

Testimony at Public Hearing on MWRA 6/28/06

2nd floor, Building 39, Charlestown Navy Yard

By Jim Stergios, Executive Director, Pioneer Institute for Public Policy Research

I would like to thank the Chairman and the Board for the opportunity to testify this morning. My name is Jim Stergios and I am Executive Director of Pioneer Institute, a non-profit public policy research institute based in Boston. Pioneer research and programs focus on appropriate applications of market approaches to public policy. Pioneer has a strong interest in this question because of its importance to effective resource management and the state's ability to grow and compete for businesses.

From a purely environmental viewpoint, of all the media – air, land, and water – Massachusetts' water policy is the area most in need of attention. Despite ample precipitation, Massachusetts' water problems are significant. We are fortunate, however, to have unique resources to apply to these problems. The major MWRA reservoirs, the Quabbin and Wachusett, are a resource that is the envy of other states. The Authority has also made great strides in dealing with combined sewer overflows, infrastructure repair, and conservation. These necessary improvements have come at a price, however, and rates have become a serious burden for MWRA communities.

Pioneer Institute's position on the question of whether to sell more water is that (1) MWRA expansion can improve the health of some of Eastern Massachusetts' stressed watersheds without undermining the long-term security of the Authority's water supply. In my remarks, I will summarize the MWRA's capacity to advance environmental benefits to specific stressed basins and suggest potential criteria for selecting new member communities. (2) Long-term planning is needed to ensure that expansion of the Authority does not undermine the Commonwealth's growth and conservation goals. And (3) more work by the MWRA is needed to lay out the short- and long-term fiscal impacts of expansion, most importantly in terms of the short- and long-term impacts on ratepayers.

On the first point, the MWRA has sufficient reservoir and infrastructure capacity to support expansion. The MWRA's determination that there's roughly 36 million gallons of surplus available to ease the supply crunch and restore the health of overstressed watersheds strikes me as well-thought out and cautious in its approach. The MWRA has used conservative estimates and safe yield numbers—the 300 million gallon figure takes into account required releases into the Swift and Nashua Rivers. And demand has been dropping steadily to a running five-year average of 230 million gallons daily. There is good reason to believe that the MWRA has enough water to withstand a severe drought.

The current service area is surrounded by the Ipswich, the upper Charles, and the lower Sudbury—watersheds, river basins, or parts of river basins that are highly stressed—and by communities that need additional water. The Authority can help relieve stress in these key basins. Expansion should, however, be limited. Our suggestion is that expansion opportunities should be limited to “special cases,” communities willing to commit to aggressive and

sustainable water conservation targets, and communities already receiving wastewater services from the MWRA.

- First, ^{the} MWRA service area should only be extended to “special cases,” meaning towns with growing or critical problems or exceptional smart growth projects. For example, Reading, Wilmington (with its potential loss of wells), the Weymouth Naval Air Station, and towns served by the Sudbury, Assabet and Concord Rivers.
- Second, conservation standards might include additional requirements that towns have dependable metering and tiered pricing systems. The pricing system might offer a lower rate to communities with residential daily usage per capita of, say, at or below 65 gallons and a higher rate above that number. To impact admissions to the MWRA, clear, numerical standards would need to be incorporated into one or more of the three processes that regulate MWRA expansion—the MWRA Enabling Act, the Inter-basin Transfer Act, and the Massachusetts Environmental Policy Act.

Clear and priced incentives will ensure that water brought from another basin is conserved, that over the long-run growth consistent with conservation is encouraged, and that the state meets its obligation to provide regulatory certainty and fairness to communities. Undertaking a competitive pricing approach has the additional benefit of getting all MWRA member communities used to the idea of differential pricing. They might, over time, be moved in this direction as well.

- Finally, on wastewater, an interim step would be to give strong preference to communities already tied into the MWRA wastewater system or that would maintain local wastewater treatment facilities (that is, ones that would potentially recharge locally).

These criteria are sufficient for weighing at least an immediate short list of projects that the MWRA has under consideration. I would like to concur, however, with the position taken by Mark Smith of The Nature Conservancy at an April 28th Pioneer Institute Forum on the expansion of the MWRA service area that because of its size, its status as a quasi-state organization, and state ownership of the MWRA watersheds and water, the Authority has to (1) maintain its responsibility to the state and member communities to provide a critical health and safety service at an affordable rate, and (2) preserve a legacy consistent with the long view taken by previous generations in securing the Quabbin and Wachusett Reservoirs.

In order to take that fifty or a hundred year view, we will need a regional long-term planning effort that gives comprehensive consideration to water supply and resource issues, and *at a minimum* review of the wastewater infrastructure in potentially new member communities. The Water Asset Management studies—completed in 2004 and covering 131 communities in the 495 arc—are a useful empirical foundation, and the 2004 Water Policy a sturdy conceptual framework, for such a planning process.

This planning effort will open up some hard decisions regarding supply such as base flows in and protection of rivers and streams, emergency backup systems, the maintenance of existing non-

MWRA water sources, the promotion of regionalization, etc. It will also require important wastewater decisions regarding satellite wastewater treatment plants and recharge. I believe it is only reasonable that, while the state plans, specific instances of MWRA expansion already well along in the regulatory process should be allowed to move forward.

Given the strong environmental benefits, I do not believe that the fiscal benefits of expansion on existing ratepayers is a make-or-break issue for the Board decision whether or not to expand the service area. That said, for you and for ratepayers, potential fiscal benefits are important—one, because affordability, and therefore mitigating the need for price hikes, is an important part of the Authority's mission; and, two, because you need to understand fully the short- and long-term fiscal impacts for your own planning purposes.

The Authority has substantially accomplished the goal set at its creation to rebuild the water and sewer infrastructure of the metropolitan Boston area. The cost to ratepayers, however, has been significant. Since the Authority's establishment in the mid-eighties, the average annual bill has gone from \$143 to \$841. Projections for the coming years are for 9-10 percent rate increases, with the MWRA budget more and more looking like the MBTA's. That is, by 2010, two-thirds of the Authority's budget will go to debt service for infrastructure projects, precisely where the MBTA is today.

Short-run fiscal benefits to the MWRA are perhaps on the order of \$6-7 million per new member community. Long-term, factoring in revenues from the sale of water as well as increased expenses due to expansion (for example, testing, additional maintenance and additional need for loans), there may be a modest annual financial benefit to the MWRA. Exactly how much of a gain will require greater clarity from the Authority.

