

Union Calendar No. 263

108TH CONGRESS
2D SESSION

H. R. 1081

[Report No. 108–324, Part I]

To establish marine and freshwater research, development, and demonstration programs to support efforts to prevent, control, and eradicate invasive species, as well as to educate citizens and stakeholders and restore ecosystems.

IN THE HOUSE OF REPRESENTATIVES

MARCH 5, 2003

Mr. EHLERS (for himself, Mr. GILCHREST, Mr. BAIRD, Mr. HOEKSTRA, Mr. ORTIZ, Mrs. BIGGERT, Mr. KIRK, Mr. KILDEE, Mr. CAMP, Mr. MCHUGH, Mr. EMANUEL, Ms. SLAUGHTER, Mr. ROGERS of Michigan, Mr. ENGLISH, Mr. FARR, Mr. CUMMINGS, Mr. LEVIN, Mr. STUPAK, Mr. SCOTT of Virginia, Mr. ABERCROMBIE, Mr. QUINN, Mr. SMITH of Washington, Mr. GEORGE MILLER of California, Mrs. MALONEY, Mr. DINGELL, Ms. KAPTUR, Ms. LEE, Mr. SAXTON, Mr. DICKS, Ms. BORDALLO, Mr. VISCLOSKEY, Mr. WALSH, Mr. UPTON, Mr. GILLMOR, Mr. SMITH of Michigan, Mr. CASE, Mr. BOEHLERT, Mr. BROWN of Ohio, Mr. GREENWOOD, Mr. PALLONE, Mr. MARKEY, Mr. DELAHUNT, Mr. CARDIN, Mr. ALLEN, Mrs. MILLER of Michigan, Mr. BLUMENAUER, Mr. INSLEE, Mr. HOUGHTON, Ms. MCCOLLUM, Mr. MCGOVERN, Mr. MCCOTTER, Ms. BALDWIN, Mr. LEACH, Mr. McDERMOTT, Mr. NEAL of Massachusetts, Mr. KNOLLENBERG, Mr. TOWNS, Mr. HONDA, Mr. LIPINSKI, Mr. WEINER, Mr. KIND, Mr. EVANS, Ms. LOFGREN, Mr. JOHNSON of Illinois, Mr. KLECZKA, Mr. SIMMONS, Mr. FALEOMAVAEGA, and Mr. LATOURETTE) introduced the following bill; which was referred to the Committee on Science, and in addition to the Committees on Transportation and Infrastructure, Resources, and House Administration, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

OCTOBER 20, 2003

Reported from the Committee on Science with an amendment

[Strike out all after the enacting clause and insert the part printed in italic]

OCTOBER 20, 2003

Referral to the Committee on Transportation and Infrastructure, Resources,
and House Administration extended for a period ending not later than
October 31, 2003

OCTOBER 31, 2003

Referral to the Committees on Transportation and Infrastructure, Resources,
and House Administration extended for a period ending not later than
November 7, 2003

NOVEMBER 7, 2003

Referral to the Committees on Transportation and Infrastructure, Resources,
and House Administration extended for a period ending not later than
November 21, 2003

NOVEMBER 21, 2003

Referral to the Committees on Transportation and Infrastructure, Resources,
and House Administration extended for a period ending not later than
January 31, 2004

JANUARY 31, 2004

Referral to the Committees on Transportation and Infrastructure, Resources,
and House Administration extended for a period ending not later than
April 2, 2004

APRIL 2, 2004

Additional sponsors: Mr. BERMAN, Mr. SCHIFF, Mr. RYAN of Ohio, Ms.
DELAURO, Mr. FRANK of Massachusetts, Mr. ENGEL, Mr. VAN HOLLEN,
Mr. STARK, Mrs. CAPPS, Ms. CORRINE BROWN of Florida, Mr. GREEN
of Wisconsin, Mr. SPRATT, Mr. CALVERT, Ms. ESHOO, Mr. LARSON of
Connecticut, Ms. SCHAKOWSKY, Mr. GRIJALVA, Mr. BONNER, Mr. BART-
LETT of Maryland, Mr. MICHAUD, and Mrs. NAPOLITANO

APRIL 2, 2004

Committees on Transportation and Infrastructure, Resources, and House Ad-
ministration discharged; committed to the Committee of the Whole House
on the State of the Union and ordered to be printed

[For text of introduced bill, see copy of bill as introduced on March 5, 2003]

A BILL

To establish marine and freshwater research, development,
and demonstration programs to support efforts to pre-
vent, control, and eradicate invasive species, as well as

to educate citizens and stakeholders and restore ecosystems.

