

HANSARD

NOVA SCOTIA HOUSE OF ASSEMBLY

**STANDING COMMITTEE ON
NATURAL RESOURCES AND ECONOMIC DEVELOPMENT**

Tuesday, December 15, 2020

VIDEO CONFERENCE

Lead in the Ground Water: Provincial Testing and Notification Regime

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**NATURAL RESOURCES AND
ECONOMIC DEVELOPMENT COMMITTEE**

Keith Irving (Chair)
Rafah DiCostanzo (Vice-Chair)
Brendan Maguire
Ben Jessome
Bill Horne
Hon. Pat Dunn
Tory Rushton
Claudia Chender
Lisa Roberts

In Attendance:

Judy Kavanagh
Legislative Committee Clerk

Gordon Hebb
Chief Legislative Counsel

WITNESSES

Department of Environment

Scott Farmer,
Deputy Minister

Andrew Murphy,
Executive Director - Sustainability and Applied Science

Elizabeth Kennedy,
Director - Water Branch



House of Assembly
Nova Scotia

HALIFAX, TUESDAY, DECEMBER 15, 2020

**STANDING COMMITTEE ON
NATURAL RESOURCES AND ECONOMIC DEVELOPMENT**

10:15 A.M.

CHAIR
Keith Irving

VICE-CHAIR
Rafah DiCostanzo

THE CHAIR: Order please. Order. I'd like to call the Standing Committee on Natural Resources and Economic Development to order. My name is Keith Irving, I am the Chair of the committee, and I represent the constituency of Kings South. Today, we will be hearing from the Nova Scotia Department of Environment regarding lead in groundwater and the provincial testing and notification regime.

This is the committee's first video conference, and we apologize for the delay. We had some technical issues, and we have one member who is still working with Legislative TV to join us, but we will get started here.

All members, witnesses, committee clerks and counsel should keep their video on throughout the whole meeting with their microphone on mute, and unmute it before speaking after I recognize you and put it back on mute afterwards. Our support staff should have their audio and video off, which is presently the situation.

Do your best to keep other devices quiet, phones on mute, and I just unplugged my office phone here to try to prevent disruptions. Please do your best not to leave your seat during the course of the meeting. If you do, please leave your camera on so we can be certain that we have quorum.

I may need to call recess if I need to consult with Legislative Counsel or the Clerk in the course of the meetings. And again, if you have any technical problems through the course of the meeting, please text the Clerk and they will hopefully assist with those issues.

I'd like to begin first of all by asking all of the members to introduce themselves. I have a roll call here, so we'll work our way around the province. We'll begin with Ms. DiCostanzo.

[The committee members introduced themselves.]

THE CHAIR: The topic is Lead in the Groundwater: Provincial Testing and Notification Regime, and we are joined by three witnesses this morning. I'd like to turn the microphone over to Deputy Minister Scott Farmer to introduce himself and the other two witnesses accompanying him, and then move to opening remarks.

[The witnesses introduced themselves.]

SCOTT FARMER: Good morning Mr. Chair, and members of the committee. Thank you for inviting us here today to speak to you on this important topic. We're pleased to join you in this alternate format and look forward to the discussion that will follow.

I'd like to start by introducing my colleagues from Nova Scotia Environment who are here today: Andrew Murphy, Executive Director of our Sustainability and Applied Science division; and Elizabeth Kennedy, Director of our Water Branch.

As a starting point, I'd like to thank the staff of the Nova Scotia Environment Department for welcoming me when I arrived in May, and bringing me up to speed so quickly on their areas of expertise. Since I arrived, I've been consistently impressed with the deep knowledge of our staff and the dedication and passion they bring to their daily work. They do a great job of ensuring that we have the information we need to make good recommendations and solid, evidence-based decisions.

Safe drinking water is something that many of us take for granted, but we shouldn't. Human beings can't survive without drinking water for longer than three to five days. That makes it something we have to protect.

At the Nova Scotia Department of Environment, we hold responsibility for regulating municipal water supplies and registered water supplies - those who provide water to others for consumption and use. We have a strong regulatory regime for those groups. We make sure they test water regularly, that they report those results, and that they treat for any exceedances.

Operators of major water supplies must have training updated every year to ensure that they know how to safely operate a treatment system and identify water quality issues

before water goes out to Nova Scotians. Smaller registered suppliers must test the water on a regular schedule as well. They need to report those findings to us and deal with any issues that arise.

This year, we changed our regulations to further strengthen this program. Now labs that do water quality testing must automatically send our department any results with exceedances. This ensures we know when there's an issue and can make sure that corrective action is taken.

We have technical staff available to help municipal water utilities, registered water supplies, and all Nova Scotians understand their test results and figure out the best course of action. Our emphasis is on safe water. Ultimately, our goal is to make sure everyone from the largest water utility to the smallest supply can provide safe drinking water.

When one of our regulated water suppliers finds lead levels that don't meet Health Canada's guidelines, they report those results to our regional office. Our staff talk to the local Medical Officer of Health to determine if a do-not-consume advisory is needed. We then work with the facility to help them correct the issue. We would help them sample to determine the source of the lead and help them understand their options to remove or treat it. Those might include removing the lead supply line, installing new plumbing and fixtures, or choosing a treatment system.

Last year, as you know, new Health Canada guidelines came into effect. We worked with the Chief Medical Officer of Health, Dr. Robert Strang, and the Department of Education and Early Childhood Development. We worked to help directors at the Regional Centres for Education to understand the issue and what they would need to do to test water in all the schools, and we developed guidance to help them understand the testing process.

We provided similar guidance to hospitals across the province, to the Department of Transportation and Infrastructure Renewal for government buildings, and we also help members of the public when they call. Anyone can call us for advice on our water quality.