All this probably means that any ability to mitigate rate increases will be minimal.

Again, unless the potential fiscal impact is negative, which does not seem to be the case, I believe the more central question is what kind of environmental impacts we expect to see from expansion. As I have laid out in my testimony, I believe these will be significantly on the positive side of the ledger, especially if clear limitations as to the type of communities to be allowed to join are set and appropriate demand management tools are adopted.

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Transcript

No. 65 • Apr. 2006

Water Management and the MWRA

Would MWRA expansion benefit Massachusetts communities and our environment?

FRIDAY, APRIL 28, 2006
8:30 a.m.–10:00 a.m.
OMNI PARKER HOUSE
60 School Street
Boston, MA

PANEL FEATURING

Mary Griffin
General Counsel, Executive Office of Environmental Affairs

Peter Hechenbleikner
Town Manager, Town of Reading

Fred Laskey
Executive Director, Massachusetts Water Resources Authority

Mark P. Smith
Director, Eastern U.S. Freshwater Program, The Nature Conservancy and former Water Policy Director, EOE

JIM STERGIOS

Thank you for attending this morning. I'd like to thank Mass Insight for co-sponsoring this event. I'm Jim Stergios, Executive Director at Pioneer Institute.

Of all the environmental media – air, land, and water – Massachusetts' water policy is the area most in need of attention. Air quality is a big issue, but its challenges largely originate elsewhere and require national action. And while we can certainly work to protect critical land, it's fair to say that Massachusetts already has a lot of land under protection.

Water is different. Our state's water management is not uniformly good. The Ipswich River, for example, has been called one of the nation's great riverine tragedies. We are seeing proposals for desalination projects, which should not be the case in such a wet state.

Pioneer Institute, founded in 1988, is an independent, non-profit public policy research institute based in Boston. Pioneer generates and markets new and practical public policy ideas and peer-reviewed scholarship. Pioneer Institute research explores the application of market principles to state and local policy to advance the core values of an open society—individual freedom and responsibility, economic opportunity, social mobility, and limited government.

The Massachusetts Clean Water Council's membership represents more than 100 communities and provides drinking and/or wastewater management services to more than four million residents. MCWC advocates for clean water, safe drinking water, and environmentally and fiscally sound state water policies.

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Massachusetts receives the equivalent of about 45 inches of rain annually. In Colorado, average precipitation is equal to about 11 inches of rain. Yet, through a variety of applications, including technology and recharge, it is able to manage a level of growth in the Denver-Colorado Springs corridor that goes beyond anything we're seeing in Massachusetts.

Pioneer has a strong interest in this question from the perspective of effective resource management, and the state's ability to compete for businesses. Massachusetts' water problems are exceptional, but we are fortunate to have exceptional resources to apply to these problems. The major MWRA reservoirs, the Quabbin and Wachusett, are the envy of other states. The Authority has also made great strides in dealing with combined sewer overflows, infrastructure repair, and conservation. These necessary improvements have come at a price, however, and rates have become a serious burden for MWRA communities.

The core questions that we'll be exploring today are:

- Can MWRA expansion improve the health of Eastern Massachusetts' stressed watersheds?
- What impact would MWRA expansion have on communities' budgets, development patterns, and the environment?
- Is additional work necessary to manage communities' water demand to make expansion of the MWRA system consistent with growth and environmental goals?

Today's program will be a 15-minute presentation by Fred Laskey, Executive Director of the MWRA, after which we will have a panel discussion and questions.

FRED LASKEY

Thank you, Jim. The MWRA is here because of the confluence of three dynamics. First, the MWRA has excess capacity, both in terms of our reservoirs and our infrastructure. Second, the MWRA service area is surrounded by watersheds, river basins, or parts of river basins that are highly stressed, and by communities that need additional water sources. And finally, as Jim said, our ratepayers are shouldering a heavy burden for the cost of twenty years of infrastructure upgrades.

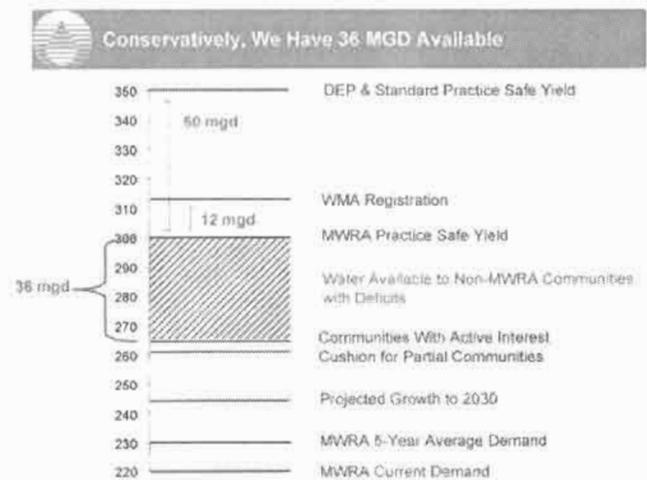
To begin, let me talk a bit about the district. The MWRA was created twenty years ago, and inherited the sewer and water functions from the Metropolitan District Commission. It is perhaps the greatest water system built

in the history of this country. We stretch some seventy miles, from Boston out to three communities in the Chicopee Valley area.

The backbone of the system is the watersheds. Previous generations built reservoirs high in the hills of central Massachusetts and protected the surrounding land. At the source, the water is pristine, and the storage capacity is massive. In particular, the Quabbin Reservoir represents a five-year reserve. We've determined that there's roughly thirty-six million gallons of surplus available daily to ease the supply crunch, restore the health of overstressed watersheds, and meet the MWRA's fiscal challenges.

To arrive at this number, our staff has put in months of work, looking at supply and demand.

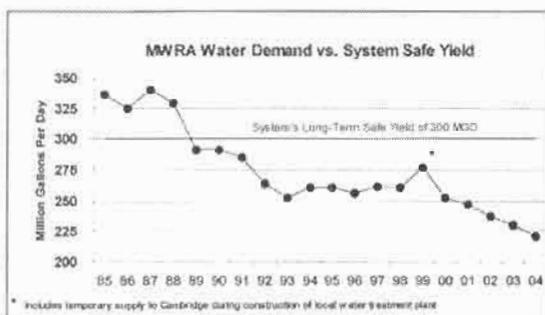
Conservatively, the system can safely yield 300 million gallons of water daily. That number takes into account the water that we're required to release into the Swift and Nashua Rivers. By the DEP's standards, we could conceivably supply 350 million gallons, but as I've said, we work from our most conservative estimate.