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. SHORT TITLE.**

4 *This Act may be cited as the “Aquatic Invasive Species*
5 *Research Act”.*

6 **SEC. 2. FINDINGS.**

7 *The Congress makes the following findings:*

8 (1) *Aquatic invasive species damage infrastruc-*
9 *ture, disrupt commerce, outcompete native species, re-*
10 *duce biodiversity, and threaten human health.*

11 (2) *The direct and indirect costs of aquatic*
12 *invasive species to our Nation’s economy number in*
13 *the billions of dollars per year. In the Great Lakes re-*
14 *gion, approximately \$3,000,000,000 dollars have been*
15 *spent in the past 10 years to mitigate the damage*
16 *caused by one invasive species, the zebra mussel.*

17 (3) *Recent studies have shown that, in addition*
18 *to economic damage, invasive species cause enormous*
19 *environmental damage, and have cited invasive spe-*
20 *cies as the second leading threat to endangered spe-*
21 *cies.*

22 (4) *Over the past 200 years, the rate of detected*
23 *marine and freshwater invasions in North America*
24 *has increased exponentially.*

1 (5) *The rate of invasions continues to grow each*
2 *year.*

3 (6) *Marine and freshwater research underlies*
4 *every aspect of detecting, preventing, controlling, and*
5 *eradicating invasive species, educating citizens and*
6 *stakeholders, and restoring ecosystems.*

7 (7) *Current Federal efforts, including research ef-*
8 *forts, have focused primarily on controlling estab-*
9 *lished invasive species, which is both costly and often*
10 *unsuccessful. An emphasis on research, development,*
11 *and demonstration to support efforts to prevent*
12 *invasive species or eradicate them upon entry into*
13 *United States waters would likely result in a more*
14 *cost-effective and successful approach to combating*
15 *invasive species through preventing initial introduc-*
16 *tion.*

17 (8) *Research, development, and demonstration to*
18 *support prevention and eradication includes moni-*
19 *toring of both pathways and ecosystems to track the*
20 *introduction and establishment of nonnative species,*
21 *and development and testing of technologies to prevent*
22 *introduction through known pathways.*

23 (9) *Therefore, Congress finds that it is in the*
24 *United States interest to conduct a comprehensive*
25 *and thorough research, development, and demonstra-*

1 *tion program on aquatic invasive species in order to*
2 *better understand how aquatic invasive species are in-*
3 *troduced and become established and to support efforts*
4 *to prevent the introduction and establishment of, and*
5 *to eradicate, these species.*

6 **SEC. 3. DEFINITIONS.**

7 *In this Act:*

8 (1) *ADMINISTERING AGENCIES.*—*The term “ad-*
9 *ministering agencies” means—*

10 (A) *the National Oceanic and Atmospheric*
11 *Administration (including the Great Lakes En-*
12 *vironmental Research Laboratory);*

13 (B) *the Smithsonian Institution (acting*
14 *through the Smithsonian Environmental Re-*
15 *search Center); and*

16 (C) *the United States Geological Survey.*

17 (2) *AQUATIC ECOSYSTEM.*—*The term “aquatic*
18 *ecosystem” means a freshwater, marine, or estuarine*
19 *environment (including inland waters, riparian*
20 *areas, and wetlands) located in the United States.*

21 (3) *BALLAST WATER.*—*The term “ballast water”*
22 *means any water (with its suspended matter) used to*
23 *maintain the trim and stability of a vessel.*

1 (4) *INVASION*.—The term “invasion” means the
2 introduction and establishment of an invasive species
3 into an ecosystem beyond its historic range.

4 (5) *INVASIVE SPECIES*.—The term “invasive spe-
5 cies” means a species—

6 (A) that is nonnative to the ecosystem under
7 consideration; and

8 (B) whose introduction causes or may cause
9 harm to the economy, the environment, or
10 human health.

11 (6) *INVASIVE SPECIES COUNCIL*.—The term
12 “*Invasive Species Council*” means the council estab-
13 lished by section 3 of Executive Order No. 13112 (42
14 U.S.C. 4321 note).

15 (7) *PATHWAY*.—The term “pathway” means 1 or
16 more routes by which an invasive species is trans-
17 ferred from one ecosystem to another.

18 (8) *SPECIES*.—The term “species” means any
19 fundamental category of taxonomic classification or
20 any viable biological material ranking below a genus
21 or subgenus.

