

Protecting the New Jersey Wetlands

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This communication campaign was produced by Deanna Altomara and Taylor Lamb as a final project for EH573: Climate Change Communications.

Background

Coastal wetlands and saltmarshes play a critical role as nature-based climate solutions, especially during storm surges (Fairchild et al., 2021). Wetlands act as a physical barrier to inland communities, and in times where storm surges are high, coastal wetlands can mitigate flooding in coastal communities by 17% (Fairchild et al., 2021). Coastal wetlands are not only an important way to mitigate flooding exacerbated by climate change, but also benefactors for surrounding coastal communities (National Oceanic and Atmospheric Administration Fisheries [NOAA] Fisheries, 2021). Wetlands also preserve clean drinking water, moderate weather, absorb sewage discharge, and provide recreational and commercial opportunities (NOAA Fisheries, 2021; New Jersey (USA) Wetlands Past, Present and Future, 2018).

In 2012, Hurricane Sandy hit the New Jersey coast. It produced 90-mph winds and 14-foot wave surges that flooded entire neighborhoods, destroying homes and businesses (Mackinney, 2021). Communities in North Jersey were hit the hardest in the state and experienced storm tide levels over two feet higher than the “base flood” level defined by federal flood insurance policies (United States Geological Survey, 2016). For context, base floods have a 1% chance of happening in a given year (United States Geological Survey, 2016).

The Sandy surge flooded large swaths of Elizabeth and Newark, which had formerly been a part of the North Jersey wetland known as the Meadowlands (NJ Adapt, n.d.; Marshall, 2004). Over the last three centuries, extensive diking, dumping, and development have shrunk the Meadowlands to a third of their former size (Marshall, 2004; New Jersey Sports and Exposition Authority, 2019). This development might have left the area vulnerable to storm surges. At the same time, the remaining wetlands might have shielded the area from the worst effects of the

storm. Researchers estimate that overall, wetlands prevented over \$625 million in damages across the northeastern states (Narayan et al., 2017).

The Meadowlands Environment Center is one organization in North Jersey working to increase awareness and enjoyment of the surrounding wetlands (NJSEA, n.d.). They have developed educational programs that highlight the science and history of the Meadowlands for students, scouts, and families (NJSEA, n.d.; New Jersey Sports and Exposition Authority, 2019). They also work in outward communication with the public through their nature blog, research in the surrounding communities, and educational boating tours of the marsh (NJSEA, n.d.).

Audience

White Working Man:

Bob is a 50-year-old man who has lived in Moonachie, New Jersey, for his whole life. He grew up in a small multi-family house in a residential neighborhood, where he used to play stickball and “Explorer” after school. “Explorer” was a game where 10-year-old boys put on their winter hats (pretending they were beaverskin) and venture into the swamps down the road. There, they fished, poked at snapping turtles, and made torches out of cattail “punks.” Bob’s crowning childhood achievement was catching and skinning a muskrat. Besides these fond memories, he doesn’t think about the wetlands too much, although he still drives past them on the highway every day. He got B’s and C’s in high school and went to community college for two years before training as a plumber. Now, he has his own plumbing business and makes what he considers a decent living. He lives in a small house a few streets from where he grew up. After work, he hangs out with his high school buddies at the local bar, where they smoke and

play pool. On weekends, he likes to gamble at the racetrack or to see rock bands perform at MetLife stadium. He occasionally goes on dates with women he runs into at the bar, but he considers himself to be a free-roaming bachelor. He feels that life is about having fun wherever you can get it. He's a Republican who thinks that snowflake millennials are ruining the country with their talk of diversity, fairness, and climate change. He knows that life isn't fair, people suck, and that the polar bears will figure something out. He doesn't see any evidence of climate change in his community but remembers that his favorite bar was flooded during Hurricane Sandy and had to close for three months. He falls into the "Doubtful" category of the Six Americas.

