

## Transcript: Bravo Group Podcast

Introduction by Assistant Professor Paul Musgrave: *Welcome to Final Examination, a podcast that looks at the end of the world. I'm Paul Musgrave, and I'm a professor of political science at the University of Massachusetts Amherst. Over the past semester in the Fall of 2018, four teams of students have researched, reported, and produced stories about how people have dealt with the end of the world right here in Massachusetts.*

*In this episode, Sean Kealey and Clara Silverstein take us to Newburyport, Massachusetts to answer the question: For a town that sits right on the water, how soon will it meet The End in the form of climate change?*

Host #1, Sean Kealey: Suspense.

SFX: Suspenseful music.<sup>1</sup>

It's the backbone of every movie we've ever seen. Masters like Spielberg and Hitchcock maximized just what suspense can do. This isn't shock and awe we're talking about—that's old-fashioned surprise. That's Michael Bay stuff. Things blow up. Someone gets shot. But suspense, that's different. That's when we *know* there's something in the water, coming closer...but the characters on-screen, they don't.

You know the music. It's telling you that something's coming. It's big, it's bad, and it's got lots of teeth. The girl splashing around in the water doesn't know any better. She's about to, though.

In 1975, Hollywood kept everyone out of the water for an entire summer. [Steven Spielberg's monster shark, \*Jaws\*](#),<sup>2</sup> is still one of the most terrifying villains in movie history. It headlined the first real summer blockbuster of American cinema. This fictional town that *Jaws* haunted, Amity Island, not only changed the way we do movies, but the way we think about sharks—and suspense. Sometimes, the biggest threat is the one we know exists, but it's one we can't find, catch, or kill. The one lurking just below the surface.

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<sup>1</sup> Sound file name: "Dark Suspense"

Author: Soundscapes55

Source: <https://freesound.org/people/Soundscapes55/sounds/434975/>

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<sup>2</sup> <https://www.imdb.com/title/tt0073195/>

But *Jaws* is particularly special to us here in Massachusetts. It's made locally. You know, it's filmed just over in Martha's Vineyard. Like a lot of great suspense and horror stories, *Jaws* is set in small-town New England. That's also where we've set *our* story.

Even if you've never been here before, you can already imagine it. This place was practically made for the movies. A small, scenic coastal town on the Merrimack River in Massachusetts. Welcome to Newburyport.

I'm sure most of you listening haven't been here before, so let me be your tour guide. After all, this is my hometown. I'm Sean Kealey, and I'll tell you why I'm so lucky to call this place my home.

SFX: Small-town bustle.<sup>3</sup>

Before we get to the good stuff, let me throw a couple of figures at you, just so you can get a better picture of what we're looking at. Newburyport is located about forty-five minutes north of Boston, basically on the New Hampshire border. The town itself, it sits on the Atlantic Ocean. On top of that, Newburyport is home to almost [18,000 full-time residents](#)<sup>4</sup>. And there's an industrial park in the town that provides jobs for roughly two thousand people<sup>5</sup>.

Pull off Interstate 95 at Exit 57, and within a couple of minutes, you'll feel as though you've traveled straight back into the nineteenth century.

Colonial-style homes line the main streets, and the burgundy brick sidewalks lead to a quaint downtown that houses dozens of local art galleries, boutiques, museums, and inns. Visit the shops, sit deckside at a restaurant and enjoy a locally-brewed IPA, or soak in the sun as you take a stroll down the Merrimack River boardwalk. Do any of these things, and you're sure to stumble across some of Newburyport's rich history.

Ever heard of William Lloyd Garrison? He's the guy that wrote the preface in Frederick Douglass's *Narrative*<sup>6</sup>—and he was a Newburyport resident. Pretty cool. In fact, there's an inn in the downtown to commemorate his work as an abolitionist. For those of you who fell asleep in

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<sup>3</sup> Sound file name: "Small Town Traffic"

Author: Arnaud Coutancier

Source: <https://freesound.org/people/arnaud%20coutancier/sounds/369162/>

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<sup>4</sup> The population was 17,837 as of 2016.

<sup>5</sup> B. Connell, personal communication, November 28, 2018.