On the other side, demand has been dropping steadily. Our running five-year average is 230 million gallons a day. This past year, 225 million gallons were used on an average day. Compare that number to our peak consumption, in the 1980s, of 340 million gallons a day. We credit a number of factors for this reduction: pipeline rehab, conservation measures, and the pure economics of the fact that water now costs money. As an illustration, consider that Boston used the same amount of water last year that it did in 1910.



MWRA Current Demand



What about a drought? We've looked at all the trends, and we have plenty of water to withstand even the drought of the 1960s, which should only happen once every 300 years. To give you a sense of the size of the reservoirs: If it stopped raining today, and didn't rain at all anywhere in our watersheds or in our service district, it would be more than two years before we would drain fifty percent of the Quabbin, and have to start restricting use.

This brings us to my second dynamic. There are communities around us who have water shortfalls. These towns have put unsustainable stress on their supply sources. Jim mentioned the Ipswich, and I think that's the poster child. It's probably one of the five most stressed rivers in the country. Other systems—the upper Charles, the lower Sudbury—are also in trouble. These areas face environmental damage because growing consumption has caused water shortfalls.

Some communities outside the MWRA are in good shape. Cambridge has a very robust system, a new treatment plant. Worcester has a good watershed system. It takes our water just as an exercise, to make sure its system works. However, there are towns with growing problems that are interested in having the MWRA play a larger role.

Wilmington is clearly interested. It is in the process of losing some of its wells. The Weymouth Naval Air Station, which is a good example of smart-growth development, has told us we're its best option. We could play a role in the Sudbury system, and with towns served by the Assabet or the Concord. Reading's town manager has shown interest. And, of course, Reading's town manager, Peter Hechenbleikner, will speak to us today about his perspective.

For our part, we've identified around ten million gallons of potential new consumption by surrounding com-



MWRA's Estimates of Potential Supplemental Demand

Hingham/Hull	1.3	Ashland	0.9
Sharon	0.2	Holliston	0.2
Total	1.5	Hopkinton	0.8
		Medway	0.2
		Milford Water Co.	0.3
		Franklin	0.7
		Total	3.1
Lynnfield Water District	0.5		
Salem Beverly	0.7	Lancaster	0.2
Ipswich	0.2	Sterling	0.9
Wenham	0.1	West Boylston	0.5
Topsheld	0.1	Boylston	0.1
Danvers/Middleton	0.8	South Hadley	0.5
Reading	1.4	Total	2.2
Total	3.0		

Grand Total 10.6 mgd

munities. One issue we've considered is whether these towns use too much water. We've evaluated the communities on our list, and some may be a little high, but most are doing well. Communities who use too much water have contacted us, and we've said no, we're not interested.



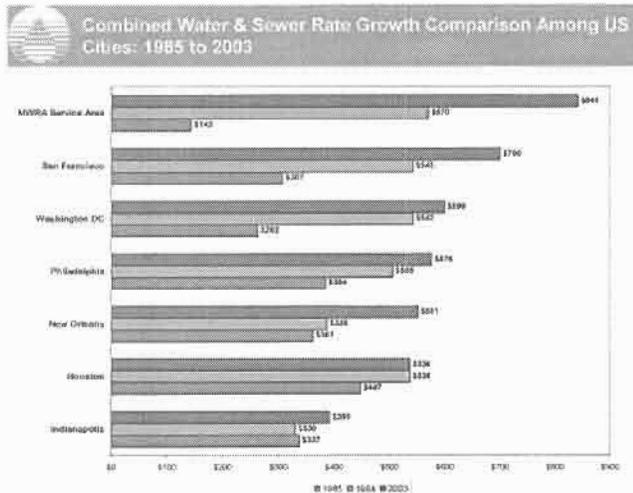
Conservation Indices

Community	Conservation Indices	
	Residential Per Capita	Unaccounted For Water
Sharon	63	14
Salem/Beverly	69	8
Ipswich	52	7
Wenham	72	14
Topsheld	53	7
Danvers/Middleton	56	7
Reading	59	10
Franklin	64	7
Holliston	72	15
Medway	80	11
Milford	63	21
Ashland	77	37
Hopkinton	75	14
Boylston	49	18
Lancaster	67	21
West Boylston	88	20
South Hadley Fire District 2	83	
Hingham/Hull *		Data Suspect

Looking at the entire system, the MWRA believes that we can be part of the global solution. Could our excess capacity, through a strategy that coordinates allocations across the watersheds, meet community needs and provide a major environmental benefit? We believe the answer is yes.

This brings us to the third important dynamic. The authority was created in the mid-1980s to rebuild the infrastructure of the metropolitan Boston area, on both

the water and the sewer side. We've done that, but our ratepayers are paying a heavy burden for those efforts. The state plays a role, and the federal government to a lesser extent, but we are basically an authority that carries its own weight. Since the Authority was created, the average bill has grown from \$143 to \$841.



We are looking at how to mitigate that impact, because the future doesn't look much better. We forecast nine or ten percent rate increases for the next three or four years. In 2010, two-thirds of our budget will go towards debt service on our infrastructure projects. Clearly, our board is interested in anything that will take some of this burden off the ratepayers.

So we're open to supplying more communities, but there are some practical concerns to address. There will be upfront expenses for these communities. They will have to pay for infrastructure upgrades to tap into our system. Stoughton has already done this, and Wilmington is building its own pipeline. There are also administrative expenses, as I'm sure Peter can tell us more about. Beyond that, the MWRA charges an entrance fee of \$5.2 million per million gallons of water per day, and an ongoing per-gallon fee.

On our side, there would be increased expenses due to expansion. The MWRA would have to perform more testing and additional maintenance. We also provide loans and grants to our communities. We estimate that expansion would add about a million dollars in expense and bring in about seven million dollars new revenue—a modest financial gain.

To recap, we believe we could be part of the global solution. It would be a real accomplishment to get these

rivers off the distressed list, serve these communities, and improve the MWRA's finances. This is a process that we're proud to be a part of.

MARY GRIFFIN

I'd like to discuss the legal framework of expansion. I'll highlight three main statutory backbones of this discussion—the MWRA Enabling Act, the Interbasin Transfer Act, and the Massachusetts Environmental Policy Act (MEPA).

