RICHELLEMy morning routine goes a little something like this. Wake up. Get a drink of water from the kitchen tap. Use theWILSON:restroom. Wash my hands in the bathroom sink. Take another sip of water with my daily vitamins. Within the first
few minutes of my day, I've used almost all the water sources in my small one-bedroom apartment in downtown
Madison, Wisconsin at least once.

That is unless I've received a notice from my apartment manager that the city needs to shut off the water for maintenance. For those rare days, I prepare the night before by filling up drinking glasses bowls and even pots of water to have sitting around the house for drinking and hand-washing. No matter how well-prepared I think I am for a morning without running water, the same thing happens every time without fail-- I still try to turn on the faucet.

It's like my head knows to use the water I've collected in the bowls and pots, but my muscle memory takes over and reaches for the trusty tap. Those days when the water service is cut off are a minor inconvenience for me, but they remind me just how important access to clean drinking water is. I think many of us take it for granted until, well, you can't.

This season on *Public Trust,* we look at what happens when tap water is contaminated with PFAS, or Per-and-Polyfluoroalkyl Substances, also known as "forever chemicals."

LEE DONAHUE: It's such a beautiful place to live, and so sad to know that our water is contaminated.

JIM BOISEN: Nobody deserves to have this happen to them. Nobody. It's inhuman, I think.

RICHELLEMy name is Richelle Wilson, and I'm a research fellow at Midwest Environmental Advocates. I'll be your guide asWILSON:we visit communities impacted by PFAS contamination to understand how Wisconsinites have been affected by
PFAS pollution, and what state and local officials are doing about it. First up, French Island.

French Island is near La Crosse in Western Wisconsin. It's a literal island in the Mississippi River between Wisconsin and Minnesota. My co-producer, Bonnie and I, made the drive up from Madison on a beautiful sunny morning. Our first order of business was to meet up with Lee Donahue, who graciously agreed to host us for the day and give us a tour of the neighborhood. We could almost see the water from her front yard.

LEE DONAHUE: We have what we call kayak Jenga in my garage. So it's the canoe and then kayak, kayak, kayak, kayak, kayak.

RICHELLEThat's Lee Donahue. Before settling on the island, she traveled around the world as a military journalist, where**WILSON:**she met her husband, Tim. Now, she's on the town board for the small town of Campbell.

LEE DONAHUE: So we bought the house in 2004. We were still in the army. So we've lived here about 18 years. I can't imagine living anywhere else.

RICHELLELee and Tim raised one of their kids here. Lee says a lot of people move or return to French Island to raise their**WILSON:**families because of what a special place it is. Her neighbor up the block, Peter Davison, is one of those people.

PETERYeah. I actually grew up in this house. My family moved here in 1990 when I was 4 years old, and my parentsDAVISON:have lived here up until 2018 when me and my wife moved into the house now. Growing up as a kid, I always
wanted to have a family and I just loved my childhood growing up in this area and getting to be in the woods, on
the water, doing all the things that I did as a kid. And I thought, man, if I could give that same life to my kids in
the future, how amazing that would be.

RICHELLEThat dream started to become reality when Peter and his wife found out they were expecting twins just a couple**WILSON:**of years after moving back to French Island.

PETERMy kids were born prematurely 10 weeks early in the beginning of 2020, so that was like a blur that whole time.DAVISON:But it was some time right in there that we found out that like, hey, stop drinking-- stop drinking your tap water
and be really concerned about what was going on. We first heard about PFAS and I didn't even know what that
was.

And then I remember the first thing being like, oh, it's Teflon pans. And people told me for a long time, don't use a metal utensil on a Teflon pan because you don't want to eat-- and I was like, OK. And so then you start-- you Google more and more and you read more and more about PFAS and what happens when you consume too much of it. Then you start learning about other communities who have dealt with the same problem, so this isn't a new phenomenon. We're certainly not the first people to be dealing with this. But yeah, a lot of that information that you have to get on your own.

