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	Water Resources Policies and Authorities FEDERAL PARTICIPATION IN SHORE PROTECTION	
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DEPARTMENT OF THE ARMY
Office of the Chief of Engineers
Washington, DC 20314-1000

CECW-RR

15 June 1989

Regulation
No. 1165-2-130

Water Resources Policies and Authorities
FEDERAL PARTICIPATION IN SHORE PROTECTION

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This regulation supersedes ER 1165-2-130, 15 January 1979.

Tables

Appendices

1. Purpose. This Engineer Regulation (ER) provides policies and guidelines for determining the extent of Federal participation in potential Federal projects for protection from shore erosion, hurricanes, and abnormal tidal and lake flooding that result in damages or losses to coastal resources and/or development.

2. Applicability. This ER is applicable to all HQUSACE/OCE elements and all field operating activities (FOAs) having Civil Works responsibilities. The policies and guidelines set forth in this regulation are applicable to all Congressionally-authorized preconstruction studies and preconstruction studies conducted under the authority of Section 103, Public Law (P.L.) 87-874, and under the authority of Section 111, P.L. 90-483 for projects not specifically authorized by the Congress.

3. References.

a. P.L. 71-520, 3 July 1930, River and Harbor Act (R&HA).

b. P.L. 79-526, 24 July 1946, Flood Control Act (FCA) of 1946.

c. P.L. 79-727, 13 August 1946.

d. P.L. 84-71, 15 June 1955.

e. P.L. 84-99, 28 June 1955.

f. P.L. 84-826, 28 July 1956.

g. P.L. 85-500, 3 July 1958, R&H and FCA of 1958.

h. P.L. 86-645, 14 July 1960, R&H and FCA of 1960.

i. P.L. 87-874, 23 October 1962, R&H and FCA of 1962.

j. P.L. 88-172, 7 November 1963.

k. P.L. 89-72, 9 July 1965, Federal Water Project Recreation Act.

l. P.L. 90-483, 13 August 1968, R∧H and FCA of 1968.

m. P.L. 91-611, 31 December 1970, R∧H and FCA of 1970.

n. P.L. 91-646, 2 January 1971, Uniform Relocations Assistance and Real Property Acquisition Policy Act of 1970.

o. P.L. 92-583, 27 October 1972, Coastal Zone Management Act of 1972.

p. P.L. 93-251, 7 March 1974, Water Resources Development Act (WRDA) of 1974.

q. P.L. 94-587, 22 October 1976, WRDA of 1976.

r. P.L. 97-348, 18 October 1982, Coastal Resources Barrier Act.

s. P.L. 99-662, 17 November 1986, WRDA of 1986.

t. P.L. 100-676, 17 November 1988, WRDA of 1988.

u. Executive Order 11988, Floodplain Management, 24 May 1977.

v. Executive Order 11990, Protection of Wetlands, 24 May 1977.

w. ER 200-2-2, Policy and Procedures for Implementating NEPA.

x. ER 1105-2-100, Planning Guidance Notebook.

y. ER 1110-2-1407, Hydraulic Design for Coastal Shore Protection Projects.

z. ER 1130-2-307, Dredging Policies and Practices.

aa. ER 1130-2-400, Management of Natural Resources and Outdoor Recreation at Civil Works Water Resource Projects

bb. ER 1130-2-435, Preparation of Project Master Plans.

cc. ER 1165-2-18, Reimbursement for Advance Non-Federal Participation in Civil Works Projects.

dd. ER 1165-2-131, Policy Guidance for New Start Construction Projects.

ee. ER 1165-2-400, Recreation Planning, Development, and Management Policies

4. Definitions. To facilitate use of this ER and promote understanding the policies and procedures set forth herein, definitions of terms as used in this ER are provided in Appendix A.

5. Program Legislation. Legislation that provides the bases for and changes in the policies and procedures set forth in this ER is synopsized in Appendix B.

6. Program Policies.

a. Shore Protection. It is Corps policy to provide Federal assistance in reducing damages to shorefront development and coastal resources from shore erosion, hurricane, and abnormal tidal and lake flooding by undertaking shore protection projects where such projects

best serve the public interest. Plans will be developed, evaluated, and selected in accordance with the Water Resources Council's (WRC) Economic and Environmental Principles and Guidelines (P∧G) for Water and Related Land Resources Implementation Studies (dated 10 March 1983) as required by ER 1105-2-100. WRC P∧G directs water and related land resources planning toward the Federal objective of contributing to national economic development consistent with protecting the Nation's environment, pursuant to national environmental statutes, applicable Executive Orders, and other Federal planning requirements. In connection with existing shore protection, hurricane protection, and/or beach erosion control projects, it is Corps policy to consider extension of Federal participation in any periodic nourishment for the project as a new investment decision subject to current evaluation criteria, and cost apportionment and cost sharing will be in accordance with P.L. 99-662. In any case in which the use of fill material for beach erosion control or beach nourishment is authorized as a purpose of an authorized water resources project, it is Corps policy to consider acquiring such material by purchase, exchange, or otherwise from nondomestic sources and use such materials for such purposes only if such materials are not available from domestic sources for environmental or economic reasons. The extent of Federal participation in any shore protection plan will be based on the policies and requirements given in the following paragraphs. Section 934 of P.L. 99-662 will not be used to extend the period of authorized periodic nourishment of projects that use sand-bypassing/backpassing plants.

(1) Related Recreation. It is the policy of the United States to assist in the construction, but not the maintenance, of works to protect against erosion by waves and currents along the shores of the United States for the purposes of preventing damages to property and promoting and encouraging healthful recreation (P.L. 79-727, as amended). However, recreation is not considered to be a high priority or primary project output under current Department of the Army policy. Accordingly, the Corps participates in shore protection plans that include recreation facilities or generate recreation benefits if the recreation outputs are incidental (i.e., no separable construction costs are required to realize recreation outputs) and are not the primary outputs (Table 1, Case 1). Corps participation in separable recreation features at shore and hurricane protection projects, even though such features may be economically justified, is precluded under current Department of the Army policy (Table 1, Case 2). Federal funds are also not used to support construction of shore or hurricane protection projects which depend on separable recreation benefits for economic justification (Table 1, Case 3), or for which incidental recreation benefits are greater than 50 percent of the total benefits unless the project is economically justified based on primary project outputs alone (Table 1, Case 4), or based on the combination of primary benefits and an equivalent amount of incidental recreation benefits (Table 1, Case 5). Land loss prevention benefits attributable to undeveloped private lands are to be categorized as private benefits, even though the shore may be public. Implementing policies and procedures on Corps participation in recreation development are provided in ER 1105-2-100, ER 1130-2-400, ER 1130-2-435, and ER 1165-2-400.

TABLE 1 - FEDERAL PARTICIPATION IN SHORE PROTECTION PROJECTS THAT INCLUDE RECREATION FACILITIES OR GENERATE RECREATION BENEFITS

ITEM	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5
Hurricane & Storm Damage Reduction (H&SDR) Benefits	>50%	>50%	<50%	<50%	<50%
Recreation Benefits	<50%	<50%	>50%	>50%	>50%
Annual Charges ($)	10	10	10	10	10
H&SDR	(10)	(6)	(9)	(10)	(10)
Rec. (Incidental)	(0)	(0)	(0)	(0)	(0)
Rec. (Separable)	(0)	(4)	(1)	(0)	(0)
Annual Benefits ($)	11	12	11	23	12
H&SDR	(6)	(7)	(4)	(11)	(6)
Rec. (Incidental)	(5)	(0)	(4)	(12)	(7);(6)a/
Rec. (Separable)	(0)	(5)	(3)	(0)	(0)
BCR	1.1	1.2	1.1	2.3	1.2
H&SDR only	(0.6)	(1.2)	(0.4)	(1.1)	(0.6)
H&SDR & Rec. (I)	(1.1)	(1.2)	(0.9)	(2.3)	(1.2)
Rec. (S) only	(0)	(1.3)	(3.0)	(0)	(0)
Net Annual Benefits ($)	+1	+2	+1	+13	+2
Federal (Corps) Participation	Yes	Yes-H&SDR No-Rec.(S)	No	Yes	Yes

a/ Benefits limited to the level of primary (H&SDR) benefits, or limited to an equivalent amount of primary (H&SDR) benefits.