<sup>6</sup> <http://utc.iath.virginia.edu/abolitn/dougnarrhp.html>

history class, you're probably more familiar with the U.S. Coast Guard. Newburyport is where it all started. There's actually still a commissioned station in the town that looks out for local boaters.

All of this, and we still haven't mentioned the real gem this place has to offer: Plum Island.

SFX: Waves.<sup>7</sup>

[Plum Island is a little barrier island only eleven miles long](#) that sits adjacent to the town. It's bordered by the Merrimack River (which happens to be the largest river in New England)<sup>8</sup> to the north and the Atlantic to the east.

The island is a gentle slope from the ocean to the windswept sand dunes where flowing beach grass waves in the breeze. Grab a book and a beach chair, and watch the hours tick by.

This place almost sounds too good to be true. And in a way, it is. Because like Spielberg's Amity Island, there's something in the water. Only this time, it's in the air, and in the hurricanes, and in the nor'easters, the crazy hot summers, and the winters that are warmer than usual, snowier than usual, perhaps more *unusual* than usual entirely. What we're talking about here doesn't have a mouthful of teeth, but it's a whole lot scarier than that.

In 1975, *Jaws* was just a story, the stuff of Hollywood. In 2018, the shark is just a metaphor. And this time, this is a true story.

Welcome to Newburyport at the end of the world.

SFX: Eerie music.<sup>9</sup>

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<sup>7</sup> Sound file name: Name: "Waves\_1"

Author: haldigital97

Source: <https://freesound.org/people/haldigital97/sounds/241824/>

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<sup>8</sup> We apologize for the error of fact here. The Merrimack River is instead the second largest river in New England, right behind the Connecticut River.

[https://www.des.nh.gov/organization/divisions/water/wmb/rivers/merri\\_river\\_lower.htm](https://www.des.nh.gov/organization/divisions/water/wmb/rivers/merri_river_lower.htm)

<sup>9</sup> Sound file name: "Dark Ambient Music (She's Dead)"

Author: TheBoseDeity

Source: <https://freesound.org/people/TheBoseDeity/sounds/395696/>

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Wherever you stand on the subject of climate change, the general consensus is that things aren't really what they used to be, even compared to a couple decades ago. Nobody knows this change better than the people of Newburyport. For Newburyport and nearby Plum Island, which is [just three meters above sea level](#), everybody's lives are tied to the water. The water brings the summer residents, the tourists, and the income. And when the water levels are rising—and rising—and *still* rising<sup>10</sup>—everyone living here is on the edge of their seat. Whatever we might say about climate change, in this small New England town, there is a problem, and it's right offshore. What we're afraid of is not what *might* happen, [but what's already started to happen](#).<sup>11</sup> So let's ask the questions when is it coming, and just how bad is it going to be? And if Newburyport's story *is* destined to end underwater, what does that mean for the rest of us?

To figure that out, we're going to do some fishing. And we're not out to get just part of the shark. [We're after the head, the tail, the whole damn thing](#).

Stay tuned after a break for our sponsor.

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Host #1, Sean Kealey: Kind of like in *Jaws*, the guy at the center of the story isn't an expert on sharks, the ocean, or even fishing. But Chief Martin Brody has a stake in how things turn out

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<sup>10</sup> While the rising of three inches of sea level water every twenty years may not appear to be alarming, the \$1 trillion devoted to protecting the 681 barrier beaches of MA and the rest of the coastline surely puts these inches into perspective:  
<https://www.bostonglobe.com/metro/regionals/north/2012/10/03/plum-island-residents-will-lose-battle-with-sea-author-says/8K4S96XKVKYd3V2UUQIIqL/story.html>

<sup>11</sup> Newburyport's Plum Island has already witnessed the loss of around 100 feet of beach in the previous twenty years. Paradoxically, shoreline development has actually increased, indicating there will be an extremely troubling situation down the road.

anyway. It gives us a sort of everyman to root for. Now seems like an appropriate time to introduce the President of the Newburyport City Council, Barry Connell. Oh yeah, and just to drive home the point that this is a really small town, Barry also happens to be my neighbor.