Now let's move on to private wells. There are a number of Nova Scotians who rely on private well water. Approximately 200,000 households across the province are on wells. It's the homeowner's responsibility to test the well regularly for chemicals and bacteria, and to address any issues that may arise. We look at it as similar to other home maintenance issues. As homeowners, we need to make sure our homes are safe to live in.

We know that people on wells sometimes feel strongly that because their water is clear and odorless, it is more pure than municipal water. However, many contaminants can't be seen or tasted, so it's important for them to test. We recommend that people test their well water for bacteria twice a year and for chemicals every two years. It costs about \$150 a year to do the testing.

I know well owners often consider their well water to be free because they don't have a water bill to pay. That's true, but part of the cost included in a water bill is testing and treatment. We encourage well owners to keep this cost in mind and plan for this like other utility costs.

We want people to test their wells regularly, both for bacteria and for chemicals. We work with the Nova Scotia Health Authority to expand the number of sites where people can drop off their samples for testing. There are now 41 sites across the province. Bottles are available at those sites, which makes it easy for people to test, and the cost can be lower than at private labs. We made a great deal of information available on our website, including a risk map showing where contaminants are most likely to be found, and instructions on how to test and how to interpret your results.

We supported Nova Scotia Health in their wellness campaign called Is Your Water Well?, which ran in February 2019. The campaign produced some great results and they saw a good increase in testing, with rates going up from 64,000 in 2017-18 to nearly 78,000 in 2019-20.

We know there continues to be more work to do. Our staff in our regional offices and our water quality program staff are always happy to answer questions from Nova Scotians who want our help. Our goal is to ensure everyone has the information they need to ensure safe drinking water.

With that, Mr. Chair, we'd be happy to take any questions.

THE CHAIR: Thank you very much, Mr. Farmer. I'm going to ask all members just to indicate by raising their hand and just keep it up a little bit. I've got Ms. Chender to start us off here.

Before we head into questions, committees have been running a bit long because of a series of motions that are coming up at the end of the meeting. Are we anticipating any motions from committee members beyond the committee business that's on the agenda? I think we can then go as late as noon, leaving us 15 minutes for committee business to 12:15, if that's acceptable to everyone.

We'll now open the floor to questions. We'll begin with Ms. Chender.

CLAUDIA CHENDER: Thank you to all the witnesses for being here. I look forward to hopefully talking with you about the Dartmouth lakes again some time soon, but here we are talking about lead. Of course, that's a hugely important issue and one that I've mostly come at from the education perspective as our education critic, so I wanted to just dig in a little bit.

Mr. Farmer, I appreciate your comments on how the testing came to be and that you worked with Public Health and the Nova Scotia Department of Education and Early Childhood Development. I guess my first question about that is whether you can clarify for me the role of the Department of Environment in an ongoing way.

My understanding is that that testing actually began quite recently relative to our understanding about lead and also about how to test for lead. There was no at-source testing until more recently is my sense, so things like fixtures and faucets were sort of missed. This is obviously concerning because we know that there were a number of years where I think we can say pretty definitively that Nova Scotia schoolchildren were, in fact, exposed to higher-than-safe levels of lead in the drinking water.

We know that we now have bottled water. With the recent announcement from the Department of Education and Early Childhood Development of touchless water stations - which is great from a COVID-19 perspective - I guess what I want clarified is when did the testing actually start and what is the ongoing role of the Department of Environment in that testing?

[10:30 a.m.]

SCOTT FARMER: I'll start and then I'll invite Ms. Kennedy to add. After the Health Canada guidelines were released, the Department of Education and Early Childhood Development committed to testing all the school water and sharing the results. As you've mentioned, they've shared the results on the website.

They showed that 70 per cent of schools' drinking water taps passed and 30 per cent exceeded the limits. Any tap that exceeded the limits has either been replaced or taken out of service and bottled water provided. The regions and the Conseil scolaire acadien provincial are currently working through a remediation plan.

Our role in this has been as a partner to help develop a guideline for testing in schools, developing a guidance document supporting education in the implementation of that guidance and interpretation of results. However, I don't want to get too far into the education response and speak on behalf of my colleagues in that department. I will invite Elizabeth to add to that, having been involved in that work earlier in the year.

ELIZABETH KENNEDY: The testing actually started in the Fall of 2019. That was pretty quickly after the actual guideline was released and when we were able to come up with the logistical plan to test all those schools. The work between the guideline release and the testing that started in the last half of 2019 included just the continuing engagement and developing guidance and training, helping the directors of the regions to understand how to test and where to be testing. It took them some time to decide, and there was funding and everything involved in that as well. The testing started, the actual sampling started in Fall and continued throughout the year, so now they're all completed there.

Your second question on our ongoing role, there was the start-up role in terms of helping them understand - the sampling isn't simple. You have to try to find the lead in the system, and you have to sample where there might be lead, so for figuring out the logistics and helping them understand the Health Canada testing requirements, we've developed some custom guidance for them on that.

For schools that were on their own water supply, so they were registered public drinking water supplies, those ones - we were supporting them through the registration process. But even the ones that are on municipal supply, there is no regulatory requirement for them to test, but we supported them the same as we were supporting the ones that were public water supplies. That means we were helping them understand the results.

We were there on call 24/7 essentially to help them understand the results that they were getting and putting them in context with the human health risk, and then also ensuring that they were taking the corrective action and taking the correct follow-up samples to ensure that the corrective action was addressing the lead issue. That continues today.

CLAUDIA CHENDER: I appreciate that. It's interesting that you mention that there's no regulatory requirement, so I guess I wonder whether that will change, given the health concern, specifically because, while I understand that the remediation effort is under way, contrary to the searchable database that we were promised by the Department of Education and Early Childhood Development, we have ended up with a series of PDFs which are not particularly user-friendly in terms of trying to determine what the situation is.

