Old Colony Regional Water Plan

Public Consultation

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April 28, May 1 and
May 6

OLD COLONY PLANNING COUNCIL

EDA U.S. ECONOMIC DEVELOPMENT ADMINISTRATION

Central Plymouth County Water District Commission

SOUTH SHORE CHAMBER OF COMMERCE

NARRAGANSETT BAY ESTUARY PROGRAM

CDM Smith

RVA

Alliance for Water Efficiency

Agenda

1. Plan Motivation
2. Background Information
3. Stakeholder and Public Engagement
4. Demand Analysis
5. Recommended Consensus Based Strategies

Plan Motivation

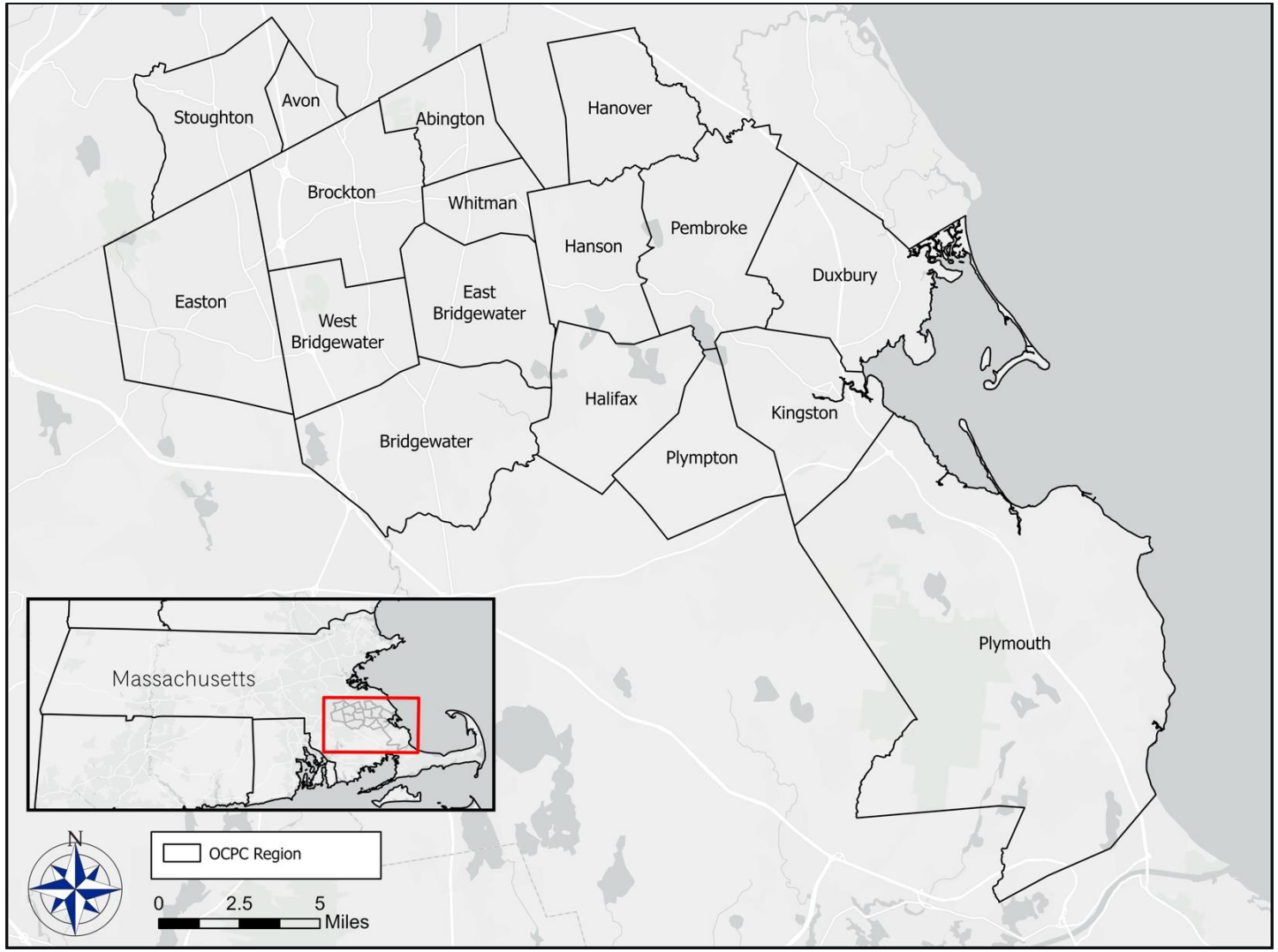
Plan Motivation

- *"Water sustains everything we value—our health, our homes, our environment, and the strength of our local economy."*

- *"This plan reflects our region's readiness to act—together. With continued leadership, funding, and engagement, we can build a resilient, sustainable, and economically strong future for all who live and work here."*

  - Old Colony Planning Council

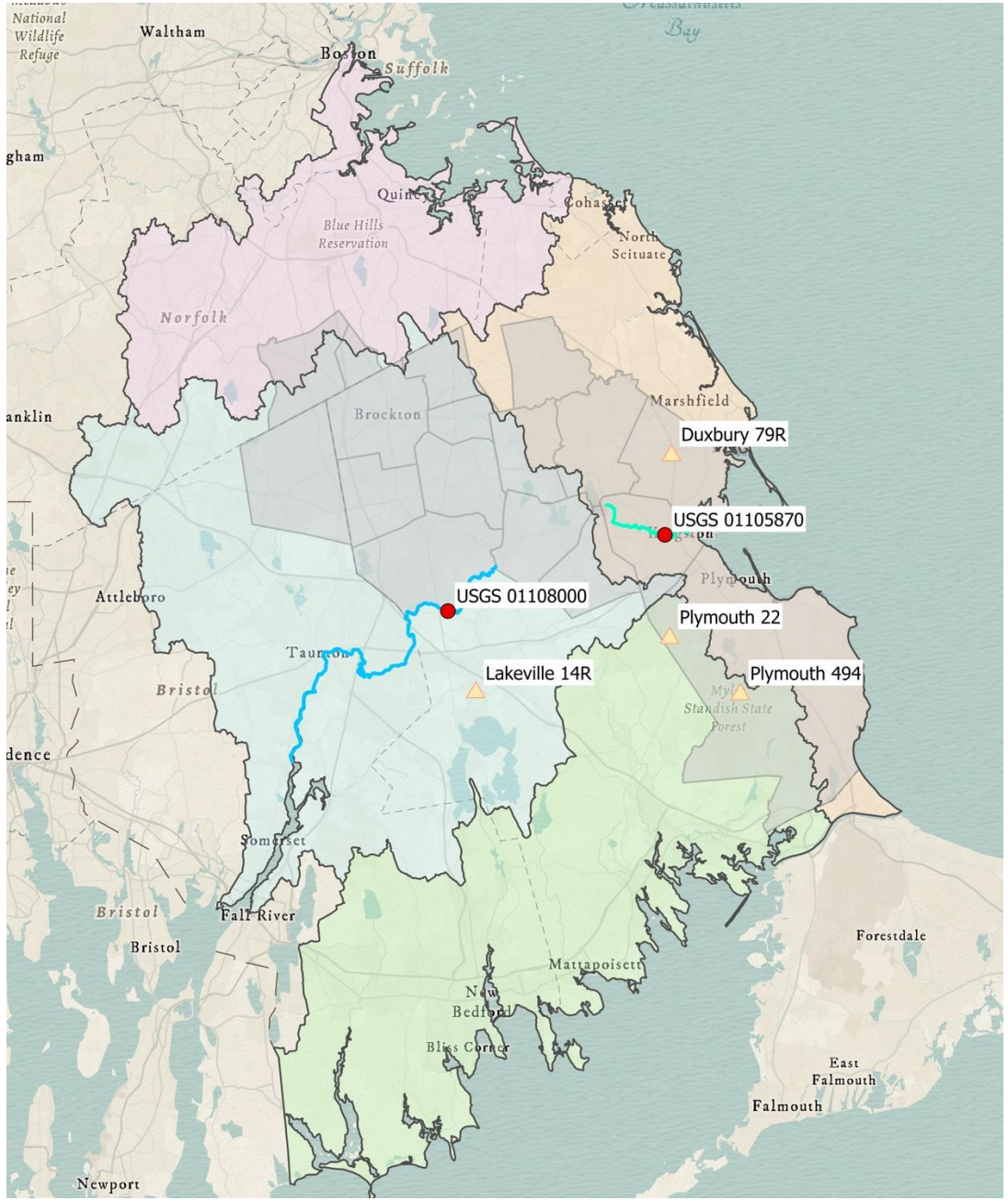
Old Colony Planning Council's Planning Region



Background Information

Watersheds in the OCPC Region

- A watershed is a land area in which all water drains into common surface water bodies such as lakes and streams flowing to rivers, and eventually out to sea.
- These watersheds are shared regional resources for human and ecological health.