The MWRA Enabling Act was enacted in 1984. The statute gives the MWRA authority to deliver and distribute water, and the exclusive right to sell water. It also reserves certain rights for the Commonwealth, which is the owner of the land and the watersheds system. The Act specifically lists the municipalities that are currently part of the system, and sets conditions for adding new communities.

The MWRA's policy of admissions on new communities was adopted in 1997, and updated since then. It sets forth a number of criteria:

- Is the safe yield of the watershed system sufficient to meet the projected demand?
- Is there sufficient cause to abandon the local source? No local water supply source can be abandoned unless the DEP (Department of Environmental Protection) has determined that the source is unfit for drinking and cannot be economically restored for drinking water purposes.
- Has a water management plan been adopted and approved by the Water Resources Commission?
- Have effective watershed management measures been established by the community?
- Is there no identifiable local water source supply that's feasible for development?
- Has the community done a water use survey for individual users of more than twenty million gallons per year?

The second backbone of the regulatory process is the Interbasin Transfer Act. The Act dates back to the drought of 1961-67, which actually drained the Quabbin by almost 50 percent. It provides that a significant increase over the present rate of interbasin transfer for water supply purposes must be approved by the Water Resources Commission. It doesn't apply to a transfer of less than a million gallons per day.

The Act also sets forth criteria for the Water Resources Commission to use when considering the addition of new communities. Three of these criteria are as follows:

- All reasonable efforts have been made to identify and develop all viable sources in the receiving area;
- All practical measures to conserve water have been taken in the receiving area; and
- An environmental review under MEPA has been complied with.

Finally, there is MEPA. MEPA requires all agencies and authorities of the Commonwealth to review, evaluate, and determine the impact on the natural environment of all projects or activities conducted by them, and to use all practical measures to minimize damage to the environment. MEPA is not an adjudicatory proceeding or approval process. It's a public information and participation process. At the end of the process, the Secretary of Environmental Affairs determines if the proponent has adequately described the project and its alternatives, and assessed environmental impacts and mitigation measures.

There is an effort to integrate the processes of the Interbasin Transfer Act and the MEPA process. For a number of years, the Water Resources Commission has used the MEPA environmental impact report as its application for the Interbasin Transfer Act review. Stoughton, for example, used the MEPA process as its application and, I think, within three months of having a final application, it received its Water Resources Commission approval.

PETER HECHENBLEIKNER

I'm here to present Reading's experience in fulfilling the Interbasin Transfer Act and using MWRA water. First, some background on Reading. Our town covers ten square miles, and our population is around 24,000. Eight of our nine wells draw from the Ipswich River Basin. As we've heard, the Ipswich is one of the most distressed rivers in the nation. The Basin itself is very small, and Reading is one of the more upstream communities. Our average daily water use is about 1.9 million gallons per day with a peak of 3.5 million gallons per day.

In 1999, we studied our long-term water supply situation, and we made three essential decisions. One was to continue to use the Ipswich River Basin as our primary water supply. Our wells and our treatment plant are built around Ipswich water. The second decision was to supplement that water with MWRA water during low flow periods. This is a process that we are just completing. Finally, we developed an aggressive water conservation program.

Looking back, we can evaluate the success of each aspect of the plan. First, we're very proud of our conservation program. Our per capita water use is 54 gallons a day, compared to a statewide average of 65 gallons per day. As

for supplemental MWRA water, we began that application process in 1999 and early 2000. We were seeking an amount equal to about sixty percent of our summertime water use, from May through October. In the fall of 2005, we finally received approvals and this Sunday night turned the tap and started to use MWRA water.

The third decision—to continue depending on the Ipswich River as our primary supply—is one that we've been forced to revise. As part of our commitment, we needed a new water treatment plant. In 1999, the cost of that was estimated at about \$12 million; our current estimate is \$23 million. That price increase made us take a hard look at buying all our water from the MWRA.

For the past year, Reading has had an extensive debate about whether to build a plant for Ipswich River water. We had a very good presentation by MWRA staff at a selectmen's meeting. Based partly on that, the Board of Selectmen voted three to two to use the MWRA as our sole source of water. We are having a special town meeting on June 12th to gain authorization to buy all of our water from the MWRA and to incur the debt for the buy-in process.

There are four essential factors that played a role in that decision:

- Costs
- Vulnerability of the local well-based system
- Health of the Ipswich River basin
- The desire to retain community control of a vital resource

Regarding costs, let me say that for the next 25 years, the MWRA will be cheaper for us than building a water treatment plant. It'll cost about \$10 or \$11 million in capital costs to convert to MWRA water, compared to \$23 million plus to build a water treatment plant. In the long run, after the plant is built and amortized, operating our own system is more cost effective. In our view, the costs of either option were comparable, and the other factors were actually more significant.

As for the vulnerability of the local well-based system, the community identified this as an extremely serious issue. On September 30th, 1992 we had 10,000 gallons of gasoline spill from an accident on Route I-93, right next to the town's well fields. We had to turn the water system off entirely and run fire hoses down to Woburn to bring MWRA water into the community, an emergency arrangement that lasted for some time. There's also been chemical contamination of our wells in North Reading. We reached a settlement with the contaminating party, but the vulner-

ability of our wells will always be a serious issue. On the other hand, we lose some redundancy by switching entirely to MWRA water. If we maintain our own treatment plant, we can switch supplies in an emergency.

The town of Reading is extremely concerned about the health of the Ipswich River. Reading is the only community that owns the entire frontage of the Ipswich River within its borders. We value the river. United States Geological Survey (USGS) studies show that the river runs dry an average of six days in a typical year, and more in drought years. The studies also show that under the current plan of buying supplemental MWRA water, the Ipswich will still run dry one or two days a year. But if we get all our water from the MWRA, the Ipswich will not run dry in our reach of the river. Since we are upstream, there will be a tremendous positive impact on the entire Ipswich system.

There are some fears in Reading about the loss of community control of a vital resource and local water rates. Now, some of you in the audience will question how much control we have over our resources and water rates. But there's a gut feeling within the community that this is a major issue. Some feel that by running our own water system, we'll have more cost predictability as opposed to being a member of a large organization like the MWRA. These are concerns that we have to contend with as we make the case for our MWRA plan.

Now there are a few lessons that other communities can draw from our experience. First, the process of joining the system is very expensive. We've spent hundreds of thousands of dollars and five years just to set up a partial use of MWRA water.

