



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
441 G STREET, NW  
WASHINGTON, DC 20314-1000

CECW-P

APR 17 2019

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Revised Implementation Guidance for Section 1149 of the Water Resources Development Act (WRDA) of 2018, Inclusion of Alternative Measures for Aquatic Ecosystem Restoration

1. The Assistant Secretary of the Army, Civil Works approved on 12 April 2019 Section 1149 of WRDA 2018. The attached implementation guidance is posted for internal and external use on the U.S. Army Corps of Engineers official WRDA website:  
<http://www.usace.army.mil/Missions/Civil-Works/Project-Planning/Legislative-Links/>.
2. Please ensure wide dissemination of this guidance. Questions regarding this implementation guidance should be directed to the Headquarters POC, Maria Wegner, Senior Policy Advisor, Planning and Policy Division, at (202) 761-3061 or [maria.m.wegner@usace.army.mil](mailto:maria.m.wegner@usace.army.mil)

A handwritten signature in blue ink, appearing to read "J. Dalton".

JAMES C. DALTON, P.E.  
Director of Civil Works

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DEPARTMENT OF THE ARMY  
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APR 12 2019

MEMORANDUM FOR THE COMMANDING GENERAL, U.S. ARMY CORPS OF ENGINEERS

SUBJECT: Implementation Guidance for Section 1149 of the Water Resources Development Act of 2018, Inclusion of Alternative Measures for Aquatic Ecosystem Restoration

1. References.

a. Engineer Regulation 1105-2-100, Planning Guidance Notebook.

b. Implementation Guidance for Section 1184 of the Water Resources Development Act of 2016 (WRDA 2016), Consideration of Measures, dated 16 November 2017.

2. Section 1149 of the Water Resources Development Act of 2018 (WRDA 2018) directs the Secretary to consider natural features or nature-based features when carrying out projects under Section 206 of the Water Resources Development Act of 1996 (WRDA 1996), as amended (33 U.S.C. 2330), and authorizes the Secretary, with the consent of the non-Federal interest, to include these natural or nature based features if they are consistent with the requirements of Section 206(a) of the WRDA 1996, as amended. Section 1149 of WRDA 2018, Section 206 of WRDA 1996, as amended (33 U.S.C. 2330) and Section 1184 of WRDA 2016 are enclosed.

3. Section 1149 expands the definition of nature-based features in Section 1184(a)(2) of WRDA 2016 by removing "in coastal areas" from the definition. Finally, Section 1149 directs the Secretary, in carrying out a feasibility report developed under Section 905 of the Water Resources Development Act of 1986 (WRDA 1986), as amended (33 U.S.C. 2282), for a project for flood risk management or hurricane and storm damage risk reduction, to consider traditional and natural infrastructure alternatives, alone or in conjunction with each other, if those alternatives are practicable.

4. Reference 1.b. remains in effect, however, nature based features shall no longer be limited to coastal areas. The formulation and evaluation guidance in Reference 1.b. now applies to studies conducted under Section 206 of WRDA 1996, as amended. Section 1149 authorizes the Secretary, with the consent of the non-Federal interest, to include natural or nature-based features to a Section 206 project if these features meet the following requirements: (1) they will improve the quality of the environment and are in the public interest or they will improve the elements and features of an estuary; and (2) they are cost-effective. The U.S. Army Corps of Engineers (Corps) is already implementing Section 1149(c) per the direction provided in Section 1184(b) of WRDA 2016 and the guidance provided in reference 1.b.

**SUBJECT: Implementation Guidance for Section 1149 of the Water Resources Development Act of 2018, Inclusion of Alternative Measures for Aquatic Ecosystem Restoration**

5. This guidance shall be transmitted to the appropriate Corps Division and District Commanders and posted to the Corps' WRDA website within five business days of receipt (written or electronic) from this office. Guidance shall be transmitted and posted as is and without additional guidance attached.

6. Questions regarding this implementation guidance should be directed to Gib Owen, Office of the Assistant Secretary of the Army for Civil Works, at [gib.a.owen.civ@mail.mil](mailto:gib.a.owen.civ@mail.mil) or 703-695-4641.



R. D. James  
Assistant Secretary of the Army  
(Civil Works)

Enclosures

cf: MG Scott Spellmon, Deputy Commanding General, Civil and Emergency Operations  
James Dalton, Director of Civil Works

**Water Resources Development Act of 2018, Section 1149 - Inclusion of Alternative Measures for Aquatic Ecosystem Restoration**

(a) **INCLUSION OF ALTERNATIVE MEASURES FOR AQUATIC ECOSYSTEM RESTORATION.** Section 206 of the Water Resources Development Act of 1996 (33 U.S.C. 2230) is amended

- (1) by redesignating subsection (e) as subsection (f); and
- (2) by inserting after subsection (d) the following:

(e) **USE OF NATURAL AND NATURE-BASED FEATURES.** In carrying out a project to restore and protect an aquatic ecosystem or estuary under subsection (a), the Secretary shall consider, and may include, with the consent of the non-Federal interest, a natural feature or nature-based feature, as such terms are defined in Section 1184 of the Water Resources Development Act of 2016, if the Secretary determines that inclusion of such features is consistent with the requirements of subsection (a).

(b) **AMENDMENT TO DEFINITION.** Section 1184(a)(2) of the Water Resources Development Act of 2016 (33 U.S.C. 2282a(a)(2)) is amended by striking "in coastal areas".

(c) **NATURAL INFRASTRUCTURE.** In carrying out a feasibility report developed under Section 905 of the Water Resources Development Act of 1986 (33 U.S.C. 2282) for a project for flood risk management or hurricane and storm damage risk reduction, the Secretary shall consider the use of both traditional and natural infrastructure alternatives, alone or in conjunction with each other, if those alternatives are practicable.

**Water Resources Development Act of 2016, Section 1184 - Consideration of Measures**

(a) **DEFINITIONS.** In this section, the following definitions apply:

(1) **NATURAL FEATURE.** The term “natural feature” means a feature that is created through the action of physical, geological, biological, and chemical processes over time.

(2) **NATURE-BASED FEATURE.** The term “nature-based feature” means a feature that is created by human design, engineering, and construction to provide risk reduction in coastal areas by acting in concert with natural processes.

(b) **REQUIREMENT.** In studying the feasibility of projects for flood risk management, hurricane and storm damage reduction, and ecosystem restoration the Secretary shall, with the consent of the non-Federal sponsor of the feasibility study, consider, as appropriate

- (1) natural features;
- (2) nature-based features;
- (3) nonstructural measures; and
- (4) structural measures.

(c) **REPORT TO CONGRESS.**

(1) **IN GENERAL.** Not later than February 1, 2020, and 5 and 10 years thereafter, the Secretary shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report on the implementation of subsection (b). S. 612—53

(2) **CONTENTS.** The report under paragraph (1) shall include, at a minimum, the following:

(A) A description of guidance or instructions issued, and other measures taken, by the Secretary and the Chief of Engineers to implement subsection (b).

(B) An assessment of the costs, benefits, impacts, and trade-offs associated with measures recommended by the Secretary for coastal risk reduction and the effectiveness of those measures.

(C) A description of any statutory, fiscal, or regulatory barriers to the appropriate consideration and use of a full array of measures for coastal risk reduction.