

SENATE ENVIRONMENT
AND PUBLIC WORKS COMMITTEE

FIELD HEARING
BETHANY BEACH, DELAWARE

EXAMINING SHORELINE AND RIVERBANK RESTORATION
IN THE FACE OF CLIMATE CHANGE

FEBRUARY 23, 2022

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BETHANY BEACH TOWN HALL
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I N D E X

PRESIDERS:

SENATOR THOMAS R. CARPER, CHAIRMAN

CONGRESSMAN LISA BLUNT ROCHESTER

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SENATOR CARPER: All rise.

I was just kidding.

Congresswoman, this is an audience with a sense of humor.

Our son Ben when he was in the third grade, gave advice to his fellow third graders at Brandywood Elementary School, home of the Bumble Bees just up north in New Castle County. And his advice to them was humor is everything. People say where did he get that. I'm not sure, but you can never have too much of it. Even in the midst of all the challenges we face here at home and around the world, there's a reason to be optimistic.

I'd like to quote Albert Einstein, who used to say in adversity lies opportunity, in adversity lies opportunity.

Albert Einstein was a professor at Princeton, about halfway between here and New York City. And he used to take the train a lot out of Princeton.

And one day he got on the train and he was looking for his ticket. And he looked in his coat,

1 he looked in his pants, he looked in his shirt, he
2 looked in his briefcase. He couldn't find his
3 ticket.

4 And the conductor comes along. And Albert
5 Einstein is pretty anxious. And the conductor said
6 Dr. Einstein, we know you, we know who you are, we
7 know you ride the train a lot, so don't worry about
8 it, you're okay.

9 And then he walks away, the conductor
10 walks away and starts to go into the next car. And
11 just before he goes into the next car, he looks back
12 into the car and he sees Dr. Einstein down on his
13 hands and knees looking for his train ticket. And
14 the conductor rushes back there. He says
15 Dr. Einstein, Dr. Einstein, don't do this, you ride
16 the train all the time, we know who you are, we know
17 who you are. And Dr. Einstein looked up from his
18 hands and knees and he says young man, I know who I
19 am, too. I just don't know where I'm supposed to
20 go.

21 We're going to talk a little bit today
22 about where we need to go, where we need to go.

23 I'm delighted to be joined here by Lisa
24 Blunt Rochester, who serves our state in so many

1 different capacities.

2 And we're delighted to be joined here by
3 our leaders, leadership from the Army Corps of
4 Engineers.

5 I'm a retired Navy captain. I always say
6 when I'm around people in the Army, different
7 uniforms but the same team.

8 And here in this -- I'll just get this off
9 my chest. We love the Army Corps of Engineers. And
10 you and the folks that you lead have helped out
11 state in so many ways, continue to help our state in
12 so many ways from the Maryland line all the way up
13 to Pennsylvania. And we probably don't say thank
14 you enough. We try to, but thank you for all that
15 and your folks do for us, do with us, and thank you
16 for joining us here today.

17 I have about a two-hour statement that I
18 will open with. Then we'll have lunch. It won't
19 seem like two hours, but it's a lot shorter. I can
20 assure you.

21 But we brought this gavel in. And if I
22 don't use it, my staff will kill me. There you go.
23 And if people nod off, I'm going to use it again.

24 I see here in the audience we're joined by

1 my former colleague, Mary Landrieu. Mary, stand up.
2 Let's give Mary a nice round of applause. Her
3 husband, Ernest Frank. Mary, like me, is a former
4 State treasurer and she and I served together.
5 Pretty good partners for any number of years in the
6 Senate. And delighted to see both of you here
7 today.

8 The letter C figures prominently in the
9 history of our state. The letter C figures
10 prominently in the history of our state. Many, many
11 years ago, colonists came from all over the world,
12 from the Netherlands, the Dutch, we had Swedes, the
13 Finns. Just people came from all over the world to
14 settle Delaware and settle this country.

15 But the letter C, colonists. A lot of
16 them raised corn. And as time would go by, a lot of
17 them would raise chickens, which would eat the corn.

18 Over 100 years ago, we changed our
19 Constitution in order to make Delaware an attractive
20 place for companies to incorporate. And today I
21 think there are more Fortune 500 companies
22 incorporated in the State of Delaware than in any
23 state in the country. So corporations is a big
24 deal.

1 Constitution. We were the first state to
2 ratify the constitution. About 70, 80 miles up the
3 road in Dover, 25 white guys gathered at the Golden
4 Fleece Tavern for two or three days, drank a lot of
5 milk, reviewed the document that had been sent down
6 from Philadelphia. And after three days of debate,
7 ratified it unanimously. So we became the First
8 State.

9 Cars. There was a time not that long ago
10 where we built more cars. We had a huge plant, as
11 Lisa remembers, as our lieutenant governor
12 remembers. Huge plant, a Chrysler plant in Newark
13 and a huge GM plant near New Port, Delaware.

14 And so we are also famous for our credit
15 cards. Raise your hand if you have a credit card on
16 your body or your purse. If you have a credit card,
17 there's about a 60 percent chance that it was issued
18 from a bank in Delaware. For those of you who don't
19 always promptly pay your fees, thank you. You are
20 forgiven and encouraged.

21 A lot of companies here, a lot of
22 companies here over the years. A lot of them are
23 mom and pops, but some of them are pretty big. The
24 DuPont Company is just one of those that are really

1 big. We have some of the biggest banks,
2 corporations really around the world. And big
3 companies like AstraZeneca call Delaware their
4 American home headquarters.

5 We have also leaders like Carney, John
6 Carney, our governor. Like Castle, who was our
7 governor and our congressman. Like Carper.

8 And then we have LBR, Lisa Blunt
9 Rochester.

10 CONGRESSWOMAN BLUNT ROCHESTER: Don't
11 forget Coons.

12 SENATOR CARPER: Oh, Coons, our senator.

13 And we have LBR. No C there. So somebody
14 said one time maybe no C, but a really cool
15 congresswoman. There you go. Can I get an amen?
16 Can I get an amen? Amen.

17 And we have coasts. We have a big coast
18 here for a little state. And we have a lot of
19 five-star beaches. The last time I checked, we had
20 more five-star beaches than any state in America,
21 something we're really proud of. And one of them is
22 named after our Lieutenant Governor Bethany Hall,
23 Bethany. Nice round of applause.

24 SPEAKER: Thank you.

1 SENATOR CARPER: And we have a couple of
2 other Cs that are more troublesome. And one of
3 those is climate change. It's not something I
4 thought a whole lot about when I used to come here
5 as a guy in graduate school right out of the Navy.
6 Didn't think a lot about climate change at that
7 time. Just thought about having a good time, and we
8 certainly did.

9 I made my decision to run for State
10 treasurer at the age of 29 just a few miles up the
11 road from here on a beach, a Delaware beach just up
12 the road.

13 My wife and I for many years would come to
14 Bethany Beach with our sons when they were younger,
15 just little guys. And we actually made the
16 decision, a family decision for me to run for
17 governor right here in Bethany Beach out of Bethany
18 West where we had rented a house. So this place has
19 a special meaning for me and for our family.

20 And the other C I want to mention is the
21 Corps, the Army Corps of Engineers. I'm privileged
22 to serve as chairman of a committee called
23 Environment and Public Works. We have jurisdiction
24 over roads, highways, bridges, climate change, clean

1 air, clean water, drinking water, wastewater,
2 sanitation, flooding.

3 And the Army Corps of Engineers is really
4 part of our entities that we oversee. And it's
5 really a source of joy, just a source of joy.

6 That was an ad lib. That was a riff. And
7 now I have to get even more serious and because the
8 business before us is serious.

9 And we are here today to discuss two
10 immensely important and related topics, climate
11 change and coastal restoration. Having this
12 discussion in the communities that directly feel the
13 impacts of climate change bring new perspectives and
14 a greater sense of urgency to our work.

15 So everyone who has traveled to Bethany
16 Beach, whether you live around here or you've come
17 from another state or upstate, we're happy that you
18 have and we want to welcome you warmly.

19 I'll thrilled that Lisa is here, our
20 congresswoman. And we've partnered on so many
21 things in the past. I'm happy and delighted to be
22 partnering with you today.

23 The U.S. Army Corps of Engineers is a
24 principal steward of our nation's water and

1 infrastructure. The Corps plays a critical role in
2 the construction and maintenance of much of the
3 infrastructure we see around us in Delaware, such as
4 our Port of Wilmington, our wetlands, our marsh, and
5 our beaches.

6 The Port of Wilmington is being expanded
7 to the north. Basically doubled in size, doubled in
8 employment. We expect another couple thousand
9 people to be working there in a few years. And none
10 of that would happen without the help of the Army
11 Corps of Engineers. So we've grateful for that.

12 If you had a banana with your breakfast
13 today and you bought it on the east coast, that
14 banana came through the Port of Wilmington. We are
15 the top banana port on the east coast.

16 The Corps is also responsible for
17 operating America's water highway, 12,000-mile long
18 system of inland waterways that are vital, vital to
19 domestic and international commerce. Each year this
20 expansive system moves more than 500 million tons of
21 commodities, 500 million tons of commodities. The
22 includes six percent of our nation's agricultural
23 exports.

24 The Corps' action to operate and maintain

1 the system results in economic benefit of nearly
2 \$14 billion each year, \$14 billion each year in
3 economic benefits, tens of thousands, hundreds of
4 thousands of jobs actually. As Joe Biden would say
5 actually good paying, good union jobs. Want to work
6 that in.

7 The Corps is also tasked with protecting
8 our communities and our infrastructure from floods
9 and from coastal storms. In 2020 alone, these
10 efforts amounted to more than \$250 billion in damage
11 prevention, in damage reduction. And that's not
12 all.

13 As we see in Delaware and across our
14 nation when these ecosystems are protected by the
15 Corps, communities are protected and important
16 wildlife habitat is conserved.

17 These restoration activities also drive
18 tourism and ecotourism economies. For example,
19 people travel from all over to enjoy our beaches and
20 observe our beloved horseshoe crabs and our
21 migratory birds.

22 In the United States, more than
23 128 million people, this is a great stat, in the
24 United States there are more than 128 million people

1 who live in coastal counties. That represents more
2 than 40 percent of our nation's population.

3 Get this. If America's coastal counties
4 were their own nation, just imagine all the counties
5 on the coast were their own nation, their gross
6 domestic product would rank third in the world,
7 exceeded only by China and by the U.S. as a whole.

8 Unfortunately, today these population
9 centers, these engines of our economy face a growing
10 unrelenting threat from climate change and many
11 times do not compete well for federal assistance due
12 to antiquated budgeting procedures.

13 Since 1901, global sea levels have risen
14 by nearly ten inches. Well, that may not sound like
15 much, but it is. And the story gets worse, because
16 in the days to come, the years to come, we're going
17 to witness not just ten inches of sea level rise,
18 but a whole lot more.

19 A recent report released actually earlier
20 this month by NOAA, not Noah the flood, the ark, but
21 NOAA, National Oceanic and Atmospheric
22 Administration, they released a report that got a
23 lot of attention. It's going to continue to get a
24 lot of attention.

1 They project with respect to sea level
2 rise that it's going to accelerate in the next 30
3 years unless we intervene. The report explains that
4 the United States will experience a profound
5 increase in the frequency of coastal flooding, even
6 in the absence of storms or heavy rainfall.

7 The signs are clear. We must make our
8 infrastructure both more resilient and more
9 nature-based to withstand our changing climate.

10 And while we simultaneously address the
11 root cause of climate change, too much carbon
12 dioxide in our atmosphere, trapping emissions from
13 all sort of places, our cars, our trucks, our vans,
14 our power plants, our manufacturing facilities.

15 In Delaware, we've demonstrated that we
16 can protect communities and the environment while
17 also growing our economy. It's not a choice. We
18 can do both and we need to do both.

19 But the continued threats from climate
20 change are threatening this balancing act. The same
21 can be said for Louisiana. On any given day,
22 Louisiana loses, get this, a football field size
23 piece of wetlands to the sea every 100 minutes.
24 Think about that. Think about a football field

1 every 100 minutes. That piece of land is gone to
2 the sea.

3 That, if you add that up since 1930, it's
4 an area the size of Delaware. So it's huge, huge.
5 And it's going larger and more quickly. Think about
6 it.

7 These losses will only speed up if we fail
8 to respond and take the action that's called for.
9 The science is clear. The science is clear.

10 One of my favorite songs by Thomas Dolby,
11 a one hit wonder, was She Blinded Me with Science.
12 And we don't want to be blinded with science. We
13 want to be guided by science, guided by science.

14 And the science is clear. We must attack
15 this crisis on all fronts, addressing both the root
16 causes of climate change while also repairing the
17 damage that we've already experienced.

18 The latter is where the Army Corps of
19 Engineers plays a vital role. Despite the Corps'
20 historical effectiveness of managing flood and
21 coastal storm damages, the growing threat of climate
22 change demands that this agency adapt to better
23 protect our coast. And to help the agency to do so,
24 Congress needs to give the Corps a proper budget and

1 necessary authorities.

2 Last year, in fact, last fall, not that
3 many months ago, President Biden signed the
4 Infrastructure Investment and Jobs Act into law,
5 which I had the privilege to help write and to
6 manage on the floor. A large part of it came out of
7 my committee that I'm privileged to chair.

8 This law, combined with the expected
9 annual appropriations and supplemental spending, are
10 expected to provide the Army Corps of Engineers with
11 an additional \$100 billion to spend over the next
12 five years.

13 I'll be honest with you. That's a lot of
14 money. It's probably not enough money to meet all
15 the requirements and all the challenges that are
16 facing them. But it's a huge amount of money
17 compared to what we've provided them in the past.

18 This historic investment will allow the
19 Corps to begin to clear its deck of backlogged
20 projects across our country and free up additional
21 funds that must be used to address key initiatives in
22 our battle against climate change.

23 To incentivize, rather to increase the
24 focus of the Army Corps' mission around climate

1 change, Congresswoman Blunt Rochester, Louisiana
2 Senator Bill Cassidy, and Congressman Graves from
3 Louisiana. What's his first name; do you know?

4 SPEAKER: Garret.

5 SENATOR CARPER: Garret. Thank you. And
6 I have introduced legislation known as the Shoreline
7 Health Oversight Restoration Resilience and
8 Enhancement Act. Try to put that on a bumper
9 sticker. But fortunately, there's an acronym, as
10 there is in most cases. And this one is the word
11 SHORRE, the word SHORRE with two Rs, two Rs. I
12 didn't do that well in spelling.

13 If enacted, the SHORRE Act will empower
14 the Corps to protect our nation's coast from the
15 effect of climate change. And our bill does this by
16 elevating coastal restoration to a primary mission
17 of the agency and promoting the development of
18 sustainable nature-based resilience projects. Our
19 legislation also facilitates the Corps' work with
20 State and local partners and climate mitigation and
21 ecosystem restoration projects.

22 We look forward to discussing the SHORRE
23 Act with our colleagues in Congress and working to
24 include it as part of our biannual water

1 infrastructure legislation that the Congress will
2 take up this year.

3 We take up Water Resources Development Act
4 every two years. And we passed it with huge
5 bipartisan margins.

6 We are hopefully taking that up on the
7 floor later this year and hope we get the same
8 strong response and support. And part of that we
9 hope will be the SHORRE legislation that I just
10 talked about.

11 And that leads us to today's hearing.
12 We'll soon hear from a diverse panel of witnesses,
13 wonderful witnesses, including two highly-regarded
14 coastal governors, our own governor and the governor
15 of Louisiana, senior Army Corps officials and
16 stakeholders who are deeply invested in the health
17 and resiliency of our nation's coasts.

18 And we were grateful to each of you for
19 your presence and really for your leadership and
20 eager to hear from this panel and others that will
21 follow us as we discuss the critical intersection of
22 climate change with our coasts and the US Army Corps
23 of Engineers.