CASE 1 - Federal participation in this recreation benefit generating shore protection (SP) project is warranted since the recreation benefits are incidental, comprise less than 50 percent of total benefits, and, when combined with the primary H&SDR benefits, produce an economically justified project (i.e., project is not justified on H&SDR benefit alone).

CASE 2 - Federal participation in this recreation benefit generating SP project is limited to the portion that generates primary H&SDR benefits (i.e., H&SDR portion of overall project is separably economically justified). Federal participation in the separable recreation of the overall project is restricted by Army budgetary policy even though it is separably justified.

CASE 3 - Federal participation in this recreation benefit generating SP project is not warranted since separable recreational benefits are necessary to justify the overall project (i.e., project is not justified based on primary H&SDR benefits alone, or on the combination of H&SDR and incidental recreation benefits, with incidental recreation benefits limited to an equivalent amount of H&SDR benefits).

CASE 4 - Federal participation in this recreation benefit generating SP project is warranted since the recreation benefits are incidental and, even though they comprise over 50 percent of total benefits, they are not necessary for project justification (i.e., project is justified based on primary H&SDR benefits alone).

CASE 5 - Federal participation in this recreation benefit generating SP project is warranted since recreation benefits are incidental, and, when combined with and limited to an equivalent amount of primary H&SDR benefits, they produce an economically justified project.

(2) Related Dredged Material Disposal. It is Corps policy to accomplish construction and maintenance dredging in the least costly and most environmentally sound manner possible (ER 1130-2-307). If placement of dredged material on a beach or beaches is determined by the Corps to be the least costly acceptable means for disposal of the material, then such placement should be considered integral to accomplishment of the project work and not subject to any special non-Federal cost-sharing requirements (unless benefits from the on-beach placement are required for project justification and those benefits are of a kind with which special cost sharing is associated).

(3) It is Corps policy to participate in the additional costs for placing beach-quality sand or other suitable material, dredged by the Corps during construction or maintenance of Federal navigation projects, onto adjacent beaches or near shore waters subject to the following:

(a) Placement of the material on a beach or beaches and Federal (Corps) participation in the costs must be requested by the State in which the beach or beaches are located;

(b) The added cost of disposal must be justified by the benefits associated with the protection of such beach or beaches;

(c) The storm damage reduction benefits resulting from the beach protection must exceed 50 percent of the total benefits, unless the placing of dredged material is economically justified based on storm damage reduction benefits alone, or on the combination of storm damage reduction benefits and an equivalent amount of incidental recreation benefits if incidental recreation benefits exceed 50 percent of total benefits.

(d) The beaches involved must be open to the public;

(e) The placement must be environmentally acceptable, pursuant to all applicable statutes and regulations;

(f) Local interests must pay 50 percent of the added cost of disposal above the alternative least costly method of disposal; and

(g) Local interests must provide (without cost sharing) any necessary additional lands, easements, rights-of-way, and relocations.

(4) Should all of the foregoing conditions not pertain, it is Corps policy to place beach-quality sand or other suitable material, dredged by the Corps during construction and maintenance of Federal navigation projects, onto beaches or nearshore waters, even though more costly than alternative means of disposal, subject to the following:

(a) Placement on a beach or beaches must be requested by the State in which the beach or beaches is located;

(b) A finding can be made that, regardless of evaluated benefits, protection of the beaches involved is in the public interest;

(c) The placement must be environmentally acceptable, pursuant to all applicable statutes and regulations;

(d) Local interests must pay 100 percent of the added cost of disposal above the alternative least costly method of disposal; and

(e) Local interests must provide any necessary additional lands, easements, rights-of-way, and relocations.

b. Geographic Applicability. Shore erosion control, hurricane, and abnormal tidal flooding authorities are applicable to the shores of the Atlantic and Pacific Oceans, the Gulf of Mexico, the Great Lakes, the estuaries and bays directly connected therewith of each of the States (including the Federated States of Micronesia and the Marshall Islands), the Commonwealths of Puerto Rico and Northern Marianas Islands, and the Territories (U.S. Virgin Islands, Guam, American Samoa) of the United States. Authority for shore erosion control activities extend only the distance up tributary streams where it can be demonstrated that the dominant causes of erosion and damage are ocean tidal action (or Gulf of Mexico and Great Lakes water motion) and wind-generated waves. They will not address erosion at upstream locations caused by streamflows or vessels. Lake flood protection activities are generally limited to the Great Lakes, or as otherwise specifically authorized under public law.

c. Coastal Zone Management Plans. Project proposals shall be consistent to the maximum practicable extent with approved State Coastal Zone Management Programs developed under the authority of the Coastal Zone Management Act of 1972, as amended.

d. Coastal Barrier Resources System. Project proposals shall be subject to compliance with the Coastal Barrier Resources Act of 1982.

e. Beach Creation. Existing shore erosion control authority provides for "restoration" and "protection." It does not provide for Federal cost sharing in extending a beach beyond its historic shoreline unless the extension is needed for engineering reasons to provide protection from erosion or as otherwise specifically authorized under public law.

f. Project Purposes. Shore protection projects have been authorized for a variety of purposes: beach erosion control, shore/shoreline protection, hurricane/hurricane wave protection, and storm protection. For cost sharing purposes, the benefits/outputs associated with the foregoing project purposes will be reassigned to conform to the appropriate purposes specified in Section 103(c) of P.L. 99-662 (normally, hurricane and storm damage reduction, and/or recreation), and costs shared in the same percentage as the purposes to which costs are assigned.

g. Shore Categories. Three general categories of shore, based on ownership and use, and incidence and type of benefits, must be considered in determining the extent of Federal participation in shore protection. These categories, and the levels of Federal participation applicable thereto, are listed in Table 2, with the following clarifications:

(1) Private Shores. All costs assignable to benefits to privately-owned shores, within or downdrift of physical project limits, (where use of such shore is limited to private interests) are non-Federal, except that benefits to private shores beyond project limits, if trivial in amount, are considered incidental for cost sharing purposes. Federal participation may be recommended for the protection of developed private shores if the use of such shores is not limited to private interests. Benefits from prevention of losses of developed private lands are treated as storm damage reduction benefits.

(2) Losses of Private Lands. All costs assigned to the prevention of losses of undeveloped private lands (including privately-owned marshes and wetlands) are non-Federal, even though the beach may be public. Normally determinations of the market value for the land losses will be based on the value of nearshore upland. Nearshore upland is sufficiently removed from the shore to lose its significant increment of value because of its proximity to the shore, when compared to adjacent parcels that are more distant (inland) from the shore. Other valuation methods are potentially acceptable, if it can be shown that the use of nearshore values does not provide a realistic estimate of the value of lost land.

(3) Federal Shores. All costs assigned to the protection of Federally-owned shores are Federal, and the Federal agency benefiting from the project is responsible for these costs.

(4) Non-Federal Public Shores (Park and Conservation Areas). Section 103 of the 1962 River and Harbor Act provided that under special conditions, beach erosion protection of a state, county, or other publically-owned shore park and conservation area is eligible for Federal cost sharing up to 70 percent of the total project costs, exclusive of land costs. The WRDA of 1986 discontinues this special cost sharing. Evaluation of land loss benefits at non-Federal public shores will reflect the special use to which the land is dedicated, and the value of the output produced by that use. Consequently lands dedicated to non-Federal park and conservation areas (including historic parks and landmarks) will normally be valued on the basis of loss of recreation outputs, with cost sharing 50/50, and Federal participation limited by current Department of the Army policy. In cases where the use of the land cannot be accurately calculated in economic terms, the value of nearshore upland may be used (see paragraph 6.g(2) above). No land loss benefit will be claimed for beach areas, or for shorefront lands subject to temporary shoreline recessions.