Legend

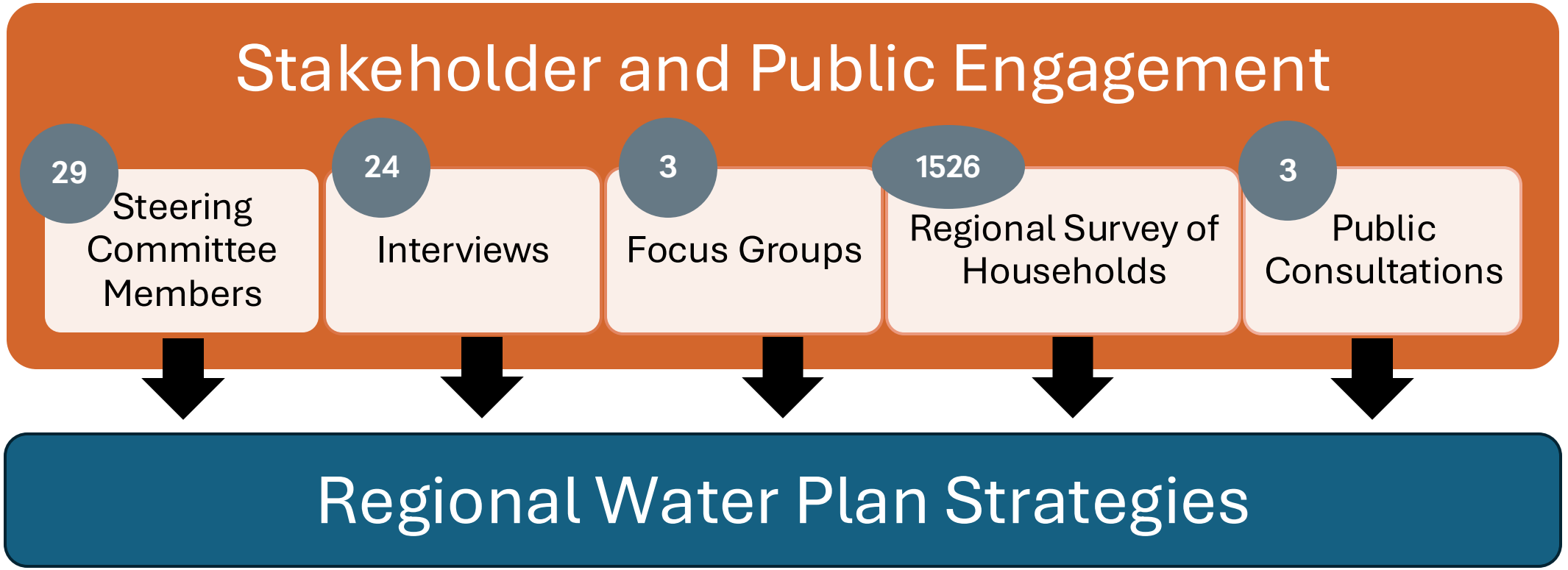
Watersheds

- Boston Harbor
- Buzzards Bay
- South Coastal
- Taunton

- OCPC Region
- Jones River
- Taunton River
- UGSG Flow Gauge
- USGS GW Gauge

Stakeholder and Public Engagement

Stakeholder and Public Engagement Activities

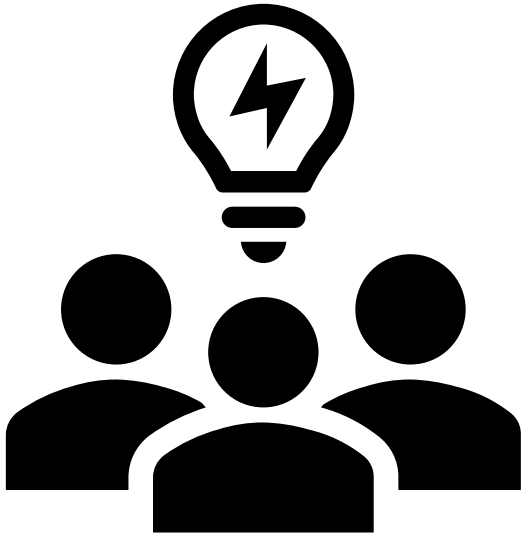


Steering Committee Engagement

Consensus Based Strategies

- The steering committee meetings led to the development of consensus based strategies

- A consensus based strategy is an idea developed by a group, built through discussion and collaboration, that everyone in the group can support.



Stakeholder Groups and their Water-related Concerns

Municipalities

- Uncertainty about future demand for water
- Changes to drinking water quality standards
- Lack of sufficient funding

Residents with Municipal Water Supply

- Water quality
- Aging water infrastructure

Residents with Private Wells

- Water efficiency
- Impacts to water availability
- Safe water quality

Business Community

- Water availability to support business development
- Affordability of water

Herring Pond Wampanoag Tribe

- Impediments to natural water flow
- Deteriorating water quality
- Access to surface water
- Damaging land uses

Watershed Associations and Environmental Organizations

- Impediments to natural water flow
- Overuse of water resources
- Excessive nutrients and pollutants

Agricultural Users

- Water availability during droughts
- Water quality impacts to food safety

Themes of Stakeholder Concerns

- Water Availability
- Water Quality
- Connectivity of Surface Waters
- Affordability
- Impact of Development
- Water Utility Communication

How Stakeholder Concerns Were Addressed in the Draft Plan

Water Availability

- For public water suppliers: water supply strategies are recommended.
- For ecosystems: an integrated ecological assessment and improvements are recommended.
- For private well owners: water efficiency strategies are proposed for public water suppliers.
- For agriculture: agricultural water use efficiency and redundant supply during times of drought are recommended.

Water Quality

- Drinking water: water supply strategies that support safe drinking water are recommended.
- Surface water: an integrated ecological assessment and improvements are recommended.

Connectivity of surface waters

- Integrated ecological assessment and improvements are recommended

How Stakeholder Concerns Were Addressed in the Draft Plan

Affordability

- High level assessment of costs was included in decision making.

Impact of Development

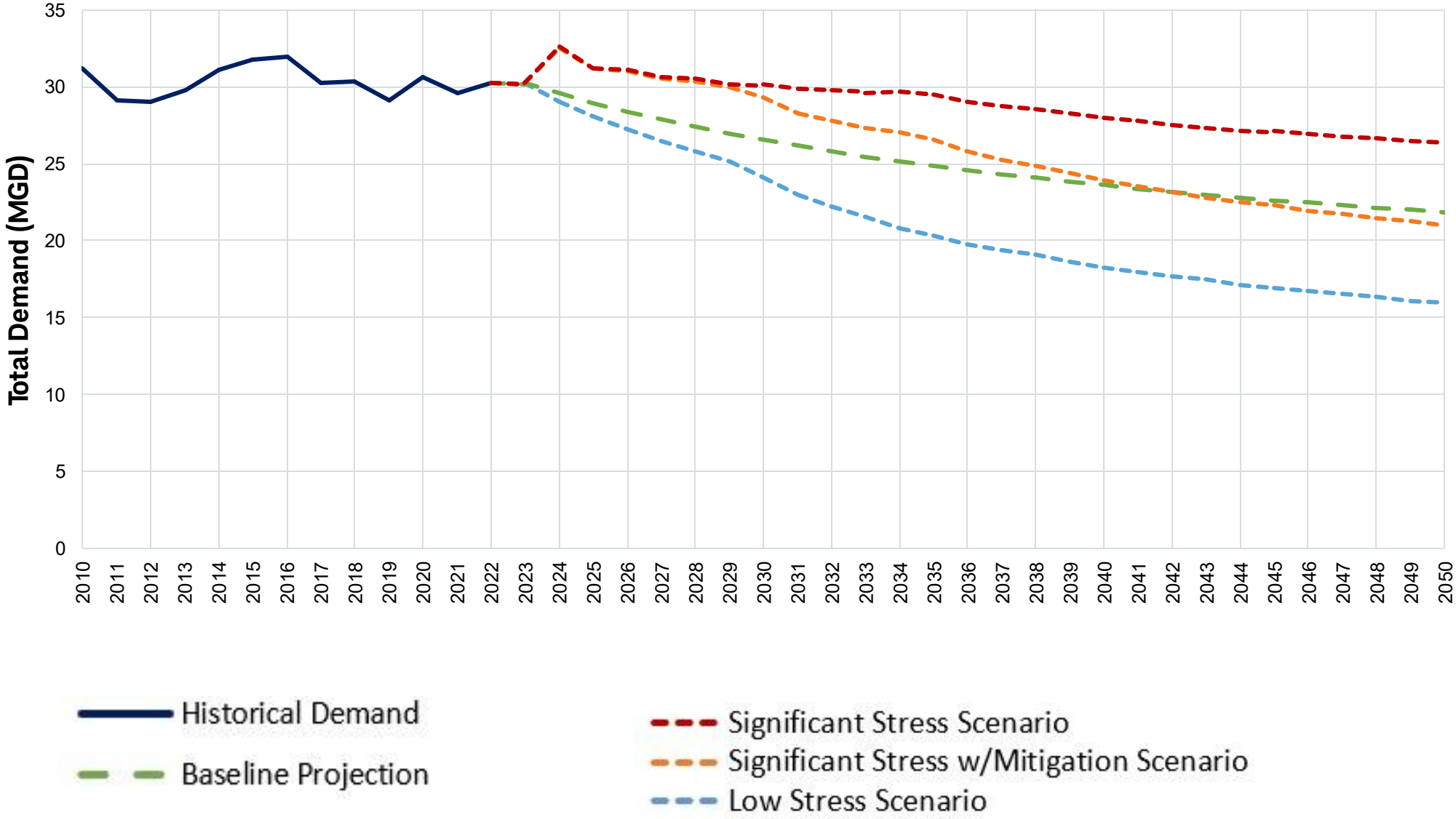
- Improvements to local bylaws for water smart land use are recommended.