24 Now a few introductions. First, Major

1 General William, Butch, Graham, proud Panther.
2 Graduate of the University of Pittsburgh. He was
3 Army ROTC there. I was Navy ROTC there. Not there,
4 but not far away in Ohio State. But where he's the
5 current deputy commanding general for civil and
6 emergency operation at headquarters U.S. Army Corps
7 of Engineers. If that sounds like a big job and a
8 big deal, it is. He has a huge, huge job and
9 challenge.

10 There he oversees all the Corps' civil
11 works activities along with a \$7 billion annual
12 program and responses to storms and other natural
13 disasters.

14 His previous Corps assignments included
15 commander of the Corps' North Atlantic Division in
16 Pittsburgh district. He's literally served our
17 nation all over the world. And we're grateful for
18 that and honored by his presence today.

19 General Graham is no stranger to Delaware.
20 He's many times received parking tickets here in
21 Bethany Beach. Never been towed, never been. No,
22 he's not received any parking tickets until today.
23 And I'm sure we can get it written off if you do.

24 The nice thing about this time of the year

1 is there's no parking meters. This is just great.
2 I love it, love doing it at the beach in the winter.

3 But anyway, we're grateful for his support
4 and assistance and that of the men and women that he
5 leads.

6 General Graham, you're now recognized to
7 make your statement. Welcome and thank you.

8 MAJOR GENERAL GRAHAM: Chairman Carper,
9 Representative Blunt Rochester, I'm surely honored
10 to testify before you today and thank you for this
11 opportunity to discuss the important topics of
12 shoreline and riverbank restoration and resiliency.

13 The Corps, as you said, sir, has a primary
14 responsibility for the planning and construction of
15 flood and coastal storm risk management systems
16 along our nation's shorelines and rivers. The
17 coastal storm risk management project that includes
18 Bethany Beach and South Bethany provides critical
19 protection from severe Atlantic storms and rising
20 sea levels all along the Delaware coast.

21 Incorporating natural and nature-based
22 features, such as sand-filled beaches and dunes, and
23 certainly appreciate the photographs that the team
24 has assembled in front of us, this project provided

1 vital protection during Hurricane Sandy in October
2 of 2012, as well as during several nor'easters
3 experienced in recent years.

4 Project features incurred damages due to
5 those significant coastal storms. Public and
6 private property located landward, where we are, of
7 the project received relatively little damage.

8 The Corps and its partners have been able
9 to reconstruct these project features after these
10 events, demonstrating an ability to prepare, absorb,
11 recover, and adapt to the continuing threat of
12 coastal storms, and Senator, I would say climate
13 change as well. This is the very definition of
14 resiliency, Delaware resiliency.

15 Looking regionally, examples broadly such
16 as this clearly demonstrate the need for a more
17 coordinated and resilient systems-based approach to
18 flood and coastal storm risk management.

19 Also in the wake of Hurricane Sandy,
20 Congress provided significant authorities and
21 appropriations to conduct a comprehensive study
22 along the north Atlantic coastline. This effort,
23 called the North Atlantic Coast Comprehensive Study,
24 highlighted the long-term challenges from coastal

1 storms facing this part of the nation. It
2 underscored the need to support resilient
3 communities. And Senator, as you mentioned, the
4 ecosystems there as well.

5 While still promoting equity and
6 encouraging economic growth, the North Atlantic
7 Coast Comprehensive Study emphasized a need to
8 transition, where possible, from traditional
9 structural measures, gray infrastructure, to
10 non-structural, natural, and nature-based systems,
11 green infrastructure.

12 Further, given projected sea level and
13 climate change trends that I mentioned earlier, the
14 report concluded that further investments and
15 development in science and engineering, to include
16 research and development, is critical to ensure that
17 the Corps continue to provide sound storm risk
18 reduction solutions.

19 This broad regional study identified nine
20 high risk focus areas for more in-depth
21 investigation.

22 The City of Norfolk's Coastal Storm Risk
23 Management Study was one of those focus areas. The
24 Norfolk study was undertaken to evaluate risk

1 management solutions for a major city that is
2 predicted to be heavily influenced by rising sea
3 levels.

4 Approved in the Water Resources
5 Development Act of 2020 and initially funded for
6 construction through the Infrastructure Investment
7 and Jobs Act, this recommended project includes four
8 storm surge barriers as well as numerous
9 non-structural features, such as flood proofing and
10 building elevations.

11 Additionally, the plan includes
12 construction of oyster reefs and living shorelines
13 to increase resiliency via the incorporation of
14 natural and nature-based features.

15 And Senator, when I leave this hearing
16 today, I'll travel down to Norfolk to link up with
17 Mr. Conner, our assistant secretary for the Army for
18 civil works, to tour this very project.

19 SENATOR CARPER: Give him my best. Thank
20 you.

21 MAJOR GENERAL GRAHAM: Will do, Senator.
22 Across the country --

23 SENATOR CARPER: Norfolk is where the USS
24 Delaware was built, most modern fast attack nuclear

1 submarine in the world, which comes to Delaware Port
2 of Wilmington on May -- March 30th, March 31st. Be
3 there.

4 Sorry. That was a commercial.

5 MAJOR GENERAL GRAHAM: That's a hard act
6 to follow.

7 SENATOR CARPER: Where were we?

8 MAJOR GENERAL GRAHAM: Senator, across the
9 country, new and ongoing Corps planning efforts
10 continue to build upon the lessons learned in the
11 aftermath of Hurricane Sandy.

12 The recently completed Coastal Texas
13 Protection and Restoration Study, another one of
14 these large regional studies, has employed a
15 similarly comprehensive regional approach. The
16 recommended plan includes a combination of aquatic
17 ecosystem restoration and coastal storm risk
18 management features that function as a system to
19 reduce the risk of coastal storm damage to natural
20 areas and manmade infrastructure.

21 Looking nationally, the Corps continues to
22 look ahead at the changing landscape of risk
23 reduction and anticipates delivering a large
24 nationwide study known as the National Shoreline

1 Management Study by the end of this year.

2 The National Shoreline Management Study,
3 which is near and dear to I'm sure a lot of people
4 in this room here today, builds on a series of eight
5 regional assessments that explore shoreline erosion
6 and accretion characteristics, certainly a subject
7 that's near and dear to the State of Delaware.

8 These assessments included extensive
9 stakeholder and tribal engagements to make sure that
10 our recommendations are in line with the changing
11 climate.

12 So moving forward, as outlined in our
13 Climate Action Plan, the Corps is committed to
14 evolving our procedures, our planning efforts, and
15 project operations to bolster adaptation and
16 increase resilience to the impacts of climate
17 change. In doing so, the Corps seeks to develop
18 opportunities to enhance the effectiveness of our
19 civil works project and reduce risks to vulnerable
20 communities.

21 Chairman, thank you and thank you,
22 Representative Blunt Rochester, for providing us the
23 opportunity to testify here today. And I look
24 forward to answering any of your questions.

1 SENATOR CARPER: Thank you very much,
2 General.

3 The second witness is Brigadier General
4 Jason E. What does the E. stand for?

5 BRIGADIER GENERAL KELLY: Eric, sir.

6 SENATOR CARPER: General Kelly, commanding
7 general for the South Atlantic Division of the Army
8 Corps of Engineers.

9 General Kelly did not go to the Naval
10 Academy. Where did you go to school? Was it west?
11 By a point?

12 BRIGADIER GENERAL KELLY: Chairman, I'm a
13 proud graduate of the United States Military Academy
14 at West Point.

15 SENATOR CARPER: Navy salutes you.

16 General Kelly is responsible for 25,000
17 square mile area, which includes all or part of the
18 eight southern states, including Puerto Rico and the
19 U.S. Virgin Islands.

20 General Kelly comes to us with a different
21 perspective that given the destructive hurricanes
22 that settled over Puerto Rico and Virgin Islands and
23 wrecked such havoc will be critical as we work on
24 these policies.

1 General Kelly, we're delighted that you're
2 here. Thanks for bringing the General with you.
3 And you're recognized to give us your statement.
4 Thank you.

5 BRIGADIER GENERAL KELLY: Chairman Carper,
6 Representative Blunt Rochester, I'm honored to
7 testify before you today and greatly appreciate the
8 time you've allocated for me to present features of
9 the United States Army Corps of Engineers South
10 Atlantic Division Civil Works Program.

11 I welcome the opportunity to share ongoing
12 shoreline and riverbank restoration improvement
13 efforts. Our productive and positive use of dredge
14 material, the many ways that we're using innovation
15 and efficiencies to address comprehensive benefits,
16 identify and assist economically distressed and
17 historically underserved communities, and enhance
18 resiliency to accommodate sea level rise and other
19 impacts from global climate change.

20 Most importantly, I look forward to
21 working with this committee, the Congress, and the
22 administration to help address the nation's water
23 resources challenges.

24 The South Atlantic Division has a diverse

1 Civil Works Program that includes projects in
2 commercial navigation, flood and storm damage risk
3 reduction, and ecosystem restoration.

4 Our region includes the navigation
5 channels, ports, and waterways in North Carolina,
6 South Carolina, Georgia, Alabama, Mississippi,
7 Florida, Puerto Rico, and the U.S. Virgin Islands.

8 We're responsible for the Enterprise Deep
9 Draft Navigation Center of Expertise and the
10 Everglades restoration effort, the largest ecosystem
11 restoration program in the world.

12 I'm especially excited to highlight the
13 South Atlantic Coastal Study, commonly referred to
14 as SACS, the largest coastal risk assessment ever
15 conducted by the Corps of Engineers, covering more
16 than 60,000 miles, six states, and two territories.
17 This is a mammoth undertaking, a great example of
18 our goal to maximize the use of research and
19 development, while promoting community resilience
20 through partnering.

21 It best illustrates our effort to overcome
22 institutional barriers and adapt to climate change
23 to include sea level rise.

24 America's water resources, rivers,

1 wetlands, inland and coastal waterways, and more,
2 support billions of dollars in recreation and
3 commerce, affect public safety, restore much-needed
4 habitat for fish and wildlife, and provide water
5 supply benefits.

6 Army Corps of Engineers' decision makers
7 must ascertain the federal interest for competing
8 alternatives and recommend plans worthy of federal
9 investment.

10 In addition to the national economic
11 benefits account, innovative methods of
12 determination are being implemented now to fully
13 capture maximum benefits that may be affected by
14 other accounts, to include regional economic
15 development, environmental quality, and other social
16 effects.

17 Examples in my region of responsibility
18 include the South Atlantic Coastal Study, Selma, the
19 Charleston Peninsula, and the San Juan metro flood
20 risk management projects.

21 The aforementioned projects are but a
22 sampling, intended to highlight how the South
23 Atlantic Division is addressing comprehensive
24 benefits, identifying and assisting economically

1 disadvantaged and distressed communities to include
2 rural and tribal communities, and enhancing the
3 resiliency of our shorelines and riverbanks to
4 accommodate sea level rise and other global climate
5 change impacts.

6 As emphasized in Lieutenant General
7 Spellman's testimony to this committee last month,
8 the Corps continues to seek opportunities to
9 identify and document the full spectrum of economic,
10 environmental, and other benefits to the nation.

11 The projects that I've mentioned are all
12 recent examples of this commitment in action. We're
13 committed to ensuring that the South Atlantic
14 Division will continue to seek innovative ways to
15 identify the most equitable and efficient solutions
16 to our nation's water resources, issues in a manner
17 that is of high engineering and economic and
18 environmental quality.

19 Mr. Chairman, this concludes my statement.

20 I appreciate the opportunity to testify
21 today. I look forward to answering any questions
22 you may have. Thank you.

23 SENATOR CARPER: Thank you very much.
24 Thank you both for your testimonies.

1 My recollection is that you both have
2 children. Is that right?

3 General Graham, what do you have? Boy,
4 girls, a couple of boys? What do you have?

5 MAJOR GENERAL GRAHAM: Senator, I've got
6 two older girls and a younger boy.

7 SENATOR CARPER: Okay. General Kelly?

8 BRIGADIER GENERAL KELLY: Sir, I have two
9 boys.

10 SENATOR CARPER: Congresswoman Blunt
11 Rochester, our lieutenant governor, Bethany Long
12 Hall, and others here, other elected, being joined
13 by our governor and the governor of Louisiana, we go
14 to schools a lot. We get invited to all kinds of
15 schools, from kindergarten up through graduate
16 schools and colleges.

17 And I love going to grade schools and
18 we'll do assemblies.

19 And I'll always remember going to this one
20 grade school down here in Sussex County. And I was
21 introduced to speak. In the auditorium was the
22 kindergarten all the way back to I think the fifth
23 grade. And a little girl in the third grade stood
24 up, and she said, after I made my remarks, and she

1 said what do you do, anyway. And I said well, I'm a
2 United States Senator. And she said well, what do
3 you do. And I said well, I help make the rules for
4 our country.

5 I asked if they had rules for her school.
6 She said yes. I said do you have rules on your bus.
7 And she said yes. I said you have rules at home.
8 She said yes. I said we have rules for our country.
9 And along with 99 other senators, 435 U.S.
10 representatives, and the president, we help make the
11 rules for our country.

12 The little boy sitting next to her said
13 what else do you do. And I responded we help
14 people. We help people in all different kinds of
15 ways.

16 And as parents yourselves, if you're in a
17 school in Delaware or some other place, and a third
18 and fourth grader stood up and said what do you do
19 at the Army Corps of Engineers, General Graham, how
20 would you explain it so that that child might be
21 able to understand the importance of what you do?

22 MAJOR GENERAL GRAHAM: Senator, we help
23 people, too. We help communities like we're
24 standing in here today.

1 And that's why the 34,000 men and women
2 who make up the Army Corps of Engineers have joined
3 us, because they value this work. They love
4 delivering for the State of Delaware. Certainly the
5 Philadelphia district that supports the state is
6 absolutely committed to that.

7 So Senator, I think the way I would answer
8 that is similar fashion, we help people.

9 SENATOR CARPER: Good.

10 I can barely see General Kelly's lips move
11 when you gave that answer. So I think you two are
12 in harmony. Okay. All right.

13 General Graham, you have previously
14 testified that the Corps accounts for climate change
15 when it formulates a project, and that's true.

16 But it's clear that the Corps only
17 formulates projects to address coastal and river
18 storm surge and not the other impacts of climate
19 change, such as extreme rainfall and sea level rise.

20 In places like Delaware and Louisiana, the
21 Corps' failure to account for a full range of
22 climate impacts excludes a good number of projects
23 from consideration and severely disadvantages these
24 states.

1 Here is my question. How can the
2 provisions of this legislation I described earlier,
3 the SHORRE Act, how can the provisions of that
4 legislation help the Army Corps of Engineers better
5 address the impacts of climate change as you design
6 projects to work on? Go ahead, please.

7 MAJOR GENERAL GRAHAM: Chairman Carper,
8 thank you very much for that question.

9 At the request of your team, we are
10 currently working to answer that very question and
11 preparing effect statements on the provisions of the
12 SHORRE Act. And those will be available shortly.

13 After the hearing, I'll certainly get on
14 the phone and make sure that we'll check on the
15 progress to make sure that those effect statements
16 are on track.

17 Chairman, regarding how we currently
18 consider climate change, our authorities are based
19 on the analysis of specific storm events. And to
20 that end, we analyze all aspects of the flooding
21 problem, including contributions from rainfall, high
22 rivers, and sea level rise, which is known as
23 combination flooding.

24 And certainly to the testimony that you're

1 going to receive after us, the folks coming up from
2 Louisiana, combination flooding with the Mississippi
3 River, the Gulf, and hurricanes rolling in off the
4 Gulf, they are at ground zero for that combination
5 flooding.

6 We are, the Corps of Engineers,
7 consistently updating, innovating, and improving our
8 engineering processes, our key modeling, and the
9 research and development that underpins all of that
10 engineering.

11 SENATOR CARPER: Thank you. Thanks very
12 much.

13 Maybe a follow-up, quick follow-up. How
14 should the Army Corps and the Office of Management
15 and Budget alter their budgeting process so that the
16 Corps can better plan for and execute projects
17 designed to address a broader range of climate
18 change impacts?

