Smithsonian's Stories from Main Street Podcast

Season 1, Episode 3: "How We Grow"
Episode Transcript

Episode Description: Simply add water, and watch it grow. In episode 3, we dig into the ways water contributes to almost everything we need to survive, and drink in stories from the people who grow our food and tend to our gardens. How does water help sustain you and your community?

Stories used in this episode:

- How Chester Worked: Cotton, Hogs and Dairy
- DeKalb County Community Gardens
- Colonial Farming Practices
- Seaweed Farming in Connecticut
- Farming Near the Cobb River, Minnesota--Pat Duncanson
- Rhubarb Farming in Minnesota--Frank Wright
- Minnesota Fish Hatcheries--Pat Schmidt

Episode Transcript:

Hannah: *It's a widely known fact that humans can't survive more than three days without water. And beyond simply staying alive, we need to drink 6-8 glasses of water per day to replace normal water loss, according to the doctors. Of course, we also need food to stay alive, and we often forget how much water is needed to grow everything we eat.*

For every apple you consume, 18 gallons of water were needed. That one pound bag of rice in your pantry…it took 449 gallons of water to grow and process it.

How long does it take you to finish off a pound of chocolate? That indulgence took 3,170 gallons of water to produce.

If you eat animals or animal products like cheese and gelatin, a lot of water was used to raise and process those animals. To be precise, 1,799 gallons of water go into every pound of beef, 468 gallons go into every pound of chicken, and your cheese habit costs 600 gallons of water per pound.

Let's put all that water in perspective. Water covers about 71% of the earth's surface. So on the surface, we've got endless water supplies. But only 0.3% of that is the fresh water we need for farming and manufacturing.

Agriculture and its often heavy use of irrigation is one of the largest consumers of freshwater in the United States. Irrigation alone is responsible for 38% of our freshwater consumption, and only about 50% of the water used for irrigation is reusable; a lot of water is lost to evaporation and water leaks.

What I'm building up to here is the fact that every farming story you hear is about water, whether or not it's ever mentioned. How we farm and grow our food has an enormous impact on our waterways. Keep that in mind during this episode, which is all about growing, something none of us–person, plant, or animal–can do without fresh water.

I'm Hannah Hethmon, and this is episode three of Stories from Main Street: Water/Ways, a podcast from Museum on Main Street.

For 25 years, Museum on Main Street, a program of the Smithsonian Institution Traveling Exhibition Service, has brought Smithsonian exhibitions to small towns and asked people in these diverse communities to make the exhibits their own. Through its Stories from Main Street initiative, Museum on Main Street encourages the gathering of stories, stories that give a voice to rural Americans.

Since 2016, Museum on Main Street's Water/Ways exhibition has been traveling all over America, stopping for six weeks at a time in over 100 small towns. The stories in this series were collected as part of the programming around that exhibition. They're raw, they're real, and, as such, they're a unique window into America, a country as ever-changing, multi-faceted, and diverse as the waterways that cover our continent.

Pat Schmidt: I'm Pat Schmidt, and I am the current supervisor at the Lanesboro Fish Hatchery.

John Cousar: You're looking at a sharecropper's son.

Frank Wright: I kind of specialized for about 15 years now in growing rhubarb.

Pat Duncanson: I'm actually a 5th or 6th-generation–depending on how we count–farmer.

Anouska: My name is Anoushka, and I grew up in Queens, New York. And, I've always loved the water, always been fascinated by it. But what my connection to the water, really became real to me was when I discovered aquaculture and sea farming. And, all the negative things associated with sea farming, to me, it didn't matter because I saw it as a way of growing food to feed people. And, coming from a country like India where the majority of the population was in poverty or below the poverty rate, it just makes sense. Growing high-quality protein with low costs to feed people, and it is nutritious food to give people nutrients and for children to grow up being healthy. And, that is why I love the water and my connection to water. It just seems to be a win-win for everyone.

Hannah: *Farming began in North America with the innovations of indigenous peoples. Some Native American communities relied primarily on hunting and gathering, but others developed domesticated crops and sophisticated agricultural practices, including irrigation systems. In the first centuries of the common era, the Hohokam People built irrigation canals near what is today Phoenix, Arizona. Their canals were in use for over a thousand years.*

In the 900s, in northwestern New Mexico, the Ancestral Pueblo Peoples separately developed a massive water management system that included a dam, canals, overflow ponds, and small reservoirs. You can still see archeological remnants of both civilizations' waterworks today.

The first Europeans in America relied on farming for sustenance and any small surplus was traded. In the 1800s, farms grew larger and many grew crops largely for sale and export. This growth was made possible through the forced labor of enslaved Africans. By the 1850s, 80% of all American exports–foods and goods–were the product of enslaved laborers.

