stands in the river with Ipswich River staff and interns during the 2020 drought.





The Ipswich Riverwalk, like other public spaces, can support many community goals and enhance nature while protecting infrastructure, reducing erosion and improving walkability.

A Local Recipe for Water Resiliency

All across the North Shore, communities are figuring out how to grow while maintaining the natural and historic places that are so crucial to the region's character. Infrastructure upgrades are needed to guarantee access to clean water and critical services like sewage treatment and transportation. At the same time, communities must meet a rising demand for housing. The explosion of remote work and rising prices in the Boston region are driving even more people to the area. Addressing these very real needs is not easy, particularly when some solutions may mean altering the very things people love about their hometown.

The Town of Ipswich is dually challenged by the climate crisis, as both a coastal community and the last stop along a low flow-stressed river. Town staff must deal with king tides and storm events that erode beaches and riverbanks, putting at risk critical infrastructure. Meanwhile, drought conditions have halted the river's flow at the Ipswich Mills dam more than once. Local op-eds reveal a town in conflict as it tries to meet demands that seem at odds, but they also show a populace that is informed and passionate. "Everyone can be involved in figuring out answers," says Environmental Planner Patrick Lynch. "Solutions need to come from all levels. We're proposing ways for residents, towns, and state agencies to help safeguard our natural resources and meet the climate crisis head-on."

Much of the work at the Town level is behind the scenes. In Ipswich's case, the Town has been proactive in working to increase resiliency. One example is the Ipswich River Bank Resiliency Project, which was started back in 2016. The project began with an initial assessment of vulnerable areas along the tidal section of the river, focusing on areas adjacent to town infrastructure. The project also looked at predicted long-term impacts, including sea level rise and heavier storms. Recommended improvements focused on nature-based solutions to fight erosion and improve long-term bank stability while enhancing the environment.

"The town is excited to move this project forward with the help of the Ipswich River Watershed Association and our other partners," says Ipswich Town Planner Kristen Grubbs.

"Establishing a living shoreline at an inland tidal site is new territory. I think that's part of why people are so interested in projects like this one." We are leveraging that excitement to promote resiliency, actively engage the public in the project, and build momentum for similar projects.

Low Impact Development (LID) and other forms of Green Infrastructure not only help address climate driven challenges, but also can increase a community's appeal. Both are strategies for mitigating water demand and increasing groundwater recharge. Increasing LID and the use of green infrastructure are suggested actions in Ipswich's recently completed Water Neutral Growth Plan. A joint product of the town and Ipswich River staff, the plan served as inspiration for a region wide net zero water use toolkit which can serve as a recipe for water resiliency.

This new resource lays out the steps to review water and land use bylaws and regulations, as well as upgrades and redesigns that mitigate or offset water use.

As the last town along the river, Ipswich residents know that if we don't work collectively as a watershed we can't achieve a healthy Ipswich River or water resilient towns. At a recent water management meeting, it was noted that the current patchwork of water policies contributes to misunderstanding and confusion, making managing a collective resource nearly impossible. Through adoption of the recipe for resiliency, our communities have the opportunity to lead their neighbors towards a brighter, more cooperative future.

"Community leaders are so busy getting projects done, it's difficult to also find the time to engage residents," says Lynch. "Talking about the bigger picture and figuring out what to focus on first is a big challenge. We need help to tell these stories and really engage people." To this end, we are creating a video series to promote town and resident-led restoration and resiliency efforts. These video resources will serve to inspire, connect, and empower communities to take action. First in the series is a Coastal Zone Management-funded video, in which residents and town staff share their visions for the future of Ipswich. Look for the video on your local community access channel or subscribe to our YouTube Channel and be notified when it's live! youtube.com/ipswichriver

Much needed infrastructure improvements, such as the sewer upgrades in the River Bank project, can be done in a win-win way to protect the town's critical infrastructure while making the riverbank more resilient.



Time to Manage Water for the 21st Century



Wenham Lake, the primary reservoir for Salem and Beverly, is a sub-watershed of the Ipswich River watershed. The Wenham Canal, above, which supplies additional river water to the lake during high flow months is a cherished local trail, great for birding.