Purpose

The purpose of this campaign is to bolster public engagement with the wetlands in partnership with the Meadowlands Environment Center (MEC). The overall aims are (1) highlighting the impacts of climate change on the New Jersey coast, (2) emphasizing the importance of the state's wetlands as a climate resilience solution, (3) pointing to the MEC as an organization working to preserve and enhance the Meadowlands, and (4) directing a call to action for residents of New Jersey (especially middle-income, Republican residents of coastal wetlands) to engage with the MEC through donations, volunteering, and political advocacy.

Goal

The goal of this campaign is to bolster public engagement with the wetlands in partnership with the Meadowlands Environment Center (MEC).

Objective

1. Highlight the impacts of climate change on the New Jersey coast.
2. Emphasize the importance of the state's wetlands as a climate resilience solution.
3. Point to the MEC as an organization working to preserve and enhance the Meadowlands.

Strategy

We will be making a direct call to action for residents of New Jersey (especially middle-income, Republican residents of coastal wetlands) to engage with the MEC through donations, volunteering, and political advocacy.

Tactics

- 5 social media posts
 - Develop posts for the MEC Facebook page
 - Facebook is the social media platform most likely to be used by our target audience
- Volunteer flyer
 - Where we plan on putting it
 - Sports facilities and malls in the middle of the wetlands (Meadowlands Racetrack + MetLife Stadium + American Dream Mall)
- Podcast script
 - Post on the MEC website and coordinate with their current online platform.

Price

- Barriers:
 - a. Monetary:
 - i. Merchandise

- ii. Donations
 - b. Time:
 - i. Hours spent volunteering at clean-ups and events
 - c. Emotional:
 - i. Helplessness and sadness about the condition of the wetlands
 - d. Psychological:
 - i. Belief that action won't make a difference
 - ii. Mindset of "This doesn't impact me, so why should I care?"
- Describe ways to lower/eliminate the costs.
 - e. Monetary:
 - i. More affordable pricing for merchandise
 - ii. Offering free merchandise to donors
 - f. Time:
 - i. One-time volunteer opportunities/short-term commitments (ex., one-day cleanup event)
 - ii. Short 5-min projects (such as building or painting a birdhouse to be placed in wetlands) at vending stands in local malls, sports complexes, flea markets
 - g. Emotional:
 - i. Frame solutions with impacts. Highlight tangible examples of how environmental advocacy has already preserved and revitalized wetlands across the state.
 - h. Psychological:
 - i. Frame solutions with impacts. Highlight tangible examples of how environmental advocacy has already preserved and revitalized wetlands across the state.
 - ii. Show how wetlands directly protect the coast. Educate Bob about the personal costs of not maintaining the wetlands (ex., increased flooding on his property, economic losses, higher taxes to pay for rebuilding after storms)

Product

- Tangible object provided to support wetlands in New Jersey
 - Provide merchandise to volunteers at wetland clean-up events.
 - T-shirts (Bob wears a lot of free t shirts)
 - Hats
 - Mug
 - Bumper stickers

- Beer mugs (Bob likes to drink)
 - These items can also be sold to raise funds for protecting wetlands that serve as barriers to natural disasters.
- “Jersey Strong” became an unofficial state motto after Superstorm Sandy devastated the coast
 - This could be a successful strategy to mobilize Bob’s demographic, as these people were impacted emotionally and financially by the disaster.
 - The phrase still evokes a strong sense of state pride and resilience.
 - We will be adapting the logo to be more reflective of wetlands/coastal climate.