Farming has changed a lot in the last two two-hundred years. Farm sizes have grown and then started to shrink again. The number of farms in the US reached its peak in 1910, when 6.1 million farms were active. Today, that number is only 2.1 million.

With more people living in urban environments and fewer people making a living through farming, it's up to storytellers and history-keepers to educate and inform folks about where their food comes from today and where it came from in the past.

At the Carroll County Farm Museum in northern Maryland, on a historic farm site tucked in between two offshoots of Little Pipe Creek, farmer and museum volunteer Bob Shirley shares what he knows about farming in the 18th century.

Bob Shirley: I'm a volunteer out here at the Carroll County Farm Museum. I am a farmer, but we've helped here especially with the education part, with training docents for the barn. What did the Greenwood family raise on their farm? Well, the main purpose of that farm was to feed, clothe, and shelter the farm family. They grew corn, which today is what we call yellow dent

corn. Looks like this. Then they didn't have that. They had this type of corn. This is what we today call Indian corn. They would have called it Maize, M, A, I, Z, E and, hmm, you know, that probably was the kind of what the ears look like. They weren't anywhere near as big as we used to seeing ears of corn today. But there was one other crop that they grew that was very important to them. And that is tobacco. And here at the museum, we usually grow oh ten or twelve tobacco plants a year, so we have this to put on display here, and this tobacco was started well before this last year. As soon as it gets a little bit warmer, we put it out in the field. Early fall, you cut the plant down, and you hang it up like this in the barn, and you hang it up to cure, not to dry, to cure. You want cured tobacco. Once it's well-cured, they would take it down, put it in a hog's head...it's a big barrel...and roll the hog's head down to the harbor in Baltimore.

Hannah: *In case you were wondering, a one-acre field of modern maize needs 3,500 gallons of water a day while it's ripening to replace the water that was absorbed through the plant's root system and then evaporates in the sun. That means irrigation is part and parcel with growing this crop today. Tobacco is a drought-resistant crop, which means it doesn't need water as consistently as maize, and irrigation is actually optional for modern tobacco farmers.*

After the Civil War, during the Reconstruction era, plantation-owners who built their large operations with free labor of the enslaved had far more land than they could pay workers to farm. Free African Americans were ready to work and farm for themselves, but needed land. So a system called sharecropping replaced plantation slavery–often on an individual basis–as freed African Americans farmed the land owned by their former enslavers.

Sharecropping is when a farmer works a plot of land and pays the landlord a share of their crops as payment. It's a complicated history, and there's a lot more I could say about it, but what I really want to share is John Cousar's story. At the farmers market in Chester, South Carolina where he sits with his fresh produce for sale, 78-year-old John tells the curators of Stories: Yes about his long life in agriculture and his involvement in associations for African American agricultural students in the segregated South.

John Cousar: You're looking at a sharecropper's son. You're kind of young, but you may or may not know about sharecroppers. That just means I've been farming since I was a child..with my parents and now I'm doing it for myself. It was at a time when a great amount of cotton was being...cotton is still grown in South Carolina, but that time it was high volume and I think if you check, in the heyday of cotton in South Carolina, South Carolina was close to the richest state in

the United States, and majorly because of that cotton. So of course, a part of that time, I was a high school student, so I was able to see, see all this closeup and kind of master it with the agriculture studies. If you see the signs behind me on the wall, it has an NFA sticker there, a logo. That's the New Farmers of America. The New Farmers of America is a counterpart of the Future Farmers of America. The only difference...Future Farmers of America at that time was only white students. New Farmers of America was all African Americans.

So I was in agriculture for four years at Finley High School here in Chester. And if I was to look at all the studies I did in my 78 years, that study in agriculture at Finley took the most effective [sic] on me.

Hannah: *Just like in any industry, agricultural associations provide a space where farmers and scientists can develop new tools and systems to improve the way we grow food, including improving how we managed drainage and irrigation. Organizations like the one John mentions in his story, the New Farmers of America, were created by African American students who believed they had every right to be leading agricultural innovation and policy as they did to be working in the fields.*

Today, farming is increasingly driven by data and technology, as the innovations and systems of earlier generations have enabled more and more efficiency. In Blue Earth County, Minnesota, farmer Pat Duncanson's family has been thinking about improving their yields for over one hundred years. But what kept these farmers up at night a hundred years ago and in 2020 is very different.

Pat Duncanson: My name is Pat Duncanson. I'm actually a 5th or 6th generation–depending on how we count–farmer who has raised over 30 crops of corn and soybeans. We also raise livestock in southern Blue Earth County. A hundred years ago on most Minnesota farms, it was about survival. It was about trying to get enough food to get throughout the winter, trying to raise enough that maybe we could afford to send our kids to school so they could go off and have a better life and do something else.