TABLE 2 - PERCENT FEDERAL PARTICIPATION IN COSTS FOR SHORE PROTECTION BY SHORELINE OWNERSHIP CATEGORY AND PROJECT BENEFITS

Shoreline Ownership Category (2) / Project Benefits	Federal Participation (%) Construction(3)	OM&R
I. Federally owned (4)		
Hurricane ∧ Storm Damage Reduction	100	100
Land loss (12)	100	100
Recreation (Separable) (5)	100	100
II. Publicly owned and/or privately owned with public benefits (6)(7)		
Hurricane & Storm Damage Reduction (8)	65 (11)	0
Land loss (9)(10)(12)	50 (11)	0
Recreation (Separable) (5)	50 (11)	0
III. Privately owned		
Hurricane & Storm Damage Reduction	0	0
Land loss (12)	0	0
Recreation (Separable) (5)	0	0

(1) The Corps does not recommend construction authorization for shore protection projects that protect only one private property owner, (profit or non-profit) (see paragraph 9.e(1)). The Corps may recommend construction authorization for shore protection projects that protect only one public owner, if the project is formulated and justified in accordance with policies applicable to hurricane and storm damage reduction. Federal funds will not be used to implement a project with recreation benefits greater than 50 percent of total benefits unless the project is economically justified based on (a) primary project outputs alone (see paragraph 6.a(1) above), or (b) the combination of reduced storm damages and an equivalent amount of incidental recreation benefits.

(2) Shores which lie within recognized Indian Tribal Reservations do not usually fall within categories. The status of such lands will depend upon the particular treaty provisions pertaining to the lands under consideration and will need to be examined in each instance. Specific cases should be referred to CDR, USACE (CECW-P), WASH DC, 20314-1000 for guidance.

(3) Where appropriate, periodic beach nourishment is considered construction (see paragraph 7.e below).

(4) See paragraph 9.e(5) on protecting other Federal agency shores and work for another Federal agency.

(5) Department of the Army policy precludes Civil Works funding of separable recreation features at shore protection projects.

(6) Privately-owned shores under public control, as through a sufficiently long-term lease assuring realization of public benefits throughout the economic life of the project.

(7) See paragraph 9 below, concerning incidental protection of privately-owned shores.

(8) Basic project may also include incidental recreation benefits (i.e., inseparable from basic project purpose). Benefits from prevention of loss of developed private lands are treated as storm damage reduction benefits. Benefits from prevention of damages to transportation facilities are considered as storm damage reduction benefits.

(9) Non-Federal public shores dedicated to park (recreation; historic/landmark) and/or conservation (fish and wildlife) uses.

(10) Adjusted by the ratio of public benefits along each category of shore to total benefits along each category of protected shore. Prevention of losses of undeveloped private lands is a private benefit.

(11) These cost sharing percentages are applied to project costs including the fair market value of LERRD.

(12) The Corps does not recommend construction of shore protection projects where the benefits consist solely of land loss prevention regardless of the number of owners.

h. Public Use. Public use is a condition for Federal participation in hurricane, abnormal tidal or lake flood protection projects. Current shore erosion control law provides that "Shores other than public (i.e., privately owned) will be eligible for Federal assistance if there is a benefit such as that arising from public use..." In the case of beaches used for recreation, public use means use by all on equal terms. This means that project beaches will not be limited to a segment of the public. Unless the protection of privately-owned beaches is incidental to protection of public beaches (paragraph 9), they must be open to all visitors regardless of origin or home area, or provide protection to nearby public property to be eligible for Federal assistance. Items affecting public use are discussed below.

(1) User Fees. A reasonable beach fee, uniformly applied to all, for use in recovery of the local share of project costs is allowable. Normal charges made by concessionaires and municipalities for use of facilities such as bridges, parking areas, bathhouses, and umbrellas are not construed as a charge for the use of the Federal beach project, if they are commensurate with the value of the service they provide and return only a reasonable profit. Fees for such services must be applied uniformly to all concerned and not as a prerequisite to beach use.

(2) Parking. Lack of sufficient parking facilities for the general public (including non-resident users) located reasonably nearby, and with reasonable public access to the project, will constitute de facto restriction on public use, thereby precluding eligibility for Federal participation. Generally, parking on free or reasonable terms should be available within a reasonable walking distance of the beach. Street parking is not considered acceptable in lieu of parking lots unless curbside capacity will accommodate the projected use demands. Parking should be sufficient to accommodate the lesser of the peak hour demand or the beach capacity. In some instances State and local plans may call for a reduction in automobile pollutants by encouraging public transportation. Thus, public transportation facilities may substitute for or complement parking facilities. However, reports which consider public transportation in this manner must indicate how the public transportation system would be adequate for the needs of projected beach users. In computing the public parking accommodations required, the beach users not requiring parking should be deducted from the design figure.

(3) Access. Reasonable public access must be provided in accordance with the recreational use objectives of the particular area. However, public use is construed to be effectively limited to within one-quarter mile from available points of public access to any particular shore. In the event public access points are not within one-half mile of each other, either an item of local cooperation specifying such a requirement and public use throughout the project life must be included in project recommendations or the cost sharing must be based on private use.

(4) Beach Use by Private Organizations. Federal participation in private shores owned by beach clubs and hotels is incompatible with the intent of the P.L. 84-826 if the beaches are limited to use by members or paying guests.

(5) Public Shores With Limitations. Publicly-owned beaches which are limited to use by residents of the community or a group of communities are not considered to be open to the general public and will be treated as private beaches.

I. Improvements for Recreation. Improvements to enhance the recreational value of shore protection projects such as bathhouses, access roads, toilet facilities, and parking areas are a local responsibility. Provision of those facilities is not eligible for Federal assistance through the Corps programs, and costs for those facilities are not ordinarily included as project costs.

7. Federal Role in Project Development.

a. Preauthorization Studies. The Corps of Engineers may undertake specific studies relating to shore erosion, hurricane, abnormal tidal and lake flood problems with the authorization of Congress, either in response to resolutions adopted by the Committee on Environment and Public Works of the United States Senate or the Committee on Public Works and Transportation of the House of Representatives, or by an Act of Congress. Without specific Congressional authorization, the Corps may initiate studies for projects, under the authorities of Section 103 of P.L. 87-874,

Section 111 of P.L. 90-483, and Section 14 of P.L. 79-526, as amended, which comprise part of the Corps Continuing Authorities Program. Reconnaissance studies are 100 percent Federally funded; feasibility studies are conducted under a contract (Feasibility Study Cost Sharing Agreement) providing 50-50 Federal/non-Federal cost sharing.

b. Postauthorization Studies. Planning and engineering studies for shore protection projects authorized under Section 105 (a) and 105 (b) of P.L. 99-662 are conducted under a contract providing 50-50 Federal/non-Federal cost sharing. Evaluation studies for disposal of materials dredged from navigation inlets and channels, during original Federal improvement or maintenance, onto adjacent beaches under Section 145 of P.L. 94-587, as amended, will be initially financed by the Corps; the cost of the evaluation report will be added to the separable construction costs for placement of dredged material on beaches and cost shared accordingly. (In the event the Corps financed evaluation study does not result in placement of materials on beaches as requested by the State, costs will be absorbed by the Federal Government.) Studies for extension of beach nourishment periods under Section 934 of P.L. 99-662 will be initially financed by the Federal Government. If extension of periodic nourishment is approved, the cost of preparing the reevaluation reports will be shared in the same proportion as the allocation of construction costs to the type of benefits accruing from the project. The non-Federal sponsor will reimburse its share to the Federal Government at the time of initial construction. Costs of preconstruction engineering and design (PED) of a water resources project are considered part of, and included in the total project cost, and are cost shared in the same percentage as the basic purpose(s) of the project. PED is initially financed by the Corps and reimbursed to the Federal Government during the first year of construction (refer to ER 1165-2-131). PED may include project performance monitoring for up to five years after completion of initial construction. Guidance on cost sharing of projects authorized in P.L. 99-662 for planning, engineering, and design pursuant to Sections 105b and 105c is provided in ER 1105-2-100.

