

117TH CONGRESS  
1ST SESSION

**S.** \_\_\_\_\_

To require the Administrator of the National Oceanic and Atmospheric Administration to award grants to certain entities for purposes of carrying out climate-resilient living shoreline projects that protect coastal communities, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

Mr. MURPHY (for himself, Mr. BLUMENTHAL, and Mr. PADILLA) introduced the following bill; which was read twice and referred to the Committee on \_\_\_\_\_

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**A BILL**

To require the Administrator of the National Oceanic and Atmospheric Administration to award grants to certain entities for purposes of carrying out climate-resilient living shoreline projects that protect coastal communities, and for other purposes.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

3       **SECTION 1. DEFINITIONS.**

4       In this Act:

5               (1) ADMINISTRATOR.—The term “Adminis-  
6       trator” means the Administrator of the National  
7       Oceanic and Atmospheric Administration.

1           (2) INDIAN TRIBE.—The term “Indian Tribe”  
2           has the meaning given that term in section 4 of the  
3           Indian Self-Determination and Education Assistance  
4           Act (25 U.S.C. 5304).

5           (3) LIVING SHORELINE PROJECT.—The term  
6           “living shoreline project” means a coastal natural  
7           infrastructure project that—

8                   (A) restores or stabilizes a shoreline using  
9                   predominately natural materials to create buff-  
10                  ers to attenuate the impact of coastal storms,  
11                  currents, flooding, and wave energy and to pre-  
12                  vent or minimize shoreline erosion while pro-  
13                  viding a net ecological and climate benefit to  
14                  ecosystems and habitats;

15                   (B) to the extent possible, maintains or re-  
16                  stores existing natural slopes and connections  
17                  between uplands and adjacent wetlands or sur-  
18                  face waters; and

19                   (C) as necessary, can retrofit hardened  
20                  structures or surfaces to create blended projects  
21                  that combine living shoreline elements with  
22                  hardened techniques.

23           (4) NATURE-BASED INFRASTRUCTURE.—The  
24           term “nature-based infrastructure” means a feature  
25           that is created by human design, engineering, and

1 construction to provide risk reduction in coastal  
2 areas by acting in conjunction with natural proc-  
3 esses.

4 (5) STATE.—The term “State” means each of  
5 the several States, the District of Columbia, the  
6 Commonwealth of Puerto Rico, the United States  
7 Virgin Islands, Guam, American Samoa, and the  
8 Commonwealth of the Northern Mariana Islands.

9 **SEC. 2. LIVING SHORELINE GRANT PROGRAM.**

10 (a) ESTABLISHMENT.—The Administrator shall  
11 award grants to eligible entities for purposes of—

12 (1) designing and implementing large- and  
13 small-scale, climate-resilient living shoreline projects;  
14 and

15 (2) applying innovative uses of natural mate-  
16 rials and systems to protect coastal communities,  
17 habitats, and natural system functions.

18 (b) ELIGIBLE ENTITIES.—For purposes of this sec-  
19 tion, an eligible entity is any of the following:

20 (1) A unit of a State or local government.

21 (2) An organization described in section  
22 501(c)(3) of the Internal Revenue Code of 1986 that  
23 is exempt from taxation under section 501(a) of  
24 such Code.

25 (3) An Indian Tribe.

1           (c) PROJECT PROPOSALS.—To be eligible to receive  
2 a grant under this section, an eligible entity shall submit  
3 to the Administrator a proposal for a living shoreline  
4 project that includes—

5           (1) monitoring, data collection, and measurable  
6 performance criteria with respect to the project; and

7           (2) an engagement or education component that  
8 seeks and solicits feedback from the local or regional  
9 community most directly affected by the proposal.

10          (d) PROJECT SELECTION.—

11           (1) CRITERIA.—

12           (A) IN GENERAL.—The Administrator  
13 shall select eligible entities to receive grants  
14 under this section based on criteria developed  
15 by the Administrator.