RICHELLE WILSON:	PFAS.
SUBJECT 1:	PFAS.
SUBJECT 2:	PFAS.
SUBJECT 3:	PFAS.
RICHELLE WILSON:	It's an acronym we'll be hearing a lot in these episodes.
SUBJECT 4:	PFAS.
SUBJECT 5:	PFAS.
SUBJECT 6:	PFAS.
RICHELLE WILSON:	I spoke to Dr. Rashmi Joglekar, a toxicology and environmental health scientist currently at the University of California, San Francisco, to break down the basics.
RASHMI JOGLEKAR:	The acronym stands for per-and-polyfluoroalkyl substances. These are chemicals that really have been around for decades. They were first developed by the Chemical Conglomerate DuPont as early as the 1940s. These chemicals also share a characteristic of having a carbon fluorine bond, and this is getting a little bit technical. This is one of the strongest bonds in chemistry.

Because they're virtually indestructible, once these chemicals are released in the environment, they stay there. They stay there for decades. Some studies have found that these chemicals can last for thousands of years in the environment. PFAS can be found in consumer products in the home. They're found in building materials. They're found in plastics. And because of their presence in plastics, you'll see them in food packaging.

They're found in personal care products, makeup, fragrances, body products, mascaras. Because of their manufacturing, their use and the disposal of these products, they've ended up as widespread environmental contaminants.

RICHELLEThe groundwater contamination that French Island is dealing with isn't from household products-- it's fromWILSON:firefighting foam that was used at the La Crosse Regional Airport, which is located on French Island. Industrial
foams like this are made from PFAS chemicals.

LEE DONAHUE: The airport is roughly like a big finger stuck into the island. Back in 1970, there was a plane crash that was right off of airport property. And we know for a fact that AFFF firefighting foam was used at that crash. Then in 2001, there was another crash of a small plane.

And all of that has either happened on the tarmac or just slightly off the tarmac has leached down through the soil into the groundwater table of that upper aquifer. And that's why all of us are under a Department of Health advisory not to drink our water, not to use our water for anything other than flushing the toilet and taking a shower.

- **RICHELLE**Unfortunately, PFAS are not harmless chemicals. There's a growing body of research showing that PFAS are a**WILSON:**danger to human health. Here's Rashmi Joglekar again.
- RASHMIWhat we know from the science so far is that these chemicals are highly toxic. Many of them are linked toJOGLEKAR:immunotoxicity, so harm to the immune system. Several of these chemicals have been found to suppress the
antibody response following vaccination in children. We've also seen through epidemiological studies that
exposure to PFAS is correlated with an increased rate of fatty liver disease in children, which is now affecting up
to 1 in 10 kids.

These chemicals are also linked to certain cancers-- kidney cancer, testicular cancer. They're also linked to thyroid disruption and then developmental harm. You see low birth weight and other harms to the developing fetus if exposure happens during pregnancy. So really a long exhaustive really serious list of health effects.

RICHELLEGiven all the known health risks of PFAS, you can imagine Peter Davison's concern for his family when they found**WILSON:**out there was PFAS in their well water.

PETERIt's hard. We put our kids in the bathtub and we still use the well water for that, but you're always Warning themDAVISON:about drinking the water. Hey, don't drink the water in the bath. You can wash your hands out of the sink and we
wash our dishes with it, but when we put water in a cup to drink, it has to come out of the plastic jugs in the water
machine.

That's hard. And it's hard knowing that as a parent, you're always trying to look into the things that your kids are eating, that they're drinking, trying to make sure you're making healthy decisions. And then there's things like this where you didn't even realize it was on the radar until somebody showed up and told you you should stop drinking your water. RICHELLESince 2019, Wisconsin has been working to establish statewide standards for PFAS in water sources. Water policyWILSON:in Wisconsin can get a little tricky, so we asked Tony Wilkin Gibart, executive director of Midwest Environmental
Advocates to break it down for us.

TONY WILKINSo when we talk about a contaminant being regulated, it generally means that the agencies in charge ofGIBART:administering and enforcing environmental laws identify a substance of concern and set a water quality standard
to keep the level of that contaminant below a certain threshold. We have three main ways that we regulate water
quality in Wisconsin.

One is drinking water-- so municipal water systems that provide water to their communities have certain standards that they have to meet, and they are often required to test for certain contaminants. And if contaminants are present to implement treatment technology to bring those levels below that threshold. We also regulate surface water. And so the government puts limits or conditions on how people can discharge pollutants to surface water.

And as a matter of state law, we protect the groundwater that lies beneath the state's surface and that is the ultimate source of drinking water for most Wisconsin residents, especially the one-third of Wisconsin residents that rely on private drinking water wells, where their drinking water comes directly from the groundwater through that private well. There's no intermediary. There's not a municipal utility that's testing and treating the water.