Water Utility Communication

- Clear, consistent, and regionally-coordinated communication around water quality and droughts are recommended.

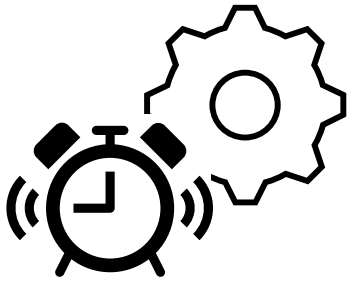
Demand Analysis

Historical and Projected Demand for Old Colony Planning Council Planning Area Under Various Future Scenarios



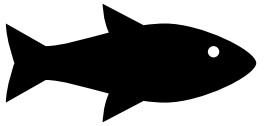
Water Vulnerabilities

Water Quality Concerns



Aging Infrastructure

Periods of Drought



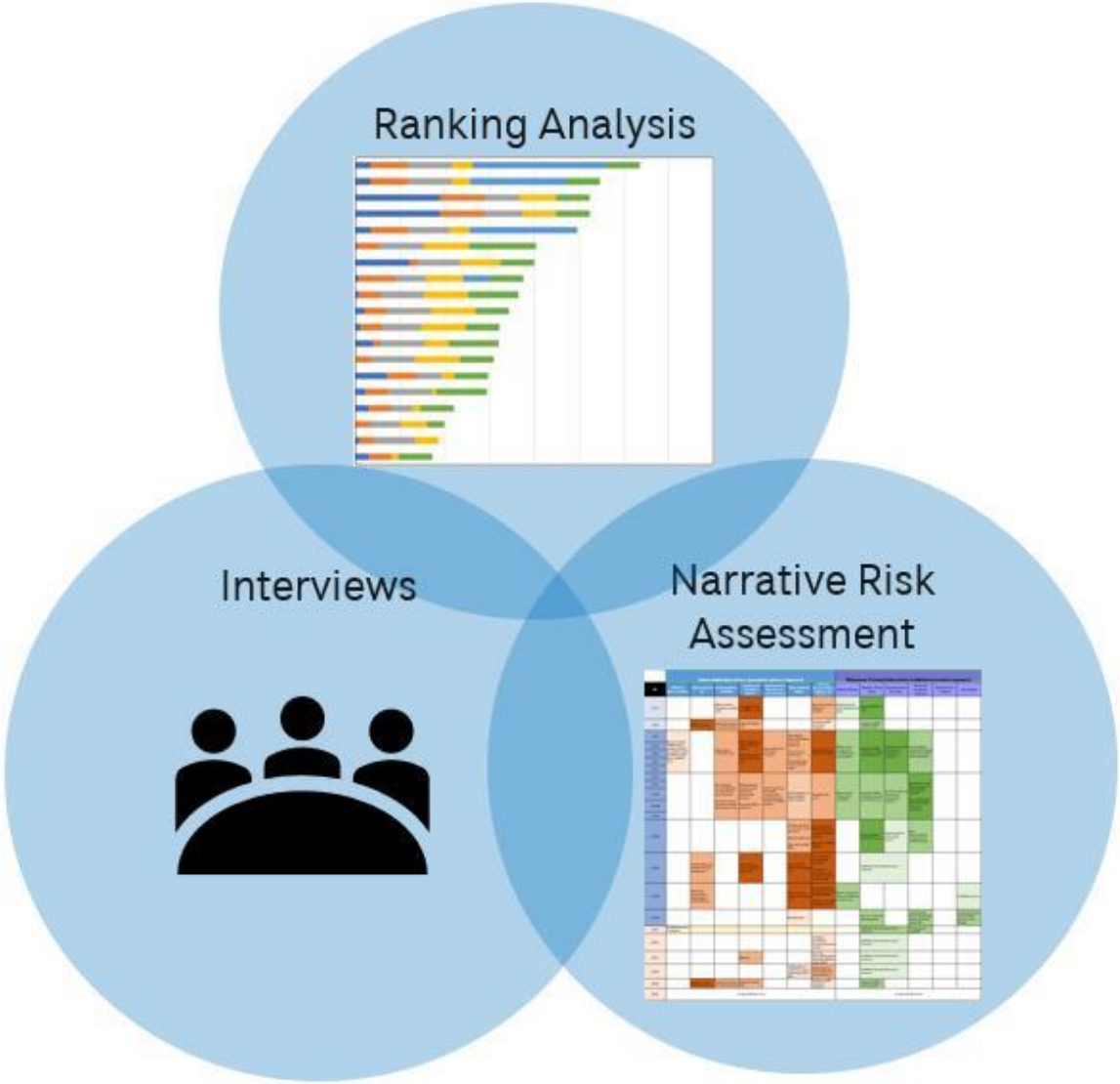
Ecosystem Health

- PFAS
- Emerging contaminants

We're likely to have enough water, but we still need a strong plan to protect it.

Recommended Consensus Based Strategies

Decision Making Process



Categories for Consensus-Based Strategies

Time Frames

- Short-term (2025-2030)
- Long-term (2030-2050)

Geographic Scales

- Local
- Regional
- State

24 Total Strategies

Consensus-Based Short Term Local Strategies for Implementation

	Short-Term
Local	A. Support Public Health and Raise Awareness of Water Quality Among Private Well Owners B. Introduce Policies and Regulations to Reduce the Waste of Water and Improve Ecosystem Health C. Implement System-Wide Water and Energy Efficiency Strategies D. Install New Municipal Wells in the Short- Term E. Incorporate Municipal Level PFAS Treatment

Consensus-Based Short Term Regional Strategies for Implementation

	Short-Term
Regional	F. Maximize Use of Desalinated Water Supply– Short-Term G. Improved Monitoring and Continued Education and Advocacy for Streamflow Protection and Drought Resiliency H. Improve Local Bylaws for Water Smart Land Use and Integrate into Planning Efforts I. Conduct an Integrated Ecological Assessment and Pursue Improvements J. Expand Water Education and Public Engagement Efforts K. Secure Redundant Water Supply for Agriculture L. Expand Support Agricultural Water Use Efficiency with Grants for Research and Implementation M. Coordinate Regionally on PFAS Management and Funding

Consensus-Based Short Term State Strategies for Implementation

	Short-Term
State	N. Improve Water Loss Reporting O. Monitor and Update State Point-Of-Sale Requirements for Water-Using Fixtures

Consensus-Based Long Term Local Strategies for Implementation

	Long-Term
Local	P. Provide Access to Safe Water for Private Well Owners – Connections to Public Water Supply Q. Install New Municipal Wells R. Conduct Regular Rate Studies

Consensus-Based Long Term Regional Strategies for Implementation

	Long-Term
Regional	S. Maximize Use of Desalinated Water Supply – Long-Term T. Create New Emergency Interconnections U. Connect OCPC Communities to MWRA through Weymouth V. Connect OCPC Communities to MWRA through Stoughton W. Collaborate Regionally on Communications X. Plan for Drought Regionally