16           (B) CONSIDERATIONS.—In developing cri-  
17 teria under subparagraph (A) to evaluate a pro-  
18 posed living shoreline project, the Administrator  
19 shall take into account—

20           (i) the potential of the project to pro-  
21 tect the community and maintain the via-  
22 bility of the environment, such as through  
23 protection of ecosystem functions, environ-  
24 mental benefits, or habitat types, in the  
25 area where the project is to be carried out;

1 (ii) the historic and future environ-  
2 mental conditions of the project site, par-  
3 ticularly those environmental conditions af-  
4 fected by climate change;

5 (iii) the net ecological benefits of the  
6 project, including the potential of the  
7 project to contribute to carbon sequestra-  
8 tion and storage;

9 (iv) the ability of the entity proposing  
10 the project to demonstrate the potential of  
11 the project to protect the coastal commu-  
12 nity where the project is to be carried out,  
13 including through—

14 (I) mitigating the effects of ero-  
15 sion;

16 (II) attenuating the impact of  
17 coastal storms and storm surge;

18 (III) mitigating shoreline flood-  
19 ing;

20 (IV) mitigating the effects of sea  
21 level rise, accelerated land loss, and  
22 extreme tides;

23 (V) sustaining, protecting, or re-  
24 storing the functions and habitats of  
25 coastal ecosystems;

1 (VI) protecting important cul-  
2 tural sites or values;

3 (VII) protecting low income com-  
4 munities, communities of color, Tribal  
5 communities, Indigenous communities,  
6 and rural communities;

7 (VIII) sustaining, protecting, or  
8 restoring the functions and habitats of  
9 marine protected areas; or

10 (IX) such other forms of protec-  
11 tion as the Administrator considers  
12 appropriate; and

13 (v) the potential of the project to sup-  
14 port climate resiliency at a military instal-  
15 lation or community infrastructure sup-  
16 portive of a military installation (as such  
17 terms are defined in section 2391 of title  
18 10, United States Code).

19 (2) LIVING SHORELINE ENGINEERING STAND-  
20 ARD.—

21 (A) ESTABLISHMENT.—The Adminis-  
22 trator, in consultation with the Army Corps of  
23 Engineers, shall establish an engineering stand-  
24 ard applicable to living shoreline projects for  
25 each region of the United States.

1 (B) USE.—The Administrator shall use the  
2 standard established under subparagraph (A) in  
3 selecting eligible entities to receive grants under  
4 this section.

5 (C) CONSULTATION; INPUT.—In estab-  
6 lishing the standard under subparagraph (A),  
7 the Administrator may—

8 (i) consult with—

9 (I) State coastal management  
10 agencies;

11 (II) Indian Tribes and Tribal or-  
12 ganizations; and

13 (III) relevant interagency coun-  
14 cils, such as the Estuary Habitat Res-  
15 toration Council; and

16 (ii) seek input from relevant non-  
17 governmental organizations.

18 (e) USE OF FUNDS.—A grant awarded under this  
19 section to an eligible entity to carry out a living shoreline  
20 project may be used by the eligible entity only—

21 (1) to carry out the project, including adminis-  
22 tration, design, permitting, entry into negotiated in-  
23 direct cost rate agreements, and construction;

24 (2) to monitor, collect, and report data on the  
25 performance (including performance over time) of

1 the project, in accordance with standard established  
2 by the Administration under subsection (d)(2)(A); or  
3 (3) to incentivize landowners to engage in living  
4 shoreline projects.

5 (f) MONITORING AND REPORTING.—

6 (1) IN GENERAL.—The Administrator shall re-  
7 quire each eligible entity that receives a grant under  
8 this section to carry out a living shoreline project (or  
9 a representative of the entity) —

10 (A) to monitor the project and to collect  
11 data on—

12 (i) the ecological, climate, and eco-  
13 nomic benefits of the project; and

14 (ii) the protection provided by the  
15 project for the coastal community where  
16 the project is carried out;

17 (B) to transmit to the Administrator data  
18 collected under the project;

19 (C) to make data collected under the  
20 project available on a publicly accessible inter-  
21 net website of the National Oceanic and Atmos-  
22 pheric Administration; and

23 (D) upon the completion of the project, to  
24 submit to the Administrator a report on—



1 (i) the monitoring and data collection  
2 activities carried out under subparagraph  
3 (A); and

4 (ii) the effectiveness of the project in  
5 increasing protection of the coastal com-  
6 munity where the project is carried out  
7 through living shorelines techniques, in-  
8 cluding—

9 (I) a description of—

10 (aa) the project;

11 (bb) the activities carried  
12 out under the project; and

13 (cc) the techniques and ma-  
14 terials used in carrying out the  
15 project; and

16 (II) data on the performance of  
17 the project in providing protection to  
18 that coastal community.