Concerns over the limits of our water supply have risen to front page news. Our changing climate is not only altering how we live, it's making clear that our state's water policy needs an update. Our current water law, the Water Management Act (WMA) was enacted in 1986, a far different time. The Massachusetts Legislature was focused on reducing conflicts over the Commonwealth's limited water resources and climate change was not even on the radar.

At the time, existing large water users were granted unconditioned registrations based on their average annual use and smaller users were exempted entirely. From then on, even during severe droughts, these water users could use their allocations freely. For the last 35 years, these legacied withdrawals have been exempt from any regulation even as other communities are required to impose water bans. Anyone who needs more water to meet the needs of their growing communities is out of luck.

Approximately 160,000 people live in the Ipswich River watershed. But the basin supplies water to more than 350,000 residents and businesses, most of which are outside the watershed. More than 90% of the water taken from the River have no water conservation requirements at all. In 1986, the world had yet to understand just how quickly our climate was changing. In the face of a growing climate crisis we must stop relying on a water management system that encourages over-use of a precious resource.

The WMA allocations do not reflect the current climate or needs of our communities. We can no longer accept unlimited withdrawals for non-essential uses, especially during drought. The few regulations we do have are spread unequally across communities that share water, even neighboring ones. In the Ipswich River watershed, there are hundreds of next door neighbors where one is subject to a complete water ban and one is free to use an unlimited amount. This despite all the water coming from the same river!

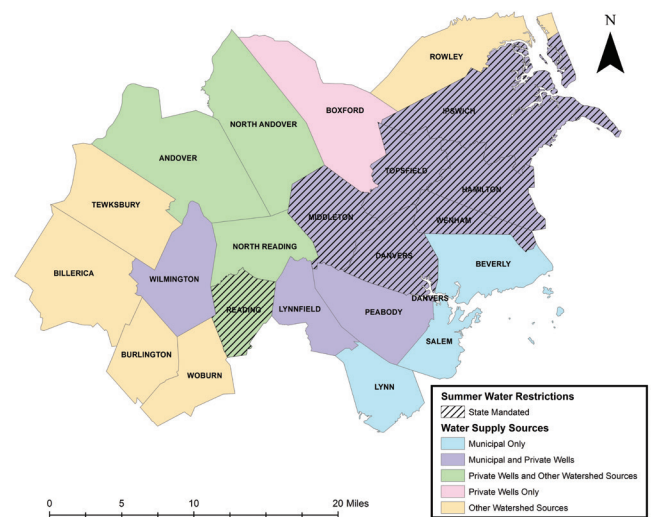
The State has announced their intention to place modest conditions on registrations for the first time. The conditions, to be consistent with the requirements of the new Massachusetts Drought Management Plan,

would place restrictions on non-essential or discretionary water use. The restrictions would apply only during declared droughts, which are based on indices that include precipitation, streamflow, groundwater levels, and crop moisture. The drier it is, the more restrictive water use will be. This would be a small but important first step in moving towards a more equitable water allocation system.

There is an increased urgency for a dialogue with all stakeholders about the future of Ipswich River water. Environmental Planner Patrick Lynch asks, "How can communities continue to grow and prosper while preserving the river that makes life here so great? And how can we work together on watershed-scale solutions grounded in science and our common interests rather than political boundaries? These are the questions we're helping our towns and cities answer."

Bringing water use management into the 21st Century will require three things: improving state water policy, re-imagining how cities and towns manage their water supply, and changing our individual behavior. We have developed a recipe for resiliency which provides a menu for cities and towns to prosper even with limited water supplies. We need the State to not only regulate registrations during drought but also require efficient water use of everybody all the time. And every one of us needs to use water more wisely and band together to seek changes at the local and State levels. The Ipswich River can continue to sustain us well into the future if we all work together to manage water more wisely.

Water Supply Sources in the Ipswich River Watershed



The map above shows which areas in Essex County rely on the Ipswich River watershed for their drinking water. Though the river's aquifer is shared between 14 communities, the State currently only requires water conservation measures in communities with hash marks.