All Consensus-Based Strategies for Implementation

Geographic Scale	Short-Term	Long-Term
Local	A. Support Public Health and Raise Awareness of Water Quality Among Private Well Owners B. Introduce Policies and Regulations to Reduce the Waste of Water and Improve Ecosystem Health C. Implement System-Wide Water and Energy Efficiency Strategies D. Install New Municipal Wells in the Short- Term E. Incorporate Municipal Level PFAS Treatment	P. Provide Access to Safe Water for Private Well Owners – Connections to Public Water Supply Q. Install New Municipal Wells R. Conduct Regular Rate Studies
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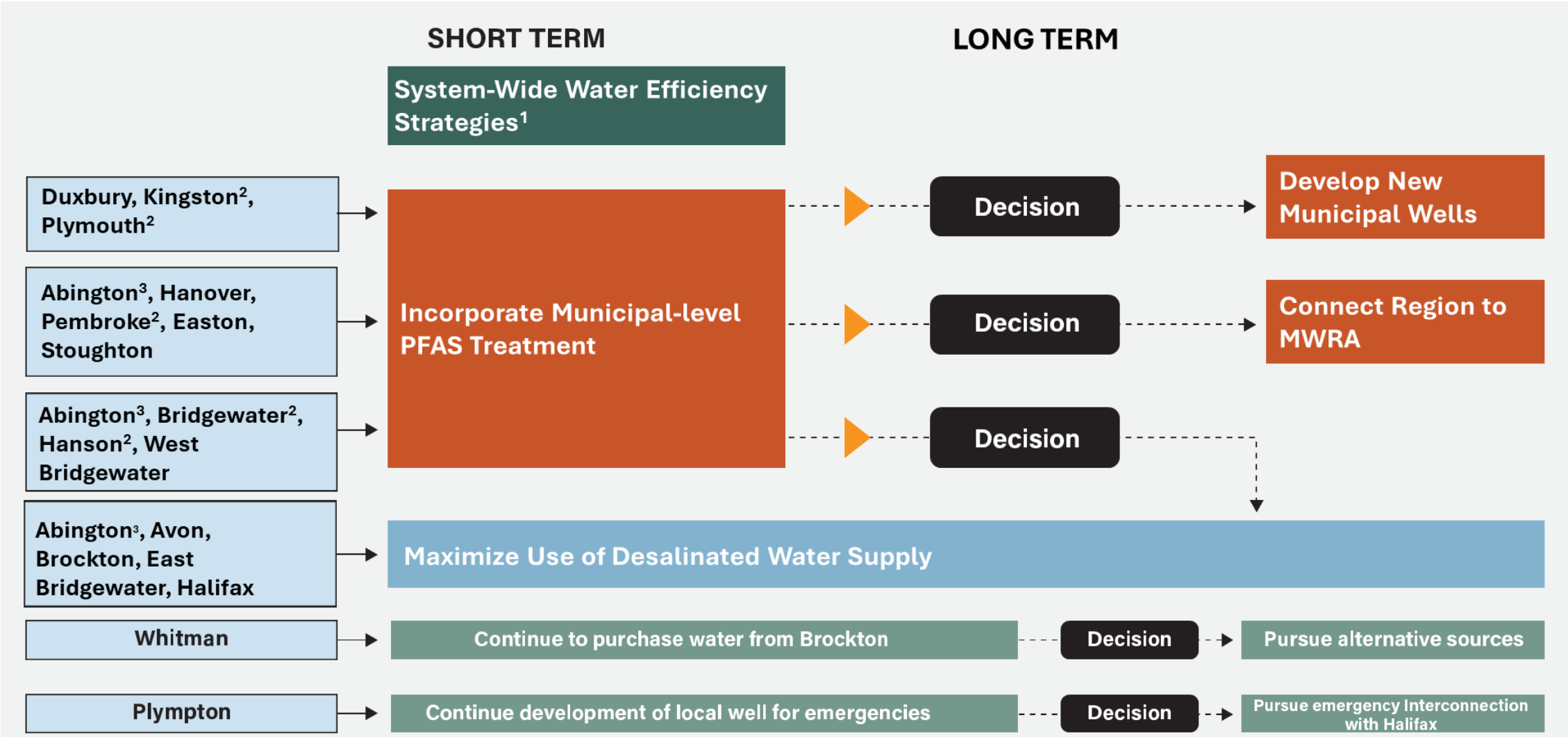
State	N. Improve Water Loss Reporting O. Monitor and Update State Point-Of-Sale Requirements for Water-Using Fixtures	--

Regional Water Supply Adaptive Management Plan for Municipalities' Water Efficiency and Supply Strategies



Notes:

[1] System-Wide Water Efficiency Strategies apply to all municipalities in the OCPC region with public distribution systems, which excludes only Plympton.

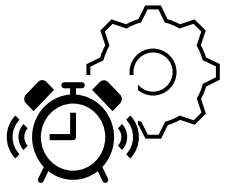
[2] Communities indicated are also already pursuing development of new municipal wells and will continue those efforts in the short term.

[3] Abington is included in multiple pathways as it is still considering all options. As more information becomes available, the town will proceed with one.

In Summary

No single municipality or organization can tackle these vulnerabilities alone.

Water Quality Concerns



Aging Infrastructure

Periods of Drought

Ecosystem Health

The Old Colony Regional Water Plan represents our collective response—a shared vision and action plan created by and for the region.

Next Steps

Next Steps for the Regional Water Plan

- Formation of a standing committee (Old Colony Regional Water Resources Committee)
- Continue regulatory discussions
- Pursue funding for near-term needs with support from Old Colony Planning Council
- Pursue opportunities for regional demand management
- Explore the feasibility of a tracking system for adaptive management
- Inform private well owners about water quality risks and opportunities for testing and treatment of their wells

Draft of the Old Colony Regional Water Plan
AI-Generated Transcript of the Public Meeting Held on May 1, 2025

This transcript has been generated by an artificial intelligence (AI) language model and should be used for informational purposes only. We cannot guarantee the accuracy, completeness, or timeliness of the information provided. For accuracy, please refer to the meeting recording available at www.oldcolonyplanning.org/waterplan.

00:08:53.000 --> 00:09:07.000
Okay, thank you. Good evening. My name is Mary Waldron and I'm the executive director of the old county planning council And tonight is the second of public hearings on the Old Colony Regional Water Plan.

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I first want to be able to just acknowledge the hard work over the last almost two years worth of work by certainly my colleague, Joanne Zygmunt from Old Colony Planning Council. This is really something that she brought forward Not just only as protection of

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Of our water resources in the region, but also has an economic development tool quality of life, just about the essence of what we are in old Colony Planning Council region.

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So we are one of 13 regional planning agencies in the Commonwealth of Massachusetts.

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And we are the first to be taking under a plan of this size, at least within the last 10 years. And again, just like to attribute This initiative to Joanne.

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There's a great team of folks, Bill Napolitano, Don Sullivan. Certainly Megan Fournier, who is behind the scenes and working with us. But in addition to that.

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We have CDM and the consultants and having the integrity of the data that you're going to hear about is nothing more than just really pure data and the integrity is very high. So without further ado.

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I'd like to turn this over to Joanne Zygmunt. Thank you, Joanne and everybody.

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Thanks, Mary. Welcome, everybody. Good evening. So I'm going to begin first by just allowing us to do a couple of introductions. So my name is Joanne Sigm.

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With old colony planning council as mary mentioned and with me here today we have Kirk Westfall from CDM Smith.

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Kirk, do you want to say hello?

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Good evening, everybody. It's a pleasure to be here tonight. As Mary said, this is our second of three public meetings for this project. We're looking forward to sharing it with you.

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I'm with CDM Smith. We were the consulting firm for this project, but this is not our plan. This is not our project.

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The work that we facilitated with 17 communities and other organizations, environmental advocacy groups, agricultural groups, and so forth.

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And we'll walk you through the process that they use to make recommendations.

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Thanks, Kirk. We'll start first with, and if I can get my PowerPoint slides to work.

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There we go. So we'll start first with just giving you a little bit of an overview, but we'll be talking about this evening. We do expect to wrap up in about an hour's time, depending on how many questions we have.

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We'll talk about where this plan came from, why there was a motivation to do it.

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We'll provide some background information about water resources in our region and what the project set out to do.

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We'll talk a lot about stakeholder and public engagement. As Kirk said, this really was a very participatory planning process, lots and lots of folks were involved. So we're going to tell you all about that.

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We're then going to talk a little bit technical and give you some insight into the water demand analysis that was done as part of this project.

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Looking at current water use in the region and looking at projections going forward.

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And then lastly, we'll talk about the consensus-based strategies that were developed in this plan through all the people that were involved.

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And then we'll open it up to questions and answers. So we're going to go through the presentation first before we take any of the Q&As.

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But if you think of something, feel free to drop it into the chat or the Q&A feature. I'm not sure which one you see on your screen. It might be one, it might be the other.

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Like both. So yeah, feel free to put those in, but we will pick them up after the presentation has finished. There will be also another public presentation in person in Brockton next Tuesday.

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And we're accepting public comments and questions through to May 18th.

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So don't feel like you have to cover everything tonight. If you wake up tomorrow and there's something that you would like to comment on or have answered, there's still an opportunity to do so.

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I wanted also to just ask folks who are online, if you do see the chat feature or the Q&A, if you wanted to drop your town in.

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So that we have a sense of who's from where in the region that would be helpful as we talk about stuff as well too.

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All right, so the plan motivation. Oak Colony Planning Council, our region covers 17 municipalities in the eastern part of southeastern Massachusetts, as you can see on the map here.

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All of these communities are very different. We have a very small and mostly rural community like Simpton.

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All the way through two of our large community like Brockton that's you know highly developed. So all of these communities do have different needs and different challenges, but a lot of them are actually shared. So we're going to spend a lot of time talking about that today.

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And over the past few years, that's what we've heard a lot about from town managers, local elected officials, residents through other public engagement projects that we've led.