22 (9) *TASK FORCE*.—The term “Task Force”
23 means the Aquatic Nuisance Species Task Force es-
24 tablished by section 1201(a) of the Nonindigenous

1 *Aquatic Nuisance Prevention and Control Act of 1990*
 2 *(16 U.S.C. 4721(a)).*

3 (10) *TYPE APPROVAL.*—*The term “type ap-*
 4 *proval” means an approval procedure under which a*
 5 *type of system is certified as meeting a standard es-*
 6 *tablished pursuant to Federal law for a particular*
 7 *application.*

8 **SEC. 4. COORDINATION AND IMPLEMENTATION.**

9 (a) *COORDINATION.*—*In carrying out this Act, the ad-*
 10 *ministering agencies shall coordinate with—*

11 (1) *appropriate State agencies;*

12 (2) *the Fish and Wildlife Service, the Environ-*
 13 *mental Protection Agency, and other appropriate*
 14 *Federal agencies; and*

15 (3) *the Task Force and Invasive Species Council.*

16 (b) *IMPLEMENTATION.*—*The administering agencies*
 17 *shall enter into a memorandum of understanding regarding*
 18 *the implementation of this Act, which shall include the co-*
 19 *ordination required by subsection (a).*

20 (c) *COOPERATION.*—*In carrying out this Act, the ad-*
 21 *ministering agencies shall contract, as appropriate, or oth-*
 22 *erwise cooperate with academic researchers.*

23 (d) *STRUCTURE.*—*To the extent practicable, the ad-*
 24 *ministering agencies shall carry out this Act working with-*

1 *in the organizational structure of the Task Force and*
2 *Invasive Species Council.*

3 **SEC. 5. ECOLOGICAL AND PATHWAY RESEARCH.**

4 (a) *IN GENERAL.*—The administering agencies shall
5 *develop and conduct a marine and fresh-water research pro-*
6 *gram which shall include ecological and pathway surveys*
7 *and experimentation to detect nonnative aquatic species in*
8 *aquatic ecosystems and to assess rates and patterns of intro-*
9 *ductions of nonnative aquatic species in aquatic ecosystems.*
10 *The goal of this marine and freshwater research program*
11 *shall be to support efforts to prevent the introduction of,*
12 *detect, and eradicate invasive species through informing*
13 *early detection and rapid response efforts, informing rel-*
14 *evant policy decisions, and assessing the effectiveness of im-*
15 *plemented policies to prevent the introduction and spread*
16 *of aquatic invasive species. Surveys and experiments under*
17 *this subsection shall be commenced not later than 18 months*
18 *after the date of the enactment of this Act.*

19 (b) *PROTOCOL DEVELOPMENT.*—The administering
20 *agencies shall establish standardized protocols for con-*
21 *ducting ecological and pathway surveys of nonnative aquat-*
22 *ic species under subsection (a) that are integrated and*
23 *produce comparable data. Protocols shall, as practicable, be*
24 *integrated with existing protocols and data collection meth-*
25 *ods. In developing the protocols under this subsection, the*

1 *administering agencies shall draw on the recommendations*
2 *gathered at the workshop under subsection (g). The protocols*
3 *shall be peer reviewed, and revised as necessary. Protocols*
4 *shall be completed within 1 year after the date of the enact-*
5 *ment of this Act.*

6 (c) *ECOLOGICAL AND PATHWAY SURVEY REQUIRE-*
7 *MENTS.—(1) Each ecological survey conducted under sub-*
8 *section (a) shall, at a minimum—*

9 (A) *document baseline ecological information of*
10 *the aquatic ecosystem including, to the extent prac-*
11 *ticable, a comprehensive inventory of native species,*
12 *nonnative species, and species of unknown origin*
13 *present in the ecosystem, as well as the chemical and*
14 *physical characteristics of the water and underlying*
15 *substrate;*

16 (B) *for nonnative species, gather information to*
17 *assist in identifying their life history, environmental*
18 *requirements and tolerances, the historic range of*
19 *their native ecosystems, and their history of spreading*
20 *from their native ecosystems;*

21 (C) *track the establishment of nonnative species*
22 *including information about the estimated abundance*
23 *of nonnative organisms in order to allow an analysis*
24 *of the probable date of introduction of the species; and*

1 (D) identify the likely pathway of entry of non-
2 native species.

3 (2) Each pathway survey conducted under this section
4 shall, at a minimum—

5 (A) identify what nonnative aquatic species are
6 being introduced or may be introduced through the
7 pathways under consideration;

8 (B) determine the quantities of organisms being
9 introduced through the pathways under consideration;
10 and

11 (C) determine the practices that contributed to or
12 could contribute to the introduction of nonnative
13 aquatic species through the pathway under consider-
14 ation.

15 (d) NUMBER AND LOCATION OF SURVEY SITES.—The
16 administering agencies shall designate the number and lo-
17 cation of survey sites necessary to carry out marine and
18 freshwater research required under this section. In estab-
19 lishing sites under this subsection or subsection (e), empha-
20 sis shall be on the geographic diversity of sites, as well as
21 the diversity of the human uses and biological characteris-
22 tics of sites.