c. Construction. Construction of authorized projects is a responsibility of the Corps of Engineers. However, local interests may construct portions of projects, after they are authorized by Congress, and be reimbursed by the Federal Government within the limitations of Section 215 of the 1968 Flood Control Act, as amended, if prior approval is obtained from the Chief of Engineers (refer to ER 1165-2-18 for approval procedures and policies). If local interests desire to proceed with construction of the projects, they may do so with the understanding that:

(1) Federal participation would be limited to the Federal shares of the costs of the elements constructed which are in accordance with the authorized plan;

(2) Reimbursement will be subject to future appropriation of funds applicable to the project and shall not take precedence over other pending projects of higher priority; and,

(3) Local interests provide assurances that they bear any increased costs of measures which may result from advance work, unless there are extenuating circumstances which warrant omission of this condition.

d. Maintenance. Maintenance is generally a non-Federal responsibility. However, if a portion of the benefited area is in Federal ownership the Federal maintenance responsibility shall be established as the same portion as the length of Federal shoreline is to the length of total shoreline, provided costs are relatively uniform per length of shore. In the case of multipurpose projects providing for navigation, particularly those which involve complex operating procedures, operation and maintenance responsibility for the entire project might best be vested in the Federal Government. In such cases, non-Federal interests should be obligated to contribute their share of costs to the Federal Government on a scheduled basis throughout the project life or to make a cash contribution of the capitalized value of the non-Federal share of the maintenance cost. Future maintenance costs are to be capitalized using the authorized discount rate.

e. Periodic Nourishment. Periodic nourishment by placement of suitable material on a beach at appropriate intervals of time, is considered "construction" for cost-sharing purposes when, in the opinion of the Chief of Engineers, such periodic nourishment would be a more economical erosion protection measure than retaining structures such as groins. Thus, projects recommending periodic nourishment should not include structures which materially reduce littoral drift from reaching downdrift shores. When sand replacement is proposed as a maintenance measure, as for example when it would serve to maintain protection accompanied by structures intended to confine the benefits of the sand within a beach compartment rather than serving as a full or partial alternative to such structures, Federal assistance toward its cost should not be recommended, except to the extent warranted in paragraph 7d, above. Projects with short low-profile groins included to maintain a shore alignment, but not to materially prevent littoral drift from nourishing downdrift beaches are eligible for periodic nourishment. Federal assistance for periodic nourishment may continue throughout the economic life of the project, but a specified period of time up to 50 years after initiation of construction must be recommended in planning reports. If there is reason to doubt the technical viability of periodic nourishment for such a period of time, a shorter period may be recommended. After that period, the project should be reexamined to determine if Federal participation in periodic nourishment is the most efficient and economic solution. Continuation of such Federal participation beyond 50 years or other modification of the project requires additional authorization. Prior to the expiration of the

nourishment period, the local sponsor will be notified that extension to 50 years is not automatic and that the sponsor must request the extension and express willingness to cost share in accordance with P.L. 99-662.

8. Plan Formulation and Evaluation.

a. Formulation. Projects shall be formulated in accordance with policies, principles, and procedures contained in ER 1105-2-100 and related regulations (e.g., ER 200-2-2) describing the planning process developed to implement the Water Resources Council's Principles and Guidelines, the National Environmental Policy Act, EO 11988, EO 11990 and other requirements. Consideration shall be given to both structural and nonstructural solutions. Plan formulation should be accomplished systematically to arrive at the best solution, considering all factors, including engineering, economic, environmental, and social.

b. Evaluation. As required by ER 1105-2-100, effects of alternatives will be determined and evaluated in terms of four accounts: national economic development (NED); environmental quality (EQ); regional economic development (RED); and other social effects (OSE). Effects normally associated with hurricane and storm damage reduction projects include but are not limited to the following. The impacts of sea level rise on shore protection projects will be determined and evaluated in accordance with guidance in ER 1105-2-100.

(1) Prevention of land loss and other physical damages;

(2) Reduction in maintenance costs of existing protection works;

(3) Reduction of emergency costs to residences, businesses, and governmental entities;

(4) Increased recreational usage, and where appropriate, relief of overcrowding for existing recreational usage;

(5) Changes in maintenance costs associated with navigation projects;

(6) Employment of unemployed or underemployed labor resources for project construction;

(7) Prevention of loss of historic and scenic aspects of the environment;

(8) Changes in shore processes and equilibrium conditions;

(9) Accretion or erosion along downdrift shores;

(10) Changes in tidal floodplain development;

(11) Changes in the extent and quantity of wetlands; and

(12) Changes in water quality and ecology in vicinity of construction activities.

9. Cost Sharing.

a. General Policy. Prior to enactment of P.L. 99-662 (WRDA of 1986), shore protection legislation was directed to the prevention and control of beach erosion with no explicit legislative definition of a Federal responsibility in protecting against hurricane and storm damages to the nation's coasts and shores of the Great Lakes. With enactment of the WRDA of 1986, Congress established hurricane and storm damage reduction as a project purpose to which costs should be assigned. Beach erosion control is not recognized as a project purpose, but subsection 103(d) specifies that the costs of constructing beach erosion control measures will be assigned to "appropriate" project purposes listed in subsections 103(a), 103(b), and 103(c), with cost sharing in the same percentage as the purposes to which the costs are assigned. The appropriate project purposes are hurricane and storm damage reduction, and recreation. Subsection 103(d) provides for two exceptions to this sharing of assigned costs. First, costs assigned to benefits to privately-owned shores (where use of such shore is limited to private interests) are non-Federal costs. Second, costs assigned to benefits from the prevention of losses of private (undeveloped) lands are to be non-Federal, and all costs assigned to the protection of Federally-owned shores are Federal.

b. Applicability. The cost sharing requirements of the WRDA of 1986, as described below, are applicable to any project (including any Continuing Authorities Program project which is not specifically authorized by Congress and for which the Secretary had not approved funding before 17 November 1986), or separable element thereof, on which physical construction was initiated after 30 April 1986. Physical construction means an action that physically alters the environment, such as dredging beach fill, removing existing structures, or placing beach fill. Physical construction is distinguished from the acquisition of land, award of a construction contract, and subsequent mobilization of contractor's equipment, all of which are accomplished before physical construction can begin.

c. Policies Regarding Formulation, Evaluation and Cost Allocation.

(1) Shore protection projects are to be formulated first to provide for hurricane and storm damage reduction. Recreation associated with this type of project is considered incidental for cost sharing purposes, although recreation benefits are NED benefits to be included in the economic analysis. Additional beach fill, over that required for the hurricane and storm damage reduction project, to satisfy recreation demand is a separable recreation feature.

(2) Costs for measures for the prevention of land losses are assigned to either Federal or non-Federal interests depending upon shore ownership. At non-Federal public shores dedicated to recreation,

historic, or fish and wildlife purposes, the cost of measures for the prevention of loss of land are eligible for 50 percent Federal participation.

(3) When the cost of construction per unit of benefited shore length is not reasonably uniform for the entire project area, the project should be subdivided into elements (reaches) within which this condition is met. The first cost for H&SDR measures for the project, or each of the subdivided reaches, will then be allocated to the various categories of directly benefited shore properties.

(4) Benefits to private shores beyond project limits, if trivial in amount, may be omitted from cost sharing considerations. If these benefits are significant (e.g., required for project justification), they should be included in cost sharing considerations. Where significant benefits accrue outside the project limits and the non-Federal sponsor desires the recipients of these benefits to contribute to the non-Federal share of the project costs, the responsibility for negotiating with the recipients of the benefits rests entirely with the non-Federal sponsor.