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Is that there's a lot of concern about development in the region and whether there's water, whether there's enough water for everybody.

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Impacts on the environment about our water use. Industrial parks and commercial areas being limited in how much they can grow because of how much water is available to them and the access to it.

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So that's really what motivated this plan. So it does really ultimately reflect our region's readiness to act together.

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Kirk, some background information.

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Just quickly, and then I'll hand it back to Joanne for a few minutes. We wanted to emphasize one really, really important fact here, and that is, as Mary said, this is one of the first times that a region of this size in Massachusetts has taken it upon themselves to try to develop a plan

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That covers a region, an entire region. This is not how the Commonwealth of Massachusetts typically manages water or regulates water or plans for water.

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But this is what we've tried to accomplish. And the reason that's important is you can see In the gray there, the map that Joanne just showed you of the communities within the old colony planning council. And then you can see in the colors

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The river basins that overlap those areas. And there are two dominant river basins that overlap this planning region. It's the Taunton River Basin in the blue And the south coastal basin in the yellow.

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And what this means is that these communities all draw water from a shared resource and each impacts the resource differently. There are opportunities to share that resource in ways that haven't been done necessarily before or to augment the way that water has been being shared and managed.

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But the key element of this whole plan and what we really want to talk about tonight is the regional benefit of this resource and how it can be managed differently than our traditional methods of managing water in Massachusetts. And we can come back to this map if we need to later on. The point is that

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The water is shared in these communities under the leadership of Old Colony Planning Council decided to see what they could do to manage it as such.

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Okay, stakeholder and public engagement. We went through what was a pretty extensive engagement process over the course of over a year really now The stakeholder and public engagement process involved the formation of a steering committee which pulled from all of the municipalities in our region

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But other stakeholder groups as well, including watershed organizations chambers of commerce, we had agricultural sector representatives, legislative representatives.

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So in total, there were 29 steering committee members who participated throughout the process.

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We also did 24 interviews with multiple multiple representatives from all of our municipalities.

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So we wanted to make sure that all of the data that we are collecting, all of the previous reports that we were referencing.

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Were actually reflective of the reality today and that we were talking to the decision makers in each of our municipalities about what their real stresses are right now.

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Then we conducted three focus groups, which dove into detail One focus group was specifically with private well users. So those are homeowners who rely on private wells.

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For their indoor drinking water and other uses. We also did a focus group with environmental organizations that work in and are familiar with our region.

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And then the last group that we did a focus group with was with representatives from the agricultural sector. And those three focus groups were really focused on brainstorming some of the problems and challenges that are in our region right now and also some ideas for how we might want to address this.

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Some of you online tonight might have participated in the regional survey of households that was conducted, I believe it was towards the end of last year and into the beginning of this year.

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We had over 1,500 responses to that survey. Most of those responses were from folks who are on the municipal water systems, but we did have a good chunk of folks replying who also had private wells.

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And then lastly is the process we're going through right now, which is the public consultations. So we had a meeting in Plymouth earlier This week that was in person. We're doing the virtual meeting tonight. I mentioned the one next week happening in Brockton.

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And then, of course, through May 18th, anybody can reach out to me and share their thoughts and comments via email or snail mail if that's what you prefer and we'll take those into account as well too.

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So that whole process and all that information that we gathered was feeding directly into the strategies that you'll hear about tonight.

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So the steering committee went through a pretty intensive process over the past year. It was a series of workshops that began with developing a set of guiding principles.

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What do we want this plan to achieve and how do we want to go about doing it?

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We then talked about metrics. So how could we possibly measure or keep track of some of the things that we're setting out for ourselves to do over the coming years?

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We reviewed water efficiency strategies and demand projections. So the national nonprofit organization Alliance for Water Efficiency produced some work for us that looked at how water efficiency could be improved in our region.

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So we went through their findings and talked about those as well as the technical work that CDM Smith did.

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Looking at current water demand in the region and future use.

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We then went on to develop some what we call water supply alternatives. So these are basically looking at all the different options for water supply in the region.

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And comparing them one against each other to see which might be better and maybe which one might be, you know, not have such a great cost benefit.

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So we worked further on refining those and developing definitions of those. And then we went on to score them.

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Kirk will probably talk a little bit about that, but they were looked at in terms of cost feasibility and a whole bunch of other criteria.

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They were then ranked those alternatives and that ranking was used to inform the development of a portfolio for um adaptation and implementation of this regional water plan.

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And then we pulled that all together into this draft regional water plan that is available on our website and that we'll be talking more about tonight and reviewing for the next few weeks.

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The strategies that were developed in the plan, I think there's about 26 or so of them. These were all developed through the steering committee meetings And they were a consensus-based strategies.

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So a consensus-based strategy is an idea developed by a group built through discussion and collaboration that everyone in the group can support.

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So there might have been some stuff well there definitely was some stuff that you know was talked about and folks just couldn't really come to a consensus about that for one reason or another.

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So what this plan really focuses on is what we know that the consensus in the region is telling us we need to take action on.

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Some of the things that we heard from the different stakeholder groups are summarized in this figure here. So from municipalities, so from the cities and towns in our region, we heard quite a bit about the uncertainty of future demand for water. Lots of concerns about changes to drinking water quality standards.

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And a lot of discussion as well about a lack of sufficient funding, especially to meet some of those standards.

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Residents who were on the municipal water supply system were very much concerned with water quality as well with aging water infrastructure.

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Residents with private wells also very concerned about safe water quality.

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But also very interested in impacts to the availability of water in their wells, as well as water efficiency more broadly.

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The business community was concerned about having access to water so that they could grow in the region.

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As well as affordability of water and what the future might bring for them in terms of cost. We spoke to representatives from the Herring Pond Wampanoag tribe. Their concerns were, again, very similar.

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Deteriorating water quality access to surface water.

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Very concerned about impediments to natural water flow And also damaging land uses. So things that are altering the way that the watershed naturally functions.

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We spoke with Watershed associations and environmental organizations Similarly, very concerned about impediments to natural water flow also concerned about the overuse of water resources and the excessive nutrients and pollutants.

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That are being discharged into our systems. Lastly, our cultural users, their concern was very much about water availability during times of drought.

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And also water quality impact potential impacts on food safety.

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So we summarize those stakeholder concerns into the six themes that you see on the slide here.

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And a lot of these are addressed in the strategies that we'll be talking about.

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How we address them. So water availability for the public water suppliers, there are water supply strategies that are recommended in the plan.

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With regard to ecosystems, there is a recommendation for conducting an integrated ecological assessment and looking at improvements for ecosystems across the region.

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For private well waters, there's water efficiency strategies in here that are being proposed for the public water suppliers.

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Agricultural water use efficiency and redundant supply during times of drought are also recommended.

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For water quality, the strategies really focus on supply strategies that support safe drinking water.

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And also on looking at, again, doing an integrated ecological assessment of surface waters and what improvements could be made to improve that system and its natural functioning.

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Connectivity of surface waters, again, the ecological assessment was recommended to address that.

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Affordability. The scope of this study wasn't able to do a deep dive into affordability of water across the region.

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But it did do a high level assessment of costs that were included in the decision-making process. So when I mentioned a few minutes ago how we looked at comparing some of the water supply alternatives in the region, cost certainly was a part of that conversation.

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Impact of development. There are recommendations in the plan to improve local bylaws for water smart land use.

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And then for water utilities, a need and a recommendation for clear, consistent, and regionally coordinated outreach, education, communication in general around water quality and droughts.

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Kirk, back to you.

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Thanks, Joanne. That's a good segue into what I want to share. I want to walk some of you through the some of the technical work that we did to support this. That was one of our two roles as a consulting firm.

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Supporting this project was to provide technical information on water demands, water availability.

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And the process, the facilitating the process through which the people that Joanne just talked about we're able to make these recommendations. I want to stress before I get into the details that this is not a regulatory document. It's not a policy document. It's not a series of decisions. What we've come to call it is a series of opportunities, things that this group by consensus is recommending

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To their town select boards and to the state for consideration and implementation.

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And going into the future, it will be up to them and old Colony Planning Council and the state DEP to figure out how these can best be implemented. But I want people to understand that these are a series of recommendations and good ideas, opportunities for the region to manage water.

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More effectively. And Joanne, I think you have control over the, there we go.

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This graph is something that surprised all of us who were involved in this study. What it shows is historic demand in that dark blue line in the upper left.

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Total water demand through the region in MGD or million gallons per day.

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And then the four lines to the right. Represent demand projections going forward through the year 2050. And this is for all water demand in the region, all the water that gets used.

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And it's not common to see those lines going down. And in fact, the state DEP has done analysis that is used in permitting and regulations where these lines are going up. And the methods are different.

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When the state does demand projections for permitting purposes or for any regulatory purpose, they look at expected population, population projections.

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And per capita use. How much water does each household use per day? And that number is a standard static number.