And off the bat, he's not exactly optimistic.

Barry Connell: *We're gonna float away. Yeah, I mean really. Don't buy land on Plum Island, I'll tell you that! Right off the top.*

You know, in spite of his joke, Barry takes this stuff very seriously, and he's a great guy. He told me that he heads a committee that is looking at Newburyport's climate change resilience and what we have to prepare for as the impacts of climate change land on us. As you'll hear in the interview, he gave me some pretty great insight into the large-scale goals for the city.

Barry Connell: *I'm on a committee that is looking at resiliency and what we have to prepare for as, you know, the impacts of climate change land on us.*

Barry and I talked for nearly an hour, and throughout the interview, I could tell that he was really vested in the outcomes for the city. Not only is he head of the Newburyport City Council, but he also has a background in environmental engineering, and he's taught courses in the area about Newburyport's coastal geography. It's hard to find someone who knows more about both local politics and coastal geography. Barry is the exact guy we wanted to talk to in this case.

So, back to the interview. Remember when I talked about the Merrimack earlier, and how it's the largest river in New England? Well, the Merrimack is massive. We're talking [117 miles long massive](#). And the size and force of the Merrimack plays a key part in our story. The Merrimack runs adjacent to Newburyport's downtown before draining into the Atlantic, where both sides are furnished with manmade jetties. As I said, the mouth of the Merrimack is bordered by Plum Island. Understanding the geography of the Merrimack is a crucial part in understanding how Newburyport is affected by climate change.

Barry explained the significance of the Merrimack's geography in our interview.

Barry Connell: *You know, we have the best of both worlds and the worst of both worlds. That is, we're on the coast, so we enjoy the saltwater, but we have this huge river running through the middle of the city of freshwater, which under most circumstances, as you know, is terrific. Except that means that we are exposed to coastal storms, to coastal flooding.*

The impacts of coastal flooding are easy to talk about but hard to imagine. Now I'd ask you to take out your phone and look at the photograph used in the podcast. The flooded area you see is Cashman Park. Under normal circumstances, a grass field extends about 300 meters beyond that maroon sign to the river's edge. When I took this picture, Newburyport was in the midst of the [March 2018 king tide](#)<sup>12</sup>. The tide itself was solely responsible for the flooding. This happened without the presence of a storm surge, and as you can see, the skies above are blue. Can you imagine what would have been the case if the wrong storm coincided with the wrong tide? This would have been disastrous.

Now, I played soccer on the field at Cashman Park when I was a kid. Some of my fondest memories were formed when my parents watched me play here. The fact that Cashman Park floods during storms or exceptionally high tides is an indicator that this is only going to get worse in the future as the rising waters from climate change further encroach on the flood plain. If Cashman Park is underwater, there are future costs for generations that will no longer have the opportunity to form the same memories that I once did. To be sure, this a loss for Newburyport's culture, albeit an admittedly small one. In fact, it pales in comparison to some of the vulnerable areas Barry told me that the Newburyport's city government had identified.

Barry Connell: *There are really four main issues we're most concerned with, our greatest vulnerabilities. We have some computer modeling that shows as water rises and is driven up by a storm, what's the first thing to go? Our number one vulnerability is [the sewer treatment plant down on Water Street](#).<sup>13</sup> That's number one. That'll be breached under present circumstances very easily. It has been breached before, but not completely breached. The second most vulnerable property, which is private property, is that condo development just the upriver side, Rivers Edge Condos, up river side of the Gillis Bridge. They're underwater. Third, the streams that drain our industrial park surge up and flood the industrial park. Now that's 2,000 people employed there.*

*And our fourth, which is the most scary to most people: our storm drain system flows only by gravity. You know, with a Hurricane Sandy-type event, the storm drains won't be draining water out of the downtown, it'll be flooding water into the downtown. So those are the four major vulnerabilities that we have to address within the next five to ten years.*

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<sup>12</sup> A "king tide" is synonymous with a super moon or full moon tide.

<sup>13</sup> The recent \$35 million upgrade to the wastewater treatment plant was undoubtedly necessary, but forty years from now, the entire plant will need to be relocated. Due to rising water levels among the Merrimack River, a new location on the opposite end of town will be required to pump the water back to high ground and then down along the Merrimack. This will ultimately require a large amount of costly engineering.