It's really only been recent Minnesota history where farms have been prosperous enough where we can make a nice living for our families, and part of that is because of drainage. It really is. Our soils are heavy soils, and we are usually blessed with abundant rainfall in the year, and when there is a little bit too much of an abundance; it becomes a real curse. The drainage allows us to smooth out some of those ups and downs, allows us to get more production off the land so we don't have to farm as many acres to get the same amount of production.

There are hundreds of drainage systems in our county, and that's repeated county after county across southern Minnesota, northern Iowa. Many of them are facing, in the next 15 years or so, a need for repair, a need for upgrade. Ditch 57 is a long-established ditch in our community about 100 years old and was at a stage where parts of it needed repair. So we started working with an engineer to get ideas on how to improve it. Downstream neighbors had some very strong concerns, not only the quality of the water, some of the nutrients and some of the pesticides that we put on the farm fields, but also the quantity and the speed of the water as it's leaving the landscape. And we're about four miles or so from the Cobb River where the system outlets. Any time that we are able to slow water down as it leaves the landscape, it has an almost always positive impact on water quality. So we began to design a system that would allow us to drain our farms and yet we put in storage structures so that the water would slow down and sit in these storage structures for a few days or maybe a week and then gradually empty out, so that they would be empty for the next rain event.

So, within certain rain events, we are able to have higher drainage capacity and yet our discharge is lower than it was before we made the improvement. So it's a perfect case of having our cake and being able to eat it too. I am very passionate that drainage needs to be part of our southern Minnesota landscape, but I also realize that it can't be done like it's been done for the past hundred years.

Hannah: *Controlling the quantity of water is important for farming, but without water quality, more just isn't more. A few hours away from the Duncanson family farm, hobby farmer Frank Wright takes his water usage very seriously.*

Frank Wright: That is the sound of Spring, isn't it? That water just drip, drip, dripping. My name is Frank Wright, and I live in Lanesboro, Minnesota. I've been in Lanesboro for about 21, 22 years. Most of my time in Lanesboro...I came here as a wooden spoon maker and chopsticks maker and artist, until I officially retired. I'm also a gardener; I kind of specialized for about 15 years now in growing rhubarb. I started out pretty modestly, with some rhubarb plants here at our house, and then I don't know about 15 years ago I started taking cuttings from those plants and moving them out to our garden plot, which is just about a mile from Lanesboro along the Root River and next to the bicycle trail.

This is a rhubarb leaf right here, just starting to come up and see these little buds like this, this little bud right here will explode up and form little rhubarbs. This is probably about the earliest plant because it has this nice southern exposure here, and you get the light coming off the house and it's a little more protected here. I have been harvesting typically maybe 1,500 pounds of rhubarb each year. I've been selling more and more of my rhubarb to local restaurants and Pedal Pushers Café, in particular, buys maybe, last year I think bought close to

600 pounds of rhubarb from me, and they chop that up and put it in the freezer and use it for their pie making.

The most important contribution that the Root River has made to my rhubarb growing is that the soil is all this silty silty loam. Which has come down that river valley over the last many centuries, I'm sure. What I don't have is a contribution for my rhubarb-growing is water from the river. All of the water that is used for my rhubarb is pretty much based on natural rain water.

When I first started gardening, I would take water from the river and would pump water from the river onto my garden plot but after some of the rain events where I could just see there was a lot of run off coming into the river, I just felt that if I'm going to be growing things and then taking them either to a farmers market or giving them and selling them to people or for that matter feeding them to my own family; I did not want to be putting water on that produce unless I was convinced that that water was clean water and not contaminated with things that either I or people eating my produce didn't want on it.

See, it's kind of amazing. This one here, they just haven't quite, there isn't much happening yet. Well, that is the thing about farming and gardening, you can't make it do what you want, it does what it is going to do, when it's going to do it."

Hannah: *In DeKalb County, Illinois, Dan Kenney is passionate about sustainable local food sources and supporting local students as they grow into adulthood. Students from Sycamore Elementary School interviewed him about his work as* Executive Director *of DeKalb County Community Gardens.*

Dan Kenney [Broken Link]: Well, we have many different gardens. We have but the very first gardens were built in March of 2012 at some schools in the DeKalb school district as well as, Conexion Communidad and some other community locations. Well, the idea for the gardens started back in 2006 in a way...I was working as an in-school suspension teacher at a middle school in DeKalb, and I was working with students who had very little experience with knowing where their food came from. And so we got a grant, and we started to put in a garden in 2006 at Clinton Rosette Middle School in DeKalb. These gardens are important to me because I used to lay awake and think about how could we in this County where we have the best soil in the world, why do we have people who are hungry? And so that's why we started the community gardens. And that's why, um, I feel that they're important. Right now, food that we eat that travels about 1,500 miles before it gets to our plate. And that's not going to be very sustainable going into the future. And so one of the things we're teaching more people how to grow their own food by working on what we call a local food security system for our county. We are

preparing for the future when the cost of transporting food might not be feasible anymore. And so we're...that's one way it's helping for the future.