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So if population goes up, so does demand. Our analysis looked at this in a little bit more depth and tried to incorporate some of the uncertainties that we know from across the country and from our own region.

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Can affect demand as well. It's not just how many people are using water, it's how they're using water.

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And what we see is a range of potential patterns based on optimistic projections of use and population and a little more conservative estimates of population.

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The red is the sort of worst case scenario. It incorporates a lot of population growth and may not even be in the state projections that could be attributed to things like the MBTA zoning laws that are now being discussed and And debated within towns.

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And the blue represents a much more sort of, I won't say optimistic economically, but from a water use point of view, more people using water wisely.

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Put it that way. The reason these lines go down is something that is Again, it surprised us all, but we've seen it in other places. And it has to do with water conservation.

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Both educating people like educating people all of you who are on this call today, all of you who can go back and talk to your neighbors about water use, about using less water, using less water to water lawns, less water to take showers, things like that, installing low flow fixtures in your homes.

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But the other piece of conservation that often gets overlooked is called passive conservation. And that's what's really driving these numbers down. Passive conservation is basically the biggest chunk of it.

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Is appliances such as dishwashers and washing machines that are required now by law in Massachusetts to use a lot less water. And by a lot, I mean a lot, like 30, 40, 50% less water than they do today. And that's a large percentage of household water use.

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And we're not going to see those savings right away. But over the next 10, 15, 20 years, as those appliances get replaced with much more efficient appliances.

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We will see that. And this is borne out to be true in high water use places like Texas. Texas has seen 20, 25% growth in population, but very steady water demand because 15 years ago or so, they passed these regulations as well.

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Now, Massachusetts has done it, I think, in 2021. So it will take 5, 10, 15, 20 years for us to see those benefits. But this is what we're expecting.

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These numbers also include some climate change impacts to demand. We do expect a little bit wetter conditions in our part of the country, and that might help alleviate some of the need to water lawns during drier periods.

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Okay, Joanne. So that would be considered good news, right?

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Seemingly have enough water today and we may be needing less in the future. That doesn't mean that anybody's permit or allowable use is changing.

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That's a regulatory process that is not affected by this. But for planning, we want to know, do we have enough? And if you just did the simple math looking at what we're using today and saying, okay, we seem to be all right. And demand is expected to go down. What's the point of this plan?

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Well, the point of the plan is to address uncertainties and vulnerabilities. What could dig into the available water, despite the fact that demand might go down.

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Well, first of all, there's water quality concerns. We heard this from just about everybody we interacted with in this process.

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Pfas, the forever chemicals that are in our water, is affecting just about every community that we're dealing with. I don't think everybody yet, but there are federal standards and state standards that are conflicting and a lot of activity going on right now.

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To try to treat publicly available water for PFAS. Also private wells can be affected by PFAS. So this water that we are considering today to be available may not be fully available as clean and drinkable in the future.

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Aging infrastructure is another big concern. Sorry. Thanks, Joanne.

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Our treatment plants, our distribution systems, our conveyance systems for water.

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Are old, they need to be replaced. That costs money and gives us time to pause and think, are there better ways of of gathering water, of distributing water, of using water throughout the region.

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Despite the fact that we think the climate in this region will be getting wetter, trending a little bit wetter overall on an annual basis.

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There are likely going to be continued summer droughts and they may be more frequent.

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A lot of our small water supply systems in this region are vulnerable to three months worth of no rain. That's not necessarily the case for large water supply systems where it takes two or three years of drought to have an impact, we start feeling it after a few months. And that condition could continue and it could worsen.

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And lastly, the vulnerability of ecosystem health. When we say that we have enough water for the region right now, that's a very general statement. And what we mean by that is, okay, we're not going thirsty. We're able to get the households the water they drink. But are we leaving enough in the rivers? Are we leaving enough in the lakes?

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Reservoirs and streams and aquifers even in our region to support healthy wildlife, to support the passage of fish into and out of their breeding grounds.

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And that's a question. There are… There's a lot of work to be done and joanne talked a little bit about the integrated ecosystem plan that could be part of an offshoot of this study. So despite the fact that demand is going down, despite the fact that we do seem to have plentiful water.

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We consider ourselves a water rich area. You add these vulnerabilities up and suddenly we're not so water rich. And that was really the impetus for this plan.

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How can we address these uncertain vulnerabilities going into the future?

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So I want to talk a little bit about the recommendations that the group came up with.

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Again, these are not our recommendations as an engineering firm. These are the recommendations from the people that we interviewed, from the stakeholders who participated in the workshops that led to the ranking analysis that you see where different water management alternatives were ranked based on a lot of different criteria, cost.

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And environmental impacts and social impacts and the ability to provide clean, safe, reliable water.

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We did a risk assessment as well. And of course, we did the interviews that Joanne mentioned. And all of those three things combined into these recommendations.

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Sometimes water plans can be a little too formulaic. You run the numbers and spit out an answer. That's not what this was. This was based on deliberation and debate, a lot of good technical analysis to support it.

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But this is coming from the people who participated in it.

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We divided up the recommendations into four categories, really five. But four primary categories.

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One is based on time. We looked at recommendations that could be implemented in the next five years.

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That would have some benefit in those five years. And then we looked at projects or alternatives that might be more valuable in the long term, either because they take a long time to implement Or we may not know whether we need them or not until that time arises. Back to

the uncertainties that I was talking about. We might not know how our climate develops. We might not know how our population changes until we're in 2035.

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And then we have some alternative decisions to make. We also divided it up by the types of geographic delineation that we recognized. Each community who participated in this is capable and willing to make a lot of their own decisions. They're responsible for their own water.

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And so a lot of these recommendations will be implemented at the local level.

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But what makes this plan unique is that a lot of them are also reflective of regional cooperation. And I'll talk specifically about those as we move on. There are some that can only be implemented by our state, our regulatory agencies. And so we realize that that should be its own separate category.

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But basically, we created a matrix, short-term local short-term regional, long-term local, and long-term regional. Those four boxes created the envelopes for us as a group to make recommendations for water management.

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And this is what they look like, four slides to walk through.

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Those. I'm not going to read each of those. Here they are in our plan. They're up on the website.

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But I just want to call out a few that tend to emphasize the regional nature of these recommendations.

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The first one here, these are short-term recommendations that could be applied at the local level, support public health organizations, public health of the constituents and citizens.

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By raising awareness of water quality among private whale owners. That's often a locally instituted type of program through boards of health and so forth, but that provides a great opportunity for communities to collaborate on that, to put materials together.

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To make sure that the same messages are getting out to people who share these water resources.

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Other other opportunities here that really can be local or regional. Look at number C, implementing system-wide water and energy efficiency strategies.

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That can be done at the household level. That can be done at the local level. It can be done institutionally, and it can be done across the region.

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Through education and incentive programs and coordinating with our state who incentivizes this kind of activity. So those are some things kind of low hanging fruit that can be done in the short term.

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Other things that are going on that are more in the ground types of things. There are communities who are already drilling some new wells.

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To provide more water and also installing treatment for the forever chemicals, PFAS. We have, I believe, five years to comply with federal guidelines for those, probably four and a half now.

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And essentially, a lot of communities have realized that they need to be doing this now if they're going to comply. So a lot of the work is ongoing.

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But we'll see some opportunities that maybe minimize the need for that or bypass it altogether through some regional solutions.

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The next slide shows some short-term things that can be done as a region. The first one is the maximizing the use of desalinated water. And some people are surprised to hear this.

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Desalinated water is not a common source in New England. It's used historically in other places, coastal regions around the US and around the world.

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Specifically in arid regions where this is a last resort. We have in New England here the benefit of a desalination plant that was built about 20 years ago.

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And it's indicton, just a little bit south of the old colony planning region. Brockton has used this water a little bit over time, but there's capacity to use quite a bit more.

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And one of the things that this group recommended strongly was increased use of that water to offload the water that's withdrawn from the aquifers and the surface water bodies within the old colony region. This is something that can be done in the short term. The plant is operational and Brockton could start using more water quickly and also connect to some of its neighbors.

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And provide water for them. That doesn't only provide water that is

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Reliable aquifer. It also provides water that is PFAS.

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Treated. The process for desalinating water, reverse osmosis. Also removes PFAS. And so this is a regional opportunity to reduce the total demand on the regional resource, the natural resources of aquifers and surface water.

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And also to increase the amount of clean drinking water in the region that will stay that way over time.

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There are other opportunities here for educational processes to help coordinate messages.

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Throughout the region to help educate people on smart water use and land use. The other one I wanted to emphasize here is letter I, conducting an integrated ecological assessment and pursue improvements.

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What this means is, as we saw on the map earlier, these 17 communities are connected by two watersheds.

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A lot of the water is in the ground, in the aquifers, the shallow aquifers, and some of it is on the surface in rivers and lakes.

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And one of the questions that this group had is how can we better manage this entire system to balance the impacts of water withdrawals on aquifer drawdown, on lake drawdown, on the connectivity of waterways for fish passage?