So again, the four main vulnerabilities: The sewer treatment plant, the apartment complex, the industrial park drainage streams, and the city storm drains are all contained to mainland Newburyport and are susceptible if the Merrimack floods. So what does Barry think we need to do to stop the bleeding?

What I gather is that when the sewer treatment plant floods, you run the risk of having contaminants enter the river and subjecting the ecosystem to wastewater. But this can be mitigated in the present by building retaining walls on the border between the river and the plant to stop erosion and keep waves from spilling into the plant. The streams in the industrial park are gonna have to be met with check dams to stop rising flood waters from reaching that far. The same sort of infrastructure is gonna have to be put in place in the city storm drains.<sup>14</sup> But what about when flood waters reach the second vulnerability, the apartment complex? Well—

Barry Connell: *Bye bye! (Laughs)*

Sean Kealey: *There's no... You can't... Wow.*

Barry Connell: *(Laughing) No, that's private. We can't afford to do that, and we shouldn't.*

Barry's right. The city isn't responsible for private development on the river's edge. That's asking too much from a municipality that already has a lot to protect.

And speaking of private development, it's time to talk about what's happening on Plum Island, with the majority of the development that has occurred is private in the form of beachfront houses. Several decades ago, the Army Corps of Engineers built a [jetty](#)<sup>15</sup> adjacent to Plum Island that marked the point where the mouth of the Merrimack River flowed into the Atlantic. Because the jetty shortened the width of the river, the flow rate sped up. This had the effect of pushing scouring sediment further into the ocean. The sediment that once landed on Plum Island. Long story short, the jetty precluded the natural sediment-settling patterns and exacerbated the erosion processes. There are parts of the island that are retreating into the water at roughly twenty-four feet per year.<sup>16</sup>

So how are Plum Islands' residents reacting to this? I mean, clearly they are aware of the fact that the island is shrinking. Barry told me that two to three houses fall into the Atlantic because of erosion every year. And during Hurricane Sandy in 2012, a total of fourteen houses were lost. Because of this, it's almost impossible to get home insurance unless you're grandfathered in.

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<sup>14</sup> B. Connell, personal communication, November 28, 2018.

<sup>15</sup> <http://www.plumislanderoseion.com/2013-03-05-13-05-49/the-river-jetty-system.html>

<sup>16</sup> B. Connell, personal communication, November 28, 2018.

It's best to form a dichotomy between the two types of residents on Plum Island. First, there's the rich newcomers, and then there are the residual residents who own their home prior to erosion becoming a major issue. Listen as Barry and I hash out why each party maintains ownership in the face of almost certain destruction.

Barry Connell: *If you have disposable income, if you're thinking, "Well, this might be second house, you know, for vacations, things like that, and maybe I'll rent it out, make a little money on the side to pay for my mortgage..." People still buy those houses.*

Sean Kealey: *So it's not necessarily people aren't buying houses that are, like, hooked into the community and have to live here everyday, it's just people with disposable income a lot of the time that don't have to worry about the threat of climate change and, like, long-term? Like that?*

Barry Connell: *Yeah, I think you've got it. Yeah, I think that's it. The other factor is that people who have owned their properties for many years, you know, sometimes multiple families, generations, people have handed down—"Grandpa gave it to my dad, and my dad gave it to me"—you know, they're not investing very much in their property. They'll upgrade it in little ways. But a lot of those folks are looking at their property and saying, "Well, we'll keep it because we love the island, but we don't expect to pass it on to our children."*

Talk about the end of the world. I get that it's a little anthropocentric to frame the loss of Plum Island as a loss of a social world. After all, there are endangered [species like the piping plovers](#) that call this place home, too. But when you've lived in a community your whole life, that's what hits the hardest. Most of the effects on mainland Newburyport seem to be mitigated through infrastructure spending. But Plum Island, that's a different story. If what Barry's telling us is true, and the expectancy is that the island will be overwhelmed by water within a generation, I can say goodbye to dreams of ever taking my kids for a day at my favorite hometown beach.