(5) Projects will be designed and implemented in the most cost efficient manner (considering both Federal and non-Federal costs), using appropriate engineering, economic, and environmental criteria. This practice defines the alignment, size and location of project features and LERRD requirements needed to make the project function in a safe and reliable manner, independent of cost sharing determinations. From this basic project design, the appropriate Federal and non-Federal participation can then be calculated. The project area is normally limited to the protected shore front area and does not usually include the borrow area within its boundaries.

d. Cost Apportionment. Federal participation in a project formulated for hurricane and storm damage reduction is 65 percent of the estimated total project first costs (including LERRD) assigned to this purpose. Cost apportionment percentages for Federal participation in shore protection by shore ownership and project benefit are given in Table 2 (pg. 11). Non-Federal costs for a hurricane and storm damage reduction project, or separable element, must be provided during the period of construction.

(1) Lands, Easements, Rights-of-Way, Relocations, and Dredged Material Disposal Areas (LERRD). Non-Federal interests must provide all of the LERRD for shore protection projects, including borrow areas, at non-Federally-owned shores. Generally, the fair market value of these items (excluding the value of any publicly-owned beaches) is included in the total project cost, and non-Federal interests receive a credit for the value of these contributions against the non-Federal cost share. However, the value of LER eligible for credit toward the non-Federal share of shore protection project costs is that which is not subject to loss through erosion in the without project condition. LER needed for placement of shore protection project features that prevent the loss of the land itself has no value for crediting purposes. The real estate

market may not however, reflect this and a project sponsor may in fact incur costs in acquiring requisite interests. Accordingly, a sponsor will be credited for his actual costs or for the net reduction in total market valuation of the parcels (from which interests for the project must be drawn) assuming no Federal project compared to assuming the project in place (i.e., including consideration of special benefits to the property owners), whichever is least.

(2) Additional Cash Contribution. When the fair market value of the LERRD items assigned to a project purpose is less than the appropriate non-Federal percentage of the total first cost assigned to that purpose (i.e., hurricane and storm damage reduction - 35%; recreation (separable) - 50%; prevention of loss of land: Federal shores - 0%; non-Federal public shores - 50%; private shores - 100%)., the difference must be provided by non-Federal interests as a cash contribution during construction.

(3) Limitation. When the fair market value of the LERRD items assigned to a project purpose exceeds the appropriate percentage of the total first cost assigned to that purpose, as specified in paragraph 9.d(2) above, the non-Federal share is limited to that percentage, and the excess will be reimbursed by the Federal government after completion of project construction. Guidance on the mechanism for funding the value of LERRD that exceeds the appropriate percentage is contained in ER 1165-2-131.

(4) Credit for Borrow Areas. Contractors will normally obtain material for the project from available sources, subject to Corps specifications and approval. In some cases (e.g., limited competition) a borrow area source may be specified by the Corps.

(a) When a borrow area is provided by the sponsor as part of its LERRD requirements, the resource invested by the sponsor and available for credit against its non-Federal cost-sharing responsibilities is the net cost of the borrow area, after deducting the residual land value from the original acquisition cost. Only the net cost should be included in project evaluations and credited against the non-Federal cost-sharingresponsibilities. If a sponsor makes available borrow already in its ownership, the net value for crediting purposes will be established on the basis of borrow area appraisals before and after use for project borrow.

(b) Where borrow materials can be more economically obtained from nearby commercial sources, local provision of a borrow area is not required. The Corps designates for the contractor what sources will be acceptable and the contractor makes appropriate arrangements. In such case, there are no related LERRD costs and the material costs include the contractor's payment to the supplier for the material and a delivery charge, if the supplier delivers, or the contractors cost for hauling to the project site if the contractor loads the material onto his equipment at the supply site.

(C) Where borrow materials can be more economically obtained from offshore sources, no credit will normally be given since the before and after market values are considered identical.

(5) Operation, Maintenance, Replacement and Rehabilitation (OMRR). Non-Federal interests are responsible for 100 percent of the OMRR costs for shore protection projects and separable elements.

(6) Periodic Nourishment. Placement of sand on a beach at suitable intervals of time is considered "construction" for funding and cost-sharing purposes when it is more efficient and economical than other methods of controlling erosion. Periodic nourishment should be thought of as an alternative to construction of expensive seawalls and groinfields and as staged construction of a beach. Sand-bypassing/backpassing plants, which operate essentially on a continual basis requiring annual funding, are normally considered operation and maintenance (a non-Federal responsibility for beach erosion control projects) and not staged construction. However, periodic nourishment may include a sand-bypassing/backpassing plant, if the bypassed/backpassed sand would substitute for sand which would be placed on the beach as part of an existing Federal periodic nourishment project, and if the cost of constructing and operating the bypassing/backpassing plant would be more economical than other methods of nourishing the beach. Recommendations for Federal involvement in periodic nourishment using a sand-bypassing/backpassing plant will be limited to the remaining life of an existing periodic nourishment project. Section 934 of P.L. 99-662 will not, in such cases, be used to extend the period of authorized periodic nourishment of such projects.

e. Policies Limiting Corps of Engineers Participation.

(1) Single Property Owner Situations. Federal participation in the construction and/or costs of any shore protection project presumes that the proposed shore protection project would protect more than one property owner (public and/or private). In the event the proposed shore protection project would protect only one private property owner (profit or non-profit), the Corps would not recommend construction authorization. If the proposed shore protection project would protect only one public owner, the Corps may recommend construction authorization if the project is formulated and justified in accordance with policies applicable to hurricane and storm damage reduction.

(2) Land Loss Prevention Benefits. If the benefits for the shore protection project consist solely of land loss prevention (i.e., no buildings or facilities subject to damage), recommendations for Federal participation will not be made regardless of the number of owners.

(3) Public Ownership and Use. Section 103(d) of the WRDA of 1986 prohibits Federal participation in costs assigned to benefits to privately-owned shores where the use of such shores is limited to private interests. Non-Federal interests must, therefore, assure continued conditions of public ownership and use of the shore upon which the amount

of Federal participation is based during the economic life of the project. Non-Federal interests must also provide and maintain necessary access roads, parking areas and other public use facilities open and available to all on equal terms. Specific cases may also warrant assigning other additional local responsibilities, such as providing appurtenant facilities required for realization of recreational benefits.

(4) Federal Budgetary Resources. Department of Army policy precludes the use of Army Civil Works resources for implementing recreation-oriented projects as part of the Civil Works program. Civil Works funds normally may be used to support development of recreation when recreation benefits are less than 50 percent of total project benefits. In addition, recreation benefits must result from development of recreation potential created by projects formulated for and justified by other primary purposes. Exceptions to this 50 percent limit on recreation benefits will be granted if a project is economically justified by: (a) benefits from reduced storm damages alone, or (b) a combination of reduced storm damages and incidental recreation benefits limited to an equivalent amount of storm damage reduction benefits (see Cases 2 and 3, Table 1, page 8; para. 6.a(1), pages 6 and 7). The allocation or assignment of costs for projects granted exception to this policy, will be on the basis of the benefits formulated for the project, and not influenced by this arbitrary test to determine qualification for an exception.

(5) Other Federal Agency Lands. Costs for shore protection for lands controlled by another Federal agency (for example, military installations and National Park Service lands) will be borne by that agency. The Corps will accomplish such work on a reimbursable basis upon request. One exception would be a case wherein the lands in question involve only a minor, but integral, part of the overall protection frontage. In such case, protection would be included at Federal cost using Civil Works funds to assure a complete overall project.

(6) Exception for the Territories. Local cost sharing requirements for all studies and projects in American Samoa, Guam, the Northern Mariana Islands, the Virgin Islands, and the Trust Territory of the Pacific Islands, will be reduced by an amount not to exceed $200,000, for each study and each project, in accordance with Section 1156 of the WRDA of 1986. Cost sharing for each study and/or project will be established using the general cost sharing criteria, and the non-Federal share will then be reduced by $200,000, or to zero if the non-Federal share is less than $200,000. These reductions will not raise the individual project ceilings for Federal participation specified in Section 915 of the WRDA of 1986.