Frame

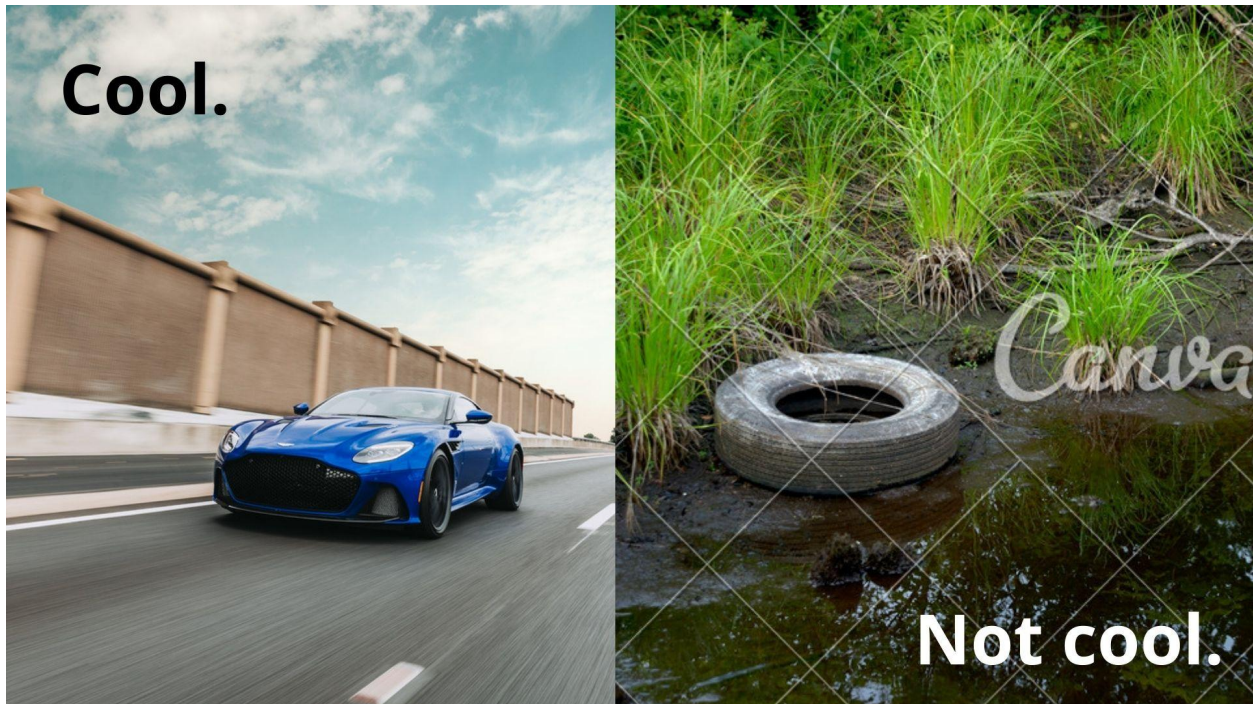
- Climate Impacts
 - Make it local. Use real images and anecdotes from local towns. Remind Bob about the effects of Sandy and other flooding events.
 - Show how climate/natural disasters impacts them and their property
 - Flooding
 - Hurricanes
 - Degradation of wetlands
 - Draw on nostalgia for “the good old days” when Bob fished in the wetlands as a child.
 - Highlight economic loss to NJ
 - Tourism
 - Recreation/fishing
 - Rebuilding
- Climate Solutions
 - Wetland policy protections
 - Bob is more likely to vote for environmental policies than volunteer at a clean up, because it is perceived as “less work for him.” Bob is not young anymore!

- Proposed policies must align with Bob’s established belief systems, namely conservative values.
- Ignite Bob’s state pride as a motivation for change.
- Wetland cleanups
 - Volunteer or outsourced labor
 - Bob does not want to get his hands dirty or to do the work himself, but he is happy to see others (such as local kids) do it.
 - Offer wetlands cleanups as a form of community service for people who are required to do community service by law (for example, if they committed a minor offense)

Campaign Products

Facebook Posts

Facebook Post #1: Not cool.



What’s cooler than cruising down the parkway in your hot new ride?

Enjoying the view!

People's first impression of New Jersey is its roads...and those roads run straight through the wetlands. When those wetlands are filled with tires, cans, and trash, people notice.

It's time to reclaim the Garden State, not the Garbage State (and definitely not New York's Armpit State). Time to show people what New Jersey has to offer.

Show your Jersey pride by supporting our campaign to clean up the wetlands. For the cost of a happy hour round, you can prove that our state is #JerseyStrong.

Donate here: www.fakelink.com

Facebook Post #2: For the memories



Exploring the wetlands is an important part of a New Jersey childhood. But did you know that the wetlands are also important for protecting our state's future?