Pretty grim stuff. But this all begs the question: is there any reason for hope? This was the last question I asked Barry. He seemed to think so, but there was a caveat: the city needs help from the state and federal government, because the grants they received in the past just aren't sufficient. In the face of all the hardships, Barry seems tentatively optimistic.

Barry Connell: *Well, we're in trouble if we don't do something. If we do something, we can hold off the effects for a while. So I'm optimistic in that sense, that we're gonna do what we can do and what we can afford. In the longer run, the longer-term, I'm really worried, because Hurricane Sandy money is almost gone. We don't have other deep pockets of money to tap into on the federal or state level. As a matter of fact, the mayor and a couple of people from Plum*

*Island are next week going down to Congress and to Washington to shake the Feds and say, “Hey, you gotta help us out here. We’re losing Plum Island, but that’s just part of our problem.”*

SFX: Ominous music.<sup>17</sup>

Spitting in a volcano to try to cool it—perhaps the most powerful message I was left with. To understand the way climate change affects Newburyport, we need to understand the large-scale ecological processes that make climate change tick. And adversely, to understand the way climate change affects regions or nations as a whole, we need to extrapolate evidence from local communities and apply this knowledge to a greater scale. Don’t think of climate change as a Newburyport issue; think of it as an issue that is affecting Newburyport. To understand how our case study is embodied in the national fight against climate change, we’re gonna switch gears and kick it to my co-host, Clara. But first, another break for our sponsor.

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Host #2, Clara Silverstein: Hi, I’m Clara, and I’m not from Newburyport. I’m from Central Mass., so let’s be real. [I wanna know how this is going to affect me.](#)<sup>18</sup> Let’s start to zoom out, then. Because just like *Jaws*, our story so far seems like a sad but pretty small-scale horror movie. Spielberg’s town is tortured by a murderous shark, and in real life, our town’s bound to

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<sup>17</sup> Sound file name: “Mystery”

Author: CyberMad

Source: <https://freesound.org/people/CyberMad/sounds/448060/>

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<sup>18</sup> This is an extremely overlooked point and, in fact, one of the biggest obstacles in motivating common people to act against climate change. Anthony Leiserowitz sums up this notion on a grand scale as he solemnly explains, “As a result, it becomes psychologically distant. It’s just one of thousands other issues that are out there.”

go underwater in, like, 50-100 years<sup>19</sup>. But hey, it's just one town. We're not talking about the whole state, much less the entire country...right?

Sure, we're not talking about the end of the whole wide world, and, being honest, this won't affect all of us right now. But this is exactly the mindset that got us into this problem in the first place! We're running out of time to keep saying, "Eh, that's not my problem." Newburyport is already sending a group of representatives down to D.C. to try to get more help with dealing with this—and Newburyport isn't even the biggest concern right now<sup>20</sup>. Cities like Miami,<sup>21</sup> Boston,<sup>22</sup> they're going to be facing flooding too. The longer politicians put off dealing with this issue, the closer we get to the point of no return.

And sadly, for some small cities like Newburyport, we may have already passed it.

This issue might be too great for the community to tackle on its own. Newburyport is really a good microcosm of coastal Massachusetts as a whole. With about 18,000 residents, there will be quite a few people who need a place to live if the flooding continues, not to mention the biological loss of the ecosystems.

So why is the end of Newburyport, this small tourist town, relevant? Well, I guess you could look at Newburyport as a sort of leader in dealing with this issue. This is one of the first towns in Massachusetts to really face the perils of climate change. How they address this problem could potentially be a way for other towns, not only in Massachusetts, but all over the world to battle this issue.

Try to imagine knowing that your hometown was going to be lost within your lifetime, and no matter how much you tried as a community to stop it, there was nothing you could do. Local businesses that were around for generations are starting to move out, your family friends are looking to move away, and the places you used to play as a child are already gone. It would feel pretty much like a world was ending, right?

With our climate changing the way that it is, we're all closer to the water than we'd like to admit.