Second, the regulatory maze is difficult to negotiate. While we found the staff in all the state organizations very easy to work with, it's still a tremendous amount of work for a town to go through.

It would be helpful to have clear criteria for communities to use in considering eligibility to join the MWRA.

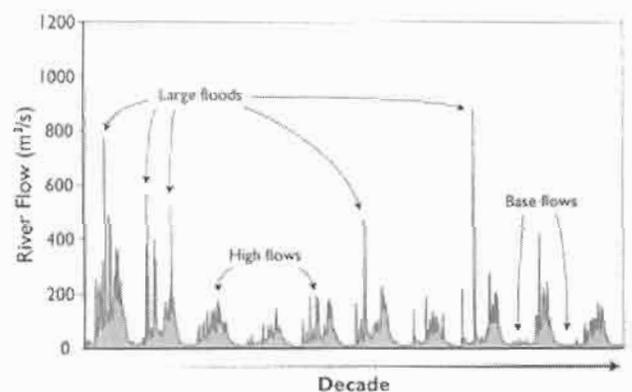
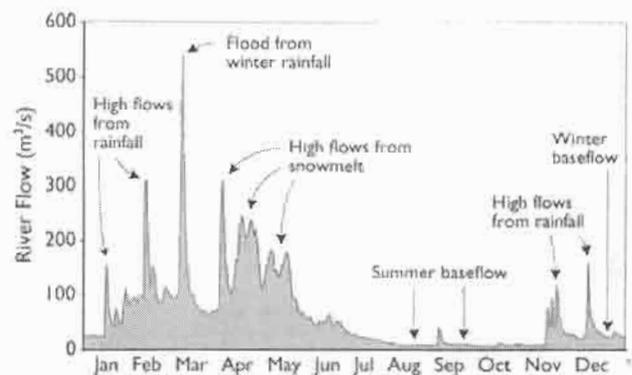
Finally, while we think state and regional planning is probably the right thing to do, we think that communities should be able to join the MWRA system without waiting for a final plan. It's difficult to make a commitment at the local level if we're uncertain of the state's planning process.

MARK P. SMITH

The Nature Conservancy is not taking a position on the expansion of the MWRA service area; that's not one of the issues that we focus on. I'm here to give a broad perspective, based on my years at Massachusetts Executive Office of Environmental Affairs (EOEA) working with the board of directors of the MWRA and the state agencies and based

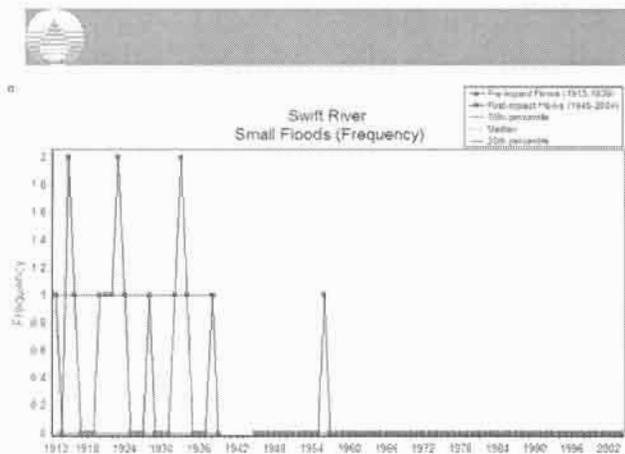
on my work at The Nature Conservancy, where I work on water management issues throughout the Eastern Region. So let me begin by highlighting the importance of stream flow to freshwater biodiversity, and then I will discuss specific policy issues surrounding the MWRA expansion.

The species most at risk in this country are in our freshwater systems, which is why we spend a lot of time trying to work to protect them. The key to a freshwater system is the natural variability of stream flow. It's not just about minimum flows and keeping some water in the river. The freshwater environment is timed to variations. We have wet seasons, dry seasons, floods, and droughts. There are different aspects of the environment that respond to those different signals. We have swamps that require inundation to keep them as swamps, but they also need to dry out on occasion so that new trees can sprout and grow before the next flood. It's not just about water; it's about trying to maintain that natural variation in water levels.



This natural variation has impacts on our water supplies too. During the drought of 2002, which was relatively severe but short in duration, some reservoirs were depleted relatively quickly. We have to develop water supply systems that are resilient for both the environment and human use.

Now, the Quabbin reservoir is a great asset to this state, and how we use it is a key question. Capturing this large amount of water has a serious impact on the environment. Rivers that used to flood once or twice a year now don't flood at all. Since 1945, the Swift River has only had one of the high-flow events that are critical to stream processes. We need to strike the right balance between human and environmental needs.



As for the issues surrounding MWRA expansion, let me offer three main points.

The MWRA has a special role in this state. It's not just any public utility. First, it serves statewide needs. Second, this issue is not just about the MWRA. This is really about how we manage water as a state, and how we're going to make decisions for the long term. If we're going to provide a water future for both the environment and our people, we need to think fifty or a hundred years down the road. Finally, to do that type of long-term decision making, there are specific policy questions that we need to address. I'll cover each of these points in more detail.

The MWRA has special status for several reasons. One is simply its size. As Fred remarked, it has impacts from the Connecticut River to Boston Harbor and beyond—both for the water it takes and the people that receive the water.

Second, it is, as Mary said, a quasi-state organization. It's not a local entity, it's not a private entity, and one of its purposes in its enabling act is to protect natural resources of the Commonwealth.

It's not a coincidence that the chair of the board of the MWRA is the Secretary of Environmental Affairs. That was done to ensure that it would have a strong environmental ethic. I think the MWRA has lived up to this obligation throughout its existence.

Also, as Mary pointed out, the MWRA delivers the water and sells it, but it's the state that owns the watersheds and the water. The water and watersheds are state assets and therefore the MWRA and DCR have a special responsibility. Of course, the MWRA must also continue to be responsible to its member communities, to provide a critical health and safety service and to do so at an affordable rate.

And so our challenge is to build a legacy, fifty and a hundred years down the road. The Quabbin and the Wachusett weren't built to solve a short-term problem. They're a legacy that we are still benefiting from today.

There has been long-term thinking done on the wastewater side of the equation. In the 1970s, when the Clean Water Act was passed, there were studies done for the Eastern Massachusetts Metropolitan Area commonly known as the EMMA studies. Their timeframe was seventy or eighty years. Those reports could have been written today. They talk about centralized versus decentralized wastewater management, maintaining base flows in rivers, water quality, combined sewer overflows, and infiltration and inflows. They put in place what turned into the Deer Island facility and the whole waste water system. Today, we need to do similar long-range planning on the water supply side. We don't yet have a comparable vision for the state as to what our water supply system should look like.