23 (e) COMPETITIVE GRANT PROGRAM.—The National
24 Oceanic and Atmospheric Administration and the United
25 States Geological Survey shall jointly administer a pro-

1 gram to award competitive, peer-reviewed grants to aca-
 2 demic institutions, State agencies, and other appropriate
 3 groups, in order to assist in carrying out subsection (a),
 4 and shall include to the maximum extent practicable di-
 5 verse institutions, including Historically Black Colleges
 6 and Universities and those serving large proportions of His-
 7 panics, Native Americans, Asian-Pacific Americans, or
 8 other underrepresented populations.

9 (f) SHIP PATHWAY SURVEYS.—Section
 10 1102(b)(2)(B)(ii) of the Nonindigenous Aquatic Nuisance
 11 Prevention and Control Act of 1990 (16 U.S.C.
 12 4712(b)(2)(B)(ii)) is amended to read as follows:

13 “(ii) examine other potential modes for
 14 the introduction of nonnative aquatic spe-
 15 cies by ship, including hull fouling.”.

16 (g) WORKSHOP.—In order to support the development
 17 of the protocols and design for the surveys under subsections
 18 (b) and (c), and to determine how to obtain consistent, com-
 19 parable data across a range of ecosystems, the admin-
 20 istering agencies shall convene at least one workshop with
 21 appropriate researchers and representatives involved in the
 22 management of aquatic invasive species from Federal and
 23 State agencies and academic institutions to gather rec-
 24 ommendations. The administering agencies shall make the
 25 results of the workshop widely available to the public. The

1 *workshop shall be held within 180 days after the date of*
2 *the enactment of this Act.*

3 (h) *EXPERIMENTATION.*—*The administering agencies*
4 *shall conduct research to identify the relationship between*
5 *the introduction and establishment of nonnative aquatic*
6 *species, including those legally introduced, and the cir-*
7 *cumstances necessary for those species to become invasive.*

8 (i) *NATIONAL PATHWAY AND ECOLOGICAL SURVEYS*
9 *DATABASE.*—

10 (1) *IN GENERAL.*—*The United States Geological*
11 *Survey shall develop, maintain, and update, in con-*
12 *sultation and cooperation with the Smithsonian In-*
13 *stitution (acting through the Smithsonian Environ-*
14 *mental Research Center), the National Oceanic and*
15 *Atmospheric Administration, and the Task Force, a*
16 *central, national database of information concerning*
17 *information collected under this section.*

18 (2) *REQUIREMENTS.*—*The database shall—*

19 (A) *be widely available to the public;*

20 (B) *be updated not less than once a quarter;*

21 (C) *be coordinated with existing databases,*
22 *both domestic and foreign, collecting similar in-*
23 *formation; and*

24 (D) *be, to the maximum extent practicable,*
25 *formatted such that the data is useful for both re-*

1 *searchers and Federal and State employees man-*
 2 *aging relevant invasive species programs.*

3 **SEC. 6. ANALYSIS.**

4 *(a) INVASION ANALYSIS.—*

5 *(1) IN GENERAL.—Not later than 3 years after*
 6 *the date of the enactment of this Act, and every year*
 7 *thereafter, the administering agencies shall analyze*
 8 *data collected under section 5 and other relevant re-*
 9 *search on the rates and patterns of invasions by*
 10 *aquatic invasive species in waters of the United*
 11 *States. The purpose of this analysis shall be to use the*
 12 *data collected under section 5 and other relevant re-*
 13 *search to support efforts to prevent the introduction*
 14 *of, detect, and eradicate invasive species through in-*
 15 *forming early detection and rapid response efforts, in-*
 16 *forming relevant policy decisions, and assessing the*
 17 *effectiveness of implemented policies to prevent the in-*
 18 *troduction and spread of invasive species.*

19 *(2) CONTENTS.—The analysis required under*
 20 *paragraph (1) shall include with respect to aquatic*
 21 *invasive species—*

22 *(A) an analysis of pathways, including—*

23 *(i) identifying, and characterizing as*
 24 *high, medium, or low risk, pathways re-*
 25 *gionally and nationally;*

1 (ii) identifying new and expanding
2 pathways;

3 (iii) identifying handling practices
4 that contribute to the introduction of species
5 in pathways; and

6 (iv) assessing the risk that species le-
7 gally introduced into the United States pose
8 for introduction into aquatic ecosystems;

9 (B) patterns and rates of invasion and sus-
10 ceptibility to invasion of various bodies of water;

11 (C) how the risk of establishment through a
12 pathway is related to the identity and number of
13 organisms transported;

14 (D) rates of spread and numbers and types
15 of pathways of spread of new populations of the
16 aquatic invasive species and an estimation of the
17 potential spread and distribution of newly intro-
18 duced invasive species based on their environ-
19 mental requirements and historical distribution;

20 (E) documentation of factors that influence
21 an ecosystem's vulnerability to a nonnative
22 aquatic species becoming invasive;

23 (F) a description of the potential for, and
24 impacts of, pathway management programs on
25 invasion rates;

1 (G) recommendations for improvements in
2 the effectiveness of pathway management;

3 (H) to the extent practical, a determination
4 of the level of reduction in live organisms of var-
5 ious taxonomic groups required to reduce the
6 risk of establishment to receiving aquatic eco-
7 systems to an acceptable level; and

8 (I) an evaluation of the effectiveness of
9 management actions (including any standard)
10 at preventing nonnative species introductions
11 and establishment.