(7) Trust Territory of the Pacific Islands. Although Section 915(h) of P.L. 99-662 authorizes use of the Section 103 (P.L. 87-874) and Section 111 (P.L. 90-483) authorities, under current budget instructions funds are not to be expended in this region due to changing governmental status.

f. Emergency Authorities.

(1) The cost sharing in Section 103 of P.L. 99-662 does not apply to emergency operations and disaster assistance under P.L. 84-99, as amended. However, cost sharing under Section 103 of P.L. 99-662 would apply to measures that may be required to restore the protective function/level of a shore protection project prior to the onset of the storm season or following a storm which exceeded design storm conditions but did not necessitate action under P.L. 84-99.

(2) The flood control cost sharing in Section 103(a) of P.L. 99-662 is applicable to recommendations under Section 14 of the 1946 Flood Control Act, as amended.

g. Multiple-Purpose Projects. For multiple-purpose hurricane and storm damage reduction and recreation projects having separable recreation facilities, Federal cost sharing in the recreation purpose is limited to 50 percent of the construction costs of the separable recreation facilities, while OM∧R thereof is a non-Federal responsibility in accordance with Sections 103(c) and 103(j) of P.L. 99-662. However, Federal funds will not be used to implement the separable recreation elements of a multiple-purpose project in accordance with current Department of the Army budget priorities.

h. Related Dredged Material Disposal. Federal participation in the disposal of dredged material from construction and maintenance of Federal navigation projects onto adjacent beaches or in nearshore water is limited to a maximum of 50 percent of the incremental costs above the least costly and environmentally sound method for the disposal of the dredged materials (see paragraph 6.a(3)). FOA's must complete a report providing a cost analysis supporting the least costly alternative method of disposal of dredged material and other documentation and analyses to meet the criteria set forth in paragraph 6.a(3).

10. Local Cooperation Requirements. Reporting officers must obtain a letter of intent from a public agency, authorized under State law, to fulfill the non-Federal obligations of water resources projects recommended for Federal participation. The letter will indicate that prior to construction, the sponsor will enter into a written Local Cooperation Agreement (LCA), as required by Section 221 of P.L. 91-611, as amended, to provide local cooperation satisfactory to the Secretary of the Army. Such local cooperation will include the following non-Federal responsibilities in addition to the responsibility for fulfilling the requirements of law for the recommended project:

a. Provide to the United States all necessary lands, easements, rights-of-way, relocations, and suitable borrow and/or disposal areas required for construction and subsequent maintenance of the project, including that required for periodic nourishment.

b. Hold and save the United States free from claims for damages which may result from construction and subsequent maintenance, operation, and public use of the project, except damages due to the fault or negligence of the United States or its contractors.

c. Maintain continued public ownership and public use of the shore upon which the amount of Federal participation is based during the economic life of the project (normally 50 years).

d. Maintain and repair the protective measures and/or structures during the economic life of the project as required to serve the intended purposes at their design levels of hurricane and storm damage protection and in accordance with regulations prescribed by the Secretary of the Army (see ER 1110-2-1407 for specification of O&M requirements and provision of an O&M manual).

e. Provide and maintain necessary access roads, parking areas and other public use facilities open and available to all on equal terms.

f. Participate in and comply with applicable Federal flood plain management and flood insurance programs prior to initiation of construction and during the economic life of the project.

g. Contribute in cash the appropriate percentage of project construction cost (computed from the policies given in paragraph 9), the percentage to be in accordance with existing law and based on shore ownership and use at the time of implementation, provided that credit will be given for the value of lands, easements, rights-of-way and relocations.

h. Contribute the local share of periodic beach nourishment, where and to the extent applicable (up to 50 years) as required to serve the intended purposes.

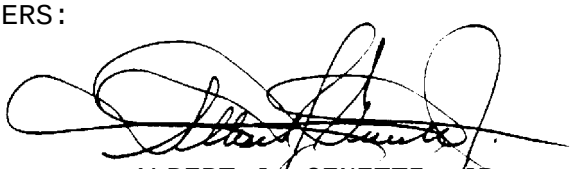
i. Specific cases may also warrant assigning other additional local responsibilities, such as: providing appurtenant facilities required for realization of recreational benefits.

11. Local Cooperation Standard Wording. The wording given in paragraphs 10.a through 10.h should be considered standard for all recommended plans which include hurricane and storm damage reduction as a plan purpose. In the case of dredged material disposal, the wording in paragraphs 10.c and 10.e, in addition to the contributions required by paragraphs 6.a(3) and 9.d, should be considered standard for all recommended plans. Deviations from such wording should not be made unless the reporting officer has justifiable circumstances warranting such action.

12. Local Cooperation Agreements. Any project or separable element subject to the cost sharing provisions of P.L. 99-662 shall be initiated only after non-Federal interests have entered into binding agreements

(LCA's) with the Secretary of the Army covering the appropriate items of local cooperation described above. All agreements must comply with the policies governing Federal and non-Federal financing and payments included in ER 1165-2-131.

FOR THE CHIEF OF ENGINEERS:



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Chief of Staff

3 Appendices

APP A - Definitions of Terms Used in ER
APP B - Synopsis of Program Legislation
APP C - Example of Computations for Cost Sharing

APPENDIX A - Definitions of Terms Used in ER

1. "Beach" - the zone of unconsolidated material that extends landward from the low water line to the place where there is marked change in material or physiographic form, or to the line of permanent vegetation.

2. "Coastal area" - the land and water area bordering the shore.

3. "Construction costs" - the project first costs associated with initial construction or periodic nourishment (paragraph 7e) including the costs of lands, easements, rights-of-way, relocations, and disposal/borrow areas (LERRD), and engineering and design and supervision and administration (E∧D and S∧A).

4. "Historical shoreline" - the most seaward position of the mean high water or mean higher high water position recorded by previous surveys or interpreted from previous photographs, other historical records, or other sufficiently reliable sources to permit comparison with the present position.

5. "Hurricane and abnormal tidal flooding" - inundation from abnormal rises and water levels due to hurricanes, storms, and tsunami.

6. "Incidental recreation benefits" - recreation benefits generated by a basic project designed for some other primary purpose (e.g., hurricane and storm damage reduction) which do not require construction of any additional, incremental or separable recreational features (i.e., jointly produced).

7. "Investment costs" - the total costs of initially constructing a project including E∧D and S∧A, LERRD and interest during construction (IDC). Guidance on computation of IDC is provided in ER 1105-2-100.

8. "Lake flooding" - storm-induced inundation superimposed on the ordinary fluctuations of the lake level, or inundation from abnormal rises in static water level due to climatological changes (e.g., extended periods of abnormal precipitation, temperatures and/or humidity) or tectonic changes.

9. "Land loss prevention benefits" - benefits from prevention of public and/or private land loss due to shore erosion. Prevention of losses of developed private land should be categorized as storm damage reduction benefits. Prevention of losses of undeveloped private land (including privately-owned marshes or wetlands) is a benefit category in which there is no Federal interest (i.e., non-Federal interests are assigned all costs of preventing losses of undeveloped private land), even though the shore may be public. Prevention of loss of Federal and/or non-Federal public land will reflect the special use to which the land is dedicated and the value of the output produced by that use (e.g., lands dedicated to non-Federal park and conservation areas will normally be valued on the basis of loss of recreation output).

10. "Maintenance" - periodic replacement or repair of the measures/structures comprising a shore protection project, including sand relocation and profile reshaping (i.e., moving sand laterally along and perpendicular to shore, respectively), but excluding periodic beach nourishment that is incorporated in the project as deferred construction. Includes sand relocation and reshaping, and sand replacement to the extent that it serves to maintain protection accompanied by structures intended to confine benefits of the sand within a beach compartment (rather than serving as an alternative to such structures).

11. "Periodic nourishment" - fill placed at intervals of time to replenish material eroded from the design beach section of a beach erosion control project which is eligible for Federal participation as deferred construction (paragraph 7e).