19 MAJOR GENERAL GRAHAM: Chairman, thank you
20 for that question.

21 General Kelly touched on this earlier.
22 And we've been working together for many, many
23 years.

24 But the Corps strives always to maximize

1 the benefits to help people.

2 Our job is to provide Mr. Conner, the
3 assistant secretary of the Army for civil works,
4 with our best technical recommendation.

5 Mr. R.D. James, who was the previous
6 assistant secretary of the Army for civil works, he
7 provided about two years ago the Corps guidance to
8 use all four of the PR -- principles, requirements,
9 and guidelines benefit categories that General Kelly
10 spoke to earlier, the national economic development
11 benefits, the regional economic development
12 benefits, the environmental benefits, and the other
13 societal benefits.

14 We hadn't been allowed to use those all in
15 the past. Mr. James allowed us to use those. And
16 Mr. Conner has told us that he supports that
17 decision and he's going to provide us refined
18 guidance in the future.

19 So that's what our teams are currently
20 working on to be able to provide all those benefits.

21 SENATOR CARPER: Thank you. Another
22 question for General Graham relating to climate
23 change in project formulation.

24 As you know, the new NOAA, National

1 Oceanic and Atmospheric Administration, sea level
2 rise report just came out on February 15th, not even
3 two weeks ago. This report paints a very sobering,
4 very sobering picture for our country, really for
5 the world, but for our country at large about the
6 needs to address climate change. But it also has
7 real implication for coastal communities, like this
8 community right now.

9 As our congresswoman, as our lieutenant
10 governor, and as our governor knows, Delaware is the
11 lowest lying state in the country. Our state is
12 sinking. And the seas around us are rising. If
13 that doesn't get our attention, something is wrong.

14 But here is my question. The report of
15 NOAA on sea level rise really underlines the need to
16 address climate change. But it also has real
17 implications for coastal communities, like right
18 now.

19 Technical assistance provided to my staff
20 during the drafting of both this SHORRE legislation
21 I keep talking about and the coming Water Resources
22 Development Act, which we hope to fold the SHORRE
23 Act into, the larger piece of legislation, later
24 this spring. We were told that when the report is

1 final, the Corps will, and this is a quote, consider
2 and update the technical guidance and if
3 appropriate, update those documents.

4 Given the Corps was the coauthor of the
5 report, what are the next steps for the agency in
6 the process of incorporating the findings and
7 updated sea level projections into project design
8 and implementation?

9 I'll just say, our witnesses know this, if
10 you go back 30, 40, 50, maybe 60, 70 years look at
11 sea level rise, it's maybe eight, nine, ten inches
12 over close to a century. That's going to continue.
13 That's the bad news.

14 The really bad news is it's going to
15 continue a lot faster.

16 And the question is are we fast enough on
17 our feet to get ready for it and turn it around
18 before it's too late?

19 General Graham, go ahead.

20 MAJOR GENERAL GRAHAM: Chairman Carper,
21 that is -- the question is not if the sea level
22 behind us is going to rise, it's when.

23 And we've been incorporating for decades
24 various sea level rise scenarios that address that

1 very question. Not if, but when.

2 And we will take a look at the specific
3 geographical area and we'll look at three scenarios;
4 a high, medium, and low.

5 And it's not, again, Chairman, when the
6 sea level is going to rise -- sorry. It's not if
7 the sea level is going to rise, it's when.

8 In General Kelly's area, we're expecting
9 one to two feet. In the Gulf region, certainly
10 two feet. In this region, about a foot to 18 inches
11 is what we're expecting, as the NOAA report said,
12 over the next 50 to 60 years. And Chairman, as you
13 said, that's accelerating.

14 So sir, you have our absolute commitment
15 that we are going to ensure that our guiding
16 engineering doctrine incorporates that in realtime.

17 SENATOR CARPER: All right. I'm going to
18 turn now, General Kelly, to a question or two for
19 you if I could.

20 On the scope of feasibility studies, as a
21 leader of the South Atlantic Division, you currently
22 oversee a number of studies and projects for
23 communities in the southeast, I think in Puerto Rico
24 also, that are at risk from climate change.

1 In the course of study of the Charleston
2 Peninsula in southern Carolina, in South Carolina,
3 the initial project recommendations by the Corps
4 raised significant public concerns, as you know.
5 The public felt that there were several shortcomings
6 in the Corps' decision making, including an over
7 reliance on constructed project elements. Also, the
8 exclusion of economically disadvantaged communities
9 from the project benefit area and a failure to
10 identify holistic solutions that would address flood
11 risk other than storm surge.

12 Here is my question. What are the key
13 lessons you learned from the Charleston Peninsula
14 study process? And are there provisions in the
15 SHORRE Act, this legislation I keep talking about,
16 that will help future studies avoid the problems
17 that you've encountered?

18 BRIGADIER GENERAL KELLY: Chairman Carper,
19 for me, the first lesson and one that continues to
20 provide benefits for my command, good partnership,
21 the value of good partnership, persistent
22 engagement, and transparency cannot be overstated.

23 The Charleston Peninsula has a high level
24 and risk vulnerability to coastal storms. And this

1 is exacerbated by the combination that General
2 Graham mentioned of sea level rise and climate
3 change. And that was true over the period of
4 analysis.

5 The study investigated storm surge, but we
6 also recognize that this area is prone to flooding,
7 specifically sunny day tides. And that was not
8 investigated in the study.

9 The recommended plan has a robust benefit
10 to cost ratio of 11 to one. And it will reduce risk
11 posed by coastal storm surge and also enhance the
12 City of Charleston's ability to quickly recover from
13 storm surge disruptions.

14 As you mentioned, the prominent feature of
15 the plan is a storm surge wall, but it also includes
16 three areas of non-structural measures where a storm
17 surge wall was not optimal based on topography and
18 location of the storm surge sources.

19 Two particular areas that I call out is
20 the Rose Mont and Bridge Water Village, both
21 economically disadvantaged communities within the
22 study area. The non-structural measures recommended
23 in these communities include flood proofing and
24 structural elevation raises.

1 When I think about the lesson learned and
2 the persistent engagement, the study team engaged
3 with residents and business owners during the
4 planning process through a series of outreach
5 meetings. And based on this feedback, we recognize
6 the need to migrate from an environmental assessment
7 to an environmental impact statement to make sure
8 that we disclose the potentially damaging
9 environmental, cultural, and visual impacts of the
10 project.

11 This EIS is underway. And it will include
12 a more detailed mitigation plan and a more robust
13 environmental justice analysis.

14 The Corps is currently preparing the
15 effect statements, as General Graham mentioned, for
16 the specific SHORRE Act, but I support a holistic
17 process for flood risk management and full
18 consideration of environmental justice for
19 disadvantaged communities without doubt.

20 SENATOR CARPER: That's encouraging.
21 Thank you very much.

22 One last question. And I'm going to turn
23 to our congresswoman, and then bring out our next
24 panel.

1 General Graham, with respect to improving
2 outreach and improving partnering, at the Water
3 Resource Development Oversight, the hearing that our
4 committee held in Washington last month, General
5 Spellman acknowledged that the Corps has a
6 consistency problem when it comes to district
7 outreach and partnering activities with local
8 project stakeholders.

9 Apparently some districts reach out to
10 communities within their areas of responsibility
11 proactively and they do it often, as you know.
12 While other districts largely leave communities in
13 the dark to fend for themselves when it comes to
14 identifying the opportunities that the Corps
15 programs provide.

16 We have experienced this at times in
17 Delaware, and I believe we are on a path to
18 resolving this problem here.

19 Question. Would you please share a few of
20 the details about the Corps' new partnering
21 guidelines and play book and explain how this new
22 guidance will help the Army Corps of Engineers be a
23 better partner in the future?

24 MAJOR GENERAL GRAHAM: Chairman Carper,

1 again thank you for that question.

2 So the Corps doesn't do anything on its
3 own, as we witnessed here in the State of Delaware.
4 Improving partnerships and transparency has been a
5 priority for Lieutenant General Spellman from day
6 one.

7 Our updated partnership guidance are
8 focused on creating and maintaining sound
9 partnerships to enable the safe delivery of quality
10 projects that are on time and within budget.

11 Sound partnership requires proactive
12 engagements at all echelons, and it's rooted in
13 three mutually-supported elements: Commitment,
14 collaboration, and most importantly, collaboration.
15 And communication, sorry. Let me get that again.
16 Commitment, collaboration, and communication.

17 SENATOR CARPER: That's a lot of Cs.

18 MAJOR GENERAL GRAHAM: It's a lot of Cs.
19 It's not corn, chicken, and corporations.

20 SENATOR CARPER: Say those Cs again.
21 Those are good.

22 Collaboration, right? What were the
23 others?

24 MAJOR GENERAL GRAHAM: Commitment and

1 communication.

2 SENATOR CARPER: There you go.

3 MAJOR GENERAL GRAHAM: So Senator --

4 SENATOR CARPER: That's also a secret for
5 a long marriage.

6 MAJOR GENERAL GRAHAM: It is.

7 Regarding --

8 SENATOR CARPER: That's a hearing for
9 another day. Please.

10 MAJOR GENERAL GRAHAM: Chairman, to some
11 of the challenges we experienced here in Delaware,
12 when you get new authorities -- and I've got to
13 pause here for a second to certainly thank this
14 committee for getting a Water Resource and
15 Development Act every two years. That allows my
16 team to get good at taking those new authorities and
17 putting those to work for the American people.
18 Getting implementation guidance to General Kelly so
19 that we can put those to work.

20 So we greatly appreciate, sir, your
21 leadership and having those bills every two years.
22 That's wonderful.

23 SENATOR CARPER: Teamwork makes the dream
24 work.

1 MAJOR GENERAL GRAHAM: Absolutely. The
2 challenge we've got is I've got to help the
3 divisions and the districts take those new
4 authorities and put them to practice.

5 And that was probably my failing here in
6 Delaware is that I didn't help out the Philadelphia
7 district fast enough to understand some of these new
8 authorities and bring up some of the expertise.

9 General Kelly has an amazing team down in
10 Mobile that had that expertise. And it was my
11 failing for being too slow to connect General
12 Kelly's expertise to the need here with the
13 Philadelphia district to support Delaware.

14 So Senator, that's my commitment is to do
15 a better job in making those connections.

16 SENATOR CARPER: Well, you have atoned for
17 your sins, and we're going to go forward and do good
18 work here. Thanks so much.

19 Okay. Congresswoman, you're now
20 recognized for the next hour.

21 CONGRESSWOMAN BLUNT ROCHESTER: Thank you,
22 Senator. I think it's five minutes.

23 SENATOR CARPER: Oh, okay.

24 CONGRESSWOMAN BLUNT ROCHESTER: But I'll

1 take an hour.

2 First of all, I want to thank you,
3 Mr. Chairman, for your leadership. We know that
4 here in Delaware, this is not new for you. These
5 are not new issues for you. And we want to thank
6 you for walking the walk and not just talking the
7 talk and also for allowing us to participate in
8 today's field hearing.

9 SENATOR CARPER: You can go ahead and take
10 the full hour.

11 CONGRESSWOMAN BLUNT ROCHESTER: And I also
12 want to thank all of our witnesses for your
13 testimony.

14 And as the chairman was saying, all of our
15 Cs of chickens and cards and chemicals. I don't
16 know if you said chemicals, but chemicals. All of
17 the different Cs. I see the mayor shaking his head
18 on this one.

19 I also want to highlight another C, which
20 is strong communities. And really one of the
21 reasons we're here today and even doing this field
22 hearing where we're doing it is because we have
23 strong communities in Delaware that have spoken up
24 about the needs and sounded the alarm about the

1 sense of urgency for our economy, for our
2 environment, and also for our quality of life.

3 And so I want to thank all of the
4 community members, the mayors, the town councils,
5 everyone who is participating today, our lieutenant
6 governor and governor, because we are a strong
7 community.

8 I'm also honored to participate in this
9 important hearing and am proud to have introduced
10 HR6705, the bipartisan SHORRE Act, which the -- I
11 almost called you governor. Harken back. Governor
12 Carney looked up very quickly. Which the chairman
13 has already shared with you is the Shoreline Health
14 Oversight Restoration Resilience and Enhancement
15 Act, along with my colleague Representative Graves.

16 I think it's important to note that this
17 bill, this legislation, is bicameral, meaning in the
18 House and the Senate, which means it has a great
19 chance of passing. And it's bipartisan.

20 And I also think that's important to note,
21 particularly in this moment where people feel we
22 can't problem solve. And we're coming together to
23 find common ground to problem solve for our
24 coastlines, our riverbanks, and our shorelines.

1 And so I want to thank you for your
2 leadership.

3 And the goal of this legislation is
4 simple. It's to address the ongoing flooding crisis
5 that our coastal communities and riverbank
6 communities continue to face.

7 And if I were asked what the Army Corps,
8 what would I say to a fifth grader, I would say
9 they're problem solvers. They help us to problem
10 solve and help us to really attack these issues.

11 I want to thank you again, Senator Carper
12 and also Senator Cassidy, for your leadership.

13 And I will have my first question. And my
14 first question is to General Kelly. Shore
15 protection and restoration projects that utilize
16 nature-based features, such and dunes, are highly
17 adaptable to climate change. However, it's unclear
18 whether the Corps interprets existing authorities to
19 permit projects to be modified in order to increase
20 their resilience.

21 Having assumed command of the South
22 Atlantic Division in 2020, you have firsthand
23 knowledge of the Jacksonville district's efforts to
24 modify federally-authorized shore protection

1 projects for enhanced resilience.

2 I have a three-part question for you. You
3 might want to take a note.

4 How has the Jacksonville district worked
5 to enhance the resiliency of federally-authorized
6 shore protection projects? Were there legal
7 hurdles? That's number two. And are there
8 authorities needed that could support rebuilding or
9 repairing coastal projects at a higher level of
10 resilience?

11 BRIGADIER GENERAL KELLY: Representative
12 Blunt Rochester, thank you so much for that
13 question.

14 I get excited about such things because
15 innovative and efficient approaches to incorporate
16 dunes in our existing projects is something we're
17 working hard to do.

18 We have some challenges in the
19 Jacksonville district. We had a re-nourishment
20 effort program for over a dozen projects but only
21 constructed one. And we were unable to construct
22 because making betterments to projects funded with
23 flood control and coastal emergency funds with
24 construction funds is not something we could do.

1 But I've got some good news I want to
2 share in that story, something I consider a win. We
3 set precedent in trying to do this, in that when we
4 better understood what funds we could use, we used
5 that knowledge to bring several projects up to a
6 modern standard. So we looked back. And we're now
7 moving out with this under our regular program.

8 And so in this tale is good news that
9 we're now using to improve the resiliency in Florida
10 as a result of existing authorities.

11 And so to the third part of your question,
12 additional authorities, I absolutely favor any
13 effort that helps us build innovative climate
14 resilient infrastructure, but we've also got to
15 maximize the authorities we have. And that was the
16 lesson I took from the aforementioned effort in
17 Jacksonville.

18 CONGRESSWOMAN BLUNT ROCHESTER: Excellent.

19 So again, there are some authorities that
20 we could use more, and then you will share with us
21 additional ones that you'd like to see.

22 My next question is for General Graham.

23 And I like that answer because, as we were
24 talking about going from gray infrastructure to

1 green infrastructure and being more resilient. And
2 I know there are some folks in the audience as well
3 that I saw that focus on these issues as well.

4 General Graham, as you know, what works in
5 Delaware doesn't necessarily work in other states.
6 Each project design and problem comes with unique
7 environmental and engineering needs.

8 The Corps historically has had a rigid,
9 perceived, some in here would say yes, I see a few
10 shaking heads, top down approach to project design
11 and execution. And in some ways, this top down
12 approach is necessary, but a more ground up
13 community-based approach is also needed to
14 accurately identify projects and community needs.

15 What flexibilities are needed for the
16 Corps to better incorporate community input and to
17 account for individual project needs, while still
18 dressing the needs of regions and the country as a
19 whole?

20 MAJOR GENERAL GRAHAM: Representative
21 Blunt Rochester, thank you so much for that
22 question. And there's multiple answers to it.

