HEAR UR
Season Six, “The Genesee River”
Episode 606, “To the Brim: The Dam that Saved Rochester?”

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SFX CUE 01 IN: *Long buildup of water flow with a seamless transition from the Floods Episode. Water rushes by, gaining force and indicating an abnormal volume of water is passing. Emergency sirens blare and a click of the radio station indicates changing the channel. Emergency message begins*

EMERGENCY BROADCAST: VA GABE THYNE
Get out now. Get out now, there’s still time, but this is the warning that the river is starting to come over the dikes. Work on the dikes has ceased, the water is expected to break through.

SFX CUE 02 IN: *Slow transition to “Service Road”*

ROSE
In June 1972, Hurricane Agnes swept through the eastern United States, leaving a trail of destruction from Florida to New York. Moving north, the storm wreaked havoc on every city in its path. In Rochester, a city already grappling with the wettest spring on record, Agnes pushed the rivers to the brink. With the storm closing in, Rochester's destiny depended on the Mount Morris Dam—the city's final defense against impending catastrophe.

RONIN
Living along a major river like the Genesee there has always been the looming threat of flooding. For centuries, Americans felt powerless to control nature’s violent outbursts, but that all changed with the development of

ever-more-impressive dams during the Twentieth Century.

Dams have become a fixture in our struggle to contain nature, but as we look to the future, there are signs that such dams, considered necessary for so long, may now be part of a larger issue.

SFX CUE 02 OUT

ROSE

I'm Rose Frank.

RONIN

And I'm Ronin Ross. You're listening to HearUR Season Six: Rapid History: Tales of the Genesee River. This is Episode Six: To the Brim: The Dam that Saved Rochester.

ROSE

Now, Rochester was no stranger to floods. The Genesee River cut through the center of the city.

RONIN

Right, and this river was notoriously temperamental.

ROSE

It had already proven itself capable of overpowering any dam built on it. In fact, the Mount Morris Dam which stood tall in 1972 was only the latest in a series of dams, which had all been previously destroyed.

SFX CUE 04: *Period accurate construction sounds. Hammers, men talking in the distance*

RONIN

William Mills, the founder of Mount Morris village, secured the state's support to build the first dam in 1826.

He wanted to harness the river to power Mount Morris' mills. It lasted only a few years though before the Genesee proved it couldn't be controlled so easily: the dam was destroyed in 1833.

SFX CUE 05: *Quick and powerful whoosh of water, with cracking/breaking of wood*

The people of Mount Morris were desperate to replace the dam, and even funded it by selling off the village's public square.

ROSE
For their trouble, the villagers at least got a few more years out of this second dam than the first – but once again, in 1952 the Genesee would sweep it away in a massive flood.

SFX CUE 06: *More powerful wall of water hits and destroys a wooden structure, water flow is barely affected by the structure and continues to flow at a fast pace*

By the end of the 1930s, the state had both built a new dam, and then replaced it when it was destroyed.

Attempting to engineer a dam strong enough to stop the regular flooding was beyond the means of either private builders or New York State - they needed more resources to mount a real defense. Luckily, in the first decades of the 20th Century, things began to change.

MUSIC Fade In: *1940's music. Sounds like it's coming from an old radio*

RONIN
By the 1940s, Rochester was the 23rd largest city in the United States, yet still lacked effective flood control measures. Fortunately, the U.S. economy had rebounded from the Great

Depression and the New Deal was in full swing.

SFX CUE: Various New Deal/Roosevelt Administration documentary/primary audio clips

The Federal Government started spending record amounts of money on public works projects, including dams.

ROSE
In 1944 congress passed a Flood Control Act which permitted the Army Corps of Engineers to build and modify dams across the country. This act was a saving grace for the City of Rochester, as it provided the funding and manpower they desperately needed to construct a flood-control dam.

RONIN
With the Corps taking charge, Rochester finally had a chance to protect its citizens from the treacherous Genesee.

MUSIC Fade In: *Transition music*

RONIN
When the Army Corps of Engineers began construction on the Mount Morris Dam in 1948, they encountered numerous challenges along the way.