There are serious questions to consider in such a study. How do we protect our rivers and streams? What's the role of the Quabbin and Wachusett Reservoirs as emergency backup to other water systems in the state? How can we maintain existing non-MWRA water sources? We can't afford to give up good sources of water as people hook up to the MWRA or other regional systems around the state. How do we use water efficiently, and how do we address water supply in the context of our wastewater management decisions, our stormwater management decisions, and our environmental management decisions?

By taking a long-term view – 50 to 100 years, we are able to consider new solutions that aren't viable today. Our facilities last twenty or thirty years. We can ask the question, what are we going to replace them with? How can we envision a better future for this entire system?

Finally, I believe there are particular policy issues that must be resolved in order to be able to answer these long-term questions. We have many of the pieces in place today. As Mary explained, we have thoughtful water resource laws. The USGS has done valuable studies of the issue. We have large water storage facilities, like the Quabbin and Wachusett Reservoirs, to help meet future water needs. We also clearly have a high degree of professionalism with-

in our state agencies, in the private consulting community, and in our municipal agencies.

What's missing is a consistent way to determine how much water our rivers need. We need a set of stream flow standards – standards that provide a high level of protection and that provide some consistency to the regulatory process. Standards will provide increased predictability about what conditions towns must meet and they will recognize rivers are different and we can manage them accordingly. This is much like our water quality standards that have higher standards for some rivers and lower standards for other rivers. We could use a similar approach with stream flow.

Another issue we must resolve is who would be responsible for completing a long-range study of water supply management for Massachusetts. Currently, it's not clear who should do this study. Is it the MWRA's responsibility? Is it the state agencies? We need to clarify who is responsible and give them the charge and the resources to complete this work in a timely manner.

Finally, we need a clear way to integrate wastewater and storm water decisions with our water supply decisions. To solve our environmental problems and prevent new ones we need to look holistically at how we are managing our water resources. For example, for the Ipswich River, is the best answer to have Reading join the MWRA for water, or is it for Wilmington to build a small wastewater plan to recharge the groundwater? And is it Reading's responsibility to build a new water treatment plant or should the MWRA build it and operate it for six months a year? Or should the MWRA build a satellite wastewater plant in Wilmington? Only by looking at these issues comprehensively can we build viable solutions that work for the long-term.

Let me conclude by saying I'm an optimist. Massachusetts is well positioned to answer these questions. We have resources like the DCR/MWRA water system and we have a long history of working on these issues. We should plan for the long term, for both the environment and for human uses, in a holistic way.

STERGIOS: Let me begin by following up on some of Mark's points. Clearly, we need to focus on the long-term impacts. That essentially translates into "How do we grow?" What is the experience that we've had in this state with communities that have actually begun to access MWRA water, and what have the growth patterns been? And what should the criteria be for deciding which communities come through the gate?

LASKEY: The most visible growth pattern people point to is Stoughton, which after coming into the system immedi-

ately allowed IKEA to open. Some think that's a good thing and some think that's a bad thing. Overall, if you look at who's come in, we have done pretty well.

Dedham-Westwood has just come in, Stoughton has come in, which should help relieve the highly stressed basin in the Neponset River. Wells were shut off during the warm weather because of low flows. Looking north, Reading is coming in—and that's positive, because the town has done a lot to conserve and their plan is excellent.

SMITH: Stoughton was a unique situation. They had been without water for thirty years, so they had pent-up demand. There are not many other communities in the situation where they've been so water short that they haven't been able to grow. But what this tells me is that, as Jim noted, you can't just focus on the water issue. What land we want to protect, what it's going to take to maintain the environment and the quality of life we want, is going to be key for specific communities and the entire state. The lens I'd look through, though, is not "how much growth," but "how do we protect the environment" as we do grow, so that we end up with a community and a state that we want to live in.

HECHENBLEIKNER: Two things. Reading is a community that's not looking to grow. We're basically developed. We're looking at this in part as a financial issue, but even more as an environmental issue. We can continue to do what we're doing; we're not prohibited by any act from continuing to use Ipswich River water. The choice before us is: More of the same or look into a solution. As criteria are developed as to what communities might gain entry into the MWRA water system, good solid local planning should be near the top of the list.

STERGIOS: As we consider extending water across basins, we need to also think about wastewater. There were good reasons behind the construction of Deer Island, but given that we are considering extending supply to stressed basins, local re-injection of water would be even more beneficial. Then, should the communities that have wastewater tie-ins with the MWRA already get preference?

HECHENBLEIKNER: That has to depend on the community. Reading is 100 percent sewerage and we go into Deer Island. Reversing that and building a treatment plant in Reading is not realistic. There are, however, some communities where that may be realistic; for example, in a community that's thinking of building its own water treatment plant. As Mark mentioned, maybe instead of water treatment, the community could use it for sewer treatment.

Perhaps the MWRA ought to build several satellite sewer treatment plants, get tertiary treatment, and then put the water back into the basin. That's legitimate. But it has to do with local master planning.

LASKEY: Our whole discussion has to be framed in the practical reality that we're dealing with several hundred years of building systems. We're not starting a system from ground zero. So Deer Island was built there because it was impractical to do anything else on that massive scale. There were studies looking into satellite plants, and it just wasn't practical.

In the case of Reading, you could argue that taking water from the Ipswich basin and putting it in the MWRA sewer system is not the best option. So selling Reading MWRA water and having wastewater flow out through the MWRA system is the lesser of the evils.

GRIFFIN: From environmental affairs' perspective, we think about this in terms of environmental impacts. Potentially the environmental impacts are greater where wastewater is being pumped out of the basin to Deer Island and the local water sources are being drawn upon to supply the water.

SMITH: We need to look at these issues in an integrated fashion. This is not just an MWRA issue. The Massachusetts Chapter of the Nature Conservancy is now engaged with a study in the Taunton River basin, where the issues really circulate around wastewater. There they have the Brockton wastewater plant, the new desalinization water treatment plant, and the fastest growing part of the state, all in and around one of the most intact coastal rivers in the northeast. Our view is that we need an integrated study that takes all of those questions into account and provides a roadmap for communities.

STERGIOS: Are there legislative or regulatory changes needed to think about this in that more comprehensive way?