23 First and foremost, we've got to empower
24 our divisions and our districts to get innovative.

1 We've got to ensure that we're empowering our
2 divisions and their subordinate districts to reach
3 out to communities to make sure that we're clearly
4 listening to them.

5 Now, when we give authority and funding to
6 the divisions to do these feasibility studies, we
7 start a clock ticking on them. They've got to have
8 them done in three years. We can extend it beyond
9 that three years. Congress has given us the
10 flexibility to do that with the approval of the
11 assistant secretary.

12 So we want to work rapidly to find
13 solutions to those problems, as you mentioned. But
14 we also have to be mindful that sometimes reaching
15 consensus with the communities who we're partnering
16 with might take a little bit more time.

17 And so we're trying to strike that right
18 balance of ensuring that we're delivering safely
19 quality projects on time within schedule to include
20 our feasible studies, but also acknowledging that
21 reaching out and making sure that we're truly
22 listening to communities, like in Charleston, might
23 take a bit more time.

24 And that's why I'm using Charleston as an

1 example. We went from environmental assessment to a
2 full-blown environmental impact statement. And the
3 big difference there, for the lay people, and I know
4 this is an audience mainly of experts, but it's
5 really that we're listening more and making sure
6 that citizens have their voices heard about what
7 we're doing in their communities.

8 CONGRESSWOMAN BLUNT ROCHESTER: As a
9 follow up, one of the challenges that we've all
10 talked about is time. There really isn't the time.

11 And I wonder as a part of the listening is
12 also reaching out to communities to ask how to work
13 better with them. I think that might be a good
14 listening starting point as well. So I think that
15 would be something that we'd love to follow up on as
16 well. What ways concretely and in an expeditious
17 manner, because we know time is of the essence.

18 My next question is to you, General Kelly.
19 As you know, climate change is exacerbating coastal
20 flooding across the country, but the coastlines of
21 the United States and territories also face unique
22 regional challenges.

23 The Corps completed the North Atlantic
24 Coastal Comprehensive Study in 2015. And you are in

1 the process of finalizing the report, as was
2 mentioned, for the South Atlantic Coastal Study.

3 How do coastal protection and restoration
4 challenges facing communities in the northeast and
5 in the southeast of the Continental United States
6 compare?

7 BRIGADIER GENERAL KELLY: Representative
8 Blunt Rochester, having been a commander in the
9 North Atlantic Division under General Graham's
10 charge, I'm very familiar with that effort.

11 I was the commander in Norfolk. So much
12 of the work that is now underway that General Graham
13 and Mr. Conner will see, I was the commander when
14 that commenced.

15 Very familiar with the challenges in the
16 northeast, at least the southern boundary I guess if
17 you use by a watershed in Norfolk. But now in the
18 southeast.

19 I'd like to compare the North Atlantic
20 Coastal Study with the South Atlantic Coastal Study
21 that's underway now using that knowledge.

22 Both studies seek understanding. Both
23 studies address coastal storm, flood risk to
24 vulnerable populations, property, ecosystems, and

1 infrastructure. I think that's the same in the
2 northeast and in the southeast.

3 Perhaps the biggest difference when I
4 think about the North Atlantic Coastal Study and
5 where we are with the South Atlantic Coastal Study,
6 is the North Atlantic Coastal Study was on the heels
7 of Sandy. And though we had Irma and Maria in the
8 territories, U.S. Virgin Islands and Puerto Rico, we
9 have an opportunity to take that understanding
10 that's not unique to the north or the south and
11 apply it here in the Continental United States.

12 The other thing that I offer between the
13 two studies, and as I use that as my attempt to
14 compare and contrast, what we're doing different
15 with the South Atlantic Coastal Study now is the
16 tools are available, the coastal hazard system.
17 We're sharing and able to make decisions.

18 So whatever differences there may be,
19 we're apprized, we're alive and aware, and we're
20 communicating that to our partners.

21 So I think some of the communication that
22 you asked us to do in a more aggressive way earlier,
23 this particular effort is going to help us do that.
24 And I think we'll reap benefits from it.

1 CONGRESSWOMAN BLUNT ROCHESTER: Thank you.
2 Mr. Chairman, I am under my hour allotted
3 time, and I yield back.

4 SENATOR CARPER: Thanks so much. Thanks
5 for your wonderful stewardship in the State of
6 Delaware in so many ways and for being here today
7 and for providing your leadership in the House of
8 Representatives as a member of the Energy and
9 Commerce Committee.

10 There's a bunch of committees in the
11 House. The committee that everybody wants to be on
12 is the Energy and Commerce Committee. Not everybody
13 can serve on it. She does, which is a good thing
14 for Delaware and I think a very good thing for our
15 country.

16 All right. Well, Generals, General
17 Graham, General Kelly, we appreciate your continued
18 dedication and service to this country.

19 I want to say I wish all of you could be
20 sitting up here with us and just watching the
21 expressions on their faces, their eyes, as they talk
22 about the work, the responsibilities that they have
23 and the relish with which they address them.

24 And I like to say everything I do, I know

1 I can do better. And we've heard from the Army
2 Corps that as good as they are, they know they can
3 do better as well, and that we're in this together,
4 and together we're going to make a huge impact and a
5 huge difference at a time when that's very much
6 needed and expected by the people in this country.
7 So thank you.

8 I never ask when we hold hearings in
9 Washington for people to give a round of applause
10 for a panel of witnesses. I don't think I've ever
11 done that. But the Army Corps of Engineers are
12 extraordinarily important in this state and such
13 great huge help in this state. I'm going to refrain
14 from applauding, but I want everybody else to. Go
15 ahead, give them a nice round of applause.

16 All right. That's enough. Never enough.

17 Thank you so much. And you're now
18 excused.

19 And we're going to transition to our
20 second panel. They'll get a big round of applause,
21 too, I'm sure when they finish.

22 We're delighted to welcome our second
23 panel of witnesses, which consists of four unique
24 voices in the coastal community. This includes two

1 sitting governors, a mayor, and the director of a
2 nonprofit dedicated to coastal state issues.

3 If you'll come up and join us, that would
4 be great.

5 First, let me warmly welcome not one but
6 two governors, two distinguished governors, from the
7 State of Louisiana, from the State of Delaware.

8 Governor Edwards took office in 2016 as I
9 think the 56th governor of Louisiana. He did such
10 an outstanding job, that Louisianians elected him to
11 a second term in 2020. That doesn't always happen
12 in this business, especially when the kind of
13 challenges that we face today, as you face today as
14 governors.

15 Before taking office, Governor Edwards, a
16 West Point graduate, served as lieutenant in the
17 U.S. Army, eventually rising to command a rifle
18 company in the 82nd Airborne Division before
19 stepping down with the rank of captain.

20 It is an honor to have you here with us in
21 the First State, Governor Edwards. You're
22 recognized for your remarks.

23 Common sense, practical, smart, surrounds
24 himself with really smart people, respected by

1 governors across the nation, and certainly respected
2 by the people within his own state.

3 His senators, who are both Republicans,
4 speak very highly of this man, who is a Democrat.

5 We're delighted that you're here. And
6 along with John Carney, somebody who is really good
7 at working across the aisle and getting stuff done.

8 Governor, welcome aboard.

9 GOVERNOR EDWARDS: I'm not sure I'm on. I
10 think I am now.

11 SENATOR CARPER: There we go.

12 GOVERNOR EDWARDS: Thank you, Senator
13 Carper, Representative Blunt Rochester. It's great
14 to be here with you all this morning. I appreciate
15 the opportunity to be here with my friend, Governor
16 Carney, as well.

17 I think your committee's focus on
18 restoring shorelines and riverbanks to address
19 climate change is very important. It resonates with
20 me as we strive in Louisiana to save our coast from
21 what is a land loss crisis.

22 Additionally, I'm grateful that you and
23 your colleagues passed a Disaster Supplemental to
24 help us recover from Hurricanes Ida and Laura and

1 Delta, as well as bipartisan infrastructure law.
2 This funding has given us a historic opportunity to
3 make significant progress for our coasts, and we
4 thank you very much.

5 In Louisiana, we obviously depend upon a
6 very close relationship with the Army Corps of
7 Engineers. Our economy, our environment rely upon
8 their success in achieving their mission to promote
9 navigation, provide flood control, and restore
10 aquatic ecosystems.

11 Coastal and riverine areas show the need
12 to manage for all three independent objectives as
13 impacts related to climate change become
14 increasingly apparent and severe.

15 I commend the committee for considering
16 how to improve the synergy between the Corps mission
17 and the need to restore our nation's shorelines and
18 riverbank ecosystems. I endorse the heightened
19 focus on these coastal issues and encourage the
20 Corps to elevate its commitment to coastal
21 protection and restoration.

22 As you may know, Louisiana was built
23 largely by the movement of the Mississippi River as
24 it spread out, the collected soils from across the

1 drainage basin that now covers 31 states and two
2 Canadian provinces. Yet, that river no longer
3 sustains our coastal landscape.

4 Since 1930, Louisiana, as you noted,
5 Mr. Chairman, Louisiana has lost 2,000 square miles
6 of coastal wetlands. And as you also noted, that is
7 about the size of Delaware.

8 The loss began following the great flood
9 of 1927, when Congress charged the Corps with
10 ensuring navigation and providing flood control.
11 The Corps succeeded. But interventions such as
12 levies unfortunately keep the Mississippi River
13 sediment trapped until it spills into the Gulf of
14 Mexico. And so it no longer provides land
15 sustaining benefit to the coast. It doesn't replace
16 that sediment and nourish our coastline. And as a
17 result, we continue to lose a football field every
18 100 minutes.

19 If it weren't for recent hurricanes,
20 however, our state was poised to start building more
21 land than we were losing for the first time since
22 1930. But just in Hurricane Ida, we lost 106 square
23 miles of land. Now, some of that will naturally
24 regenerate, but it still will be a net loss at the

1 end of the day.

2 With each acre converted to open water,
3 our vibrant ecosystems shrink, our infrastructure
4 becomes more exposed, our communities face
5 heightened risk, and our natural carbon sinks lose
6 capacity to offset greenhouse gas emissions. Every
7 day the importance of restoring our coastal and
8 riverine ecosystems becomes more evident.

9 Coastal land loss is an immediate
10 existential threat to our state, and climate change
11 will only intensify the impact.

12 While sediment starvation and subsidence
13 have been major drivers of historic land loss, sea
14 level rise from climate change will become a
15 dominant cause of our coastal wetland loss in the
16 near future, magnified by more frequent and more
17 intense storms.

18 For decades, coastal land loss was a
19 slow-moving catastrophe that was left unaddressed.
20 It took the devastating hurricane season of 2005,
21 you'll always remember Hurricanes Katrina and Rita,
22 to galvanize our state into action.

23 We created the Coastal Protection
24 Restoration Authority, call it the CPRA, to be the

1 single entity in the state charged with integrating
2 hurricane protection and coastal wetland
3 restoration. We recognize that protecting
4 communities and coastal ecosystems do go hand in
5 hand, and strategic planning is foundational.

6 CPRA develops, with significant input from
7 the public and stakeholders, a science-based coastal
8 master plan every six years. And each update has
9 been adopted by our State legislature with unanimous
10 support.

11 That master plan calls for coastal
12 protection and restoration projects over 50 years of
13 projected investment of \$50 billion. And I am proud
14 to say that we are now committing over a billion
15 dollars each year to improve our coast.

16 Reconnecting the Mississippi River in
17 order to harness the sustaining land building power
18 of its sediment is a cornerstone principle of the
19 Coastal Master Plan. And I'm also happy to say that
20 we're making great progress.

21 CPRA is in the final year of federal
22 permitting for the \$2 billion Mid-Barataria Sediment
23 Diversion Project that would reconnect the
24 Mississippi River to the Barataria Bay Estuary,

1 which has the highest rates of land loss in south
2 Louisiana. This project is a critical component in
3 our continued recovery from the Deep Water Horizon
4 oil spill, also.

5 The State has entered the federal
6 permitting process for a similar project on the east
7 bank of the Mississippi River, the Mid-Breton
8 Sediment Diversion Project. And these projects have
9 been supported by three consecutive presidential
10 administrations through the permitting process.

11 However, even with that support, getting
12 to the decision point has been a real challenge.

13 One way this committee could help would be
14 to encourage federal agencies, such as the Corps,
15 EPA, and the Council on Environmental Quality, to
16 ensure timely decision making.

17 Simply put, we're in a race against time,
18 and we can't afford unnecessary delays. The
19 projects are designed to improve the overall
20 environment. And the sooner they are constructed,
21 the sooner our coastal communities can experience
22 their benefits.

23 After Hurricane Katrina, Louisiana greatly
24 benefited from the federal investments in the

1 Hurricane Risk Reduction System, also known as HRRS.
2 And we want to thank you all for the very generous
3 help that you provided to our state. It provides
4 hurricane protection and resiliency to the greater
5 New Orleans area.

6 And your committee heard how valuable the
7 investment proved to be after Hurricane Ida made
8 landfall this past August as one of the strongest
9 storms to ever strike Louisiana.

10 The previous storm that matched its
11 intensity was one year before, which gives evidence
12 to the increasing frequency and severity of our
13 weather.

14 Your committee heard how important it was
15 and how well it performed withstanding the storm and
16 preventing billions of dollars of property damage.
17 The strengthened system protected hundreds of
18 thousands of people and tens of thousands of
19 businesses from the worst impacts of the storm, and
20 it was the first major test of the Hurricane Storm
21 Damage Risk Reduction System since it was built.
22 And it absolutely performed as it was intended to.

23 And I'm very proud that General Spellman
24 testified to this committee that a key element of

1 the success of that system during Hurricane Ida was
2 the presence of a number of restoration projects
3 that had been constructed by the State and by local
4 government.

5 I encourage the Corps to seek additional
6 opportunities to connect ecosystem restoration
7 projects with protection projects. Granting credit
8 to restoration projects within the same area of the
9 protection projects that require mitigation achieves
10 this goal.

11 And we have an example in Louisiana right
12 now under consideration. It would be the use of the
13 Maurepas Swamp Freshwater Diversion Project as
14 mitigation for the west shore Lake Pontchartrain
15 hurricane protection system. The project would
16 provide in-basin mitigation by sustaining 45,000
17 acres of swamp, optimize cost savings, and reduce
18 risk to the west shore levy system once it's
19 constructed.

20 Through our Coastal Master Plan, Louisiana
21 has articulated a clear, widely-supported vision for
22 a more sustainable coast. And I'm hopeful that the
23 Corps will work closely with us to achieve it.

24 And I want to tell you we're no longer

1 just reacting to disasters. We're taking action.

2 Earlier this month, the Climate Task Force
3 that I established completed its work and submitted
4 the first ever Climate Action Plan for our state,
5 which is a balanced, implementable plan that charts
6 a comprehensive pathway to net zero. The plan
7 received unanimous backing from the members of the
8 task force and it's the first Climate Action Plan
9 created by any state in the deep south.

10 I've included a copy of the executive
11 summary of our Climate Action Plan as an attachment
12 to my testimony.

13 Mr. Chairman, this is the overarching view
14 of the challenges Louisiana faces from major
15 environmental threats and how we're responding to
16 them. Alignment with the Corps is absolutely
17 critical to our success. And therefore, I want to
18 commend you and Senator Cassidy, Representative
19 Blunt Rochester, and Representative Graves. This
20 really is a Louisiana Delaware -- or I should say a
21 Delaware Louisiana effort.

22 The bill would --

23 SENATOR CARPER: We did come first.

24 GOVERNOR EDWARDS: I understand. The bill

1 would apply the urgency that Louisiana has to
2 address the challenges along our shores and rivers
3 nationwide. And I greatly appreciate the provisions
4 of the SHORRE Act that would help my State, such as
5 authorizing the upper Barataria basin risk reduction
6 system funding ecosystem restoration for
7 (inaudible), helping the State receive credit from
8 the Corps for the projects that we do, and
9 conducting the lower Mississippi River Comprehensive
10 Study.