TOM WENZEL
I don’t know how they did it, these old workers back in the 40s and 50s cause like you can see some of the pictures in our visitor center of our construction____

ROSE
This is Tom Wenzel, a natural resources specialist with the Army Corps of Engineers working at the Mount Morris Dam. He painted a picture of the harsh working

conditions that the engineers experienced during construction.

TOM WENZEL
Just to imagine the conditions they did that in and poured all this concrete and then had to deal with the seasonal spring flooding and the ice jams and the winter cold and all that… It's just insane conditions to have to work in to build. Today we probably wouldn't build in those types of conditions.

ROSE
The engineers worked in halves. They diverted all of the river's flow to one side, allowing them to build on the dry side. They made steady progress, but was it fast enough?

RONIN
Unfortunately, Mother Nature threw the Corps a curveball

SFX CUE 07: *Heavy rain and thunder. Foreshadowing for Agnes*

In 1950, the rainy season arrived early, and the dam was only half finished. The rain caused flooding on the side of the dam under construction, adding months to the project time.

RONIN
In spite of this setback, the Army Corps of Engineers persevered, completing the dam in nineteen fifty two on time and under budget.

SFX CUE 08: *Excited chatter*

ROSE
Rochesterians celebrated the dam's completion. They viewed Mount Morris as a triumph for the city, symbolizing their conquest over the Genesee River. The

decades-long battle to control the flooding was finally over, and standing tall as a testament to their success, was the Mount Morris Dam.

Here are a few words that were written by Ham Allen, a reporter from Rochester, upon visiting the dam for the first time:

SFX CUE 09: *Radio turns on and crackles, indicating someone from the past is speaking*

REPORTER VOICE: VA GABE THYNE
(Crackling radio broadcast)
"Man's struggle to harness nature is a raw, bare-knuckle fight against the elements… nowhere is that more evident than Mount Morris Dam… notched into the time-etched highlands of the Genesee River, the Dam is expected to forever halt the ravages of flood from the Genesee Country…"

ROSE
Between 1952 and 1972, the Mount Morris Dam saved roughly one billion dollars in damages. The Corps came away from the job believing they had saved the city...soon, their confidence would be put to the test.

MUSIC Fade In: *Transition music*

RONIN
The Mount Morris dam sits roughly 45 miles from the center of downtown Rochester, at the eastern end of the Letchworth Gorge. Looking down at the dam, the hulking mass of concrete almost looks like it blends in with the rock walls of the gorge, yet it's obvious to anyone passing by that nothing about this dam is natural.

SFX CUE 10: *Door creaks open followed by a few footsteps. The door slams shut, leaving an echo throughout the halls (use recording from Mt. Morris). Total silence besides*

water dripping into a puddle. Everything indicates that we're in a dark, dank, place

RONIN
Dark, damp, claustrophobic. These are just some of the words that could be used to describe the network of tunnels and rooms connecting each section of the Mount Morris dam. Standing at the entrance to the dam feels like staring into the abyss. But thankfully…

SFX CUE 11: *Light switch flips on, low electric hum of old lights*

RONIN
There are lights.

SFX CUE 12: *More footsteps and deep, unnatural hum builds as you go deeper into the dam*

ROSE
Entering the dam's core feels like stepping into a primordial cave. You can hear and feel the continuous thrum of twenty-thousand gallons of water running through it. Even though it's safe to be here during a nuclear attack, there's still an unsettling feeling when listening to the powerful current from inside.

If the dam feels unsettling today, one can only imagine what it was like in June of 1972, during the worst storm the eastern seaboard had ever faced…

SFX CUE 13: *Water continues to build from introduction, snapping the listener back to the beginning of the podcast. Whereas before there was only rushing water, now we have thunder and winds.*

REPORTER VOICE
June 22, 1972: Hurricane Agnes has moved north...bringing rain.

SFX CUE 14: *Long pause while heavy rain builds up*

June 23: The worst news is that the rain will continue today.

SFX CUE 15: *Heavy rain with flash of lighting*

The National Weather Service has issued a flash flood warning.

SFX CUE 16: *Heavy winds. Flood water rushing by*

June 24: We expect the Genesee River to rise 5 feet in the next 2 days. The river is now at 12 feet…

Flood stage is 13 feet.