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And things like that. So one of the recommendations is not to build something, but it's to better understand how the operational decisions that we make every day can be improved to support that kind of thing.

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These are all things that can be done in the next five years.

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The next two slides, I'm sorry, this next one talks about what the state could do to help this region. One of the things that this group noted with resounding consensus is to help improve water loss reporting.

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It's a difficult process that public utilities need to go through each year. How much water is lost in the system due to leakage and things like that. It's not an exact science.

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Process that really could improve our understanding as a region and as a state of of our efficiency of getting water where it needs to go.

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That's something that the state can help with. And then monitoring and update point of sale requirements for water use fixtures. Right now, the state is encouraging boards of health to include PFAS testing when a home is sold, but there are opportunities for more than that looking at

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Requirements for efficiency in water use fixtures. Beyond those already mandated by what I talked about earlier.

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The high efficiency appliances. The next two slides are the two that really focus on the long term and we'll kind of show you how this all ties together in a minute.

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First are things that can be implemented locally. One opportunity is a lot of private well owners participated in our study, either on the panel themselves.

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The steering committee in the focus group or who responded to our survey.

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And one of the things that this group wants to consider in the future is providing opportunities for people to connect to public supply. If their private well is going to be contaminated.

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It's not only a health hazard, it's an expense to treat the water and connecting to public supply. While not easy and not always readily available, may be a long-term solution for some communities.

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There are some that need to install municipal wells that are not ready yet. That's kind of a what if, and we'll see.

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Adaptively how that need evolves. And then the last group of alternatives is the long-term regional solution.

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And there are two here that I want to emphasize. We're looking at water that is naturally shared within the boundaries of old colony planning council, the 17 communities. But the desalinated water is coming from outside.

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It comes from the brackish region of the Taunton River. South of the old colony communities. And while there's some short-term opportunities to maximize the use of that, there certainly are some longer term opportunities to even increase the productivity, the yield, the capacity of that plant. Right now, it can provide

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Somewhere between four and five million gallons a day. And there's a possibility to expand that to provide much more water for the region.

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And really offload what it takes naturally from the ground and its lakes.

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Another opportunity is the MWRA. And some of you may have followed some of these developments. The MWRA is Massachusetts Water Resources Authority. They provide water to the greater Boston area. And through there really kind of nation leading efforts in conservation in the 80s and 90s, they reduced their overall demand by 25 to 30 percent and they have surplus water that could be available to communities on the North Shore and Metro West and the South Shore.

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And two opportunities to bring MWRA water to the old colony region are through Stoughton, which already has a small connection that would need to be upsized, and also in through Weymouth. And if the water gets to Weymouth.

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It's another short pipeline to some of the neighboring communities. And so this group recommended that a small subset of the communities with an old colony consider the MWRA water as a viable long-term solution.

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It's not a short-term solution because it would take more than five years. And water that may be contaminated right now and needs to be treated will have to go through the process of being treated. And we can't rely on the MWA water to be here in time.

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But if that is a long-term solution, it will be treated for PFAS. It will be reliable.

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You'll be a constant source of water. The trade-off is it's expensive. And that's one of the things that will be considered moving forward.

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So how do all these come together as a portfolio, Joanne mentioned later. This is just a list of all of them again. Let's move on to the next, I think the next slide shows the overall functionality of these recommendations. And the communities over on the left that can follow different pathways.

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You can see that there's divided here into the short term, sort of in the center of the page and the long term over on the right. All of the communities have kind of formulated their own path and a lot of them involve regional use of water. A number of the communities are developing right now PFAS treatment for their wells or plan to in the next five years. That includes drilling some new wells and putting treatment on existing wells.

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To comply with PFAS standards and make the water drinkable. Other communities, Abington, Avon, Brockton east They're ready today to start using the desalinated water.

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That gives them a reliable supply of clean drinking water. It removes the stress on the ecosystem of withdrawals locally from the ground and the lakes. And that's an opportunity they can do right now, and that's their recommendation.

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Others will. Whitman will continue to purchase water from Brockton. And Plimpton, which is on private wells, is looking at developing a local well for emergencies.

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This is short term. This is within the next five years.

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Let's say the climate changes in ways that we hadn't expected. Say the population changes in ways we hadn't expected. So regulations change in ways we can't project.

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Each of these communities will face a decision. Moving into the long term.

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If the PFAS treatment is not enough. Or the regulations change.

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Or the demand goes up, there are some communities that have committed, okay, we'll need to develop some new wells and treat the PFAS in those wells.

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Other communities have decided, okay, if what we're doing right now is not enough.

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We would then consider connecting to the MWRA. And generally, these are communities that are close bordering towns where the MWRA water is expected to come.

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Near or into the old colony region. Other communities, if what they're doing right now isn't sufficient in five years, would consider using the desal plant.

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Along with Brockman. And so you can see that there is a really, I think in my mind, from what I've seen around the country doing this for about 25 years, this is a really healthy blend of local decisions that can be made easily in the near term, coupled with long-term plans to be more and more regional as needs evolve.

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This is called adaptive management. We don't know what the conditions will be.

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Right now, the analysis says that the water availability should probably be going up if the region's getting wetter and demand is going down.

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But we can't predict the climate. We can't predict population growth. We can't predict regulations with enough confidence to say it's okay to do nothing.

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And so there are short-term measures and then long-term insurance policies that this group has recommended.

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And then in kind of bringing back the concept that although in Massachusetts communities are regulated individually and independently, these problems that we're facing cannot be handled by anybody alone, an individual or a community.

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And it really does require the region who shares these resources to develop these solutions. And I want to commend the steering committee for setting aside a lot of biases about, well, you know, we're a parochial region of the country. We do things on our own and we're going to solve our own problems.

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They set that aside and said, there are some problems we can't solve alone and we're going to do that as a region. And old Colin, this old column regional plan really represents their collective will for the next five years and for the next 25 years.

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For the region. Next steps.

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Joanne, I'm happy to go through this unless you'd like to take this.

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Yourself? I'm on a roll? Okay.

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No, keep going, Kirk. Go ahead.

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These are all considered to be good ideas, opportunities for improved water management and recommendations of people in the steering committee and all the stakeholders who participated will take back to their communities And recommend. But there needs to be some regional cohesiveness. And so Old Colony Planning Council plans to form a standing committee, a water resources committee, which will probably be a continuation of the steering committee, but we'll look at the balance of

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Of water use sectors and needs that are represented there. And maybe there should be some new people who can come and join.

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We'll need to continue regulatory discussions, especially with some of these larger regional projects like the desalination plant.

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Like the MWRA and so forth. Funding is going to be a real what's the word perhaps struggle in the near term and the long term. We're all aware of funding cuts that are affecting a lot of sectors of our society right now, not the least of which is

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The environmental sector. Funding for some of these projects comes from the state, comes from the federal government.

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Those sources are not going to be as readily available perhaps in years ahead. And so some creative funding options need to be developed.

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Regional demand management is something that can be implemented right now with some leadership from Old Colony Planning Council and from the standing committee.

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Coordinating activities between communities so that everybody who is sharing these resources is treating it the same way. And when droughts occur, the response to droughts is coordinated demand cutbacks are coordinated and so forth.

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We showed the slide on adaptive management, how we implement some short-term recommendations, track the conditions of the climate and the demand and the regulations, and then adapt for longer term with some of the larger recommendations.

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How we track that data, that needs to be developed. We need a system that looks at specific metrics. What do we look for in the climate? What do we look for in population? What do we look for in regulations and increasing spreads of contamination plumes and that sort of thing. Technology too. What do we look for?

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And how do we disseminate that information to people who make decisions?

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And then collectively to inform private oil owners about the risks of contamination in their wells, opportunities for testing and treating their wells, sometimes doing that with bulk rates as neighborhoods, as communities, those are opportunities that people need to become more and more aware of.

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So those are the next steps, sort of the priorities for beginning the implementation of these recommendations. And I think that's our last slide, Joanne.

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And it is. And I think it is. At this point, we'd be happy to take some questions share some of the thoughts.

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Yeah, so I have a couple in the Q&A and chat right now. But folks, in the meantime, feel free to raise your hand.

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If you want to ask your question live, otherwise you can type it into, again, either the chat or the Q&A.

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So the first question we've got is about water use during droughts.

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So it goes. I see businesses using water during droughts. These businesses are banks and other retail stores that water their grass.

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That's a… Thanks, I was going to pass it to you, Juan.

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Why does Massachusetts allow this when residents must conserve water? I mean, that's a hard one and I'm going to pass it to you, Kirk Oh, shoot.

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No, no, no. It's a very good question. It's something that every community wrangles with. It's something that the state wrangles with.

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It is… relatively, I won't say easy, to measure the household water use, the gallons per capita per day that are used by people because we have meters and that's red. It's a little more difficult to break down how much water is used by businesses and industries

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On a per capita basis or what kind of percentage cutbacks are needed and how that might affect their their productivity. Now, you mentioned watering grass at banks and things like that. And if you ask me, I agree. I think that kind of thing should be

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Should be better regulated. I don't have the answer for you. These are questions that state representatives and regulatory officials need to consider, but they are considering this. And this kind of thing comes up in permit renewals.