Equitable By Law

A win for fairer water regulation could come from the very heart of the watershed. In 2011, residents of Middleton hotly debated the town's Chapter 230, Water, Article I Irrigation and Outside Watering bylaw. At a town meeting, supporters of a citizen's petition to amend the bylaw insisted that water was "private" and that well users should be exempt from any restrictions. On the other side of the issue were members of the Middleton Stream Team (MST) and others, including one Selectman. They reasoned that the need to conserve extends to all water users within the Ipswich River watershed.

Only 160 citizens were present at the town meeting, and the opponents of equitable water restrictions for all town residents narrowly succeeded. The article passed 78 to 71. Since then, Middleton has not had any restrictions on well water. Now, as water registration renewals are coming along, a group of Middleton residents have put forth another citizen's petition. Signed by Middleton Stream Team members and many others, the petition asks to again include language that would apply water conservation measures to all non-essential water use when the watershed is stressed.

Sandy Rubchinuk, MST President and life-long Middleton resident, says, "with just the quantity that can be measured from non-well usage, the town is using more than its allotment of water. Lawn irrigation should not be threatening the drinking water of 350,000 people. And yet, many owners of large landscaped properties post signs that read 'well water in use'. This as they use sprinklers day and night, regardless of drought levels or the health of the river. Many species also depend on the river. They suffer or die when the river goes dry or puddles." Though Sandy herself lives in an area of Middleton where residential water is primarily from private wells, she says, "I do not feel that I am entitled to use water as if it was an infinite resource."



Above: Executive Director Wayne Castonguay discusses bylaws with Middleton Stream Team leaders Sandy Rubchinuk (right) and Judy Schneider. It is now even more crucial that Middleton join communities like Ipswich, Wenham, Hamilton and Topsfield in adopting a fair and equitable water bylaw.

Left: Without recharge from groundwater, levels in Middleton Pond drop severely during droughts like we experienced in 2016, shown here. Protected recharge and buffer zones such as Middleton Pond Conservation Area exist, but there are no regulations to prevent private wells from depleting the shared aquifer. Photo by J.Schneider

Neighborhood Conservation

Access to green spaces right out the back door, complete with diverse wildlife and recreational opportunities, is part of why many of us live in this area. For those that are life-long residents, the changes our neighborhoods have undergone are obvious. But even newer residents are concerned over where the path of increased development might be taking us. While the region as a whole needs to collectively work towards long-term planning, there are actions each of us can take on the local level to help ensure a more resilient future.

Resident-led conservation is the focus of the educational materials created thanks to funding from the Essex National Heritage Commission. You don't need to be fluent in the hard science of climate change or the competing interests caused by development to notice their impacts on our daily lives. Treasures throughout the North Shore, such as vernal pools, conserved forests, and the many streams and ponds, are highlighted in the grant materials along with actions residents can take to protect them.

"The problem of the global climate crisis is so massive, that people can feel the actions they take are too small. But at the local level, what you do absolutely has an impact!," says Outreach Manager Rachel Schneider. Behavior change requires just a few people to get the ball rolling. Illustrated posters created through the project will travel around the watershed, and beyond, encouraging local action. QR codes on the posters link to websites that can be updated to suit the current location. These codes are also being used on the Ipswich River Water Trail kiosks and some abutting trails to get the word out. Says Rachel, "We are showing people how they can get involved and make a difference. At the end of the day, you can have an impact, which feels great. I'm really excited to continue offering new ways for people to do just that."



Winter 2021 on a guided walk of the Patton Homestead, walkers pass a glorious beech pasture tree. The Neighborhood Conservation poster series encourages individual action to protect our local treasures like our trees and forests.



In early spring 2020, a volunteer from Cape Ann Vernal Pond Team holds up fairy shrimp for walkers along Dow Brook. Individuals can take action to protect vernal pond wildlife like shrimp (and the salamanders that eat them).



Take part in a resident-led campaign! LAWN BY LAWN Grow for Our Future



Water gives us so many things. Cherished family memories. Places for kids to explore the natural world. Economic vitality for our local farms and businesses. Having enough clean water also supports many diverse and beautiful habitats. But defending the future of clean water takes all of us working together. Middleton resident Bob Lemoine has taken the pledge and says, "it makes me happy, because my lawn is green."

TAKE THE LAWN BY LAWN PLEDGE TODAY!

- I will not water grass.
- I will hand-water gardens, shrubs, and trees.
- I will cut-out chemical use on my landscape and opt for natural alternatives.