I'm wondering if we might anticipate more robust regulatory, or at least administrative, access to information and requirements for this type of ongoing monitoring and testing so that the public can be satisfied that their kids are not being exposed to lead in drinking water.

THE CHAIR: Is this for Ms. Kennedy again, or up to Mr. Farmer?

CLAUDIA CHENDER: I'll let the department determine who the best person to respond is.

THE CHAIR: Mr. Farmer.

SCOTT FARMER: In terms of the reporting around the results, those are decisions that would be made by the Department of Education and Early Childhood Development. We don't have work under way that would mandate or outline the requirements around that reporting.

THE CHAIR: Ms. Kennedy, I saw you go off mute. Just indicate with your hand if you would like to speak in response to the question.

ELIZABETH KENNEDY: I was just going to follow up on the second part of your question, about the regulation. We do regulate public water supplies, and we regulate the municipal supplies that the schools get their water from. There is an obligation to the municipality distributing water to the actual schools where we don't regulate the water supply, that they have to distribute water that's non-corrosive, and that they have an obligation to get the lead out of their system.

In terms of additional level of regulation on those schools that are on the municipal supplies, at this point, there isn't anything in our regulations that would apply to that, but the good news is that we were able to do all of the work that we needed to do in a timely way without any regulations. I would see it as a success just because we do have all the schools tested now.

THE CHAIR: Ms. DiCostanzo.

RAFAH DICOSTANZO: My question is about city water. What I understand is that it's not the water that has lead - it's in our pipes inside our homes where there are issues. What can people do to test and what can they do to make sure that their pipes within their homes are safe when it comes to lead?

THE CHAIR: Mr. Farmer, I'm going to go to you. Committee members, it would be helpful if you would help me direct where the question is to go. It can always be passed off to the most appropriate person by whoever you direct it to. I'm just watching the screens here trying to determine.

SCOTT FARMER: I will invite Ms. Kennedy to respond to that.

THE CHAIR: Ms. Kennedy.

ELIZABETH KENNEDY: Yes, it is true that most lead that we find in our drinking water is released from either the supply line that goes into your house from the municipality, or it could be in your plumbing or your well components if you're on a rural supply. It can be in your internal pipes and your fixtures.

The first step is always knowing what's there, so we recommend that everyone test. With that testing, if there's any lead in the results, then you can do some follow-up sampling to understand where that came from - whether it came from very close to where you drew the water from. Maybe it came right from the tap or maybe it came from the supply line that comes into your house or the well components.

There is some guidance that the department can provide on that. People typically call us to understand that. If you're on a municipal supply, it's best to start with the municipality. Some municipalities have testing programs that can help you. If it is their supply line, then you can work with the municipality to have that all removed.

Removing the lead is the best approach because that source will continually be there if you leave it there, but if that's not something that an individual homeowner is able to do, then there are other options from as little as flushing the water before you drink it. Just running the tap until you've gotten it all fresh in that line that might have had lead leaching into the water over time, so you can just flush the line. There are filters that you can buy - pitchers that have filters on them that you can buy. It's important to monitor how often you replace that filter.

Another option is just an under-the-tap filter system that you can purchase. Those can be anywhere from \$70 to a couple of hundred dollars, depending on what you get.

RAFAH DICOSTANZO: Is there maybe some communication information that you can send to MLAs so that we can notify people? As a constituent myself, I wasn't aware that I needed - I'm in the city, the city looks after my water. We need maybe education that MLAs can reach out to constituents, if this is a real issue. Is there a house that is 30 years old that has more lead piping than a new house? That kind of information, I think we need to receive and forward to our constituents as well, if that's possible.

SCOTT FARMER: We certainly would be pleased to share information about testing for lead and testing more generally as well. It's an important step for people to take, whether they're on a private well or if they suspect that they're on a system that may produce lead, particularly if it's an older home.

The municipalities have some programs in place that support that. They do proactive work to try to make sure that they're working with customers who may have exposures to lead through the infrastructure. It's always a good idea for someone to test just for their own piece of mind and information, so we'd be pleased to share some information with MLAs after the meeting.

THE CHAIR: Thank you, Mr. Farmer. Just for the speakers list and to let you know that I've seen your hands go up, I have Mr. Maguire, Rushton, Horne, Ms. Chender, and now Ms. Roberts on the list here.

Mr. Maguire.

BRENDAN MAGUIRE: My question would be to Mr. Farmer. When it comes to the potable water drinking guidelines, who sets those guidelines and how often are they reviewed? How often are they changed or who makes those changes?

SCOTT FARMER: I'll start and again, I'll invite Ms. Kennedy to add to it. She's involved with the technical side of things.

The water standards are established on a national level working with Health Canada. There's a pan-Canadian group that convenes to establish guidelines for water

quality and maximum acceptable concentrations. Those are reviewed periodically based on what current science is telling us.

If you look through the list, it's quite a lengthy one of what's addressed in the water quality guidelines. There's continuous work to update those. I'll invite Ms. Kennedy to expand a little on how that works.

ELIZABETH KENNEDY: It is the federal government, so Health Canada has the guidelines, and we refer to them directly in our regulations. Whenever one of those guidelines is reviewed by Health Canada and adopted as a new guideline, then our regulations automatically refer to them so they become law the moment they're published by Health Canada, which is strong compared to many of the other provinces that would have to take time to implement those guidelines in their own regulations.

In terms of how often they're reviewed, the overall guidelines are not necessarily reviewed en masse, but individual parameters are reviewed based on prioritization by the data that they get from the provinces and the federal-provincial partnership that reviews those guidelines. The prioritization would be based on exposure risks.