12. "Public benefits" - benefits resulting from public recreational use and the prevention of damage to publicly-owned facilities such as highways, buildings, parks, boardwalks, etc.

13. "Publicly owned" - ownership by a State, municipality, or other political subdivision. Federal ownership is not included within) this definition since Federal participation (cost sharing percentages) in beach erosion control measures along Federal shores and publicly-owned shores differ (see Table 2, page 16).

14. "Public use" - available for use by any and all of the general public on equal terms.

15. "Separable recreation benefits" - recreation benefits generated by construction of any additional, incremental or separable recreational features associated with a basic project designed for some other primary purpose (i.e., not jointly produced).

16. "Shore" - land adjacent to and in immediate contact with a body of water, including the zone between high and low water lines. A shore of unconsolidated material is usually called a beach.

17. "Shore restoration or protection" - measures or projects designed to stabilize and/or restore shores, and/or to prevent or reduce damages caused by erosion, flood, and wave impact due principally to storm tide levels and wave action, including wave setup and runup in coastal areas. The terms "shore restoration and protection" and "beach erosion control" are used interchangeably.

18. "Storm damage reduction benefits" - benefits from prevention of damages to Federal and public property and facilities (i.e., lands and/or structures, except non-Federal public lands dedicated to park and conservation uses) and developed private property and facilities due to shore erosion and/or tidal inundation. Prevention of losses to private undeveloped land should be categorized separately since there is no Federal interest in this benefit category.

APPENDIX B - Synopsis of Program Legislation

SHORE PROTECTION

1. P.L. 71-520 (1930). Section 2 authorizes the Chief of Engineers to conduct shore erosion control studies in cooperation with appropriate agencies of various cities, counties, or States. Amended by Section 103, P.L. 86-645. Section 2 also established the Beach Erosion Board. Amended by P.L. 88-172.

2. P.L. 79-526 (1946). Section 14 authorizes emergency bank-protection works to prevent flood damage to highways, bridge approaches and public works. Amended by P.L. 93-251 and P.L. 99-662.

3. P.L. 79-727 (1946). Establishes Federal policy to assist in the construction, but not maintenance, of works to protect publicly-owned shores of the United States against erosion from waves and currents. Amended by P.L. 84-826, P.L. 87-874, and P.L. 91-611.

4. P.L. 84-99 (1955). Authorizes the Chief of Engineers to provide emergency protection to threatened Federally authorized and constructed hurricane and shore protection works, and to repair or restore such works damaged or destroyed by wind, wave, or water action of other than an ordinary nature.

5. P.L. 84-826 (1956). Expands the Federal role by authorizing Federal participation in the cost of works for protection and restoration of the shores of the United States, including private property if such protection is incidental to the protection of publicly-owned shores, or if such protection would result in public benefits. It also provides for Federal assistance for periodic nourishment on the same basis as new construction, for a period to be specified by the Chief of Engineers, when it would be the most suitable and economical remedial measure. Amended by Section 156, P.L. 94-587, and Section 934 of P.L. 99-662.

6. P.L. 86-645 (1960). Section 103 amends Section 2, P.L. 71-520, and authorizes the Chief of Engineers under the direction of the Secretary of the Army to conduct shore erosion prevention studies in cooperation with the appropriate agencies of various coastal States, the Commonwealth of Puerto Rico and possessions of the United States.

7. P.L. 87-874 (1962). Section 103 increases the proportion of construction costs borne by the Federal Government for beach erosion control and shore protection projects. Section 103 authorizes the Secretary of the Army, acting through the Chief of Engineers, to plan and construct small beach erosion control projects within certain limits without specific Congressional authorization. Amended by Section 112, P.L. 91-611 and Section 915(e), P.L. 99-662. Implementing policies and procedures for this authority can be found in ER 1105-2-100.

8. P.L. 88-172 (1963). Abolished the Beach Erosion Board, transferred its review functions to the Board of Engineers for Rivers and Harbors (BERH), and established the Coastal Engineering Research Center.

9. P.L. 89-72 (1965). Requires that planning of water resources projects consider opportunities for outdoor recreation and fish and wildlife enhancement. The Act specifies that outdoor recreation benefits that can be attributed to a project shall be taken into account in determining the overall benefits of a project (e.g., recreational use of beach fill, groins or other shore protection structures).

10. P.L. 90-483 (1968).

a. Section 111 authorizes the Secretary of the Army, acting through the Chief of Engineers, to study, plan, and implement structural and nonstructural measures for the mitigation of shore damages attributable to Federal navigation works. This authority applies to both public and privately-owned shores along the coastal and Great Lake shorelines. Amended by Sections 915 (f) and 940, P.L. 99-662. Implementing policies and procedures for this authority may be found in ER 1105-2-100.

b. Section 215 authorizes the Secretary of the Army, acting through the Chief of Engineers, to enter into agreements providing for reimbursement to States or political subdivisions for work to be performed by them at authorized Federal projects. Unless specifically authorized by Congress, reimbursement for work commenced by local interests subsequent to 13 August 1969 is to be made in accordance with these authorities. Amended by Section 913, P.L. 99-662. Implementing policies and procedures can be found in ER 1165-2-18.

11. P.L. 92-583 (1972). Section 307 of the Coastal Zone Management Act requires all Federal agencies with activities directly affecting the coastal zone, or with development projects within that zone, to assure that those activities or projects are consistent with the approved State program.

12. P.L. 93-251 (1974).

a. Section 27 raised the cost limits for emergency bank protection projects to $250,000 and program fiscal funding limit to $10 million per year. Project purpose was extended to cover construction, repair, restoration and modification of emergency streambank and shoreline protection works. Eligibility definition was extended to include churches, hospitals, schools and similar non-profit public services. Amended by Section 915(c) of P.L. 99-662.

b. Section 55 authorizes the provision of technical and engineering assistance to non-Federal public interests in developing structural and nonstructural methods of preventing damages attributable to beach erosion.

13. P.L. 94-587 (1976).

a. Section 145 authorizes the Secretary of the Army, acting through the Chief of Engineers, to place beach-quality sand obtained from construction and maintenance dredging of navigation inlets onto adjacent beaches, providing such placement is requested by the interested State Government, is in the public interest, and local interests pay 100 percent of any increased costs above the cost required for alternative methods of disposing of such sand that would be used in the absence of beach disposal. Amended by Section 933, P.L. 99-662.

b. Section 156 authorizes the Secretary of the Army, acting through the Chief of Engineers, to extend Federal participation in periodic beach nourishment, where such nourishment has been authorized for a limited period, up to 15 years from the date of initiation of construction. Amended by Section 934, P.L. 99-662.

14. P.L. 97-348 (1982). Establishes policy that coastal barrier islands and their associated aquatic habitats are to be protected by restricting Federal expenditures which have the effect of encouraging development of coastal barriers. The Act provides for a Coastal Barrier Resources System (the extent of which is defined by a set of maps approved by Congress on 30 September 1982) which identifies undeveloped coastal barriers within which Federal expenditures (including expenditures for flood insurance, roads, bridges, shoreline structures) may not be made. Specific exceptions to the expenditure prohibition include navigation, beach nourishment, and research works.