Use the QR code, or visit bit.ly/lawnbylawn

Spring 2021 Event Calendar

Explore the Ipswich River Water Trail by foot, on the water, or virtually. Learn more about your local green spaces through outdoor and online events. Spaces are limited and RSVPs are required. Register, learn more, and find event updates at ipswichriver.org/calendar

Vernal Pond and Rookery Walk

Saturday, April 24 | 10–11:30 am
North Liberty St, Middleton

Lockwood Forest Walk*

Saturday, May 1 | 10–11:30 am
Lockwood Forest, Boxford

Bare Meadow Walk

Saturday, May 8 | 10–11:30 am
Bare Meadow Conservation Area, Reading

Performance at Ipswich Local Color*

Saturday, May 22
Downtown Riverwalk, Ipswich

Mill Pond Walk

Saturday, May 2 | 10–11:30 am
Mill Pond Conservation Area, Burlington

Jenk's Bridge Paddle

Saturday, June 5 | 10 am–Noon
Woburn St, Wilmington to Lob's Pound Mill, Reading

Paddle-a-thon

Saturday, June 19th | Topsfield Fairgrounds Lot E, Rt. 97

Beaver Dam Brook Walk

Saturday, June 26 | 10–11:30 am
Beaver Dam Brook Reservation, Lynnfield

***The Ocean of Rivers Event Series** *The Ocean of Rivers event series educates and engages all ages in herring restoration. The events are funded in part thanks to grants from the Boxford, Ipswich, and Topsfield Cultural Councils, local agencies which are supported by the Mass Cultural Council, a state agency.*



A young nature enthusiast walks at the mouth of the Ipswich River on the New Year's Day walk at Cedar Point. Photo: Judy Schneider

How to Achieve Water Neutral Growth

With our limited water supplies, how can we meet the current and future water needs of our communities? Below is a recipe for doing both. Staff, volunteers, and partners are ready to provide support to town staff and residents so every town can achieve this. Together, we can protect the future of our water and communities.

- 💧 **Adopt a Water Use Bylaw** that requires all proposed new and re-development to minimize water use and offset the rest through a Water Use Mitigation Program or Water Bank.
- 💧 **Complete a community water use profile** to characterize usage and inform specific measures to reduce discretionary water use.
- 💧 **Analyze the local zoning and land use regulations** to identify opportunities to reduce water use and recharge our aquifers through green infrastructure and low impact development.
- 💧 **Conduct a rigorous leak detection and repair program.**
- 💧 **Implement a private well bylaw** so that all withdrawals are subject to the same rules.
- 💧 **Establish a water conservation incentive program** to pay for residential and commercial water audits, rebates for fixture upgrades, rain barrels, and other measures.
- 💧 **Prohibit the installation of new underground irrigations systems** and offer a generous rebate program for the decommissioning of existing underground irrigation systems.
- 💧 **Increase education and public awareness** on why and how to reduce water use.
- 💧 **Monitor the Town's Residential Gallons use Per Capita Per Day** to ensure that it is on a declining trajectory towards 40 or less.

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We Need More Than 1% to Save Our River and Streams

We cannot thank you enough for your continued support through a difficult 2020.

During an uncertain and trying time you proved over and over throughout the year that a healthy river is always relevant and 2020 will go down as one of our most successful ever. We continue to be here to defend the river, thanks to you.

This year is full of once-in-a-generation opportunities and we must seize these chances to save our river. In this issue of The Voice of the River we highlight how our work is guiding town staff, residents, and legislators towards a more resilient future.



Ipswich River staff say "Thank You!" to all volunteers, members, and partners for your continued support through a pandemic and severe drought.

Volunteers, members, partners and donors are the driving force of our organization; we couldn't achieve what we do without you. But of the 350,000 residents and businesses that rely on the Ipswich River for their drinking water, only 1,500 are members of the watershed association. In other words:

Less than 1% of the people who drink Ipswich River water support its protection!

What does that mean? First, that you are one of the

special people who recognizes the river's worth to our communities. Second, that we have a lot more work to do to create more of you. Help us spread the word and please continue to remain part of the team as we leverage the opportunities before us in 2021 and beyond.