11 As I detail in the written statement, I
12 also encourage the committee to direct the Corps to
13 use its existing authority to be more flexible on
14 the land rights it requires for restoration and
15 mitigation.

16 Louisiana has worked well for decades with
17 private land owners on many restoration projects
18 without purchasing land outright. Conservation
19 easements are entirely sufficient. They're faster,
20 they are cheaper, and they allow for a more
21 favorable cost benefit ratio for these important
22 projects. So I encourage the Corps to adopt the
23 same approach.

24 Obviously funding is paramount to

1 achieving our goals. Revenue shared from offshore
2 oil and gas development through GOMESA has been an
3 essential funding source for coastal restoration
4 protection in Louisiana. That's how we've gotten to
5 over a billion dollars a year in these investments.
6 And I want you to know our constitution dedicates
7 every dollar to coastal restoration and protection.

8 However, for years, we've received a very
9 limited amount of impact assistance compared to the
10 revenue collected with respect to how interior
11 states are treated, I should say.

12 While this bill is not in your committee's
13 jurisdiction, I do implore you to support the Rise
14 Act. The legislation makes long overdue
15 improvements to GOMESA. And for the first time
16 ever, would establish revenue sharing for offshore
17 wind production, which is important for your state
18 and for mine. Offshore wind is something that we
19 are strongly pursuing.

20 Mr. Chairman, we've developed an ecosystem
21 restoration program that is as comprehensive and
22 forward thinking as any other such plan in the
23 world. We are attempting to restore a coastal
24 ecosystem where over 2 million people live, where

1 billions of dollars of industrial investment in
2 critical infrastructure exists. The importance of
3 our working coast to our State and to the country
4 simply cannot be overstated. And so we must restore
5 it, we must protect it.

6 And ensuring the Corps has the authority
7 but also the direction to increase its focus on
8 coastal shoreline and river and ecosystems is of the
9 utmost importance to the overall sustainability of
10 the State of Louisiana.

11 So I thank you for the opportunity to be
12 here today, and I look forward to receiving and
13 answering your questions.

14 SENATOR CARPER: Governor Edwards, we're
15 delighted to be your partner in all of this and
16 other issues as well.

17 How many people here are from Delaware?
18 Raise your hand. How many here have actually
19 personally met Governor John Carney? How many of
20 you think you know him pretty well? I'll mention a
21 couple of things that you may not know and then
22 yield to him.

23 We talked a lot about football fields.
24 Every 100 minutes they lose in Louisiana a piece of

1 land the size of a football field to the sea.

2 John Carney knows a thing or two about
3 football fields. And Governor Edwards is a high
4 school football star. He was a great athlete,
5 basketball, football, other sports. But he was All
6 State quarterback for us. Played in the Blue Gold
7 Game.

8 He went onto school. He was wait listed
9 at Ohio State, but he managed to get into Dartmouth
10 somehow and was a stellar athlete there. All Ivy
11 defensive back as I recall there.

12 And came back to Delaware. And my
13 recollection is he was great at resume, but a guy
14 named Tubby Raymond was our football coach for like
15 ever at the University of Delaware. 300 wins,
16 which, as you know, is a lot of wins for college
17 football. And John Carney was one of his assistants
18 during part of that time.

19 And later on, worked as a top aide in
20 Delaware to Joe Biden when Joe was a mere mortal.
21 He was our US Senator.

22 Ended up helping run New Castle County,
23 where about two-thirds of our people live. And as
24 the deputy chief of staff to a lucky governor at one

1 time, he negotiated the purchase of the Port of
2 Wilmington from the City of Wilmington, which had no
3 money to invest in the port, and engineered the
4 turnaround for the Port of Wilmington, which is now
5 just a standout port and one we're enormously proud
6 of.

7 He helped lead a team of Delaware
8 officials to Wall Street and convince the major
9 rating agencies, Moody's, Standard and Poor, and
10 Fitch, for the first in the history of Delaware, to
11 raise our credit rating to a AAA. Proud it's rating
12 that we continue to enjoy.

13 Other than that, he's not done much.
14 That's just a very brief overview of what he's done.

15 But the real test for John Carney was to
16 be governor during the worst pandemic in 100 years.
17 I was fortunate to be governor during eight good
18 years. Started hard, and then it got better and
19 better and better.

20 But he's had to lead us through incredibly
21 difficult, and he's done it with the heart and with
22 great communication and a willingness just to be
23 courageous and to provide the leadership by example
24 that we so admire in our staff.

1 Other than that, can you think of anything
2 else good to say? That just scratches the surface.
3 That just scratches the surface.

4 But he's now our governor. Serves us --
5 we have only one representative, and that's now
6 Lisa. But served as our congressman for six years
7 and did so extraordinarily.

8 Go through the Wilmington train station.
9 There's a great photograph of John Carney, Chris
10 Coons, and I walking arm in arm down the platform of
11 the train station, a shot taken of us from behind.
12 And it's one of my all-time favorites.

13 And what I will say to other, when I get
14 off the train at the end of the day and we have
15 people from other states, they say to me, we walk by
16 the pictures, beautiful pictures, and say who are
17 those three guys. And I tell them who. And they
18 say John Carney, you're so lucky that he's your
19 governor. You know, we really are. We really are.

20 John, welcome. Thank you for joining us
21 today. Thank you for being a staunch advocate for
22 coastal funding and for fighting to help keep our
23 beaches and keep them some of the finest in the
24 world.

1 And you're recognized for your opening
2 statement. Thank you.

3 GOVERNOR CARNEY: Thank you very much,
4 Senator Carper. I almost called you Governor Carper
5 there. When somebody mentioned that earlier, I was
6 ready to say you want to be governor again, you can
7 have it.

8 Thanks for that introduction. It reminds
9 me of something my brother-in-law says, which is the
10 older we get, the better we used to be. I think in
11 my case, people, it's been so long, people don't
12 remember. So they can't verify the facts there.

13 I've had a great example in leadership
14 with you, Mr. Chairman. And I appreciate everything
15 that you've done for me in my public service.

16 SENATOR CARPER: John Carney is oftentimes
17 referred to as one of the two finest governors we've
18 ever had.

19 GOVERNOR CARNEY: I'm really delighted to
20 be here with Governor Edwards. We are colleagues in
21 the National Governors Association.

22 He's one of the most respected governors
23 in our country, for the reasons that you outlined
24 and you can hear his command of the material in his

1 opening statement. We certainly appreciate his
2 service to our country. He's a graduate from the US
3 Military Academy at West Point and his service
4 there.

5 But he's been a great leader in a very
6 difficult time for the State of Louisiana. I'm just
7 delighted that he's here with us.

8 I'm also happy to be here with so many of
9 the elected officials that are our partners. You're
10 going to hear from the mayor here at Slaughter
11 Beach. I missed the tour yesterday. Apologize for
12 that. But they are clearly partners in all this
13 work.

14 I couldn't recognize most of them because
15 they had masks on, but I did see Mayor Becker across
16 from me. And he's a great partner in Lewes.

17 Last year, the Department of Natural
18 Resources and Environmental Control launched
19 Delaware's Climate Action Plan, Governor. We heard
20 about Louisiana's Climate Action Plan. And I would
21 recommend this to every Delawarean. It's got great
22 information. It's really an easy read. It sets the
23 technical standards right at the top.

24 It was the result of a long process

1 involving residents, businesses, and technical
2 experts. Congresswoman, to your point about
3 community engagement.

4 This roadmap shows how Delaware can
5 prepare for climate change and must prepare for
6 climate change in the decades ahead by reducing two
7 main objections. Reducing carbon emissions and
8 focusing on coastal resilience, which is what this
9 hearing is about and your legislation.

10 In 2017, Delaware joined the US Climate
11 Alliance with many other states and local
12 governments, committing to reduce our carbon
13 emissions by at least 26 percent by 2025 over 2005
14 levels. We're not there yet, but we're making
15 progress.

16 Right now, the estimate is that we're
17 between 18 and 19 percent reduction. So we do have
18 some work to do there.

19 We're here today, though, to talk about
20 the impacts of sea level rise caused by climate
21 change. Delaware has already experienced over one
22 foot of sea level rise at the Lewes tidal gauge
23 since 1900. So over the last century, a foot of sea
24 rise there in Lewes. By mid century, sea levels are

1 projected to rise another nine to 23 inches. And by
2 the next century, up to an additional five feet.
3 This threatens our Atlantic beaches and bay
4 communities, neighborhoods, businesses. And for the
5 residents of those communities importantly, it
6 threatens their way of life.

7 Delaware, as has been mentioned, is our
8 country's lowest lying state. Governor, you
9 probably thought you were the lowest lying state.
10 And I guess in some areas, you're below sea level
11 best I could tell.

12 Here in Sussex County, tourism employs
13 17,000 people and contributes \$213 million in State
14 and local taxes. These might not sound like big
15 numbers to our friends in larger states, including
16 in Louisiana, but those are big numbers for the
17 State of Delaware, with just under a million
18 residents.

19 During COVID-19, we've made decisions with
20 the understanding that you need to have a healthy
21 community to have a healthy economy. You got to
22 strike a balance there. It's also true that you
23 need to have a healthy environment to have a health
24 economy. One, in particular in this case, affects

1 the other.

2 To that end, we're grateful, extremely
3 grateful for the investments in infrastructure that
4 are coming to Delaware through the bipartisan
5 infrastructure bill that both of you were part of
6 passing, championed by you and by the president.

7 And I know it achieves exactly what
8 President Biden intended, which was a bipartisan
9 piece of legislation that enables us to build back
10 better. And I think those words hit the nail on the
11 head when it comes to climate change, because these
12 investments will give us the opportunity to build
13 back better by embedding climate resiliency in all
14 infrastructure projects and focus on reducing carbon
15 emissions.

16 This will help us meet those goals for
17 carbon emission reductions by 2025, because it
18 includes a \$17 million investment, which is a big
19 number in Delaware, to expand Delaware's electric
20 vehicle charging network. And this is a critical
21 investment as we move towards more, to electric
22 vehicle transportation in our state. And it's
23 critical to us meeting those carbon emissions.

24 Congresswoman Blunt Rochester mentioned

1 the idea of nature-based features in resilience
2 projects. And we know of one. We have an active
3 one right now in Prime Hook Wildlife Refuge, which
4 is a federal-owned asset. And they've restored the
5 dunes which were destroyed by a number of northeast
6 storms over the last ten or more years.

7 They have restored those dunes with the
8 expectation that they will let Mother Nature runs
9 its course in the years ahead, as opposed to
10 continuing to restore the dunes on a kind of regular
11 basis as the storms come through.

12 You can see the effect there more
13 dramatically I think than anywhere because the
14 parking lot that used to be at the edge of the beach
15 is now 20 yards out into the Bay. And that's really
16 what the kinds of effects that we're talking about
17 here in our state.

18 The ocean and bay beaches are part of
19 Delaware's history. The Delaware Bay was a lifeline
20 and resource during the early Colonial period. It
21 fueled transportation and a maritime economy that
22 ultimately supported the foundation of our state.

23 Today we are approaching a new normal
24 under climate change. Storms, hurricanes, and other

1 weather events are more prevalent. We're seeing
2 so-called 100-year floods every few years instead of
3 once in a lifetime it seems.

4 When I took the oath of office to become
5 Delaware's 74th governor, I pledged not only to
6 uphold our constitution, but to, and I quote,
7 respect the right of future generations to share the
8 rich historic and natural heritage of our state.
9 Both of you have taken that pledge before.

10 We live in a beautiful state. And we
11 should take care to preserve that heritage as we
12 pledged to do. That includes upholding the goals
13 laid out in our Climate Action Plan, incorporating
14 the action plan's objectives into the resources
15 provided by the federal bipartisan infrastructure
16 bill. And we will do that.

17 We can only do this by limiting carbon
18 emissions. We need to expand clean and renewable
19 energy, put in place energy efficiency measures,
20 transition our transportation sector to zero
21 emission vehicles, and reduce and manage greenhouse
22 gases beyond carbon dioxide.

23 We also need to prepare for the
24 environmental challenges we're just now beginning to

1 see. Resiliency efforts, like improving realtime
2 data collection of coastal flooding and providing
3 training tools and technical assistance on climate
4 change impacts may sound simple, but they're
5 critical for us to be prepared and to act.

6 Let me end by thanking both of you for
7 your leadership for our great State. You, Senator
8 Carper, for being a mentor, for your leadership of
9 this committee, and for this piece of legislation
10 that will help us as we attempt to implement
11 Delaware's Action Plan and address the coastal
12 resiliency issues that we'll need to address.

13 Thanks very much.

14 SENATOR CARPER: Thank you so much. And
15 thank you. We have mentored each other. And I
16 might say the same thing for our congresswoman. And
17 thanks for your extraordinary leadership, John, and
18 for being with us today.

19 We're going to hear from Mayor Lock, we're
20 going to hear from Derek, and then I'm going to take
21 a quick break, take a phone call, get an update on
22 the Ukraine, and come right back. And while I'm
23 doing that, I'm going to ask Lisa to preside for the
24 beginning of the questioning of this panel.

1 Mayor, 46 years ago, 46 years ago. I
2 understand you and your mom and dad bought a place
3 in Slaughter Beach. And still, you're not just
4 still living there, still have a place there, but
5 you're the mayor, you're the mayor.

6 Have you ever been the vice mayor at
7 Slaughter Beach? Have you ever been the vice mayor?

8 MAYOR LOCK: I was.

9 SENATOR CARPER: How about secretary? How
10 about treasurer? How about Council person at-large?
11 All the seats. You've been through all of them.
12 And you retired from the government consulting arena
13 after enjoying a career specializing in large-scale
14 federal government procurement and acquisition
15 projects. You are amazing.

16 And you're a great gift from your parents.
17 And we're glad that they brought you here all those
18 years ago and you stuck around and continue to
19 provide wonderful leadership for not just Slaughter
20 Beach, but for all of our beaches. Thank you.

21 You're recognized.

22 MAYOR LOCK: Thank you, Senator. And
23 thank you, Chairman Carper and Congresswoman Blunt
24 Rochester and esteemed members of this panel who are

1 testifying with me today. It's an honor to be here.
2 It was an honor to have been invited, and I can't
3 tell you how happy I am to be representing small
4 coastal towns as we confront the challenges of sea
5 level rise and increasingly violent coastal storms.

6 On behalf of the entire Delaware Bay
7 communities, I would like to thank you for this
8 opportunity.

9 Let me tell you about Slaughter Beach
10 quickly, if I might. Slaughter Beach is one of
11 three incorporated towns on the Delaware Bay.

12 SENATOR CARPER: First of all, take 30
13 seconds. Tell us why it's called Slaughter Beach.
14 Everybody asks me that question. And I say call the
15 mayor.

16 MAYOR LOCK: There are so many reasons.

17 SENATOR CARPER: All right. We'll make
18 that an addendum to your testimony.

19 MAYOR LOCK: Some stories are much funnier
20 than others.

21 SENATOR CARPER: Oh, good, good. Humor is
22 everything.

23 MAYOR LOCK: But the town consists of over
24 12,000 acres, 98 percent of which are in

1 conservation and owned by the federal government
2 Department of Interior as part of Prime Hook
3 National Wildlife Refuge or the State of Delaware,
4 the Milford Net Conservation Area, or the Delaware
5 Nature Society.

6 We enjoy living next to an unspoiled and
7 pristine saltwater marsh. And it is one of the last
8 few saltwater marshes left in the United States.

9 The residents of Slaughter Beach are
10 stewards of over three miles of Delaware Bay
11 shoreline, and we take our stewardship
12 responsibilities very seriously.

13 We are a horseshoe crab sanctuary and a
14 certified wildlife habitat community.

15 We maintain 20 access points to the Bay
16 shore and welcome the public to our beaches.

17 Our beaches are primary breeding ground
18 for horseshoe crabs and are an important stop on the
19 Atlantic flyway for migrating shorebirds, most
20 especially the endangered red knot, a small bird
21 that feeds on horseshoe crab eggs to fuel their
22 annual migration from the furthest tip of South
23 America to their Arctic breeding grounds.