15. P.L. 99-662, Water Resources Development Act (WRDA) of 1986.

a. Section 101(c) provides that costs of constructing projects or measures for the prevention or mitigation of erosion or shoaling damages attributable to Federal navigation works shall be shared in the same proportion as the cost sharing provisions applicable to the project causing such erosion or shoaling. The non-Federal interests for the project causing the erosion or shoaling shall agree to operate and maintain such measures. Also see Section 940 of P.L. 99-662 (page B-5).

b. Section 103(d) specifies that the costs of constructing projects for beach erosion control must be assigned to selected project purposes such as hurricane and storm damage reduction, and/or recreation. Cost sharing for these project purposes is specified in Section 103(c). However, all costs assigned to benefits to privately-owned shores (where use of such shores is limited to private interests), or to prevention of losses of private lands are a non-Federal responsibility. All costs assigned to protection of Federally-owned shores are a Federal responsibility.

c. Section 103(i) specifies that non-Federal interests shall provide all lands, easements and rights-of-way, and disposal areas required and perform all necessary relocations (LERRD). The value of LERRD is credited to the non-Federal share of the project cost.

d. Section 501 authorizes construction and preconstruction planning, engineering, and design (PED) of various projects for shoreline protection, beach erosion control, shore and hurricane wave protection, and beach erosion control and hurricane protection, subject to various conditions such as determination that construction will be in compliance with the Coastal Barrier Resources Act (P.L. 97-348).

e. Section 502 directs the Secretary of the Army to apply the cost sharing provisions of Section 31(1), P.L. 93-251, to periodic nourishment of the continuing construction project at Westhampton Beach, New York, for a period of 20 years after 17 November 1986.

f. Section 706 (Great Lakes Levels Study) authorizes the Secretary of the Army, to conduct a cooperative study of shoreline protection and beach erosion control policy and related projects of the Secretary in view of existing high lake levels and long-term expected increases in the levels of the Great Lakes.

g. Section 713 (Louisiana Shoreline Erosion Study) authorizes the Secretary of the Army to conduct a nearshore sediment inventory to determine availability of suitable sediment in the offshore waters of Louisiana between Southwest Pass and Sabin Pass, and in Lake Pontchartrain and in Lake Borgne, and to determine the feasibility of specific measures to diminish shoreline erosion, marsh deterioration, salt water intrusion, hurricane vulnerability, and barrier island destruction and to carry out reasonable planning efforts that require suitable sediment for nourishment.

h. Section 731 (Study of Rising Oceans) authorizes the Secretary of the Army to conduct a cooperative study of shoreline protection and beach erosion control policy and related projects of the Secretary in view of the prospect for long-term increases in the levels of the ocean.

i. Section 732 (Shoreline Erosion Damage on Lake Superior) directs the Secretary of the Army to determine the extent of shoreline erosion damage in the United States causally related to the regulation of the waters of Lake Superior by the International Joint Commission United States and Canada subsequent to an emergency application by the United States made on 26 January 1973.

j. Section 913 increases Federal reimbursement up to $3 million for work accomplished under Section 215(a) of P.L. 90-483.

k. Section 915(c) increases the Federal limits up to $500,000 for participating in emergency shoreline protection of public works (Section 14) projects. Section 915(e) increases the Federal limits up to $2 million for participating in small beach erosion control (Section 103) projects. Section 915 (f) increases the Federal limits up to $2 million for participating in mitigation of shore damage attributable to Federal navigation works (Section 111) projects. Section 915 (h) of P.L. 99-662 authorizes use of the Section 103 (P.L. 87-874) and Section 111 (P.L. 90-483) authorities in the Trust Territory of the Pacific Islands.

l. Section 925 (Compilation of Laws) directs the Secretary of the Army to compile and publish the laws of the United States relating to beach erosion and other water resources development enacted after 8 November 1966 and before 1 January 1987.

m. Section 933 increases to 50 percent the proportion that may be borne by the Federal Government of the additional costs, above that required for alternative methods for disposal, for placement of material dredged during the construction and maintenance of navigation inlets onto adjacent beaches.

n. Section 934 increases to 50 years the authorized period of time Federal participation can be extended in periodic beach nourishment after the date of initiation of construction.

o. Section 935 authorizes the Secretary of the Army to acquire fill material for beach erosion and beach nourishment by purchase, exchange, or otherwise from nondomestic sources for authorized water resources projects needing such materials, if they are not available from domestic sources for environmental or economic reasons.

p. Section 940 increases the Federal cost limits for participating in mitigation of shore damage caused by Federal navigation works to $2 million, and requires a non-Federal public body to operate and maintain such measures. Structural and non-structural measures can be implemented under the Section 111 authority of P.L. 90-483, andimplementation costs will be shared in the same proportion as the cost-sharing provisions applicable to the original project, includingprojects constructed at full Federal expense.

16. P.L. 100-676, Water Resources Development Act (WRDA) of 1988. Section 14 amends Section 402 of the 1986 WRDA to require non-Federal interests to agree to participate in and comply with applicable Federal flood plain management and flood insurance programs before construction of any hurricane and storm damage reduction project.

HURRICANE AND ABNORMAL TIDAL FLOOD PROTECTION

1. P.L. 84-71 (1955). Authorizes the Secretary of the Army, in cooperation with the Secretary of Commerce and other Federal agencies concerned with hurricanes, to make studies of the Atlantic and Gulf coasts of the United States to secure data on the behavior and frequency of hurricanes and to determine means of preventing loss of life and damages to property. This Act does not specify any cost sharing for construction of protective works.

2. P.L. 84-99 (1955). Authorizes the Chief of Engineers to provide emergency protection to threatened Federally authorized and constructed hurricane and shore protection works, and to repair or restore such works damaged or destroyed by wind, wave, or water action of other than an ordinary nature.

3. P.L. 85-500 (1958). Section 203 added provisions of local cooperation to three hurricane flood protection projects authorized under this Act: non-Federal interests were required to assume 30 percent of total first costs, including the value of lands, easements and rights-of-way, and to operate and maintain the projects.

4. P.L. 91-611 (1970). Section 208 authorized Federal participation in hurricane protection projects up to 70 percent of the total cost exclusive of land costs.

5. P.L. 99-662 (1986). Section 103(c)(5) requires non-Federal interests to assume 35 percent of the cost assigned to the hurricane and storm damage reduction purpose of a project.

6. P.L. 100-676, Water Resources Development Act (WRDA) of 1988. Section 14 amends Section 402 of the 1986 WRDA to require non-Federal interests to agree to participate in and comply with applicable Federal flood plain management and flood insurance programs before construction of any hurricane and storm damage reduction project.

LAKE FLOOD PROTECTION. The Federal interest in projects for lake flood protection is not clearly defined by legislation.

1. Section 401(e)(4), P.L. 99-662, authorizes the Secretary of the Army to construct dikes along the west side of the Great Salt Lake, Utah, which rose above record levels in June 1986. These dikes are part of a State plan to control lake level and flood damages. The non-Federal share of the cost of those authorized dikes is specified as 25 percent in the Act.

2. Section 706, P.L. 99-662, authorizes the Secretary of the Army to conduct a cooperative study of shoreline protection and beach erosion control policy and related projects of the Secretary in view of the situation in 1986 and expected long-term increases in the levels of the Great Lakes. This study will include recommendations for new or additional criteria for Federal participation in shoreline protection projects along the Great Lakes and connecting channels.

APPENDIX C - Example Computations for Cost Sharing on a Hurricane and Storm Damage Deduction Project

Shore Ownership	Public Shores		Public or Private Shores		Private Shores	
	Federal	Non-Fed. (Park)	Devel'd Public Use	Devel'd No Pub. Use	Not Devel'd	Total
Reach	1	2	3	4	5	
Length (1)	1,000	5,000	10,000	3,000	1,000	20,000
Benefits						
Damage Reduction						
Facilities	$2,000	$2,000(3)	$13,000	$4,000	$0	$21,00(
Land Loss	3,000	4,000	3,000(4)	1,000(4)	3,000	14,00(
Recreation (2)	(2,000)	(9,000)	(7,000)	0	0	(18,00
Total	$5,000	$6,000	$16,000	$5,000	$3,000	$35,0(

Federal Share:

Reach 1	1,000 / 20,000	X 100%	=	0.050
Reach 2	5,000 / 20,000	X 50%	=	0.125
Reach 3	10,000 / 20,000	X 65%	=	0.325
Reach 4	3,000 / 20,000	X 0%	=	0.000
Reach 5	1,000 / 20,000	X 0%	=	0.000
Total Federal Share			=	0.500 or 50%

(1) Assumes a relatively linear distribution of costs.
(2) No costs assigned to recreation (benefits incidental).
(3) Assumes facilities subject to damage serve recreation use.
(4) Land component of developed properties subject to damage.