When there's new science, that committee would identify that maybe it's time to review that guideline. Then they would review the science, consult with the provinces and territories on what the impact of changing that guideline would be and how feasible it would be to implement that guideline, and then they would have a collaborative process to adopt that guideline.

BRENDAN MAGUIRE: I did work for a water utility for five to six years. I know that the regulations and the training, in particular, of staff at those utilities became a lot more technical and a lot stricter after Walkerton.

You are the enforcement arm of the government when it comes to the environment side. We have municipalities right across Nova Scotia that are providing fresh drinking water to hundreds of thousands of individuals. How closely are you working with and what's your relationship like with those municipalities? Are you working hand in hand? Are they reporting things back to you? Are they coming back to you - when I say municipalities, I'm also talking about those utilities - with that data and science and vice versa?

ELIZABETH KENNEDY: The relationship we have with the municipalities on drinking water and waste water - the utilities - is very strong. We have multiple touch points with them.

Firstly, the most formal is through our approvals, so all municipal supplies - I think there are 84 utilities that have approvals with the department. Those approvals are

developed with the Health Canada guidelines in mind, with our 2012 standard, and supported by technical staff and our enforcement staff.

[10:45 a.m.]

There are very clear requirements in those, and we continue to develop guidance and support to just continue to strengthen the approvals and ensure that municipalities understand how to achieve compliance to make sure that the source waters, the treatment, and the distribution of that water is all safe.

That's kind of the most formal touch point with them. We also have a number of semi-formal touch points. We have a standing committee of key government staff from the Department of Environment and the Department of Municipal Affairs and Housing, we often have the Department of Transportation and Infrastructure Renewal present at the table, and the representatives of the Municipal Public Works Association of Nova Scotia, which would be administrators of the utilities.

We meet with them on a regular basis - I think it's twice per year - and we discuss high-level upcoming issues that we see, opportunities to improve, they bring to us things that they're seeing, they offer advice on ways that they can see us supporting them through the approvals or even just with information or guidance that they require. That's one thing. There are also multiple other associations. There is also an association with the operators as well. We're in connection from the administrators and right down to the operators, and then further, another formal relationship we have there is with the operators.

We run a certification for those operators, and we also support the continuing education of the operators. We have touch points with the operators continually, so we manage that certification program - there are exams, funding, training seminars - and we have a number of technical staff that would be involved in that aspect of it to ensure that the operators are continually trained and we get their input on change that we want to implement to make things easier to distribute safe water.

We also have ad hoc, any time there's a difficulty, any time there's a question, we have technical staff available to support administrators right down to the operators.

BRENDAN MAGUIRE: I've taken the exams, they're not easy.

THE CHAIR: I note that our colleague Mr. Dunn has been released from technical purgatory. Maybe you could just introduce yourself, Mr. Dunn, so we can test your mic.

HON. PAT DUNN: Pat Dunn, MLA, Pictou Centre.

THE CHAIR: Welcome. For your information, Mr. Dunn, we are working through our speaker's list right now. I have Mr. Rushton, Mr. Horne, Ms. Chender, and Ms. Roberts

on that list. When you're settled in and ready, if you have a question, please indicate by raising your hand.

Mr. Rushton.

TORY RUSHTON: Thank you everybody for being here today. I want to go back to the education and the schools for just a brief minute. When I was reading the PDF forms, like my colleague had stated, it was very hard to navigate through some of the information. But when you put it all together, you get an understanding of actually how many taps were tainted, if you will, in our school systems.

When you look at the education centres around and the constituencies that we represent, some constituencies had as high as 70 per cent taps that were affected with lead taps or pipes leading to that, or municipal pipes, whatever it may be. An alarm went off in my thinking. My children are going to some of these schools. We have family members working in these schools.

More importantly are the children in the system. They're vulnerable at times at that young age. What long-term effects could we expect from this sort of access to lead water for the youth at this age?

SCOTT FARMER: I'll start, and once again I'll invite Ms. Kennedy to add on. I would say that when the guideline changed, there was a response that has been described to try to address the matter. Steps have been taken to provide bottled water and take the taps and infrastructure in need of remediation out of service.

In terms of the effects on students, I couldn't speak to that in an authoritative way. I'd defer to medical experts on that. What I will say is that the research on lead identifies that exposures over a long period of time do lead to numerous health effects. That's why it's important that mitigation measures be put in place. I'll invite Ms. Kennedy to add to that.

ELIZABETH KENNEDY: In terms of the health effects, lead is known to cause developmental issues in children at high levels and long-term levels. That's why we review that guideline and make sure it's as low as possible - by we, I mean with Health Canada and our federal partners.

The Department of Health and Wellness would probably be best to answer those specific questions, but I just wanted everyone to know that the testing that was done in schools was following a protocol that was the most conservative. It was a testing protocol that had the water sitting in the pipes for a long period of time, so that if there was any lead present, then it would be at its maximum concentration when the water was tested, so that wouldn't necessarily reflect what children were drinking during the course of a day. It was meant to actually find the lead. I just wanted everyone to be aware of that.

TORY RUSHTON: Thank you for the response. I sort of put it in context the same as a building code, if you will. You build a building or a structure to the bare minimum standard of what's put out. You always want to achieve when you're building that structure - to surpass that in bare minimum code so we have a structure that's sustained for years to come. I think that we should be looking at the minimum standard in trying to eliminate as much lead as possible. I appreciate your efforts to date.

When this came to light, the minister led us to believe that because we were asking questions, we were being alarmist. I sit here as an MLA, but as a parent - I've heard from many parents throughout my constituency, and I'm sure everybody sitting around this Zoom meeting heard from parents as well.