24 As mayor, I bring the perspective of a

1 frontline community leader who lives with both the
2 pleasures and threats of the sea. I've worked
3 closely with the mayor of Bowers Beach, Ada Puzzo,
4 and the mayor of Lewes, Ted Becker, who is here
5 today.

6 As we follow the progress of the U.S. Army
7 Corps of Engineers' beneficial use of dredge
8 material for the Delaware River Feasible Study, we
9 were delighted by its inclusion in the Water
10 Resources Development Act of 2020. And a special
11 thanks goes to you, Senator Carper, and to you,
12 Congresswoman Blunt Rochester, for your leadership
13 and your support in making that happen for the
14 Delaware Bay communities.

15 I'd like to say that horseshoe crabs play
16 a significant role in human health and wellness. I
17 recently read about the critical role that the blood
18 of horseshoe crabs played in the development of a
19 COVID-19 vaccine. And there are countless other
20 pharmaceutical breakthroughs that have been
21 dependent on the blood of horseshoe crabs.

22 And due to coastal storms, horseshoe crabs
23 require sandy beaches to lay their eggs and breed.
24 And due to the increasing prevalence of coastal

1 storms, we are losing our sandy beaches and
2 horseshoe crab breeding grounds at an alarming rate.

3 We had a storm that we experienced on
4 October 29th of this year. I do have some pictures
5 that I neglected to put up. But it shows the loss
6 of breeding grounds, a habitat breeding grounds, and
7 how every beach on the Delaware Bay was impacted and
8 affected by this one relatively mild storm.

9 Last year, the Town of Slaughter Beach,
10 and I'm going to briefly touch on this because I
11 believe it shows the importance of partnerships that
12 we need to sustain to manage our coastal and
13 preserve our coastal properties. Last year, the
14 Town of Slaughter Beach invoiced approximately
15 \$90,000 in property taxes. That was it. And of
16 that amount of money, 60,000 went to collect trash
17 and recycling fees, leaving our entire operating
18 budget, with the exception of what we get from
19 grants, at \$30,000 for our operating budget.

20 I think it displays the need for the
21 partnership that we have been trying desperately to
22 build with federal, state, county, and local
23 officials.

24 I'm very pleased, because of that, I'm

1 very pleased with the provisions of the SHORRE Act
2 and would, again, like to thank you, Congresswoman
3 Blunt Rochester and Chairman Carper, for
4 cosponsoring this bipartisan and bicameral bill and
5 for your involvement and concern in Delaware's
6 coastal towns, beaches, dunes, and wetlands. You
7 are national leaders who truly understand the
8 importance of our coastal communities and the
9 vulnerabilities we endure as the global climate
10 warms, weather becomes more erratic, and seas rise
11 at unprecedented rates.

12 This legislation envisions a better way
13 for the nation to prepare for future needs to
14 address the problems that will only be exacerbated
15 in the near future.

16 We, on the coast, rely on our partnerships
17 with county, state, and federal government officials
18 to help us protect and sustain our communities.

19 In Delaware, the Department of Natural
20 Resources is an environmental control, is the
21 non-federal partner on Corps projects. In our
22 experience, however, communication between the
23 Corps, DNREC, and the communities in need of
24 assistance is limited, at best.

1 One exception to this is when Senator
2 Carper's staff arranged for a Corps 101 meeting for
3 local Delaware communities. That day, three years
4 ago, now, was extremely informative. And had it not
5 been for Senator Carper's staff's understanding and
6 collaboration and information sharing that was
7 desperately needed, I doubt Corps staff would have
8 had the vision to coordinate the effort. And I
9 suspect it will not happen again unless someone
10 outside the Corps arranges it. This needs to
11 change.

12 I implore Corps and DNREC leadership to
13 strengthen communication channels and see the world
14 through the lens of local elected officials. We
15 usually have little or no knowledge of how the Corps
16 function or the regulatory constraints that it must
17 operate under.

18 And I'd like to note that frontline
19 community leadership changes hands frequently. So
20 annual outreach efforts to educate community leaders
21 is a key component of cooperation and collaboration.

22 The SHORRE Act is a valuable tool in
23 clarifying the Corps' mission, modernizing the
24 Corps, and streamlining Corps interaction with the

1 communities it serves.

2 I call out three specific inclusions in
3 the SHORRE Act that I'm particularly happy about.

4 First, the expansion of the Corps'
5 existing river flood mitigation and restoration
6 authority that will now include shoreline protection
7 and restoration for the first time as a primary
8 mission of the Corps.

9 Second, the identification of Delaware Bay
10 beaches as a priority area for implementation of
11 projects under the amended authority.

12 Finally, and perhaps the best news,
13 section 15 modifies the Delaware Beneficial Use of
14 Dredge Material Feasibility Study to permit the use
15 of alternative borrow sources. This will
16 significantly reduce the cost to nourish the
17 Delaware Bay beaches.

18 This section also includes a special rule
19 that allows the Corps to provide emergency services
20 to any of the bay beaches included in the beneficial
21 use study under the existing continuing authority.

22 These inclusions will result in increased
23 opportunities to work with the Corps that we on the
24 Delaware shore have not enjoyed in the past.

1 Once again, thank you for providing me
2 with the opportunity to speak on this very critical
3 issue.

4 SENATOR CARPER: Mayor, thanks for your
5 leadership in Slaughter Beach and thank you for
6 extending that leadership well beyond Slaughter
7 Beach and joining us today. Thanks so much.

8 Next, Derek, Derek Brockbank.
9 Mr. Brockbank is the executive director of the
10 Coastal States Organization, which represents our
11 nation's coastal states, territories, and
12 commonwealth. Prior to that, he served as the
13 executive director for the American Shore and Beach
14 Preservation Association and as campaign director
15 for a collision effort to restore the Mississippi
16 River delta and coastal Louisiana.

17 Mr. Brockbank, you're recognized for your
18 statements. We're delighted that you have joined
19 us. Thank you so much for coming.

20 MR. BROCKBANK: Thank you. Thank you,
21 Chairman Carper, Representative Blunt Rochester.
22 Thank you for the opportunity to testify today on
23 behalf of Coastal States Organization.

24 I am honored to be on a panel of what I

1 consider absolute coastal champions at multiple
2 levels of government.

3 Since 1970, CSO has served as the
4 collective voice for the nation's coastal states and
5 territories on federal policy issues. CSO members
6 are governor-appointed delegates who run or oversee
7 State coastal zone management programs.

8 Our State members work closely with the
9 U.S. Army Corps of Engineers to plan, permit, and
10 implement projects in the coastal zone, serving
11 variously as partner, client, and occasionally State
12 watchdog of the Corps. And on behalf of our
13 members, CSO has worked and continues to work with
14 the Corps to develop and advance policies to better
15 manage resources in the coastal zone.

16 The topic of today's coastal hearing is of
17 utmost importance to every coastal manager in the
18 country. Coastal managers are facing unprecedented
19 challenges, both caused and exacerbated by climate
20 change. But perhaps the most acute climate change
21 impacts along the coast are in shoreline management
22 and restoration.

23 Along saltwater coasts, what we've heard a
24 lot about today, rising seas and increasing storm

1 intensity are expanding flood zones and will
2 increasingly inundate low-lying coastal areas.

3 But along freshwater great lakes coasts,
4 lake levels are also fluctuating at unprecedented
5 rates. This has led to increased pressure to
6 restore our hardened shorelines on both saltwater
7 and freshwater coasts.

8 Although many communities are now
9 beginning to look at what we call managed retreat,
10 the ability to move infrastructure away from the
11 water's edge, but the reality is that both are
12 needed. We cannot just restore or retreat. We need
13 to restore and retreat. Determining when and how to
14 restore and when and where to retreat is at the
15 heart of coastal resilience.

16 Fortunately, coastal communities and
17 Congress have made significant strides to address
18 coastal resilience. In particular, the
19 Infrastructure and Investment and Jobs Act, together
20 with funding and other recent supplemental
21 appropriations has provided states, the Corps, and
22 other federal agencies an incredible opportunity to
23 restore and improve the resilience of the nation's
24 shorelines.

1 In the past few word is Congress has
2 enacted strong policies for the Corps on coastal
3 resilience and we've seen great improvement in the
4 Corps' consideration of climate impacts.

5 However, the Corps' willingness or ability
6 to use natural infrastructure and focus on shoreline
7 restoration across the country has not reached the
8 level of importance it should given the magnitude of
9 challenges from climate change.

10 Therefore, CSO is very pleased to support
11 the SHORRE Act, which significantly improves the
12 Corps' ability to address coastal restoration and
13 resilience by elevating shoreline and riverbank
14 protection and restoration to a primary mission of
15 the Corps.

16 In many coastal regions, restoring a
17 shoreline can serve many purposes in the community.
18 Integrated beach, dune, and back bay wetland systems
19 that use natural and nature-based features can help
20 a community adapt to increasing flood risk, improve
21 ecological value, and can provide economic
22 stability.

23 This balanced approach to shoreline
24 restoration and management might not fit neatly into

1 any of the Corps' current mission areas but is
2 essential to a functioning and resilient coast in an
3 era of climate change.

4 CSO believes making shoreline restoration
5 a primary mission of the Corps will help develop
6 these multiuse projects.

7 Additionally, the SHORRE Act gives local
8 project sponsors increased flexibility to account
9 for climate change in the design and construction of
10 coastal projects and changes project funding
11 structures to support coastal communities, with
12 special consideration of economically disadvantaged
13 communities.

14 And while CSO strongly supports the SHORRE
15 Act, we would encourage the committee to go to do
16 even more to get the Corps to prepare coastal
17 communities for climate effects, climate impacts,
18 including planning on longer time horizons and
19 reforming the Corps' benefit cost ratio process.

20 The Corps should recognize that although
21 there are projects, there are coastal projects that
22 are often built for 50-year authorizations, local
23 sponsors' expectations are that these projects last
24 significantly longer than 50 years. However, given

1 a rapidly changing climate, coastal projects are
2 facing vastly different considerations than when
3 they were when they were originally authorized.

4 The Corps should plan and develop
5 transition pathways for existing projects that are
6 reaching their expiration and develop coastal
7 adaptation projects for 50 to 200-year projections
8 for sea level rise and, if possible, lake level
9 change.

10 Finally, the current BCR analysis is
11 keeping the Corps stuck in 20th century thinking.
12 Thrilled to hear some of the progress that's being
13 made, the testimony from Colonel Kelly about how
14 that BCR is changing, but the reality of the coast
15 is that it's multiuse.

16 Resilient coastlines have ecological
17 benefits, social cohesion benefits, public health
18 benefits, even benefits of racial justice. The
19 Corps should be developing and using a process to
20 better quantify and incorporate the value of those
21 benefits. And we know they are beginning to develop
22 that process. But the sooner that can become used
23 across the Corps, the better off our coastlines will
24 be.

1 Furthermore, the Corps' current BCR puts
2 the Corps in a position of investing in areas of
3 existing wealth. Congress has begun to direct the
4 Corps to consider how to build resilient coastal
5 infrastructure for economically disadvantaged
6 communities, but this should go beyond pilot
7 projects and reduce cost share for historically
8 marginalized communities that have born the brunt of
9 poor coastal planning and decision making.

10 The Corps needs to plan projects for a
11 resilient and equitable future, not simply rebuild
12 the coastlines of the past in ways that withstand
13 climate impacts.

14 However, reevaluating the Corps BCR must
15 start with a long overdue implementation of the
16 PRNG, as we heard from the previous panel. And
17 until we see what the Corps is recommending to
18 themselves for greater inclusion of benefits through
19 the PRNG, it's hard to make specific recommendations
20 for how Congress can direct the Corps.

21 I appreciate this opportunity to testify
22 on behalf of CSO before the committee on this
23 critically important topic.

24 Just to reiterate, Congress can make an

1 important step by passing the SHORRE Act as part of
 2 (inaudible) 2022. We would also encourage Congress
 3 to consider other studies and policies that would
 4 help direct the Corps to improve the nation's
 5 coastal resilience to provide oversight and guidance
 6 to the Corps and improving the BCR and ensuring that
 7 project decisions are based on forward-thinking
 8 values that consider our future climate and
 9 principles of equity and justice.

10 We look forward to working with the
 11 committee, all of Congress, and the Army Corps on
 12 these and other important coastal issues.

13 SENATOR CARPER: Thank you for that. We
 14 look forward to continuing to work with you and the
 15 folks that you lead.

16 I'm going to run to get a quick update on
 17 the Ukraine. I'll be back in just a few minutes.

18 In the meantime, I leave it in very good
 19 hands. Our congresswoman.

20 CONGRESSWOMAN BLUNT ROCHESTER: Thank you,
 21 Mr. Chairman.

22 And thank you all for your thoughtful and
 23 thorough testimonies.

24 I also want to reiterate what

1 Mr. Brockbank said about you being coastal
2 champions. I think your testimonies really showed
3 that.

4 And also thank you so much for the focus
5 and inclusion on all communities across our country.

6 My first question is for Governor Edwards.
7 Again, thank you so much for joining us today.

8 The Corps has multiple authorities that
9 permit the agency to conduct community outreach and
10 planning assistance that help communities better
11 understand Corps projects and design their own.

12 As the governor of a state with
13 significant rural and coastal populations, as well
14 as major cities like New Orleans, how might the
15 Corps provide better outreach to communities with
16 diverse needs?

17 And it leads right from your last
18 testimony.

19 GOVERNOR EDWARDS: Thank you very much for
20 the question, Representative Blunt Rochester.

21 And I think Derek did an excellent job of
22 summarizing how important this is, because while we
23 get attached to what we have and we want to maintain
24 it, and that's very important, sometimes we have to

1 go beyond what we've done in the past, especially in
2 the area of equity, because it wouldn't be an
3 equitable problem had we done it right the first
4 time. And so I think this is really important.

5 And what is going to have to happen I
6 believe is, and the SHORRE Act helps to address
7 this, the Corps is going to have to get off --
8 continue to do its primary missions, flood control,
9 aquatic ecosystem restoration, and navigation, but
10 we have to elevate to an equal priority, put on par
11 the mission of coastal restoration and ecosystem
12 restoration. And then within that framework, make
13 sure that we're doing so much of what the Biden
14 administration is talking about with respect to
15 equity, and it becomes a focus.

16 And by the way, it can be hard to define
17 and quantify, but that doesn't mean it's not
18 important and that we shouldn't try and that we
19 can't do better.

20 And so that overall framework I think
21 should permeate what the Corps does every day. And
22 then it should guide the allocation of resources,
23 which, even though we're going to be much more
24 generous as a country with the Corps than we've ever

1 been in the past, they will still be resource
2 restrained. They won't be able to do everything,
3 but at least they will have a focus and a mission
4 that drives more investment in these communities
5 that have been suffering for so long.

6 CONGRESSWOMAN BLUNT ROCHESTER: Thank you
7 so much.

8 And as you mentioned, I mean one of the
9 core functions of this Corps Act is to include that
10 fourth mission for the Corps of restoration and
11 protection of our coastlines as well as our
12 riverbanks.

13 And I think, as you specifically kind of
14 tying it back, when we -- the reason why I think we
15 have gotten the broad-based support is because we
16 are looking at these things that intersect with
17 different populations.

18 As the mayor mentioned, Slaughter Beach
19 for the Corps might seem like a very small
20 population. And so it becomes disadvantaged in a
21 way from maybe larger places.

22 And so that's why this focus and looking
23 at cost benefit in a different way is really
24 important for this moment.

1 Governor, I also wanted to ask, the Town
2 of Grand Isle and its barrier island were severely
3 damaged by Hurricane Zeta in the fall of 2020 and
4 then again by Hurricane Ida, less than one year
5 later as you mentioned.

6 Supplemental funds were provided to help
7 repair the federally-authorized coastal storm risk
8 management project there.

9 Given that climate change poses a
10 compounding threat to communities like Grand Isle,
11 should the Corps be authorized to rebuild coastal
12 storm risk management projects to a more resilient
13 and sustainable level when addressing post disaster
14 repairs? Why or why not?