12 (b) *RESEARCH TO ASSESS THE POTENTIAL OF THE*
13 *ESTABLISHMENT OF INTRODUCED SPECIES.*—Within 2
14 years after the date of the enactment of this Act, the admin-
15 istering agencies shall develop a profile, based on the gen-
16 eral characteristics of invasive species and vulnerable eco-
17 systems, in order to predict, to the extent practical, whether
18 a species planned for importation is likely to invade a par-
19 ticular aquatic ecosystem if introduced. In developing the
20 profile, the above agencies shall analyze the research con-
21 ducted under section 5, and other research as necessary, to
22 determine general species and ecosystem characteristics
23 (taking into account the opportunity for introduction into
24 any ecosystem) and circumstances that can lead to estab-
25 lishment. Based on the profile, the Task Force shall make

1 *recommendations to the Invasive Species Council as to what*
 2 *planned importations of nonnative aquatic organisms*
 3 *should be restricted. This profile shall be peer-reviewed.*

4 *(c) AUTHORIZATION OF APPROPRIATIONS.—There are*
 5 *authorized to be appropriated for carrying out this section*
 6 *and section 5 of this Act, and section 1102(b)(2) of the Non-*
 7 *indigenous Aquatic Nuisance Prevention and Control Act*
 8 *of 1990 (16 U.S.C. 4712(b)(2)) for each of the fiscal years*
 9 *2004 through 2008—*

10 *(1) \$4,000,000 for the Smithsonian Environ-*
 11 *mental Research Center;*

12 *(2) \$11,000,000 for the United States Geological*
 13 *Survey (including activities through the Cooperative*
 14 *Fish and Wildlife Research Program), of which*
 15 *\$6,500,000 shall be for the grant program under sec-*
 16 *tion 5(e), and of which \$500,000 shall be for devel-*
 17 *oping, maintaining, and updating the database under*
 18 *section 5(i); and*

19 *(3) \$10,500,000 for the National Oceanic and*
 20 *Atmospheric Administration, of which \$6,500,000*
 21 *shall be for the grant program under section 5(e).*

22 **SEC. 7. DISSEMINATION.**

23 *(a) IN GENERAL.—The Invasive Species Council, in*
 24 *coordination with the Task Force and the administering*
 25 *agencies, shall be responsible for disseminating the informa-*

1 *tion collected under this Act to the public, including Fed-*
2 *eral, State, and local entities, relevant policymakers, and*
3 *private researchers with responsibility over or interest in*
4 *aquatic invasive species.*

5 (b) *REPORT TO CONGRESS.*—*Not later than 3 years*
6 *after the date of the enactment of this Act, the Invasive Spe-*
7 *cies Council shall report actions and findings under section*
8 *6 to the Congress, and shall update this report once every*
9 *3 years thereafter, or more often as necessary.*

10 (c) *RESPONSE STRATEGY.*—*The Invasive Species*
11 *Council, in coordination with the Task Force, the admin-*
12 *istering agencies, and other appropriate Federal and State*
13 *agencies, shall develop and implement a national strategy*
14 *for how information collected under this Act will be shared*
15 *with Federal, State, and local entities with responsibility*
16 *for determining response to the introduction of potentially*
17 *invasive aquatic species, to enable those entities to better*
18 *and more rapidly respond to such introductions.*

19 (d) *PATHWAY PRACTICES.*—*The Invasive Species*
20 *Council, in coordination with the Task Force and the ad-*
21 *ministering agencies, shall disseminate information to, and*
22 *develop an ongoing educational program for, pathway users*
23 *(including vendors and customers) on how their practices*
24 *could be modified to prevent the intentional or uninten-*

1 *tional introduction of nonnative aquatic species into aquat-*
 2 *ic ecosystems.*

3 *(e) AUTHORIZATION OF APPROPRIATIONS.—There are*
 4 *authorized to be appropriated to the Secretary of the Inte-*
 5 *rior for each of the fiscal years 2004 through 2008 \$500,000*
 6 *for the Invasive Species Council for carrying out this sec-*
 7 *tion.*