In your professional opinion in dealing with lead on a daily or weekly basis, is it really parents and MLAs or elected officials being alarmist that they're concerned about this being a potential? Whether it is sitting in the pipes for a Summer period and you're flushing the pipes out, there is still that content that's available. We found that there is quite a high number of taps that we're exposing children to lead levels, whether it's early in the morning or later in the afternoon.

SCOTT FARMER: We haven't heard independently from parents and administrators, but we would anticipate that communication would go through another channel. I would say that the remediation effort has been taken to make sure that water that's provided is in line with the standards. As Ms. Kennedy indicated, when Health Canada sets the guideline or revises a guideline, they do it to make sure that it's in line with the current science and the long-term safety and health of Canadians.

THE CHAIR: Just a check-in, here. I've got Mr. Horne, Ms. Chender, and Ms. Roberts. I don't think I've missed any hands but wave them again if I did. I see Mr. Jessome I can add now to the list.

Mr. Horne.

BILL HORNE: Some good discussion on drinking water. I was wondering, Ms. Kennedy, if you could maybe talk a little bit about how a homeowner in a rural area - or even an area where they have their own water supply - go about getting samples collected, bottles gotten, and where they send them or who picks them up and who does the analysis for various components of water?

ELIZABETH KENNEDY: There's a lot of information available on our website that walks people through all the steps in very simple language with links to the different laboratories that are available. That's a great place to start.

There are about, I would say, in the order of 40 testing locations around the province and distributed through all regions. Bottles can be collected at any of the hospitals. There

are also the testing locations where you can get bottles. We would recommend people find out any particulars about the testing requirements from the lab because they might have different requirements.

In general, it's just as simple as taking the bottle home, filling it up according to the lab directions, and then taking it back to that location. There's a map that shows the approximately 40 locations where you can do that.

THE CHAIR: Mr. Horne, a supplementary? Maybe, Ms. Kennedy, in your response to the supplementary, you could pass along the website address for folks. As you've indicated, there's lots of information there.

BILL HORNE: I'm wondering if the department is actually doing any studies on specific areas that have a concern, whether it's lead or other types of organics that are getting in water supplies. How do you go about doing that? Do you do it with internal, or do you go to the universities or other contractors?

ELIZABETH KENNEDY: That's a great question. We actually are pretty proactive about the risk assessment across the province. We work with our partner at the Department of Energy and Mines who is a research hydrogeologist and manages a pretty large database of all the water quality testing information we can get.

That data comes from a number of sources. We encourage anyone that does sampling in their own home to send us those results because we'll include that in our database. That helps us to better predict and better understand the different regions of the province that have geological contaminants.

Lead is mainly from plumbing materials, but we also have other geological issues like arsenic, uranium, and manganese. We have quite an interactive and informative database that people can go into, zoom down into where they live, and look at what some of the issues are. They can even see the depth of the groundwater if they're sophisticated and can navigate that system.

At the very least, there's a series of risk maps that are available. If you follow our website - even if you just Google "Nova Scotia well testing" and you just navigate down to the Government of Nova Scotia website, you'll see all sorts of links and educational materials meant for different audiences, and there are maps that you can see where we have data that show that different issues might be present in water, so things that you might want to look at if you're considering treatment, or even purchasing a house.

THE CHAIR: Thank you, Ms. Kennedy. Did you get that website out there?

ELIZABETH KENNEDY: I'll just look for the specific URL.

[11:00 a.m.]

THE CHAIR: Okay, if you could pass it along at some point in the meeting, that would be great. Ms. Chender.

CLAUDIA CHENDER: I'll just ask one more question about schools, and I know my colleague will have some questions about well water and other aspects of this conversation.

I know that Ms. Kennedy had mentioned that municipalities often run those water utilities, but we also know that in many of the schools, the issue wasn't in fact the source water - it was the fixtures in those schools that are run by the Nova Scotia Department of Environment, provincially-regulated buildings.

We were glad to see that that testing happened in a fairly timely manner once the guidelines were changed, but I want to remind everyone that those guidelines were changed because of a relatively unprecedented media investigation into lead in the water and tainted water, as far as I understand it. If I'm wrong, please do correct me and let me know what was happening.

I guess those guidelines were changed, but we also know that no lead is really safe in drinking water, and our understanding is that it's really unclear what the monitoring of water at source was prior to this latest investigation that has uncovered these unsafe levels of drinking water in hundreds of schools across the province.

I will assume, in the absence of regulatory or administrative guidelines, that this testing will continue and the remediation efforts will continue and that once that remediation has been complete, that the Department of Education and Early Childhood Development will find a way to ensure more regular monitoring at source of that water. But in the meantime, I guess I'd like to ask about other provincial buildings. Is there that same monitoring at source in other provincial buildings, and will that happen on a regular basis, and how does that enforcement piece go forward?

THE CHAIR: Mr. Farmer.

SCOTT FARMER: Perhaps I'll start, and once again I'll ask Ms. Kennedy to add. In terms of the guideline itself, the guideline was revised by Health Canada in March of 2019, and the media series was in November of 2019 - there were links to it in the package that was prepared for the committee. So the change to the guideline preceded the media coverage and proceeded in the normal course of the Health Canada guidelines setting work.

In terms of provincial buildings, we work with the Department of Transportation and Infrastructure Renewal, who has undertaken an analysis of provincially-owned buildings and done testing. Where there were water quality issues related to lead found,

similar to schools, infrastructure has been taken out of use and bottled water supplied with plans in place to remediate where that is necessary. If I'm recalling correctly, I think it was about 10 facilities where that step had to be taken.

I'll invite Ms. Kennedy to add to that.