SMITH: I see two. One is, there are many efforts to protect the environment, but there's no clear mandate for anybody to set a standard about how much water a river needs in different conditions. So, some legal underpinning to state streamflow standards would help.

To do the type of work and studies we're talking about takes money and takes clear direction. One of the states making most progress and doing this most comprehensively is Texas. Over the past few years Texas has undertaken watershed by watershed water resources plans that then

are supposed to roll up into a statewide plan. It has done it through the authority of the state agencies and with funding provided by the legislature.

HECHENBLEIKNER: Whatever the process or legal underpinnings, it really needs to be expedited. We ought to be able to get to a decision quicker than five years on something like buying supplemental water for a community like Reading. People should be able to sit down and understand what the right thing to do is. I don't know what the community is going to decide, but arguably the right thing for Reading is to abandon its local water supply and buy all of its water from the MWRA. Fred has pointed out that we're doing an interbasin transfer by pumping out of the Ipswich River basin and sending wastewater into Boston Harbor. Reasonable people should sit down and discuss what the right thing to do is. Then we should get everybody out of the way and do it.

LASKEY: I don't know whether this is statutory or regulatory or just a mindset change, but I think that there needs to be some thought about the Interbasin Transfer Act. As Mary pointed out in her presentation, the Interbasin Transfer Act was an act that prevented the diversion of the Connecticut River some twenty years ago. No one's talking about diverting the Connecticut River any longer. That's in no one's plans and never will be.

There's a mindset that an interbasin transfer is inherently wrong and bad. I would argue that with the need for statewide planning and the balancing of environmental needs across the state, there are cases where the interbasin transfer of water is good for the environment. You can take with no impact to the donor basin and provide great environmental benefits somewhere else in the state, as long as it's done right.

People have been transferring water back to the Egyptians, for the betterment of society and the quality of life. We need to identify cases where there's an overriding environmental benefit to transferring water with no negative impact on the donor basin.

SMITH: While I might not disagree that the Interbasin Transfer Act could probably use some clarification and updating to deal with circumstances that were not anticipated when it was written, we should recognize that some of its biggest successes are not the projects that have come through, but the projects that haven't. Every time I drive by Fresh Pond and see that new water treatment plant, I appreciate the City of Cambridge's investment. Hooking up to the MWRA might have been the easiest solution.

The Commonwealth's policy of trying to keep good water sources online for the long term, for the benefit of our state, is one of the successes of the Interbasin Transfer Act.

GRIFFIN: I'm personally skeptical that we're at the point today where there's enough consensus about what statutes would need to be changed, and what legislation would look like. That might be something we could develop over time, but I think that there are ways that the existing statutes and processes can be used to make the process go smoother and quicker.

I'd give the example of the Aquaria Interbasin Transfer Act approval. That was a proposed desalination plant. But in that case, the project proponent, if you will, the water supplier, was the one that came in and demonstrated the ability of the donor basin to support the project. A locality, Brockton, then came in and filed a Notice of Project Change stating that it wanted to receive the water.

So in that case we had a different kind of process that facilitated one look at the donor basin and then individual towns being responsible for looking at the receiving basin.

STERGIOS: One final question for the panel before we open it up to the audience. One of the major concerns is what happens once a community comes in. Reading is already built out, but what if another community that has a good conservation record but is not built out starts building everywhere? Once a community is part of the MWRA system, how do you prod—or even enforce—communities to continue with their conservation efforts or to build in a way that is less water consumptive? Won't streamflow be a less effective demand management tool? Do we need to think about differentiated pricing on the basis of average residential use?

HECHENBLEIKNER: The MWRA water rates will do that. The best conservation measure we have in Reading is the high cost of our combined water and sewer rates. That helps people conserve, plus a whole lot of other things including a community ethic.

LASKEY: The cost of the water provides a real economic incentive to conserve. It's a misrepresentation to say that the MWRA's goal is to sell a lot of water by enabling affluent suburban communities to ignore conservation measures and water their big lawns. If you look at the Reading situation, the requirements are still there for them to provide very strict conservation measures and keep in place all that they're doing. That's part of the regulatory hurdle Reading or any community has to go through.

Once they join our system, these smaller communities are given a great advantage in that they become part of a system that's known nationally for conservation. In addition to regulatory requirements, they are hit with our requirements to have an aggressive conservation efforts and leak protection and upgrades to their systems. We provide substantial financial assistance—grants and loans—to our member communities for pipeline upgrades and leak detection. There's the technical assistance of our conservation experts, as well as aggressive conservation education programs.

SMITH: The mandate to work with its communities is such an important part of the MWRA system. If you go to Connecticut, where most of the water is supplied by private water companies, they will openly admit that they make most of their money by selling people water in the summer and that the public utility commissions guarantee that revenue stream. As a quasi-state agency, the MWRA brings a lot of advantages to water management that other systems don't.

EILEEN SIMONSON

I am Co-Executive Director of the Water Supply Citizens Advisory Committee. Our volunteer committee is reimbursed graciously by the MWRA to give the board of directors and staff advice on water policy.

A couple of points. One, the length of the process to be admitted to MWRA is directly proportional to the appropriateness of the application. Of the communities that have applied since 1971, only one directly qualified and that was the town of Bedford. Bedford had contamination—a criterion of MWRA's Enabling Act for admission.

In addition, the state needs to do a better job coordinating. The state, in the case of Reading, should have committed to getting the headwater communities—all five of them—to work cooperatively, doing conservation and getting stream flow, before towns started applying for interbasin water transfers. And, although the Interbasin Transfer Act was initially a bill to protect the Connecticut River, the bill has been instrumental in getting state oversight on moving water out of basins.

What is it we want from MWRA? First, the MWRA's water supply policy admission policy is not adequate. It has no criteria other than first come, first serve, and those towns that have qualified under the state process then get to appear before the board of directors and the Advisory Board of Communities.

Second, by stream flow calculations, the Nashua River, which gets 1.8 million gallons a day through a fountain in

front of the MWRA's administration building at Wachusett, and the Swift River are not healthier than other rivers. These are both medium stressed rivers. The Connecticut River and the Chicopee do not meet class B water standards in any of their reaches below the confluence from Quabbin.

Finally, we do not challenge that MWRA uses 120 million gallons a day water less than it ever did and that is extraordinary. But it is preemptive to overturn or bypass state policy in order for MWRA to get added revenue. Why does it need added revenue? In 2003 it lost \$45 million in debt service assistance given to many towns in the state. It now has legislation in to get \$25 million this year. We hope the Senate approves it. But that's why the MWRA wants to sell this water. It really is nice to claim environmental benefit, but we're really talking about revenue.