8 **SEC. 8. TECHNOLOGY DEVELOPMENT, DEMONSTRATION,**
 9 **AND VERIFICATION.**

10 *(a) ENVIRONMENTALLY SOUND TECHNOLOGY DEVEL-*
 11 *OPMENT, DEMONSTRATION, AND VERIFICATION.—*

12 *(1) GRANT PROGRAM.—Not later than 1 year*
 13 *after the date of the enactment of this Act, the Envi-*
 14 *ronmental Protection Agency, acting through the Of-*
 15 *fice of Research and Development, in consultation*
 16 *with the Army Corps of Engineers, the administering*
 17 *agencies, and the Task Force, shall develop and begin*
 18 *administering a grant program to fund research, de-*
 19 *velopment, demonstration, and verification of environ-*
 20 *mentally sound cost-effective technologies and methods*
 21 *to control and eradicate aquatic invasive species.*

22 *(2) PURPOSES.—Proposals funded under this*
 23 *subsection shall—*

24 *(A) seek to support Federal, State, or local*
 25 *officials' ongoing efforts to control and eradicate*

1 *aquatic invasive species in an environmentally*
2 *sound manner;*

3 *(B) increase the number of environmentally*
4 *sound technologies or methods Federal, State, or*
5 *local officials may use to control or eradicate*
6 *aquatic invasive species;*

7 *(C) provide for demonstration or dissemina-*
8 *tion of the technology or method to potential end-*
9 *users; and*

10 *(D) verify that any technology or method*
11 *meets any appropriate criteria developed for ef-*
12 *fectiveness and environmental soundness by the*
13 *Environmental Protection Agency.*

14 *(3) PREFERENCE.—The Administrator of the*
15 *Environmental Protection Agency shall give pref-*
16 *erence to proposals that will likely meet any appro-*
17 *priate criteria developed for environmental soundness*
18 *by the Environmental Protection Agency.*

19 *(4) MERIT REVIEW.—Grants shall be awarded*
20 *under this subsection through a competitive, peer-re-*
21 *viewed process.*

22 *(5) REPORT.—Not later than 3 years after the*
23 *date of the enactment of this Act, the Administrator*
24 *of the Environmental Protection Agency shall prepare*
25 *and submit a report to Congress on the program con-*

1 *ducted under this subsection. The report shall include*
 2 *findings and recommendations of the Administrator*
 3 *with regard to technologies and methods.*

4 *(b) DISPERSAL BARRIER RESEARCH PROGRAM.—Not*
 5 *later than 1 year after the date of the enactment of this*
 6 *Act, the Assistant Secretary of the Army for the Corps of*
 7 *Engineers, in conjunction with the Fish and Wildlife Serv-*
 8 *ice and other appropriate Federal agencies and academic*
 9 *researchers, shall establish a research, development, and*
 10 *demonstration program to study environmentally sound*
 11 *methods and technologies to reduce dispersal of aquatic*
 12 *invasive species through interbasin waterways and assess*
 13 *the potential for using those methods and technologies in*
 14 *other waterways.*

15 *(c) SHIP PATHWAY TECHNOLOGY DEMONSTRATION.—*

16 *(1) REAUTHORIZATION OF PROGRAM.—Section*
 17 *1301(e) of the Nonindigenous Aquatic Nuisance Pre-*
 18 *vention and Control Act of 1990 (16 U.S.C. 4741(e))*
 19 *is amended by striking “\$2,500,000” and inserting*
 20 *“\$7,500,000 for each of the fiscal years 2004 through*
 21 *2008”.*

22 *(2) EXPANSION OF PROGRAM.—Section 1104(b)*
 23 *of the Nonindigenous Aquatic Nuisance Prevention*
 24 *and Control Act of 1990 (16 U.S.C. 4714(b)) is*
 25 *amended—*

1 (A) by redesignating paragraphs (4) and
 2 (5) as paragraphs (5) and (6), respectively; and
 3 (B) by inserting after paragraph (3) the fol-
 4 lowing new paragraph:

5 “(4) *ADDITIONAL PURPOSES.*—*The Secretary of*
 6 *the Interior and the Secretary of Commerce may also*
 7 *demonstrate and verify technologies under this sub-*
 8 *section to monitor and control pathways of organism*
 9 *transport on ships other than through ballast water.”.*

10 (3) *CRITERIA AND WORKSHOP.*—*Section 1104 of*
 11 *the Nonindigenous Aquatic Nuisance Prevention and*
 12 *Control Act of 1990 (16 U.S.C. 4714) is amended by*
 13 *adding at the end the following new subsections:*

14 “(d) *CRITERIA.*—*When issuing grants under this sec-*
 15 *tion, the National Oceanic and Atmospheric Administra-*
 16 *tion shall give preference to those technologies that will like-*
 17 *ly meet the criteria laid out in any testing protocol devel-*
 18 *oped by the Environmental Protection Agency Office of Re-*
 19 *search and Development’s Environmental Technology*
 20 *Verification Program.*

21 “(e) *WORKSHOP.*—*The National Oceanic and Atmos-*
 22 *pheric Administration shall hold an annual workshop of*
 23 *principal investigators funded under this section and re-*
 24 *searchers conducting research directly related to ship path-*

1 way technology development, for information exchange, and
 2 shall make the proceedings widely available to the public.”.