15 I think I know the answer. Just asking.

16 GOVERNOR EDWARDS: Yes, ma'am.

17 CONGRESSWOMAN BLUNT ROCHESTER: For the
18 record.

19 GOVERNOR EDWARDS: Yes, ma'am. For the
20 record, the answer is yes, they obviously need to be
21 able to do that.

22 It really gets back to the build back
23 better. If we know that the storms that we are
24 currently experiencing are absolutely obliterating

1 what we have built before, then continuing to
2 rebuild to that standard is just foolish because
3 it's not going to provide protection, it's not a use
4 good of the funding.

5 And I will tell you, I've been governor
6 for a little over six years, I have made multiple
7 trips to Grand Isle to look at those systems and to
8 implore the Corps to do better and not just go back
9 and redo what they've done.

10 And I think they're thinking along these
11 lines now for the first time. And it's a great leap
12 for the folks down in Grand Isle as well. But still
13 a lot of work to be done there.

14 And Ida just slammed Grand Isle. We have
15 people who are in their 80s, and they've been
16 through hurricanes forever. This is, many of them,
17 this is the first time they ever left the island for
18 a hurricane. And when they came back, they saw
19 devastation that they had never seen before.

20 And so it's very important that we improve
21 the protection system there and make that island
22 more resilient. Yes, ma'am.

23 CONGRESSWOMAN BLUNT ROCHESTER: Thank you,
24 thank you.

1 And Madam Mayor, Mayor Lock, thank you for
2 your leadership.

3 In addition to the economic concerns,
4 Slaughter Beach is home, as you talked about, to a
5 diverse ecosystem featuring a symbiotic relationship
6 between one of the largest horseshoe populations in
7 the world, which I understand from the vice mayor
8 goes back before the dinosaurs. I mean people here
9 are shaking their heads as well. And it relies on
10 horseshoe crab eggs as a food source.

11 How important is a healthy shoreline for
12 the continued survival of the local horseshoe crab
13 population, and by extension, the threatened red
14 knot and other migratory birds?

15 MAYOR LOCK: Well, certainly,
16 Congresswoman, it is a critical component of the
17 health and longevity and the continued
18 sustainability of horseshoe crabs. They lay their
19 eggs on sandy beaches.

20 You were at Slaughter Beach yesterday. We
21 were able to see some of them on our beaches. These
22 are clumsy, it's a clumsy species that crawls
23 ashore.

24 CONGRESSWOMAN BLUNT ROCHESTER: No

1 offense.

2 MAYOR LOCK: Yeah. Please don't take
3 offense.

4 They're a slow moving, clumsy species.
5 But they wouldn't be able to traverse a hardscape.
6 A sandy beach is really what they need for their
7 spawning.

8 And as I tried to say, they are critical
9 to the health and wellness of human life. I know
10 the pharmaceutical companies, I've read articles,
11 they're trying to find something that would replace
12 the blood of horseshoe crabs. Haven't been totally
13 successful at doing that.

14 CONGRESSWOMAN BLUNT ROCHESTER: Thank you
15 so much.

16 I also wanted to ask you, last year
17 Slaughter Beach completed a study designed to
18 evaluate management options for the persistent
19 accumulation of a mix of seaweed and marsh
20 vegetation caused in part by the sheltering effects
21 of nearby Corps-constructed jetties.

22 And again, yesterday I got a chance to see
23 this on the tour, exactly how the impact of all the
24 sand coming down, hitting the jetty, and what that

1 would mean. And this debris is detrimental to the
2 local horseshoe crab population.

3 But we also know the jetty, all of this is
4 important as well to our national security and our
5 safety as well.

6 So one of the solutions proposed by the
7 authors of the study was to establish a pilot
8 program for the beneficial use of the material in
9 the construction and reinforcement of the dunes
10 lining Slaughter Beach.

11 Since the completion of the study, what
12 steps have been taken to manage the organic debris
13 and what lessons have you learned throughout the
14 entire process?

15 MAYOR LOCK: That's a great question.

16 Actually, we have been in discussions with
17 Delaware Department of Environmental Control on this
18 issue of habitat restoration for horseshoe crabs and
19 the red knot, the Division of Fish and Wildlife.
20 And we've asked for their support as we go forward
21 to apply for grants to help us remove this buildup
22 that's caused by the jetty.

23 But again, we're going to the State to
24 look for a partnership and develop a partnership,

1 when, in fact, it appears from the studies that this
2 is caused by the deterioration of the jetty that was
3 allowed to deteriorate in this century.

4 So it's a multifaceted issue, a
5 multifaceted problem. And we're looking -- we're
6 only at the stage where we're looking at grants from
7 the partnership with the Delaware Estuary to help us
8 repair the damage.

9 CONGRESSWOMAN BLUNT ROCHESTER: I want to
10 also highlight that part of what this hearing is
11 also showing is, again, the partnerships and the
12 need for the partnerships.

13 We actually have Secretary Sean Garvin
14 behind the governor. And I want to give him credit
15 as well for the work that he is doing with the
16 communities as well.

17 My next question is for Mr. Brockbank.

18 The federal government has sometimes
19 struggled to provide coastal communities the
20 assistance they need to address the effects of
21 climate change. Fortunately, many coastal
22 communities across the country have taken great
23 strides to protect their shorelines despite that
24 lack of federal support.

1 Absent support from the federal
2 government, how are coastal communities addressing
3 the impacts of climate change? And as a follow-up,
4 what more could the federal government do to amplify
5 these efforts?

6 And I know you said we're waiting to hear
7 more from the Corps on some of the suggestions you
8 could give us. But what are some of the lessons
9 learned or the things that we should be amplifying
10 from local communities?

11 MR. BROCKBANK: I was wondering if maybe
12 the governors could hold up their Climate Action
13 Plans again because I think that's probably the best
14 example of what the states are doing.

15 CONGRESSWOMAN BLUNT ROCHESTER: We're not
16 saying anything that Delaware's plan is bigger than
17 Louisiana.

18 GOVERNOR EDWARDS: This is a summary.

19 CONGRESSWOMAN BLUNT ROCHESTER: Just
20 saying, Governor Carney, again.

21 MR. BROCKBANK: I mean I think the
22 planning efforts that are happening at states, huge
23 credit to both governors for pushing these through.
24 But in Louisiana, they've been moving forward with a

1 State Coastal Master Plan for 20 years now almost
2 and have gone through multiple Republican and
3 Democratic administrations, it's passed unanimously.

4 So there's a tremendous amount of planning
5 that's going on. States are increasingly investing
6 their own funding.

7 But I think one of the real challenges,
8 we've often seen in big project implementation, you
9 can do sort of small living shorelines, good beach
10 projects, you know, small pocket beach projects, but
11 those big programs have too often relied on
12 disasters and the funding that comes after the
13 disasters. Whether it's the BP oil spill, whether
14 it's a hurricane.

15 And so I think the states have been able
16 to do this incredible planning work. But now we
17 need, Congress and the federal government needs to
18 put the pocketbook to the test and actually invest
19 in these projects and actually invest ahead of time.

20 It's been tremendous to see the
21 infrastructure bill move forward, but that's a
22 one-time down payment. There needs to be some
23 consistent, regular funding so that the governors
24 and the Corps can actually plan their project out,

1 farther out.

2 CONGRESSWOMAN BLUNT ROCHESTER: Excellent.

3 And I'm going to ask Mayor Lock, and it
4 kind of dovetails into that question, too, as was
5 already mentioned, Delaware is the lowest lying
6 state in the country. And I will say lowest mean.
7 I always have to add that mean in there so that
8 Florida and Louisiana don't come back at us and say
9 no, we're lower, we're lower. But Delaware is and
10 has experienced sea level rise greater than eight
11 inches along its coast since 1960.

12 On top of that, increasingly frequent and
13 intense severe weather events, and as you called
14 them, Mayor Lock, violent, violent coastal storms,
15 including Hurricane Ida and the recent nor'easter,
16 continue to damage our coastline.

17 Can you talk about, again, how your
18 community, how your town has dealt with sea level
19 rise and climate change, how it's affected you, but
20 also what kind of things you're doing at a local
21 level to mitigate?

22 And I know it's micro, and we've got
23 macro.

24 MAYOR LOCK: Again, an excellent question,

1 Congresswoman.

2 We have, at a local level, we've been
3 frustrated a bit by what we view as communication
4 barriers between the partners that we're looking
5 toward to provide guidance to protect against sea
6 level rise.

7 I'll be honest with you, this is way above
8 my pay grade.

9 CONGRESSWOMAN BLUNT ROCHESTER: Would you
10 like me to take the question back?

11 MAYOR LOCK: Please.

12 CONGRESSWOMAN BLUNT ROCHESTER: But again,
13 this is a great dialogue. And we're fortunate that
14 we actually do have a governor who has been a
15 congressman, has been a governor, knows financial
16 sector, and actually has a plan.

17 And Governor Carney, if you could just
18 share what you think are some of the challenges and
19 opportunities of this moment.

20 GOVERNOR CARNEY: Well, I think
21 Mr. Brockbank has really hit the nail on the head,
22 right. Up until this point, in my experience
23 anyway, and we have folks behind me -- and by the
24 way, when I'm talking, I think Sean Garvin's lips

1 are actually moving. He's got --

2 CONGRESSWOMAN BLUNT ROCHESTER: Hence the
3 mask?

4 GOVERNOR CARNEY: I think he's got Tony
5 Pratt sitting next to him, who knows more about --
6 has forgotten more about this than many of us know.

7 So for so long, these restoration projects
8 have been based on a diaster-driven kind of an
9 approach. And that's how the money flows and it's
10 based on cost benefit ratios that don't consider
11 some of the things you and the mayor talked about
12 and that are important parts of the calculation,
13 whether there are environmental damages, whether
14 you're comparing a town like Slaughter Beach to a
15 town like Lewes, with Mayor Becker. They're very
16 different in terms of size, in terms of property
17 values, and all of that.

18 So how do you, and I think the SHORRE Act
19 attempts to do this, is how do you consider other
20 factors in analyzing a go or no go or limitations
21 around what the Corps would participate in.

22 There's a project, an inland project that
23 comes to mind in my experience called Glenville.
24 And you may remember the community of Glenville,

1 which was flooded out completely by one of the
2 hurricanes probably 25 or more years ago. 1989 I
3 think was the first big flood there.

4 And it never quite made the cut with
5 respect to the cost benefit analysis. Wasn't a high
6 income community. And ultimately, this step, in
7 part under Governor Carper's leadership, took the
8 bull by the horns and provided resources, frankly,
9 to purchase the properties, which were built in the
10 flood plane in the first instance.

11 And so those kinds of projects, projects
12 like situations like what we saw and we're seeing
13 right here in Slaughter Beach. How do you factor
14 those in to a new way of proceeding on funding for
15 these projects through the Corps?

16 The problem is it's going to cost more
17 money, right, because you're going to open up more
18 eligible projects. And you're going to, I would
19 assume, qualify other things that wouldn't currently
20 qualify.

21 The SHORRE Act is certainly a really big
22 step forward in that approach.

23 CONGRESSWOMAN BLUNT ROCHESTER: Thank you.
24 And I yield back to the chairman.

1 SENATOR CARPER: Thanks so much.

2 I had asked my staff in Washington to give
3 me an update just before we got to the end. So we
4 can do a press availability if there's anything new
5 that we need to know about what's going on in the
6 Ukraine, we'd be prepared to respond to questions.

7 Not to be alarmed. The situation is dire,
8 serious. But nothing to be alarmed about further at
9 this moment. So rest easy.

10 The last couple of questions. And I'd
11 like to direct my first question to our governor.

12 And Governor, as you know, Delaware is
13 known for its pristine five-star beaches. We've
14 been talking about them all day. And this is one of
15 them. And a number of others are popular vacation
16 spots for many people who live up and down the east
17 coast. Actually people who live a long ways from
18 here come here even outside the country.

19 We know that coastal communities are vital
20 to the United States economy at large, but I'm
21 curious to hear about their importance at the state
22 level as well.

23 And my question is would you just take a
24 moment and share with us a little bit about the

1 importance of Delaware's coastline to our state's
2 economy at large.

3 GOVERNOR CARNEY: I'm thinking about
4 quoting our president when he was vice president,
5 but I won't. But it's a big deal. It really is a
6 big deal.

7 We talked about some of those numbers
8 before. They're not numbers that approach the kind
9 of numbers that Governor Edwards in a bigger state
10 like his.

11 But for our state, just look at the coast
12 from here. We're almost at the southern border here
13 with Maryland, the Mason Dixon line, all the way up
14 the Atlantic ocean beaches. The tourism industry
15 that includes this and tourism in other parts of our
16 state is a multibillion dollar industry.

17 Much of it is here in eastern Sussex
18 County. You're talking about the property values of
19 all these homes and communities. You're talking
20 about smaller communities, like Slaughter Beach and
21 the property values there.

22 If you do a calculation about the assessed
23 value of properties that are located within areas
24 projected to be inundated by a meter and a half of

1 sea level rise, you're talking about over a billion
2 dollars of that. So the impact is critical.

3 I think the question goes back to my
4 answer to the last question, which is how do you
5 factor in things other than economic value to give a
6 green light to Corps-funded projects and
7 locally-funded projects.

8 So it's critically important, and I think
9 we have to find ways, but we have to find ways to
10 factor in criteria other than those economic
11 benefits into the analysis.

12 SENATOR CARPER: Thank you.

13 Governor Edwards, if you don't mind just
14 responding briefly to the same question. Just share
15 with us for a moment the importance of Louisiana's
16 coastal area to your state's economy. We know it's
17 great.

18 GOVERNOR EDWARDS: Yes, sir. And first of
19 all, thank you very much for the question.

20 We're very proud of our entire state, but
21 coastal Louisiana, the coast isn't just important to
22 our state's economy. I think it's incredibly
23 important to the nation's economy.

24 Right around 45 percent of our population,

1 4.6 million people, live in coastal Louisiana. And
2 as I mentiond before, there's tens of thousands of
3 businesses there.

4 We have the second highest landings in the
5 nation of seafood, but the best tasting. Whether
6 it's our oysters, our shrimp, our crabs, our fish,
7 you name it.

8 Five of the nation's top 15 ports are in
9 Louisiana, including the largest port by tonnage in
10 the western hemisphere. Sixty percent of the
11 nation's grain gets exported out of the Mississippi
12 River. And we're deepening the river now. So
13 that's soon going to be 70 percent of the nation's
14 grain that gets exported will come through
15 Louisiana.

16 Ninety percent of all the support for oil
17 and gas exploration and production in the Gulf of
18 Mexico is based out of Louisiana. And over half of
19 the current L and G exports, which are increasingly
20 important because of the Ukraine situation that you
21 just mentioned if we're going to help our friends in
22 Europe, they come from Louisiana. That's all along
23 the coast.

24 And it's not just traditional oil and gas.

1 The coast of Louisiana is going to be extremely
2 important as we transition to low carbon and no
3 carbon alternatives. Whether it's wind energy in
4 the Gulf, the solar farms that we're going to need
5 to support the petrochemical industry, they're going
6 to be looking at coastal Louisiana, too, because
7 that's where the industry is.

8 And so when it comes to carbon capture and
9 sequestration, that's going to largely happen along
10 the coast. Hydrogen production is going to happen
11 along the coast in Louisiana.

12 And one thing that's really important, and
13 I didn't realize this until we actually had our
14 Climate Initiatives Task Force and they educated me
15 in so many ways, an acre of marsh will naturally
16 sequester 80 times the carbon as an acre of forest.
17 But we're losing that acreage. As we restore it, as
18 we build it back, we're actually going to be
19 sequestering more carbon.

20 So for all of those reasons and many, many
21 more, coastal Louisiana is extremely important for
22 our economy but also to the nation's economy and to
23 the nation's future.

24 SENATOR CARPER: Thank you, sir.

1 Let me ask a question, if I could,
2 Governors, for everybody. And we'll just start,
3 Derek, with you if we could.

4 As I noted in my opening statement,
5 40 percent of our nation's population, that's about
6 130 million people, live in our coastal counties.
7 And if coastal counties in our entire country were
8 considered as a nation, we'd be like number three in
9 the world, right behind China and the U.S.