The other way it's helping for the future is that we are doing a lot of experimentation on how to grow food year-round in a cold climate. So one of the ways we're looking at the future for growing food is using greenhouses similar to this. These plants are growing here since February. In February it was very cold, and so all through the month of March we were able to grow these plants inside. Well, there's also many different ways we're experimenting with how to grow food inside all year round using hydroponics and aquaponics and other means like that.

Since we've started, we've produced over 175,000 pounds of food that has been distributed to people in need in our county. Produce from the gardens are used by volunteers who work in the gardens or they are taken to food pantries to be given to food-insecure people in the county.

Where we're videotaping this. Right now we are at the Walnut Grove Vocational Farm, which is a program of DeKalb County Community Gardens. At this location, we work with individuals, who have disabilities and we train them in horticulture and agriculture. So all of the plants you see here in the greenhouse were planted from seed in our germination room and then raised here to be sold to the public. And the people that are doing that work are high school aged and older individuals with disabilities.

We've established 56 different community gardens around the county. All the elementary schools in Sycamore, the elementary schools in DeKalb as well as senior citizens centers, low-income housing locations, community sites, many different locations.

Sycamore Elementary Student: Our love for food is something contagious. And the DeKalb County Community Gardens is a unique organization that relies on volunteers and members of the community to spread the love of food through teaching and feeding both mind and body. Their mission is to empower DeKalb County residents to choose healthy and sustainable foods through community education. Their goal is ultimately ending hunger, empowering individuals, and growing community to work together.

Hannah: *The local food movement and environmental discussions going on over the last decade have probably prompted you to think about where your food actually comes from, but I'd challenge you to go a step further than the stickers on your produce and think about where the water used to grow your food comes from. What is grown and manufactured in your region?*

Are the growers and makers in your state using sustainable water sources and mitigating potential damage to local waterways from runoff?

And if you are really feeling really up for an intellectual challenge, go for a walk in your neighborhood and try to guess how much water it consumes. How much water was needed to make your neighbor's new car? How much water did the snack in your hand require? How much water does your community use to irrigate gardens and lawns? Try to make the connection between the waterways in your region and the water-dependent industries that support your modern life. It's only by understanding and respecting the interconnectedness of our ecosystems that we can protect and preserve them for future generations.

Thanks for spending this time with me listening to these stories. If you have your own water story that you would like to add to the Smithsonian collection, you can learn how to record and share it by visiting museumonmainstreet.org/stories. That's museumonmainstreet.org/stories or you can use the free Be Here Stories app to upload a story directly from your phone. That's the Be Here Stories app. In both places, you can hear the full collection of stories from all over America. On the Museum on Main Street website, you can view hundreds of stories contributed to the Stories from Main Street initiative and watch documentaries created by rural youth through Museum on Main Street's Stories: YES project.

Museum on Main Street is an outreach program of the Smithsonian Institution Traveling Exhibition Service that engages small town audiences and brings revitalized attention to underserved rural communities. In partnership with state humanities councils, Museum on Main Street brings traveling exhibitions, educational resources, and programming to small towns across America through their own local museums, historical societies and other cultural venues.

These exhibitions are designed to engage communities and become a catalyst for conversation about life in small-town America, to start dialogs, build excitement, facilitate connections, and open doors to your community's history, culture, people, and sense of local pride. See a full tour schedule for Museum on Main Street exhibits and learn more about the program at museumonmainstreet.org.

Thank you to our storytellers whose voices can be heard in this episode.

Several stories in this episode were recorded by Pamela Ferris Olson as part of the Women Mind the Water project, the Minnesota Humanities Center and the Water Bar and Public Studio. This episode also contains stories developed by youth working on projects at Lanesboro Arts, Carroll County Farm Museum, Chester High School, and Sycamore Elementary School.

The rest of the stories came from the Most of them came from the main Stories from Main Street archive.

You can see a full list of story credits, links to all the stories used in this episode, and an episode transcript in the episode description on your podcast.

Thank you to all the Museum on Main Street collaborators who helped collect these stories.
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This episode was produced for the Smithsonian Institution Traveling Exhibition Service by Better Lemon Creative Audio. It was produced, written, narrated, and edited by me, Hannah Hethmon.
See you next time.