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<sup>19</sup> [http://www.pie-rivers.org/wp-content/uploads/2016/06/CZM\\_Newburyport\\_WEB.pdf](http://www.pie-rivers.org/wp-content/uploads/2016/06/CZM_Newburyport_WEB.pdf)

<sup>20</sup> [https://www.newburyportnews.com/news/local\\_news/group-heading-to-d-c-with-coastal-erosion-agenda/article\\_16b7a2ef-fa81-5ec2-8d9c-7b4b92c43d63.html](https://www.newburyportnews.com/news/local_news/group-heading-to-d-c-with-coastal-erosion-agenda/article_16b7a2ef-fa81-5ec2-8d9c-7b4b92c43d63.html)

<sup>21</sup> <https://www.newyorker.com/news/news-desk/miami-faces-an-underwater-future>

<sup>22</sup> [https://www.salon.com/2018/04/02/boston-will-survive-if-it-can-prevent-the-effects-of-climate-change\\_partner/](https://www.salon.com/2018/04/02/boston-will-survive-if-it-can-prevent-the-effects-of-climate-change_partner/)

What's really freaking people out is that with the stats on climate change, it's going to get from bad to worse a lot sooner than we thought. It's like moving on from *Jaws* to all those awful *Sharknado* movies. In the '70s, we had one badass shark to deal with. Now our biggest nightmare is mobile, a whirlwind of a hundred badass sharks, and sooner or later, it's going to be touching down in your own backyard.

When [National Geographic talked about sea level rising in 2017](#), this sounded less like a reality and more like a Hollywood apocalypse: “By the end of the century, chronic flooding will be occurring from Maine to Texas and along parts of the West Coast. It will affect as many as 670 coastal communities, including Cambridge, Massachusetts; Oakland, California; Miami and St. Petersburg, Florida; and four of the five boroughs of New York City. The magnitude of the coming calamity is so great, the ripple effects will reach far into the interior.”

Let's say we were giving you these stats about something else—like a nuclear bomb.

SFX: Explosion.<sup>23</sup>

If we told you that 670 communities<sup>24</sup> were going to be hit by a little to a lot of radioactive fallout, would we call this normal? Or would it be about time to duck and cover?

One pretty helpful real estate—sorry, climate change site—is [climatecentral.org](http://climatecentral.org)<sup>25</sup>. It has all the tools you need to figure out how soon you should be moving. Because when the water starts to move in, we'll all be moving out.

Newburyport's a pretty good place to start. There's an 83% chance that Newburyport will have flooded with more than five feet of water at least once between now and 2050. By 2070, those same odds are at 100%. That's why Barry Connell says people living just offshore on Plum Island aren't even bothering to keep up their homes in good shape. A flood of five feet would be

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<sup>23</sup> Sound file name: “Huge Explosion Part 2 - Impact”

Author: benjaminharveydesign

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<sup>24</sup> Implying that the prospect of chronic flooding in 670 cities around the country does not seem to carry the same weight in people's minds as potential threats of nuclear fallout. Again, reinforcing how many people both underestimate and are unfamiliar with the potential disastrous effects of climate change.

<sup>25</sup> Climate Central, an independent organization of scientists and journalists, has a host of original research and interactive tools exploring climate change and its impact. The one tool we used allowed us to explore the likelihood of sea level rise in any given location:

<http://sealevel.climatecentral.org/>

absolutely devastating, for the coastline and the downtown, which sits practically at sea level. At some point, this town is going to become an old car that keeps breaking down. At what point do you just give up on repairs and buy the new car you've been eyeing online?

So back to *Jaws* again. In the movie, you had a pretty quintessential mayor, Larry Vaughn. That is to say, he was all about the politics. And the optics. And the money. Even with a man-killing shark on the loose, he was hell-bent to keep the beaches open for the tourist-crazy July 4th weekend. He got the coroner to call the shark's first victim [the results of a boating accident](#). When even more damning evidence starts piling up, he tells Sheriff Brody and the oceanographer Matt Hooper, "Now if you fellas are concerned about the beaches, you do whatever you have to to make them safe. But those beaches will be open for this weekend."<sup>26</sup> So basically—keep the people safe *enough*, but you better keep making us money.