Coastal wetlands absorb floodwaters and form a physical barrier against storms. These ecosystems help protect neighboring communities from storms like Hurricane Sandy. In fact, wetlands prevented over \$625 million dollars worth of damage from Sandy.

Protecting the wetlands = protecting our home.

Vote 'Yes' for the Wetlands Bill this November.

Learn more: www.fakewebsite.com

Facebook Post #3: Bottoms up.



This round is on the wetlands.

When Hurricane Sandy hit the New Jersey coast in 2012, dozens of businesses were destroyed. But many were saved by an unlikely hero: the Meadowlands.

Coastal wetlands absorb floodwaters and form a physical barrier against storms. These ecosystems help protect neighboring communities from storms like Sandy. In fact, wetlands prevented over \$625 million dollars worth of damage from Sandy.

Protecting the wetlands = protecting our home.

Vote 'Yes' for the Wetlands Bill this November.

Learn more: www.fakewebsite.com

Facebook Post #4: Take a trip to the wetlands!

https://www.canva.com/design/DAE9nbeBqmY/npLC2Aru9aIR9Dh465IWWO/edit?utm_content=DAE9nbeBqmY&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton



Caption: In 2012, Hurricane Sandy hit the New Jersey coast with 90-mph winds and 14-foot wave surges that flooded entire neighborhoods, destroying homes and businesses. Research shows that storms like Sandy are becoming more powerful and striking more frequently than ever before.

But we might have a secret weapon in our own backyard: the New Jersey wetlands.

Coastal wetlands absorb floodwaters and form a physical barrier against storms. These ecosystems help protect neighboring communities from storms like Sandy. In fact, wetlands prevented over \$625 million dollars worth of damage from Sandy.

Protecting the wetlands = protecting our home.

See the benefits of the wetlands for yourself. To plan your next trip, visit <https://njspots.com/three-ways-to-discover-the-wetlands-in-the-meadowlands/>

Facebook Post #5: Volunteer with our organization!

https://www.canva.com/design/DAE9nbeBqmY/npLC2Aru9aIR9Dh465lWWQ/edit?utm_content=DAE9nbeBqmY&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton



Caption: Did you know that New Jersey’s wetlands protect the state from hurricanes? Wetlands absorb floodwaters and form a physical barrier against storms. They also preserve clean drinking water and are great spaces for fishing, crabbing, and kayaking.

But the wetlands need your help! 77% of our state’s waterways are so polluted that we can’t drink from, swim, or fish in them. Environmental clean-ups help to keep the wetlands healthy so that they can continue protecting our communities from storms and flooding.

And an added bonus? Clean wetlands are fantastic for outdoor adventures like hiking and kayaking.

Time to get #JerseyStrong. Sign up for a volunteer clean-up with the Meadowlands Environment Center. Together, we can protect our state from coastal storms. www.fakesignup.com

Flyer



NOT IN MY BACKYARD

Get the junk out of our wetlands!

What? Volunteer
opportunity to clean up the
wetlands

Where?
2 De Korte Park Plz,
Lyndhurst, NJ 07071

When?
June 17, 2022
10:00 AM

Sign up here:
www.fakesignup.com

77% OF OUR
STATE'S
WATERWAYS ARE
SO POLLUTED THAT
WE CAN'T DRINK
FROM, SWIM, OR
FISH IN THEM.



Podcast

Sample Recording: <https://on.soundcloud.com/cws6L>

Script:

[birds sing]

Narrator:

Twenty thousand years ago, this land was covered in ice. A snowy glacier blanketed most of North America, stretching as far south as Perth Amboy. This glacier carved the Palisades cliffs overlooking the Hudson. As the Ice Age ended, the glacier melted, and its floodwaters created the Hackensack River. Over time, sea levels rose, and the freshwater river met the salty Atlantic.

The wetlands of New Jersey were born.

[birds sing, frogs chirp]

[car honk]

Narrator:

Today, the wetlands are crisscrossed by highways, train tracks, and power lines. Junkyards and Superfund sites litter the landscape. The mud is brimming with old tires. The air smells like pond scum.