3 (d) *AUTHORIZATION OF APPROPRIATIONS.*—There are
 4 authorized to be appropriated for each of the fiscal years
 5 2004 through 2008—

6 (1) \$2,500,000 for the Environmental Protection
 7 Agency to carry out subsection (a); and

8 (2) \$1,000,000 for the Army Corps of Engineers
 9 to carry out subsection (b).

10 **SEC. 9. RESEARCH TO SUPPORT THE SETTING AND IMPLE-**
 11 **MENTATION OF SHIP PATHWAY STANDARDS.**

12 (a) *RESEARCH PROGRAM.*—The Coast Guard and the
 13 Environmental Protection Agency, in coordination with the
 14 National Oceanic and Atmospheric Administration, the
 15 Task Force, and other appropriate Federal agencies and
 16 academic researchers, shall develop a coordinated research
 17 program to support the promulgation and implementation
 18 of standards to prevent the introduction and spread of
 19 invasive species by ships that shall include—

20 (1) characterizing physical, chemical, and bio-
 21 logical harbor conditions relevant to ballast discharge
 22 into United States waters to inform the design and
 23 implementation of ship vector control technologies
 24 and practices;

1 (2) *developing testing protocols for determining*
2 *the effectiveness of vector monitoring and control tech-*
3 *nologies and practices;*

4 (3) *researching and demonstrating methods for*
5 *mitigating the spread of invasive species by coastal*
6 *voyages, including exploring the effectiveness of alter-*
7 *native exchange zones in the near coastal areas and*
8 *other methods proposed to reduce transfers of orga-*
9 *nisms;*

10 (4) *verifying the practical effectiveness of any*
11 *type approval process to ensure that the process pro-*
12 *duces repeatable and accurate assessments of treat-*
13 *ment effectiveness; and*

14 (5) *evaluating the effectiveness and residual risk*
15 *and environmental impacts associated with any*
16 *standard set with respect to the ship pathway through*
17 *experimental research.*

18 (b) *PERFORMANCE TEST.*—*Within 1 year after the*
19 *date of the enactment of this Act, the Coast Guard, in con-*
20 *junction with the National Institute of Standards and*
21 *Technology and the Maritime Administration, shall design*
22 *a performance test for ballast water exchange such as a dye*
23 *study to measure the effectiveness of ballast water exchange.*

24 (c) *NATIONAL ACADEMY STUDY.*—*The Secretary of the*
25 *Department in which the Coast Guard is operating shall*

1 *enter into an arrangement with the National Academy of*
2 *Sciences under which the Academy shall—*

3 *(1) identify the relative risk of transfer of var-*
4 *ious taxonomic groups by different ship modes;*

5 *(2) assess the extent to which a ballast water*
6 *standard that virtually eliminates the risk of intro-*
7 *duction of invasive species by ballast water may re-*
8 *late to the risk of introductions by all ship modes,*
9 *and explain the degree of uncertainty in such assess-*
10 *ment; and*

11 *(3) recommend methods for reducing organism*
12 *transfers by ships by addressing all parts and systems*
13 *of ships and all related modes of transport of invasive*
14 *species, and identify the research, development, and*
15 *demonstration needed to improve the information*
16 *base to support such methods, including economic in-*
17 *formation.*

18 *Not later than 2 years after the date of the enactment of*
19 *this Act, the Secretary of the Department in which the Coast*
20 *Guard is operating shall transmit to the Congress a report*
21 *on the results of the study under this subsection.*

22 *(d) RECOMMENDATIONS.—Not later than the later of*
23 *1 year after the date of submission of the report under sub-*
24 *section (c), or 3 years after the date of the enactment of*
25 *this Act, the Task Force, in conjunction with the Environ-*

1 *mental Protection Agency, the administering agencies, and*
2 *other appropriate Federal and State agencies and academic*
3 *researchers, shall submit to the Coast Guard a report that*
4 *describes recommendations for—*

5 (1) *a ship pathway treatment standard that in-*
6 *corporates all potential modes of transfer by ships;*
7 *and*

8 (2) *methods for type approval and accurate*
9 *monitoring of treatment performance that are simple*
10 *and streamlined and follow established protocols.*