Newburyport's story is, of course, a little different than Amity Island's. No one is exactly denying that there's a shark lurking in the water. We're not calling climate change by another name around here—no "boating accident" theory. So even if the Mayor Larry Vaughns of the world are calling a shark a shark, what exactly is the problem here?

You guessed it—it's still about the [money](#).<sup>27</sup>

Maybe you've heard of the Cape Wind Project? What was supposed to be the nation's first commercial offshore wind farm was cancelled in 2017 due to [opposition from locals and faltering financial support](#).<sup>28</sup> It's best to break the plaintiffs in the Cape Wind case down to two separate parties. There's the community at large, who cited navigational hazards and possible environmental degradation like seabed wires ruining the ecology and birds that flock in the area. And then there's the wealthy homeowners, like one of the Koch brothers, infamously tied in with fossil fuel interests. They cited spoiled aesthetic views as the reason they didn't want the wind farm, but really I think it's quite clear that their fossil fuel interests were the reason behind their

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<sup>26</sup> <https://www.imdb.com/title/tt0073195/>

<sup>27</sup> Now that we're on the topic of money, it's prudent to understand the depth of the financial consequences facing Newburyport in the coming years. For example, by the year 2050, at least 49 homes are considered to be at risk, comprising \$49,064,498 in total home value.

<sup>28</sup> Jim Gordon's \$100 million behemoth ultimately capitulated to the well-organized opposition efforts. With a \$40 million war chest and ardent leaders such as former Senator Ed Kennedy and William Koch, the brother of the famous conservative Koch Brothers, the resistance campaign successfully obstructed the construction efforts. It may or may not come as a surprise that both Mr. Kennedy and Mr. Koch owned vast mansions whose waterfront views would undoubtedly be obstructed by the proposed wind farms.

distaste for the project. Something tells me people won't care so much about their "aesthetic views" when their homes are underwater.

It seems there are no solutions that everyone can agree on. Politicians and locals know that this is an issue, [but the holdup comes in people not knowing the best way to deal with it.](#)<sup>29</sup>

There's simply not enough time to keep having these debates over and over again. We need to start taking action.

What we'd like you to take from this is a sense of urgency. There is a shark in the water, and it's getting bolder and bolder every day. For Newburyport, it may be too late to save its cultural and ecological world, but you may still have time. Don't let your town be the next to swim too far out into the ocean.

SFX: Waves.<sup>30</sup>

Host #1, Sean Kealey: Thanks, Clara. That insight was jarring, to say the least. Now let's take a minute to put a bow on this thing.

Something that's really interesting from [Jaws is that the movie itself was a pretty big disaster during filming.](#) It was so bad, the crew mockingly called it *Flaws*. From filming the ocean scenes on the Atlantic instead of in a Hollywood tank, to the mechanical shark acting up, to the shoot taking almost two times longer than was originally planned, a lot of the cinematic classic was improvised along the way. As it turns out, so was the quote that sums the plot up in a nutshell: "You're gonna need a bigger boat."<sup>31</sup>

With our climate changing so fast that the water is pouring in on the land we live, we're *also* going to have to improvise. And not long from now—yeah, the quote of the movie might become the words of the wise for this century.

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<sup>29</sup> Even when people can become motivated about combating climate change, widespread disagreement nevertheless erupts regarding the best manner in which to act. For instance, we have seen in Newburyport how state and federal regulatory policies, the jetties, the process of dredging, bags of sand, and stone groins are all at the center of debate, with blame for the augmentation of erosion placed on some methods more than others.

<sup>30</sup> Sound file name: Name: "Waves\_1"

Author: haldigital97

Source: <https://freesound.org/people/haldigital97/sounds/241824/>

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<sup>31</sup> <https://www.imdb.com/title/tt0073195/>

You and me—we're gonna need a bigger boat.

See you out on the water.

Credits, Assistant Professor Paul Musgrave: *This episode of "Final Examination" was hosted by Sean Kealey and Clara Silverstein. It was edited by Sean Kealey and Clara Silverstein and produced by Tara Dugan, Mallika Nagan, and Matthew Tabola. The material was researched by Sean Kealey, Mallika Nagan, Clara Silverstein, and Matthew Tabola.*

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