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When requirements for drought management are factored into allowable water use during droughts.

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So that's probably a very unsatisfying answer. It's a problem that persists. It's always being talked about. I don't know what the solution is yet.

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And I'll just add to that that municipalities struggle across the board often with enforcement of local rules and regulations. Sometimes the staff capacity just isn't there.

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To have somebody on patrol, if you will, to make sure that folks are following the restrictions.

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So that's an ongoing challenge too for a lot of cities and towns.

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Our next question is. A bit of a long one, so I'm going to summarize it a little bit, but it has to do with the demand projections. So Kirk, I'm definitely throwing this one to you again.

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So in Bridgewater, the MBTA zoning legislation is requiring Bridgewater to make adjustments to allow for 1,500 additional units.

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On top of that, the state has also enacted legislation that will allow for accessory dwelling units.

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The MBTA legislation in particular would then create a demand or a knock-on effect for additional 40B units to maintain the affordability housing quota in a local community.

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So the question is, with this question is overall push for additional housing development.

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This respondent believes it will significantly impact construction of new drilling units.

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And water availability will be impacted by that. So the question is, have these changes been taken into consideration in the demand projections and how?

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Yeah, they have. We haven't gone as far as to project how many new housing units might appear in each community due to the MBTA zoning regulations. But we did account for that in the uncertainty. You remember the range that we saw in the demand projections?

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That top line included a significant increase, significant percentage increase in population in towns specifically associated with the MBTA zoning regulations.

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A lot of the interviews that we had with the community officials, these are DPW officials, water department officials, and some select board members, things like that.

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Indicated that they, when you do the math, the numbers are a little frightening. But some of the areas that are affected are already in marshlands and not buildable areas.

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And so they were less concerned about this at sort of a second blush than they were at first blush when they looked at the actual land that could be developed. Now you're from Bridgewater and you talked about very specifically the 1500 units

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That could be developed in Bridgewater. We do have projections in the plan. I can't remember which appendix it is, Joanne.

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On a town by town basis for population and demand. I don't have that in front of me right now, but it's something that I would encourage you to look up and see. Not all towns trended down that steeply.

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But for the most part, they were all stable or downward.

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One thing to keep in mind is that the appliance regulations will apply to any new development. So any new appliances going into these new developments will need to meet the efficiency standards.

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As will any that need to be replaced. So that's one helpful step forward. But again, short answer to your question is it was considered in a fairly sort of a what if type of way, increasing percentage-wise each community's population

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The auxiliary dwelling unit issue was talked about. We did not address that quantitatively in any way. It can sort of be embedded in the in the what if analysis in terms of increased population. But it emphasizes how important it's going to be to track that. This is why this is an adaptive plan.

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As population grows Each community will need to track its water use since per capita water use. And is it truly trending downward or not?

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And that's why the plan was developed to be adaptive.

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Thanks, Turk. Our next question, and I'll take this one, shouldn't Massachusetts encourage the replacement of grass with drought resistant planting instead?

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I saw Fidelity in Boston using drought resistant landscaping instead of grass islands.

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Yes, absolutely. There's actually a new state tool called the, I believe it's called the native plant palette.

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If you just Google native landscaping Massachusetts, it'll probably come up.

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They are trying to educate and encourage some of the watershed associations as well are trying to do some community outreach about that.

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And actually one of the recommendations in our plan is to pursue native landscaping too. So there are some opportunities locally for requiring that in the case of development.

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And other creative ways to do that. But yeah, absolutely. Our next question.

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So… Let me see here. So do you have any cost projections if the federal PFAS regs take effect how much would that cost the region?

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Good question. Estimates are included in the plan. A lot of the communities that are either already embarking on PFAS treatment have those cost estimates in hand that we used and those that are considering it have cost estimates for PFAS.

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Installation. We use those numbers as a benefit as a benefit of activating the desalination plant in lieu of treating local PFAS. So it would be a cost avoidance type of thing.

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But it definitely was factored in to each alternative, either as a direct cost, direct capital cost.

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Or as an offset, if an outside regional water source could be brought in that eliminates the need for community to treat.

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The one thing that we did not do cost-wise was look at private wells and the costs to private well owners for PFAS treatment. I know from work that I've done in my own town that installing a whole house treatment point of entry is called a poet system in a house.

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Can cost anywhere from $4,000 to $6,000 and then Because of, don't quote me on that exactly, that's a rough range.

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But the larger hidden cost there is the replacement of filters every year. Pfas has been designated right now as a toxic substance. We don't know if that is going to stick or not.

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But as such, you can't throw it in your trash can. It needs to be recycled in a special way.

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And estimates that I've seen from experts are around $1,300 a year to dispose of your carbon filters. So that's a that's a big factor in a lot of places And I know that there are a lot of people

who are working on trying to figure out how we can develop some funding assistance for folks. That's happening at the state level, at the local level.

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But right now that's a cost that I don't think any of us have our minds wrapped around yet.

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We have another question about PFAS. Do you have the exact wells that would close or need treatment for federal PFAS drives?

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And the answer to that is similar. Yes, they are all identified in the appendices, I believe it is, to the regional plan.

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So if you go to the website, you can find that info there.

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Mm-hmm.

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And Joanne, just for the benefit of… There are federal PFAS standards that were issued last year that ultimately are supposed to supersede the state standards, which everybody has been using up until now.

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And the federal standards are much more restrictive.

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Thank you. All right. Hello, are there estimates as to how bad the PFAS problem can be in the region? How quickly do PFAS migrate? If one town has a problem.

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How long before it migrates 10 miles?

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Good question. That answer will vary, I think, based on what block you're on, what town you're in, how much ground cover there is.

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It's… It really requires a special study. And I think a lot of communities are realizing that they're tracking the levels in their wells and seeing the levels start below the standard and gradually increase and increase.

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And if you put it all together, you can make some estimates. I've done that kind of estimate for locality in my town.

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And the range is unbelievable. To travel a quarter of a mile, it could be two years or 10 years or 14 years.

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It's a lot of uncertainty in that it has to do with the amount of water. It has to do with the hydraulics of your aquifer or river or whatever you may have. And there's no good answer to that question. But it does move slowly. And that's part of the problem.

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It moves slowly, it stays around. It doesn't flush out of the system very quickly.

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Great. All right. So that's all that I see in the Q&A and chat right now. We've got about three minutes left. Last call for questions.

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Does anybody have any other questions that they want to ask?

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Ah, yes, we got one. Are there negative effects for supply of water from one watershed being used in a different watershed and how that affects the water cycle in aquifers?

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Good question. I think what you're talking about is what is referred to as an interbasin transfer when water from one watershed is used in another.

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That's something that the state looks at very carefully. And there are regulatory requirements for that.

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There would be interbasin transfer assessments that would be needed if the MWRA water were to be brought in to the region.

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The desal plant is within the Taunton River Basin, and so that's not considered an interbasin transfer, even though it's from outside the old colony planting boundary, it's considered water used within the same basin.

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If it were to be used by any of the communities in the south coastal basin.

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There would need to be some special permitting for that. But the answer is yes, it is a concern when you take water out of one basin and use it in another, you do change that balance. And the question is how much and is it sustainable?

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What kind of the impacts are. And that's always part of the permitting process that is studying the environmental impacts of that.

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And a follow-up question to that is Silver Lake in the coastal basin

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Silver Lake is right on the divide, right? It is in the south coastal basin It discharged the Jones River, which is part of the south coastal basin.

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Thank you. All right. Anybody else? I think that's all we've got for the Q&A tonight.

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I just want to remind folks that the plan and all of the appendices, which does have quite a lot of technical info in them.

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Are available at oldcolonyplanning.org forward slash waterplan. The presentation that you heard tonight will also be available on there if you want to refer back to it.

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Next Tuesday evening in Brockton, there will be another in-person public meeting.

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It's the same presentation, but you're very welcome to attend if you want to ask more questions.

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The public comment period ends on May 18th. So if you would like to submit written comments to me via email or mail.

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You can do that. All of this information is available on our website.

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And with that, Mary, do you want to close out for us?

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Well, I think Frank Basin just said what I was going to, and that is a great job tonight. Again, I started off by saying what talented, informed professionals between Joanne and CDM and Bill Napolitano, but you heard it today, right? There was no question that was

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Not worthy of an answer. And for those that said they were very, again, promptly answered in responses. So first.

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You know, again, just thank you to Joanne at CDM and to the staff but also Thank you to all. I know there's some town administrators on and some other folks just even an interested resident really makes a difference and having the robust questions being held.

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Thank you to everyone and we hope to see those comments in before May 18th

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I thought you were going to say, and to all a good night. Thanks, everyone.

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It's all aGoodbye