But what if this forgotten wasteland holds the secret to saving the New Jersey coastline? What if these polluted marshes could fend off the ravages of climate change?

[waves crashing, wind blowing]

[sirens]

Narrator:

We're here to find out.

[dramatic music]

Join us as we journey through the area commonly referred to as the armpit of New York. We'll explore the origins of this unique ecosystem, its role in New Jersey history, and how everything went wrong. But we'll also discover the resilience of the plants and animals that live in the wetlands, hope for saving them, and the untapped potential of this ecosystem to protect the east coast from the rising tide of climate change.

I'm your host, _____, and this is _____.

[dramatic music]

Narrator:

Climate change is reshaping the map of New Jersey. Warming temperatures and melting ice caps are causing sea level to rise. By the year 2100, the New Jersey coastline will rise up to five feet. Sea level rise will flood many of the state's most beloved beaches. Meanwhile, coastal storms will become more frequent and more powerful.

CC Expert:

These storms are going to be like nothing we've seen before. Faster winds, more rain, more flooding, trees down, you name it.

Narrator:

_____ is a professor of _____ at _____.

CC Expert:

The world is changing, and to be honest, we don't really understand what's going on. We know that people emit huge amounts of carbon dioxide, and those emissions change the chemistry of the atmosphere. And those changes in the atmosphere have a direct effect on us. It's the sky, it's the air we breathe, it's wind currents and cloud formations and all kinds of crazy stuff. And as a result, the kind of storms that our grandparents only saw once every hundred years, we might see those legendary storms happening every ten years.

Narrator:

This nightmare came to life in 2012, when Superstorm Sandy hit the New Jersey coast.

[sound clips from news reels.

Woman: The water came up to the second floor...

Man: And the next thing I knew, the shop was under four feet of water...

Woman: It was my grandmother's house that got hit...]

Narrator:

Sandy brought 90-mile-per-hour winds and waves fourteen feet high. Boardwalks were ripped from the sand. Roller coasters fell into the sea. Miles and miles of coastline were destroyed, houses flooded, and trees downed. But...

CC Expert:

It could have been worse. Don't get me wrong, it was a disaster. But the wetlands, or what's left of them, really saved us from the worst of it.

Narrator:

During the storm, wetlands across the state were flooded. Areas that used to be wetlands, like the cities Newark and Elizabeth, bore the brunt of the damage. But the remaining wetlands did something miraculous.

CC Expert:

The wetlands are practically designed to be flooded. They're formed by two bodies of water, right, a river and the ocean. Tides are a part of their natural life cycle. Water goes up, water goes down, the whole ecosystem is built around being able to withstand floods.

So when Sandy hit New Jersey, the wetlands acted like a kind of sponge. They absorbed the water that would have flooded homes and streets. They're not foolproof, obviously. But they helped, they really did. They sponged up some of the floodwater.

Narrator:

Researchers estimate that by acting as a sponge, wetlands prevented over \$625 million dollars in damages across the Northeast.

CC Expert:

Now, we (meaning us, people) have destroyed most of the wetlands. Can you imagine if we hadn't done that, if we had miles and miles of natural ecosystem protecting our coasts?

Narrator:

The cities of Newark and Elizabeth, which were flooded by Sandy, were built on a stretch of wetlands known as the Meadowlands. Today, the Meadowlands are only a third of their former size. Without the reeds and natural barriers provided by the wetland ecosystem, these cities are especially vulnerable to coastal storms.

History Expert:

Since the 1800s, people have been trying to control the wetlands, to erase them and leave something more suitable in their place.

Narrator:

_____ is a professor of history at _____.

History Expert:

They looked at the wetlands, and they didn't see the birds, the migration of the butterflies, the fish. They saw mud, and they wanted to turn that mud into profit.

Narrator:

Engineers struggled to drain the marshes. They built dams, levees, and dikes, which helped them control the water enough to plant vegetables and hemp. But every time, the project was destroyed by flooding.