And so the water protection laws that we have are designed so that the DNR, Department of Natural Resources, will promulgate standards, water quality standards or thresholds for contaminants once they become known to be of concern.

- RICHELLE
 Many private wells on French Island, including Peter's, showed a high concentration of PFAS when they were

 WILSON:
 tested. I asked Peter how he felt after learning that there were high levels of PFAS detected in his family's private well.
- PETERIt seems so weird, but I remember honestly being kind of devastated. And having grown up here and this beingDAVISON:my house, we were always a little proud of the fact that we had private wells. That our water came right from
essentially the lake, the river there filtered through the sand and then it was clean to drink. Sometimes people
were concerned about what could be in municipal water supplies, and well, we didn't have to worry about that.

So to find out that that whole thing was kind of a myth, your well water was actually worse and you shouldn't have been drinking it, I remember being devastated. And then immediately after that, realizing that I had lived here since 1990, that I had little kids, and that this PFAS was something that they say bioaccumulates in your body, that it stays in you for a long time, and I had that realization that I had drank countless gallons over three decades living here.

So that was kind of like the next wave that hits you was, hey, did I make a big mistake? Is this going to come back to bite me in the future?

LEE DONAHUE: When the first well was tested in 2014 and it was discovered that they had PFAS in that well, the city decided to turn it off and they thought that would solve the problem. So they turned off the one, and then the other one showed signs of it. And so then, the city thought they could pump the PFAS out. They got a permit from 2017/2018 to pump those wells and to see if they could pump all of the PFAS out. They couldn't.

As far as the town of Campbell, we never knew that these activities were related to PFAS contamination. Most people in 2010, '15, 2020 didn't even know what PFAS was. I was only appointed to the town board in May of 2020, so roughly 5 months later, I found out, surprise.

WXOW NEWS Our top story once again, per-and-polyfluoroalkyl substance contamination on French Island. **19:**

LEE DONAHUE: They designated us with a health advisory in spring of '21.

WXOW NEWS The French Island residents had a chance to get some clean drinking water today. This was the scene at the Days19: Inn parking lot. Up to 224 packs of water were available for each member of a family.

LEE DONAHUE: DNR collaborated with Kwik Trip, with some local grocery stores, and CVS to bring us bottled water. And so they literally had six semi-trucks full of cases of that water. And we set up a drive-through and we had a bunch of our scouts help us and other volunteers in the community.

> And people could drive up and then per person, you said I have four people in my household, and then each person in the household was entitled to, I think, it was five cases of water, which they felt would be enough time for them to get the contract with Culligan.

- RICHELLEAnd ever since then, French Island residents have been relying on bottles and jugs of water from Culligan to liveWILSON:their lives. Peter's newborns are now 3 years old, and his family still cannot use any tap water. While the Culligan
Water is a lifeline for these families, it's difficult to have to put so much thought and effort day in and day out into
your water supply.
- PETER I've actually got six jugs of water in the back of the car because after we stopped with the kids and I was coming
 DAVISON: home I'm like, hey, we got to stop real quick and grab water before we get home because we're on our last jug. I think for me the strangest part or the hardest part about it is getting the water itself.

When you're in this little warehouse with these pallets and stacks of water and you're loading into your car and you're kind of like it almost has this dystopian feel to it where you're like, this isn't a scene that most people picture in America, having to go to a warehouse to get bottles of water because you can't drink the water out of your tap at home.

LEE DONAHUE: Nobody wants to lose their private well. When you've had your own well and your own water, it's really hard to let go of. And I'll tell you, it's especially hard to let go of because our well water tasted amazing. And so it's hard for people to give that up. I want to be able to walk right over there and stick a cup under the faucet and be able to drink it.

> I want to be able to make ice cube that I don't have to go to my bottled water and put the ice cube tray under there and stick it in the freezer. People are really tired. It's a physical struggle for a lot of people to manipulate these 5-gallon jugs.

MARGIEWe're used to it. I don't like it, but we're used to it. And Culligan comes every fourth Thursday with water. And weWALKER:usually get five jugs.

JIM BOISEN: That closet right there where we used to keep our boots and other stuff, that's all full of water. At first, I was putting them in one of the top loader ones, and I was spilling water all over the place. So I called John up and I say, this ain't working out. He says, how old are you anyway? I say, at the time, I was 80. And he says, if I'd known you were that old, I'd have got you one of these right away. I can roll the bottles over to it and then just slide them in the bottom and then-- but I still don't like doing that either.