10 Unfortunately, the Corps does not fully
11 account for the protection of this population,
12 industry, and wealth when formulating coastal
13 protection projects, nor does the Corps account for
14 the financial benefits of tourism and recreation
15 that are often attached to these projects.

16 My question of each of you, and Derek,
17 we'll start with you, will each member of our panel
18 please share with us how the Corps might better
19 capture the economic importance of coastal
20 communities when designing coastal protection
21 projects?

22 MR. BROCKBANK: Thank you for the
23 question. Really at the heart of what this hearing
24 is about.

1 I think the economic value of recreation
2 is a clear one. I think increasingly there's going
3 to be a need to look at access.

4 And I think I mentioned the racial
5 justice, economic justice. I think considering how
6 equitable the access to the coast is is an
7 exceedingly challenging thing to put into monetary
8 metrics. But I think ensuring that the coast is the
9 playground for America and not just the playground
10 for the wealthy is a challenging thing and something
11 I think the Corps need to think about.

12 SENATOR CARPER: Thank you.

13 Mayor.

14 MAYOR LOCK: Thank you, Senator. I think
15 that most analyses that are done with cost benefit
16 ratios capture the cost of projecting solely the
17 potential losses against the potential cost. And
18 that's how the ratio is derived. To me, it's a very
19 narrow approach.

20 And actually NOAA has become a leader in
21 recommending and providing guidance to other federal
22 agencies that the cost benefit ratio should be
23 modified and the approach to developing it should be
24 modified to include ecosystems services.

1 And that means the cost of -- if we're
2 looking at just projecting losses, include in that
3 the cost of restoring wetlands, the cost of water
4 and food, the cost of job losses, the cost -- I mean
5 there's a world of things that could be considered
6 when we're looking at cost benefit ratios.

7 And again, I believe that what the Corps
8 does is a very narrow interpretation that should be
9 expanded.

10 SENATOR CARPER: Thank you.

11 Governor Carney, Governor Edwards, you
12 want to add anything, please?

13 GOVERNOR CARNEY: I would just add some
14 environmental analyses as well as sustainability, in
15 addition to recreation and to the effect on -- and
16 equity, which is a hard thing to measure.

17 But you talk about somebody who owns a
18 house here worth over a million dollars, somebody
19 lives in a less affluent community, that house is
20 the same protection for that family in each
21 community, just valued considerably differently.
22 And that doesn't factor in as well.

23 And I think this climate change measure of
24 sustainability and I think the reference to either

1 shoreline restoration or managed retreat, what
2 should it be, what should the standard be, that's a
3 little bit different than eligibility, but I think
4 it really affects approach.

5 Prime Hook is I think a good example of
6 that. I mentioned the Glenville project of years
7 ago. Similarly, what is the sustainability of the
8 solution and the design of the solution.

9 GOVERNOR EDWARDS: Senator Carper, thank
10 you for the question.

11 Very quickly, I think all aspects of a
12 coastal region's economic portfolio should be taken
13 into consideration by the Corps in their cost
14 benefit analysis.

15 As Mr. Brockbank mentioned, our coastal
16 areas should be playgrounds for all of America. And
17 I'm not just talking about tourism. I talked about
18 a lot of things in my previous answer.

19 But tourism is usually important to all
20 coastal states, but particularly to ours. We're
21 known as the sportsman's paradise. We are a
22 tremendous draw for fisherman, for hunters, for bird
23 watchers, other outdoor enthusiasts.

24 The greater New Orleans area is a magnet

1 for international tourism. Next Tuesday is Mardi
2 Gras. A few weeks after that, we will host the
3 sixth NCAA Final Four in New Orleans. No other city
4 has ever done that. And that's just some examples
5 that come to mind right now.

6 So all of that should be taken into
7 consideration by the Corps so that they can drive
8 their decision making and their allocation of
9 resources. And I think if they'll do that, then the
10 importance of the coastal regions of our country
11 will be more fully taken into consideration and
12 drive those decisions.

13 SENATOR CARPER: All right. Thank you.

14 I have two more questions. One I'm going
15 to address to Governor Carney. And then the last
16 question, if I could come back to you, Governor
17 Edwards.

18 Governor Carney, with respect to storm
19 damage buildup, as you know better than almost
20 anybody, the Corps can only provide emergency
21 restoration assistance to nourish a beach when that
22 beach has been damaged by a storm, other than
23 ordinary nature, other than ordinary nature that
24 prevents adequate functioning of the beach.

1 Parts of Delaware's coastline have been
2 damaged, as you know, by successive severe weather
3 events, including hurricanes, including nor'easters,
4 and other tidal and storm events.

5 Though the damage from each of these
6 individual events may not rise to the level of other
7 than ordinary nature, collectively they have
8 dramatically eroded and damaged parts of our
9 coastline.

10 My question, taken together, how have the
11 successive and compound effects of severe weather
12 events impacted Delaware's economy and the safety of
13 the affected communities?

14 GOVERNOR CARNEY: So we've talked a little
15 about this before in terms of a different approach
16 than just a disaster driven approach, where it's
17 more of a management situation where you've got a
18 series of increasingly less severe events, storm
19 events. But taken together, they create really
20 worse situations when you have the big event, if you
21 will.

22 And so we've seen that here in Delaware
23 this past fall and winter. A series of small storms
24 can be damaging as one big large storm, right. Ida

1 in our state is a great example of that and the
2 limit of its extent. If you think about the serious
3 rain event happened over the line in Chester County,
4 Pennsylvania, along the Brandywine, but the effect
5 was downstream in a very small poor minority
6 community on the edge of Wilmington.

7 We've had a series of those kinds of
8 events. And increasingly, we're going to see more
9 of those.

10 Again, in Lewes, Mayor Becker, according
11 to a 2000 report, we could see between 50 and 135
12 high tide flooding events per year by 2050. In
13 2019, there was nine of such events. So the
14 intensity and the frequency of these events is going
15 to increase.

16 And somehow, as we think about the future,
17 we've got to start doing things differently than
18 we've done them in the past because we have a new
19 reality. And the new reality is climate change,
20 it's sea rise.

21 In our state, we're going to have to
22 manage shoreline restoration, we're going to have to
23 manage retreat, to use Mr. Brockbank's terms. And
24 factoring those into the work of the Corps I think

1 is going to be really critical to our ability to
2 deliver for the people of our state and the
3 communities here.

4 SENATOR CARPER: Thank you.

5 Last question. Again, Governor Carney --
6 Governor Edwards, let's come back to Governor
7 Edwards. A short question.

8 Would you please describe your state's
9 experience working with the Corps on the matter of
10 implementing coastal master plan projects to
11 mitigate the impacts of federal-authorized projects?
12 Would you please describe your state's experience
13 working with the Corps on this matter of
14 implementing the coastal master plan projects and
15 highlighting the legal or policy barriers you can to
16 implementation?

17 GOVERNOR EDWARDS: Yes, sir. Thank you
18 very much. That, too, is a great question.

19 First of all, we have a great partnership
20 with the Corps of Engineers, and it's not perfect
21 and so forth. But this is one area that's
22 incredibly important to us because we believe that
23 when you analyze mitigation opportunities, or when
24 the Corps does that, they should look to

1 scientifically-backed plans to coastal restoration
2 and protection like we have in Louisiana.

3 And the Corps shouldn't always choose the
4 cheapest option. We would want them to look at the
5 option that's going to provide the most beneficial
6 impact, the biggest restoration benefit, if you
7 will. Especially if a non-federal sponsor is going
8 to be paying for it, like the State of Louisiana.

9 Now, the State and the Corps have been
10 collaborating closely on the West Shore Lake
11 Pontchartrain Risk Reduction Project, which, by the
12 way, when it's built, it will protect the community
13 that President Biden visited in the immediate
14 aftermath of Hurricane Ida. It's a predominantly
15 African American low income community, and it's
16 going to benefit tremendously from this project.

17 But in that document, the Corps is going
18 to consider the Maurepas Swamp diversion that we are
19 doing as mitigation for the west shore project.

20 But we believe that internal policies
21 currently existing in the Corps may well create
22 obstacles that prevent them from adopting this
23 common sense approach.

24 And by the way, that's why, one of the

1 reasons, we so much appreciate the SHORRE Act
2 because you would be giving them direction to do the
3 things that we believe just make good common sense.

4 So I think that's an example of how the
5 Corps can do better, how the SHORRE Act will drive
6 them to do better, and then we will get the full
7 benefit of the projects that we are doing that have
8 a positive impact on the federal investment by being
9 able to use that credit towards our match
10 obligations.

11 SENATOR CARPER: Okay. Good. Thank you.
12 Thank you, all.

13 I was checking the mail. We got some mail
14 at our house yesterday. I opened it up, we got
15 something from Louisiana. And it was a photo and a
16 card from Senator Bill Cassidy, who succeeded Mary
17 Landrieu as a senator from Louisiana. It was a
18 lovely picture of him and his wife and their three
19 children.

20 And on one side of it, there were some
21 words in French, and I don't recall exactly what the
22 words were in French, but the translations were let
23 the good times roll.

24 GOVERNOR EDWARDS: (Inaudible.)

1 SENATOR CARPER: Of course.

2 CONGRESSWOMAN BLUNT ROCHESTER: What he
3 said.

4 SENATOR CARPER: I don't know that we're
5 ready to let the good times roll here as we face
6 this challenge of climate change and sea level rise.

7 But I do know this: Ben Franklin, a long
8 time ago, really nailed it in terms of advice for us
9 today and for later generations. He once said we
10 came to this country in different boats but we're in
11 the same boat now and our boat is in danger of
12 sinking.

13 And we really did come here in different
14 boats, literally and figuratively. And parts of our
15 country are in danger of sinking. And the question
16 is what do we do about it, what do we do about it.

17 And one of the things we need to do, go
18 back to the C's, I like to say C, to communicate to
19 compromise to collaborate. And those are three
20 things that we're endeavoring to do and we have to
21 endeavor to do even more energetically to
22 communicate, to compromise, to collaborate.

23 We've had wonderful ongoing conversation
24 with the Army Corps. We are really grateful to the

1 Army Corps for all they do for our state, not just
2 for our economy, but for quality of life and the
3 ability to live here and raise our families and
4 welcome strangers from other places.

5 But this hearing was designed to put a
6 spotlight on the challenges we face and to say
7 everything I do, I know I can do better. Everything
8 I do, and I'll always thought this way. And I
9 suspect if truth be known, we all feel that way.

10 And how do we enable the Army Corps to do
11 better at their job given the changes that we face
12 on our coasts. How do we enable them to do a better
13 job. How do we do this in a collaborative way, what
14 are the roles of the states, what are the roles of
15 the federal government, the Army Corps, in essence
16 its citizens.

17 It's not enough to empower the Army Corps.
18 It's not enough just to change cost benefit analysis
19 and the ability to work with those mechanisms.

20 It's also really important for us to
21 address the root causes of why the seas are rising.
22 That's really critical.

23 If all we do is the things we've talked
24 about here today, we're still going to be in a world

1 of hurt ten years from now, 20, 30, 40, 50 years,
2 still be in a world of hurt.

3 We've got to do both the walk and chew gum
4 at the same time.

5 And I think here in Delaware and Louisiana
6 we're smart enough to do that. And I believe
7 Democrats and Republicans across the country,
8 Congress and this president especially, we're smart
9 enough to do that and it just takes the willpower
10 and the willingness to lead.

11 The kind of leadership that I've seen
12 demonstrated by both of you in the face of this
13 pandemic, by the administration, by a lot of people,
14 by National Guards, by all kinds of people during
15 the course of this pandemic, that kind of
16 leadership, we need that, not just for a couple of
17 months or a year or two, but for decades, for
18 decades.

19 And if we do that, years from now, when
20 people come here to Bethany Beach or other beaches
21 in Delaware or up and down the coast, they may not
22 know their French that well, but they'll be in a
23 position to let the good times roll. And they'll
24 look back and say well, bless those people who had a

1 hand in this.

2 Let me see. I have some housekeeping I
3 just need to go through with respect to follow-up.

4 But before I do that, we have got, let me
5 just say this on the record, we need to continue to
6 equip this agency, the Army Corps, with the tools it
7 needs to amply protect our nation's coast and make
8 them more resilient to flooding, to erosion, and
9 extreme weather. And my hope and prayer is that
10 today's hearing will better inform our work in these
11 areas.

12 And now I just want to ask unanimous
13 consent. I love asking unanimous consent at a
14 hearing when I'm the only one there because I can
15 only object to my own request. But now Lisa is
16 here.

17 CONGRESSWOMAN BLUNT ROCHESTER: So moved.

18 SENATOR CARPER: But I'm going to ask
19 unanimous consent to submit for the record reports
20 and articles that relate to the impacts of climate
21 change on our nation's shoreline and coastal
22 communities. These documents stress the severity of
23 the climate crisis and emphasize the new realities
24 as a nation, that we face as a nation in coming

1 decades.

2 Is there an objection? Hearing none.

3 Additionally, our senators and our
4 colleagues will be allowed to submit questions to
5 our guests, our witnesses for the record through the
6 close of business on March 9th.

7 We will compile those questions, we'll
8 send them to our witnesses, and we'll ask our
9 witnesses to reply, if you would, by March 23rd.

10 And with that, I just want to say John
11 King is sitting here to my left. John heads up our
12 water team on the Committee on Environment and
13 Public Works. He'll be largely writing, holding the
14 pen if you will, as we write the Water Resources
15 Development Act, which will hopefully include the
16 SHORRE Act, and he does a great writing.

17 Terrific energy. He's like a bull in a
18 China shop, but every now and then you need a bull
19 in a China shop, and he plays that role. He's here
20 with me.

21 The other members of our water team on
22 EPW, just raise your hands. Thank you, all.

23 CONGRESSWOMAN BLUNT ROCHESTER: And
24 acknowledge Alexandra.

1 SENATOR CARPER: Go ahead. Go ahead.

2 CONGRESSWOMAN BLUNT ROCHESTER: I just
3 wanted to also acknowledge Alexandra Gallinin from
4 our team in Washington, and we have other members
5 like Andrew and Victoria in the back as well.

6 But thank you so much, Senator,
7 Mr. Chairman, for your leadership.

8 SENATOR CARPER: Kate Roar was here
9 earlier. I don't know if Kate is still. Kate works
10 for Senator Coons. Senator Coons sends his best.
11 He is a senior member of the Senate Foreign
12 Relations Committee and is in Munich for an annual,
13 actually more frequent than annual, security
14 meetings in Munich. He's attending that on behalf,
15 along with some of my colleagues, on behalf of our
16 country.

17 And I think that's it. It's been a good
18 two and a half hours, a long time. But folks,
19 there's not much more, many challenges and issues
20 that are more important than what we're talking
21 about here today. And we've got I think a better
22 idea how to go forward and make sure that the good
23 times continue to roll in the future.

24 Thank you, all. And with that, this

1 hearing is adjourned. Thank you.

2 (Hearing concluded at 12:35 p.m.)

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STATE OF DELAWARE

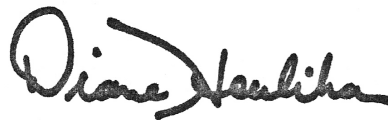
I, Diane Houlihan, a Notary Public in and for the State of Delaware, County of Kent, do hereby certify that the within named, Senate Environment and Public Works Committee Field Hearing, personally appeared before me at the time and place herein set according to law, was interrogated by counsel.

I further certify that the examination was recorded stenographically by me and then transcribed from my stenographic notes to the within printed matter by means of computer-assisted transcription in a true and accurate manner.

I further certify that the stipulations contained herein were entered into by counsel in my presence.

I further certify that I am not of counsel to any of the parties, not an employee of counsel, nor related to any of the parties, nor in any way interested in the outcome of this action.

AS WITNESS my hand this 28th day of February, 2022.



Diane Houlihan
Notary Public

My Commission Expires: October 3, 2023

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