LASKEY: There is an admission policy. Frankly, we are, on a regular basis, contacted by entities and communities that want to join the system. These queries are squashed early, so what comes through are those groups we believe have a legitimate shot of getting through the regulatory gauntlet.

We had a request from a community not a few weeks back. They're using 95 gallons a day per capita residential and we simply said, "We're not even going to talk to you." There is a policy, and we are often unpopular because we hold the line. That policy is monitored and controlled by staff members who are among the best environmentalists in the state.

As far as the Swift River goes, there is no consensus that it needs more releases. Some believe very strongly that it's one of the healthiest rivers in the state and we shouldn't be fixing something that's not broken. Yes, it's not a natural flow but it has developed into a great water system. As for Clinton, it's a three-mile stretch that's in question, and we'll take a look at that.

Finally, our board of directors and staff consider themselves true environmentalists. It's not our goal to do something irresponsible, and even if we were, there are ample checks and balances along the way.

JOSEPH FAVALORO

I'm the Executive Director of the MWRA Advisory Board. As you look around the room, we all work for government, with government, or in government. We all know that elusive win-win scenario. We try hard to get it but many times we fail. The issue before us falls within that win-win scenario.

Clearly, we all have a stewardship for the environment and we need to foster that. So if we can help stressed

basins, if we can help the sustainability of communities, that's a win. On the other hand, there's an economic piece of this. You know, \$25 million dollars for debt service is not going to be enough for ratepayer relief. It's going to help, but if you really look at the future of the MWRA, the MWRA and the economic viability of communities depend on each other.

The MWRA has almost 300 miles of pipes. Communities have almost twenty times that. Those pipes need to be replaced. The MWRA system needs to be replaced. Providing a small increment of growth will allow communities to fix their pipes. It will allow the MWRA to continue to do its part. I work for all the member communities, and we all have a stake in this. And our goal is to help foster environmental stewardship, and help the MWRA and our communities.

I've been involved in government my entire life and we plan things to death. We don't want to plan forever. We can grow and plan at the same time.

Q: A brief comment, then a question. The comment is, reservoirs behave differently depending on their size. We have a very large reservoir. When 300 million gallons a day are drawn from this reservoir, it practically never spills, which means only minimum required releases, determined almost a century ago for legal reasons, will go down the Swift, Ware, and Nashua Rivers. Right now, when you only take 230 or 240 million gallons a day, the reservoir is full and you're spilling all the time. As a result, the conditions right now on the Swift and the Nashua are probably quite healthy.

The biggest issue in terms of volumes is really the flows over and under the dam, and the releases in the rivers. How are you going to deal with that?

LASKEY: We think the impact of selling more water is minimal. We are releasing or overflowing more and more water through the Windsor Dam. And we have been "spilling" up to 700 million gallons on some days (and I think 120 million gallons yesterday) since October. The minimum releases are just that, the minimum. The issue is, if we are using 220 to 230 and we are talking 300 capacity (remember we used to use 340) – we're talking a delta of a minimum of 70 million gallons per day. We've got ten million in consideration – maybe a third of that comes to happen. So you are looking at 3 million gallons per day out of the minimum of 70 delta.

There seems to be a consensus that we need to release more into the Nashua. As for the Swift River, there's a big debate about what to do. Do we want to peak the releases

in spring and fall? We've talked to a lot of folks about this and the only consensus is that they want us to be more gradual in the opening and the closing of the releases so we don't wash out the existing fisheries.

Are these important to the overall policy discussion? Absolutely. But we are not releasing just the minimums. And, by the way, when we run the system, we are often spilling over the top of the dam or under the dam at Clinton to get water improvements by getting the Quabbin water over to the intake at the Crossgrove faster. So there's a lot more water going down those rivers than just the minimums.

SMITH: A reservoir provides opportunities not just for those rivers, but for all these other basins in the state. For example, the Ipswich gets stressed all the time. When we really look long term at the best use of the MWRA/DCR water, we should focus on what we do in droughts, both for those systems that can't manage droughts and other systems that may lose their supply for other emergency reasons, like accidental contamination. That's why making decisions one at a time may not get us to the best answer about which rivers or water supplies — we should consider whether some of this water should be saved to help in a drought situation. We are not going to make the right decisions if we take them one at a time and community by community.

Q: Two quick questions. For every community that we put on, is there an increased cost to the MWRA that is passed on to member communities? That's for water. On the other side for the waste, since Deer Island is not operating at full capacity, would using it more fully increase the cost or reduce it? And if there were more byproduct for sale and higher revenues, how would that affect the ratepayers in the system?

LASKEY: There is a modest incremental increase in cost to the authority for bringing in more communities or entities that use our water. It has to do with the testing, maintenance, and support. It is modest.

For the most part, the communities coming in bear the cost of coming in. They have to build new pipelines,

they have to go through the regulatory hurdles. And they have to pay us an entrance fee that obviously increases our revenue base. So it nets out to be a positive for the authority and for the ratepayers of all the communities.

On the sewer side, there's not a lot of discussion about expanding the sewer system. Occasionally we receive a very strong application. Right now we have a town that's next to one of our towns and there's a development and it seems to make sense to let them tie in. That also provides us with a modest amount of revenue without any real costs.

Q: If one thing has become clear today, it's that this set of decisions raises very important public policy questions. So going back to something that Fred said at the beginning about a need for a coordinated strategy, my question is, how do we do that? How do we plan and analyze first, before we decide what the future of the water resource is going to be?

LASKEY: We all have become aware of the need for more coordination. The EOE and Secretary Pritchard, who is also chairman of our board, understand fully the need for coordination. I think that there is some reasonable amount of flexibility that needs to be put into any long-term planning. But it would be a shame if some of these important decisions, for example, about perhaps Reading, were bound up in a five-year study.

HECHENBLEIKNER: Planning, coordination, the development of criteria, and so forth are important, but from the municipal perspective, we can't just stop the world to plan. Some communities need to make decisions and move on more quickly than others. In Reading's case specifically, we've been through a significant planning and regulatory process just to buy supplemental water that amounts to less than a third of our total water needs. I would certainly not discourage planning. I actually trained and then worked as a planner for a number of years. But you still do need to move forward with projects that have been through the process even as you plan.

END

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