11 (e) *WORKING GROUP.—Not later than 2 years after the*
12 *issuance by the Coast Guard of any standard relating to*
13 *the introduction by ships of invasive species, the Coast*
14 *Guard shall convene a working group including the Envi-*
15 *ronmental Protection Agency, the administering agencies,*
16 *and other appropriate Federal and State agencies and aca-*
17 *demic researchers, to evaluate the effectiveness of that stand-*
18 *ard and accompanying implementation protocols. The du-*
19 *ties of the working group shall, at a minimum, include—*

20 (1) *reviewing the effectiveness of the standard in*
21 *reducing the establishment of invasive species in*
22 *aquatic ecosystems, taking into consideration the data*
23 *collected under section 5; and*

24 (2) *developing recommendations to the Coast*
25 *Guard for the revision of such standard and type ap-*

1 *proval process to ensure effectiveness in reducing in-*
 2 *troductions and accurate shipboard monitoring of*
 3 *treatment performance that is simple and stream-*
 4 *lined, which shall be made widely available to the*
 5 *public.*

6 *(f) AUTHORIZATION OF APPROPRIATIONS.—There are*
 7 *authorized to be appropriated—*

8 *(1) for each of the fiscal years 2004 through 2008*
 9 *\$1,500,000 for the Coast Guard and \$1,500,000 for*
 10 *Environmental Protection Agency to carry out sub-*
 11 *section (a);*

12 *(2) for each of the fiscal years 2004 through 2006*
 13 *\$500,000 for the Coast Guard to carry out subsection*
 14 *(b); and*

15 *(3) for fiscal year 2004 \$500,000 for the Coast*
 16 *Guard to carry out subsection (c), to remain available*
 17 *until expended.*

18 **SEC. 10. RESEARCH IN SYSTEMATICS AND TAXONOMY.**

19 *(a) IN GENERAL.—The National Science Foundation*
 20 *shall establish a program to award grants to researchers*
 21 *at institutions of higher education and museums to carry*
 22 *out research programs in systematics and taxonomy.*

23 *(b) GOALS.—The goals of the program under this sec-*
 24 *tion are to—*

1 (1) *encourage scientists to pursue careers in sys-*
2 *tematics and taxonomy to ensure a continuing knowl-*
3 *edge base in these disciplines;*

4 (2) *ensure that there will be adequate expertise*
5 *in systematics and taxonomy to support Federal,*
6 *State, and local needs to identify species;*

7 (3) *develop this expertise throughout the United*
8 *States with an emphasis on regional diversity; and*

9 (4) *draw on existing expertise in systematics and*
10 *taxonomy at institutions of higher education and mu-*
11 *seums to train the next generation of systematists and*
12 *taxonomists.*

13 (c) *CRITERIA.—Grants shall be awarded under this*
14 *section on a merit-reviewed competitive basis. Emphasis*
15 *shall be placed on funding proposals in a diverse set of eco-*
16 *systems and geographic locations, and, when applicable, in-*
17 *tegrated with the United States Long Term Ecological Re-*
18 *search Network. Preference shall be given to proposals that*
19 *will include student participation, and to institutions and*
20 *museums that actively train students to become experts in*
21 *taxonomy and systematics.*

22 (d) *AUTHORIZATION OF APPROPRIATIONS.—There are*
23 *authorized to be appropriated to the National Science*
24 *Foundation for carrying out this section \$2,500,000 each*
25 *of the fiscal years 2004 through 2008.*

1 **SEC. 11. STATE PROGRAMS.**

2 (a) *PLAN.*—The administering agencies, in coopera-
3 tion with the appropriate State agencies, shall develop a
4 plan to—

5 (1) *conduct a survey of methods States and Fed-*
6 *eral agencies are using to control or eradicate aquatic*
7 *invasive species;*

8 (2) *facilitate the exchange of information among*
9 *States and Federal agencies on methods States or*
10 *Federal agencies have found to be effective at control-*
11 *ling or eradicating aquatic invasive species and the*
12 *costs of those methods; and*

13 (3) *evaluate the cost-effectiveness of the various*
14 *methods States and Federal agencies are using to con-*
15 *trol or eradicate aquatic invasive species.*

16 (b) *REPORT.*—Not later than one year after the date
17 of enactment of this Act, the administering agencies shall
18 jointly transmit to the Congress the plan described in sub-
19 section (a) and the expected costs of carrying out the plan.

Union Calendar No. 263

108TH CONGRESS
2^D Session

H. R. 1081

[Report No. 108-324, Part I]

A BILL

To establish marine and freshwater research, development, and demonstration programs to support efforts to prevent, control, and eradicate invasive species, as well as to educate citizens and stakeholders and restore ecosystems.

APRIL 2, 2004

Committees on Transportation and Infrastructure, Resources, and House Administration discharged; committed to the Committee of the Whole House on the State of the Union and ordered to be printed