MUSIC Fade In: *Slow transition to low, eerie chords*

RONIN
In June of 1972, a tropical hurricane traveled from the Gulf of Mexico across the eastern United States, causing deadly flooding and incurring 3 billion dollars in damage from Florida to New York -- this was Hurricane Agnes.

ROSE
On June 14, Agnes formed as a tropical depression over the Yucatán peninsula but soon strengthened into a tropical Hurricane.

After wreaking havoc over Florida and the Carolinas, onlookers believed that the storm was going to gently dissipate over the Atlantic. However, Agnes regained steam and turned back north, concentrating over New York.

TIMOTHY KNEELAND
And then it does something unusual, it comes back inland around Pennsylvania and New York.

ROSE
This is Dr. Timothy Kneeland. He is the Director of the Center for

Public History at Nazareth University, an accomplished professor, and the author of a book investigating the aftermath of Hurricane Agnes:

TIMOTHY KNEELAND
And a storm out of Ohio joins with it, and that's where you get the incredible amount of rain. We're talking the equivalent of a quarter of Lake Erie. We're talking about a trillion gallons of water on an area that had been very wet all spring. There's nowhere for that water to go.

ROSE
When the Army Corps of Engineers realized Agnes would turn towards the Northeast, they wrote in a report that…

MAX Voice Acting
Sound of Keyboard Clacking

"We have a Major disaster developing here."

ROSE
The Mount Morris division began preparing for flooding.

MUSIC Fade In: *Tense, anxiety-provoking, build-up to event*

RONIN
The first major river to be hit by the storm was the Susquehanna in Eastern Pennsylvania. Like the Genesee, the Susquehanna was also prone to cyclical flooding, and the state had built a series of dikes and levies in response.

ROSE
But the dams were never meant to handle a tropical storm. Just as had been seen in the Southern states, Agnes pounded the river basin with water. The flooding caused by the storm swept away homes, farms, and bridges.

Hundreds of people died and thousands of livelihoods were destroyed.

Agnes kept moving west. After the Susquehanna, it battered the Chemung River in Southern New York. Some cities, like Corning, were almost entirely submerged in flood water.

SFX CUE 17: *Water rushing, plates crashing, people shouting*

RONIN
Next, it decimated the Allegheny River basin in Northwestern Pennsylvania. It was becoming increasingly clear that if Agnes kept its current bearing, it would flood out the Genesee.

ROSE
On June twenty-second, 1972, Agnes began its pass through the Genesee River Valley. The storm dropped an average of seven inches of rainfall over the entire region. The Genesee was already mostly filled due to a series of rain showers the Rochester area experienced in the weeks leading up to the event. Agnes only exacerbated the situation.

RONIN
As the first day passed, the dam seemed to be holding well. Many of the engineers had been nervous, and some were even a little excited, to see if the dam could withstand this much water.

ROSE
Radioing into their higher-ups at the Buffalo office, the Mount Morris engineers reported all was well.

SFX CUE 18: *Obscure radio conversation in the distant background. Boops and Beeps maybe. Walkie Talkie skrrt on and off.*

RONIN
While the men on the ground read gauges and recorded numbers, the men at the Army Corps of Engineers office in Buffalo were the real decision-makers. The higher-ups in Buffalo poured over charts and figures trying to decide what was going to be the best course of action.

ROSE
The next few days followed a similar pattern. The dam held fast against the rising water in the reservoir. The engineers reported all was well.

RONIN
The real test of the dam came on June 25th. The Mount Morris dam had a reservoir that could hold three-hundred and one-thousand, eight hundred and fifty-three acre-feet of water. For those that aren’t familiar with an acre-foot, that’s an equivalent volume to about 355 Empire State Buildings! It was on June 25th that the stormwater had filled this reservoir almost to its full capacity.

ROSE
The Mt. Morris engineers were on hand inside the dam as the debris-choked Genesee slammed against the walls.

SFX CUE 19: *The sound of iron bending/creaking*

ROSE
They were under siege by nature itself.

RONIN
There was a very real danger of the river spilling over the dam, and all the accumulated debris would’ve been hurled downriver.

ROSE

Luckily the Corps knew how to handle the situation. Again, here is Tom Wenzel.

TOM WENZEL
There was a lot of concern at the time…Some of the street gauges got wiped out in Wellsville, NY so it was very hard to communicate what river depths were so we had engineers and things that were standing on that bridge that was practically almost underwater to measure what that flow of water was… so we knew the inflow was here at the dam.