ELIZABETH KENNEDY: The sampling was triggered by the guideline, and the guideline triggered the media interest in it. In terms of the provincial buildings, the Department of Transportation and Infrastructure Renewal conducted testing concurrent with the school's testing on all the provincially-owned and -leased buildings, so they would have results of that detailed work.

CLAUDIA CHENDER: My last question is whether you can speak to what enforcement or regulation looks like of buildings generally that are on a municipal water supply. I'm thinking of apartment buildings and rental properties. We know that homeowners can access, as we've been told through you or through municipal water utilities, testing, whether they're on a well or a municipal water supply. What about renters? Are landlords required to disclose the safety of drinking water and are there any protections in place for those folks?

ELIZABETH KENNEDY: As mentioned, we don't regulate buildings or private water supplies, but we regulate the municipality and the municipality is required to demonstrate that they're doing everything they can to identify where the lead is in their system and take whatever action they're able. They can't force their way into people's homes and so it really relies on individuals identifying that they want to be tested and contacting the municipality to be tested. Whether you're a renter or an owner, that's something you can do. They can talk to their landlord or whatever to have that done as well, but we don't have any oversight over that.

I just want to clarify, were you talking about apartments on municipal supply or apartments that might be on a well?

CLAUDIA CHENDER: I was just asking you to comment on either.

ELIZABETH KENNEDY: If they're a large apartment building and they meet the definition of a public water supply because of the number of people or the number of connections to that water supply, then they would be registered with the department and they would have to be demonstrating that they essentially meet Health Canada guidelines.

THE CHAIR: Ms. Roberts.

LISA ROBERTS: I do want to talk a little bit more about private well testing and also barriers to testing. One of the advantages of doing this meeting by Zoom is that I can actually be looking at your website at the same time as I'm listening to you - thanks to

high-speed internet connection. Of course, not everyone in rural Nova Scotia has that and the ability to follow the links. There is quite a bit of information there.

Given the recommended testing frequency, which I understand is every six months for biological contamination for wells and every two years for chemical contamination, which would include lead - I'm wondering, particularly Ms. Kennedy, if the number of tests that are being completed in the province would indicate that the vast majority of people relying on well water testing are actually getting it tested at that frequency. To the extent that we're not hitting that mark, what sorts of barriers might be resulting in a lower propensity to test?

ELIZABETH KENNEDY: We do use a number of methods to estimate well testing numbers in the province, so it's not something that people report that they're testing, so we have to infer testing rates from a number of sources. They do indicate that the majority of well owners do not test their wells within the frequency that we recommend. That's across the board across Canada - that's the same issue.

People have a lot of feelings about well testing and some of them might just be that they believe the water is safe. It might be an older home - their family have been drinking that for years and so there can't be anything wrong with it. It smells good. It tastes good. The perception of pure spring water or pure ground water - just beliefs or learnings that they inherited from their families drive them to think that there's no reason to test. The knowledge and awareness of the risk is probably one of the biggest barriers that we have.

We also have people who understand what's happening, but then they also perceive that knowing what their water quality is will affect their home value or they wonder what the point is of doing it because they're not going to bother doing anything about it, so they'd rather just not know.

Then there are barriers in terms of convenience. In the past couple of years, we've really worked with NSHA to address the barriers of convenience - being able to go and get bottles and bring them home in a timely manner and then take them back. If that testing location or the bottle drop-off location is two hours away, people aren't going to test. We've done a lot of work in the last couple of years to increase the number of bottle drop locations so that it's very convenient.

There are quite a few barriers. The biggest issue is just understanding those barriers and understanding what testing process is going to work best for different communities that all have different cultures and perspectives around their water.

LISA ROBERTS: Having grown up with grandparents who would drive down the highway to collect water from the spring, I very much understand the feelings that people have. In fact, I've toured Newfoundland and made stops at multiple recommended spring locations and lined up behind other folks with containers.

That said, the NDP caucus has proposed that the province should be offering free well water testing. The cost is an additional barrier. A test for bacterial contamination starts at \$30 but to get a test for minerals including lead, the packages start at \$50. Has the department - and maybe I'll kick this up to Mr. Farmer - considered a more public offering of well water testing as a way of removing the barrier? Can you envision that in the department's future?

SCOTT FARMER: As Ms. Kennedy mentioned, it's a multipronged problem, really, in terms of the barriers that exist to people testing their well water. Ultimately, it's a behavioural matter. It's something that people ought to do for their benefit but don't. We don't go to the gym and we don't eat well, sometimes, but we know that we should. Sometimes there are behavioural changes that are required. Sometimes there are barriers in terms of accessibility of the testing that Ms. Kennedy spoke to.

There've been some studies done but nothing on a really large scale. Back in the 2012 to 2015 range, there were about 750 interviews with people in homes about well water testing, so they were educated on it and asked about their intentions. About 40 per cent of people who hadn't tested said they intended to. Others identified barriers that existed.

The barriers that existed in people named included they didn't feel that it was necessary for them to do it, they hadn't got around to it, it was inconvenient, or they weren't concerned because their water was fine. The percentage of people at the time - it was 10 or 15 per cent of people - said that cost was a barrier when they talked about that. For some, I'm sure that it's a consideration.

I think the work that we need to do in the department is to gain a deeper understanding, really, of what the barriers are and what the levers are that we can pull to help boost up that testing rate. I think that's probably our starting point.

I will note that in provinces where bacterial testing is free, Alberta being an example, they don't have markedly higher testing rates than we have in Nova Scotia, based on the information that's available to us. It's a multipronged problem, and I think we need to understand in a deeper way to design the interventions that will get us to a place where the majority of people are testing their wells.

THE CHAIR: Mr. Jessome is next.