RICHELLE That's Jim and Margie. Lee took us to their house, which is about 10 houses down from the airport's south end. **WILSON:**

MARGIE My name is Margie Walker.

WALKER:

JIM BOISEN: And I'm her husband, Jim Boisen. And same address, same place, just a little more upset than she is.

RICHELLEJim and Margie moved to their house on French Island in 1979, just after they gotmarried. Jim was born about**WILSON:**half a mile away, and like many people on the island, he loves being surrounded by lakes and rivers.

- JIM BOISEN: I've always liked French Island because I'm a fisherman-- well, I'm a retired fishermannow. I've got 5 boat landings within 5 minutes of my house. Well, what could you ask for more than that. Great fishing. Great people around, the neighborhood's great. Everybody looks after each other in this area right here with us and everybody helps out.
- **RICHELLE** Like Peter and his family, Jim and Margie also think of their house on French Island as their forever home. **WILSON:**

JIM BOISEN: This is our forever home. When we bought this house, we thought they're going to have to drag us out of this place. We've put so much into this place. I've painted the outside three times. I've done the whole inside at least three times. I replumbed the whole house. We put all new windows in, new doors, everything is going great. And then all of a sudden--

The reason it probably affects me more is because I was in a business of cleaning water. I was a plumber for 20 years. And I worked on wild recruitment equipment, so I know quite a bit about water. Everything that you can get in the water around here, I've set water recruitment equipment in for it. But I can't do anything about this one.

RICHELLEJim explained to us how it's not just about not being able to drink a glass of water straight from the tap, because**WILSON:**the water is contaminated with high levels of PFAS, it's also unsafe to use when preparing food.

MARGIE He's the cook.

WALKER:

It takes so long for everything to get done. If it takes so long, you forget about it. Uncommon things like getting your water out of that cooler now become common, then it upsets me. I almost said something else, but it upsets me. I still go to that faucet every once in a while. I'll go to get a glass of water instead of going to the cooler. No, can't go there again. So it's so hard-wired into you that you just can't get rid of it. That's actually called losing control, and I don't like that.

- **RICHELLE** On top of everything else, Jim and Margie are worried about their health.
- WILSON:
- JIM BOISEN: I'm just worried about this lady and my kids. From all the stuff I've read, if it's a forever chemical in the water, it's a forever chemical in your body, too. We both got something going on, where she didn't have it before. That puts a lot of pressure on her, puts a lot of pressure on me. How do you know it didn't come from that water? As far as I'm concerned, it did, I don't care.

And I don't by any means feel like I'm being picked on or the only one that it's happening to. I'm definitely sympathetic with all the rest of the people everywhere, whether it's here, or whether it's in Chicago, or whether it's in Michigan, or whether it's in China. Nobody deserves to have this happen to them. Nobody. It's inhuman, I think.

You got to get out and spread the word. There's more people responsible for that situation than just your neighbor who you want to gripe about over the fence to. This is great to be able to-- this gives us some satisfaction to know that we're doing something. Not just hoping, but we're hoping to-- we stop hoping then we'll stop doing this too, you know, that ain't good enough.

RICHELLE While listening to Jim and Margie's story, I couldn't help but think of the morning routine I talked about at the
 WILSON: beginning of the episode. It's challenging to be without running water for even one morning. Imagine having to go years without being able to reach for the tap. Jim's frustration was palpable. You can hear it in his voice. But you can hear something else, too-- and that's determination. Jim and Margie are determined to keep telling their story because they believe it's critical to helping them find a long-term solution.

Next time on *Public Trust,* we return to French Island to learn how PFAS came to the island and what local residents are doing to secure their right to safe drinking water.

- LEE DONAHUE: We owe it. We owe it to every resident to give them a safe source of water. That should be nationwide. It should be Wisconsin-wide. And that's why we all fight so hard at the state and the federal level to make sure that safe water is a basic human right.
- RICHELLEPublic Trust is a podcast for Midwest Environmental Advocates and Wisconsin Sea Grant. This episode wasWILSON:produced by Bonnie Willison and me, Richelle Wilson. Script editing by Peg Sheaffer. Sound mixing by Bonnie
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