19 (g) AUTHORIZATION OF APPROPRIATIONS.—There is  
20 authorized to be appropriated to the Administrator  
21 \$50,000,000 for each of fiscal years 2022 through 2026  
22 for purposes of carrying out this section.

1 **SEC. 3. LIVING SHORELINE AND NATURE-BASED INFRA-**  
2 **STRUCTURE RESEARCH PROGRAM.**

3 (a) ESTABLISHMENT.—The Administrator shall  
4 award, on a competitive basis, research grants to eligible  
5 entities to carry out projects focused on developing and  
6 assessing the effectiveness of innovative approaches to na-  
7 ture-based infrastructure for the purposes of—

8 (1) preparing more climate-resilient, sustainable  
9 cities and climate-resilient communities;

10 (2) reducing the costs associated with climate-  
11 related disasters, the degradation of built infrastruc-  
12 ture, and human relocation; and

13 (3) accomplishing improved climate resilience  
14 while maintaining ecosystem functions and habitats  
15 to the greatest extent possible.

16 (b) ELIGIBLE ENTITIES.—For purposes of this sec-  
17 tion, an eligible entity is any of the following:

18 (1) An institution of higher education.

19 (2) A nonprofit organization.

20 (3) A State, local, or Tribal government.

21 (4) A for-profit organization.

22 (5) A United States territory.

23 (6) A Federal agency that is authorized by stat-  
24 ute to receive transfers of funds.

1 (c) RESEARCH PRIORITIES.—The Administrator  
2 shall award grants to eligible entities for projects that  
3 focus on one or more of the following:

4 (1) Assessing the effectiveness of installed na-  
5 ture-based infrastructure in addressing, as applica-  
6 ble, coastal resilience, shoreline erosion, storm dam-  
7 age, including windstorms, inland flooding, water  
8 quality, impact on local ecosystems, and such other  
9 criteria as the Administrator determines appro-  
10 priate.

11 (2) Novel approaches to nature-based infra-  
12 structure and living shorelines aimed at optimizing  
13 resilience to climate change, extreme weather, and  
14 ecosystem sustainability.

15 (3) Interdisciplinary research, including engi-  
16 neering, environmental and ecosystem sciences, biol-  
17 ogy, and social science.

18 (4) Regional, community, and industry partner-  
19 ships to create locally informed solutions.

20 (d) REPORTS FOR INFORMING GRANT SELECTION.—

21 (1) REPORT REQUIRED.—An eligible entity that  
22 receives a grant for a project under this section  
23 shall, not later than the date on which such project  
24 concludes, submit to the Administrator a report  
25 summarizing the findings of the project.

1           (2) USE OF REPORTS.—The Administrator  
2 shall use each report submitted under paragraph (1)  
3 to inform the selection and prioritization of living  
4 shoreline projects under section 2 and other nature-  
5 based infrastructure projects.

6           (e) USE OF PROGRAMS.—In carrying out this section,  
7 the Administrator is encouraged to use—

8           (1) the National Oceanographic Partnership  
9 Program established under section 8931 of title 10,  
10 United States Code, as a means for collaboration  
11 and coordination to leverage partnerships between  
12 public institutions of higher education and Federal  
13 agencies;

14           (2) the Coastlines and People initiative of the  
15 National Science Foundation as a tool to use ongo-  
16 ing interdisciplinary research;

17           (3) the national sea grant college program  
18 maintained under the National Sea Grant College  
19 Program Act (33 U.S.C. 1121 et seq.) as a resource  
20 to help foster collaboration between public institu-  
21 tions of higher education and Federal agencies; and

22           (4) the Community Resilience Center of Excel-  
23 lence of the National Institute of Standards and  
24 Technology.

1           (f) AUTHORIZATION OF APPROPRIATIONS.—There is  
2 authorized to be appropriated to the Administrator  
3 \$5,000,000 for each of fiscal years 2022 through 2026  
4 for purposes of carrying out this section.