BEN JESSOME: In my community, one school in particular was one of the impacted schools following the summer in the review that took place. I understand that there were some adjustments made to allow for the students and staff there to access their drinking water. There were some technical issues.

I'm wondering, in terms of the department's oversight, given that you receive this information about the presence of lead in this case, is there a prescriptive response that the

department has for an institution like a school to complete before the eyes are off of that location?

[10:15 a.m.]

SCOTT FARMER: I'll invite Ms. Kennedy to talk about the protocol that's currently in place.

ELIZABETH KENNEDY: If it's a registered supply, and there are quite a few schools that are on their own water supply, then they're considered a public water supply, and our obligation is to ensure that any reported exceedances of water quality parameters are corrected. So we do require follow-up sampling and we support them with identifying the corrective action needed to bring their water quality back in line with the guidelines, and they would be on an advisory until the water quality is back in line with the guidelines. The advisory would identify what uses are restricted until the water is safe.

That would be for our public water supplies. The ones that are not listed as public water supplies because they're supplied by a private water supply - so they're on a municipal supply - the Department of Education and Early Childhood Development has a tracking and a corrective action plan that they're taking care of. They're tracking that carefully and we're supporting them with their questions in identifying corrective action.

BEN JESSOME: Thank you, that's helpful. I guess that's the best place for ourselves and the public to keep an eye on whether or not a building, school, institution is still on that advisory scenario, or if they have completed the work required to make it in line with the required guidelines set out by Health Canada.

SCOTT FARMER: The place to go to get the most up-to-date information would be the Department of Education and Early Childhood Development's site where they publish the results. I know there's been a commitment to keep those updated on a periodic basis.

THE CHAIR: Ms. Kennedy, did you want to add anything? You're good? Alright, thank you.

Mr. Rushton.

TORY RUSHTON: Just out of the investigation with the lead in the water, it was also revealed that our schools hadn't actually done a full testing in almost 10 years. It begs the question when we're talking about other provincial buildings: how difficult would it be to implement regular testing for all provincial buildings, not just schools? We know that other provinces make this information available for schools in other provinces. How difficult would it be to implement that infrastructure so the public can access that information for any provincial building?

SCOTT FARMER: There hasn't been a program put in place to do that. There are remediation activities taking place in government-owned buildings, but there is no program or plan that I'm aware of to do that right now.

TORY RUSHTON: On top of letting the public know what they could expect if they're going into a provincial building or parents knowing where their children are going to school, what devices do we have with knowing what exposure levels were at the schools currently?

Yes, I understand that remediation is taking place as we speak. I can speak to this in my own area. I know that schools have had things done in my area and I appreciate that. There is a level of taking care of the children and staff in those schools.

On top of that program that could be devised from the province, was there any other program that we could introduce - or was there a program - to actually advise people who might have been exposed to these levels at the schools?

SCOTT FARMER: Communications on this has come from the Department of Education and Early Childhood Development. I wouldn't want to leave anything out - any steps that they may have taken along the way. What I can say is that they've published the results online. That provides the point-in-time results that existed when the testing took place, but I couldn't comment further on behalf of the department.

THE CHAIR: Ms. Roberts.

LISA ROBERTS: Climate change is having an impact on well water - on groundwater in general. I wonder if any of the witnesses can speak to what sort of interdepartmental conversation is happening around the potential impacts of ongoing climate change and recurrent drought on water security, given the percentage of Nova Scotians who are on well water. Also about what sort of additional risks or changes come with climate change with regard to water and contamination.

I've certainly heard some concerns that as people drill deeper because of lowering of the water table, for example, that might in and of itself result in more chemical contamination - I'm not on top of the science on that. My question is both about what sort of interdepartmental conversation is happening around that and what should Nova Scotians be aware of with regard to well water quality and contamination as climate change continues?

SCOTT FARMER: I'll start and I'll pass to Mr. Murphy. One of the prongs of our climate change work is around adaptation. We work closely with other government departments to identify the long-term impacts and what adaptations might need to be made in terms of that.

We also recently announced work that we're going to be doing with the other three Atlantic provinces to establish an Atlantic climate hub. There are examples now in B.C. and Quebec of similar operations, but it will make climate data available, provide training, and provide consultative services around adaptation that will be both to the public sector and private sector, as well.

There's a fair bit of work around adaptation. We're also doing work around a climate risk assessment in the province. You have seen some media on that recently, perhaps. I will invite Mr. Murphy to expand a little bit, particularly as it relates to water.

ANDREW MURPHY: I'll add a couple of things to what Deputy Farmer mentioned. In our department, we work as well with the Department of Energy and Mines on a groundwater monitoring network to monitor water levels across the province. We have a relatively expansive network with monitoring wells in various locations with data loggers that log water levels. Then we have a database where we track that information through time. That provides a really good data source for us to monitor for trends.

We're not seeing significant trends currently. We do see, certainly, very low levels in drought years and we've had a few of those recently. Obviously, there's the potential for more as we move forward. That is something that we monitor for. As we see trends, we'll be able to make plans accordingly.

The other piece of your question you mentioned was around coordinating across departments. We do that. Our water group meets with other departments in terms of collection and analysis of the data. At the same time, at a higher level, our climate change team has a coordinating group they work with where they bring in departments from across the provincial government that are potentially impacted by climate change. Conversations are had through that committee, as well, about this issue and others.

LISA ROBERTS: I'd like to ask Ms. Kennedy to comment more specifically on the question of additional risks associated with potentially drilling wells deeper than previously. Is that something that Nova Scotians and the government, I guess, should be monitoring for and concerned about?

ELIZABETH KENNEDY: While we do track within the Department of Energy and Mines, we have a pretty good understanding of the risks of different aquifers that they might be tapping. Obviously, if you're going from a shallow aquifer without any geological contaminants and drilling into a deeper one that does have geological contaminants, there would be additional concerns that people would have to consider in terms of treatment.