Eventually, improved technology made these projects successful. Meanwhile, streets and railroads were laid out across the landscape. These roads became thick with traffic from people traveling from the city to small new Jersey towns. Before long, people were building houses along the roads, leading to the growth of towns like Little Ferry.

History Expert:

The Industrial Revolution changed the face of the Meadowlands. Suddenly, people had engines, they had machine power, they had tools they never had before. So they began building everything they could think of, everywhere they could. They didn't care if it meant destroying an ecosystem. They wanted to build. So they did. That's when we saw the birth of the New Jersey Turnpike, Newark airport, a lot of bridges and canals and communities that are still around today.

Narrator:

But all this development also produced huge amounts of waste.

History Expert:

And they thought, what better place to dump your waste than a swamp, right?

Narrator:

During the mid-1900s, dozens of landfills appeared in the Meadowlands. By 1969, dump trucks were leaving behind over 5,000 tons of garbage each day.

History Expert:

That's when people really started to notice, and started to care. It was the 70s, and people were finally thinking about the impact that we were leaving on the environment. They started cleaning up the landfills, regulating development, really protecting what was left.

Narrator:

Over the last 50 years, the state of New Jersey has invested millions of dollars in protecting over 3,500 acres of wetland. Today, the wetlands is home to 280 kinds of birds and dozens of endangered species. The twenty parks in the area attract ecotourists, bird watchers, and students.

CC Expert:

They've really turned things around, when you think about it. Of course, you can't undo the damage. But you can accept ownership and clean up your own mess and try to protect what's left for future generations. And in this case, the wetlands will protect the state from the disaster it helped create.

Storms like Sandy, Irene, they're not going to stop anytime soon. They're going to get worse, and they're going to hit more frequently. But the wetlands can act as a physical barrier to these

storms. They shield communities from the worst of the flooding. And they help people in other ways, too. They help preserve clean drinking water, and they provide excellent recreation. For years, locals have enjoyed fishing and crabbing and kayaking there, and kids love playing with the cattails.

Narrator:

Ultimately, protecting the wetlands isn't going to solve the climate crisis. But it can help protect communities from its effects, saving millions of dollars and countless lives. It can prevent homes and businesses from being lost to floods.

CC Expert:

It's not just about helping the birds and turtles. It's about helping us, protecting our communities. Taking action now can help us avoid the worst of what's coming. Honestly, what protecting the wetlands really means is protecting our home.

Narrator:

If you would like to learn more about the wetlands and how we can protect them, visit us at the Meadowlands Environment Center in Lyndhurst. We offer educational programming, volunteer opportunities, and more. Find our upcoming events at www.njsea.com.

[music]

Evaluation Plan

1. Expand the number of volunteers in the New Jersey wetlands
 - a. Count overall volunteer attendance over a six-month period of time.
 - b. Track donations made towards wetland restoration efforts.
2. Increase community awareness about the ecological and economic importance of the wetlands
 - a. Survey random community members (at central locations such as parks and malls) before and after our campaign. (Ask questions like: Do you think the wetlands are important? Why or why not? What role do wetlands play during severe storms? On a scale of 1-10, how much of a priority should protecting the wetlands be? On a scale of 1-10, how likely are you to participate in a wetlands cleanup/visit the educational center/vote on related legislation? Why or why not?) Afterward, we will analyze the data qualitatively and quantitatively.

3. Increasing voter awareness
 - a. Track number of policy actions taken in New Jersey on wetland protections. These policies can be proposals made by state democrats, republicans, or any bipartisan protection efforts.
 - b. Conduct exit polls in elections where wetlands issues are a factor. Depending on the context, ask people if they supported legislature or if they took the health of the wetlands into consideration before voting.

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Podcast Sound Sources

<https://freesound.org/people/DudeAwesome/sounds/490048/>

<https://freesound.org/people/InspectorJ/sounds/360328/>

<https://freesound.org/people/911elearning/sounds/528761/>

<https://freesound.org/people/PatrickLieberkind/sounds/395388/>