RONIN
The dam had been closed until this point, holding back an increasingly high river. With the water rising almost to the top of the dam, threatening a spillover, opening the dam's control gates to drain the reservoir was the only option.

SFX CUE 20: *Intense rushing water coming out all at once*

TOM WENZEL
We're here to minimize flooding, we're not here to prevent it. Mother nature is always- can throw something at us that's bigger than what we were built for and '72 and Hurricane Agnes was one of those storms. We actually had to open up all nine of our gates to a half for a few hours. We were sending out around 8,000 cubic feet per second flow… almost 10 million gallons of water and that is gonna cause some minor flooding… But you have to look in context: we get thousands of cubic yards of woody debris every year that can back up behind that dam… if we let the water spill out over the top of our spillway with that debris it's gonna be way more destructive.

RONIN

In the end, only four feet separated the top of the dam from the water line.

Dramatic pause

ROSE
And if the river had spilled over?

TOM WENZEL
We wouldn’t be probably talking about Rochester as a city if the dam wasn’t here to hold all that back.

RONIN
Luckily, Mount Morris Dam meant we never had to experience the answers to that question. The dam had served its purpose perfectly. It was a triumph that Rochesterians throughout the centuries had only dreamed of; a symbol of humanity's relentless quest to harness the forces of nature...right?

SFX CUE 21: *Stone drops into the center of a deep body of water. The Plunk sound effect indicates that we’ve only scratched the surface of a wider body of study*

ROSE
Well...actually, Dr. Kneeland seems to think otherwise:

TIMOTHY KNEELAND
This is what technology can do, it can lead you to a false sense that you can conquer nature, and you will never conquer nature.

ROSE
Mount Morris Dam may have saved Rochester in 1972, but, it was a close call.

TIMOTHY KNEELAND
It saved Rochester, but it may also have imperiled Rochester, because we become overconfident in our technology. I would predict that someday that dam will fail,

because it can only hold so much water. And if we get another Agnes like storm, perhaps with climate change, greater moisture in the air, joining another storm, I mean these things can happen, they can repeat themselves…

MUSIC Fade In: *reveal something insightful or introspective*

RONIN
Mount Morris Dam stands not only as a symbol of past success but also as a reminder of the ongoing challenges and responsibilities we face in safeguarding our communities against natural disasters.

ROSE
The dam's resilience in 1972 was a triumph of engineering and foresight. Yet, as climate change brings increased risks of extreme weather events, it's essential to remain vigilant and adaptive in our approach to flood control and infrastructure management.

RONIN
Looking forward, as Dr. Kneeland suggests in his book *Playing Politics with Natural Disaster*, a possible solution could come from the government. If the state or local government bought up the flood-vulnerable land on the river, preventing people from building on it, destruction could be avoided and lives saved. It would also allow for the river to return to its original state, bringing us in greater harmony with nature.

TIMOTHY KNEELAND
We need to move away from the triumphalist idea that we have somehow conquered nature to understand that this is about mitigation, this is about preparation. But it's also about

thinking about what are the other more sustainable ways. Dams will fail, levees will be overtopped. This is inevitable over time and then you're just gonna go back and say 'well we just need to build them bigger and better' but that only forestalls.

RONIN

Is Dr. Kneeland right? We build dams like Mount Morris to prevent the disasters of the past from repeating, but in doing so have we only sowed the disasters of the future? As the threat of climate change increases with each year, it bears asking: can we really outsmart nature forever?

We may need to accept that the solutions to the challenges of the future will require new thinking, even if it contradicts our accepted wisdom. For centuries Americans assumed that rivers were challenges to be overcome, and they developed technology and structures designed to do just that.

If we can put in the same effort it took to create Mount Morris into finding newer, better ways to live in harmony with the Genesee, we may be able to give those who come after us the security and peace of mind the dams were supposed to provide all along.

MAX

HearUR is a podcast created by students at The University of Rochester.

This episode was produced by Max Creamer. Our lead researcher was Ronin Ross. Our sound engineer was Rose Frank.

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And finally, be sure to check out show notes, photographs, transcripts and links for this episode and others at HearUR.com.