Overall, the well drilling and digging is done by certified operators. There's a certification process and there's an association that we connect with. Those people are qualified to be drilling wells and advising people who are paying for their services on whether it's a safe decision and what would be required to make sure it's safe. That's really

what it comes down to and why we certify those individuals to be able to provide that advice on site.

[11:30 a.m.]

THE CHAIR: Mr. Horne with our last question today, I think.

BILL HORNE: It has been interesting listening to the conversations. I do have a personal concern on lake waters. I live on a lake, fortunately, but I know many people in our community do get water directly from the lake. This would be Lake Fletcher and Grand Lake. I know they're taking water out of there without any treatment by the majority. Some may have some rudimentary types of cleaning it up with charcoal filters and that sort of thing, and others may have a UV treatment, which supposedly kills bacteria, but they're still taking water out of the lake.

I know our lakes are not as clean as they were 40, 50 years ago when I first moved there and I keep telling them that they should have it treated, that it should be proper treatment, and check with the Department of Environment and have the testing done on their water samples. I know they don't do it, but they've been doing it for years and years.

I do know they're becoming more contaminated with prescription drugs, homeowners' septic systems breaking down and running into the ditches and going into the lake - not as much now as it was 10 years ago, but still. Just a general concern from myself. What would you suggest the best remedy if possible, or what you would suggest to try to help these homeowners?

SCOTT FARMER: We would start by saying that we don't advise that anyone should use surface water as a regular water source. It's much more exposed than the water that you would access through a well, and much more variable as well. Even surface water that is good on Monday might be affected by something later on Friday. A step that someone might take to see for themselves would be to conduct a couple of water tests. One of the things we've touched on today is that because something looks clear and smells fine, the assumption is that it's safe, but that's not necessarily the case.

So testing, but certainly a recommendation would be to rely on a water source that was a properly constructed well, a registered water supply, or a municipal service if those were all available. If they weren't, bottled water for consumption.

BILL HORNE: Is there any assistance for residents to kind of get more than just applied science for it, but assistance in how they may be able to get grants to better their water supply or to upgrade them?

SCOTT FARMER: The department doesn't have a program to do that. Depending on the person's situation - so if we think water, then people using the lake water, there's a

range of possible solutions. It's everything from a water pitcher with a filter on it - that's about \$40 - to a system that goes under your sink - that can be \$100 to \$200 - to the more sophisticated systems like a reverse osmosis system.

For people who face an affordability issue around that, it's possible that there may be some support available through the Department of Community Services or the Department of Municipal Affairs and Housing, depending on the particular circumstances of the individual involved. We don't have a generalized grant program that would support upgrades.

THE CHAIR: That concludes the questions from the committee this morning. I'll turn it over to Mr. Farmer for any closing comments.

SCOTT FARMER: First of all, I'd like to thank the committee for the opportunity this morning. It's an important topic, and we appreciate the opportunity to be here and talk about it.

As I've mentioned, we've done a great deal of work to ensure that municipal water utilities and regulated water supplies understand their obligations and are able to meet them, and our staff will continue to work closely with other government departments and utilities, answer their questions, and support them in this goal.

On the private well water side, we partner with community groups who do direct outreach with communities at high risk. We've made a great deal of information available on our website to answer Nova Scotians' questions. Our staff are always available to speak to anyone who would benefit from their questions and expertise.

We really do appreciate the interest in the topic. We've got a couple of follow-up items that we'll look after following the meeting. We're certainly very grateful to the committee for your interest and questions today.

THE CHAIR: On behalf of the committee, I'd like to thank Deputy Minister Farmer, Mr. Murphy, and Ms. Kennedy for joining us this morning. Obviously, with the increased national standards, it has shone a light on this issue. I think this was informative to both committee members and to Nova Scotians in general on the importance of testing and keeping abreast of the safety of everyone's water supply.

Again, thank you on behalf of the committee. I wish our witnesses all the best in the holiday season. You may now depart the meeting as we move on to some committee business for a few minutes.

Just a few pieces of correspondence. We have a letter from the deputy minister with respect to the meeting topic and the response. Those were emailed to you yesterday - it's somewhat moot now that we've finished the meeting. We also have a letter from Deputy

Minister Kelliann Dean, chair of the forestry transition team. Members were emailed this correspondence of November 25th. Is there agreement to receive those pieces of correspondence? Are there any questions or concerns? Great, thank you.

A few other housekeeping items as such. With the House proroguing, we just want to ask that we will poll committee members, following the prorogation at the end of the week to continue on with the agenda items that were already on our agenda. There are two items left on the current slate of topics. Can I have agreement that we will poll the committee following prorogation, looking for unanimous consent?

Its is agreed.

To tie up virtual meetings, I would like a motion to continue meeting by video conference. Ms. DiCostanzo.

RAFAH DICOSTANZO: I move that the Standing Committee on Natural Resources and Economic Development continue holding virtual meetings until it is safe for us to meet in person - safe for the staff and for witnesses.

THE CHAIR: There is a motion on the floor. Is there any discussion? Would all those in favour of the motion please say Aye. Contrary minded, Nay.

The motion is carried.

The next meeting will be Tuesday, January 26, 2021 from the hours of 1:00 p.m. to 3:00 p.m. The witnesses are yet to be determined. Our clerk has been busy tracking down witnesses on these final three agenda items. Once that is refined, you'll be getting notice on the topic for that Tuesday, January 26th meeting.

With no more business, I now adjourn this meeting of the standing committee. Thank you very much everyone, and all the best for the holiday season.

[The committee adjourned at 11:39 a.m.]