



**US Army Corps
of Engineers**



Introduction to Shore Protection and Collaboration in the United States

**Joseph R. Vietri
Chief, Planning & Policy Division
North Atlantic Division
U.S. Army Corps of Engineers**



US Army Corps
of Engineers

Agenda

- History of U.S. Shore Protection.
- Changing Roles of Non-Federal Collaboration.
- Challenges Posed by Watershed-Basin Planning.
- Interest of Corps for Future Collaborations.
- Questions.





US Army Corps
of Engineers

History of U.S. Shore Protection

- Interest in US shore protection began in the states of New York & New Jersey- late 19th Century to early 20th Century due to:
 - ▶ Intense barrier island development
 - ▶ Major coastal erosion from 1915 to 1921 due to 3 hurricanes & 4 tropical storms
- Individual property owners unable to provide effective coastal erosion protection. A broader-based approach was needed.



US Army Corps
of Engineers

History of U.S. Shore Protection

- **American Shore and Beach Preservation Association (ASBPA)** formed in 1925. Advocated regional shoreline erosion control by the US Government.
- **River and Harbor Act of 1930**: first Federal intervention in shore protection. Authorized & directed Chief of Engineers to cause investigations and studies be made in cooperation with agencies and states on the Atlantic, Pacific and Gulf coasts and on the Great Lakes.



**US Army Corps
of Engineers**

History of U.S. Shore Protection: Authority

- **After World War II, the Corps Shoreline Protection Program was expanded through over 20 legislative acts. This was in direct response to damage and loss of life due to storms along the Atlantic and Gulf coasts.**
- **Water Resources Development Act of 1986 (WRDA 86) provided significant authority:**
 - ▶ **Numerous shore protection projects for study & construction**
 - ▶ **Provided for cost-sharing that made local sponsors more active.**





US Army Corps
of Engineers

History of U.S. Shore

Protection: Project Features

- Prior to WWII, **groins and hard structures** such as jetties and seawalls were used for shore protection.
- Late 1940's to 1950's: US shore protection evolved by replicating the protective characteristics of **natural beach & dune systems**.
- Sand for beach nourishment was originally dredged from inland waterways, rivers or estuaries. As these sources would show impacts to the environment, a need for alternative sand deposits developed.
- ***Inner Continental Shelf Sediment Study*** conducted from 1964-1987 proved valuable, as it identified potential **offshore borrow sites** in the Atlantic Ocean for authorized beach nourishment projects.
- Today, the Corps attempts to manage available sand within the sediment system by means of **Regional Sediment Management (RSM)**.



US Army Corps
of Engineers

20th Century U.S. Shore Protection Summary

- **Hurricanes: 81**
- **Deaths in the U.S.: Over 14,000**
- **Damages: \$70 billion**
- **Legislation: 24 major bills**
- **Major Corps shore protection projects: 71**
- **Kilometers of coast protected: 457**
- **Actual cost to date of Corps projects: \$1.2 billion**





US Army Corps
of Engineers

Changing Roles of Non-Federal Collaboration

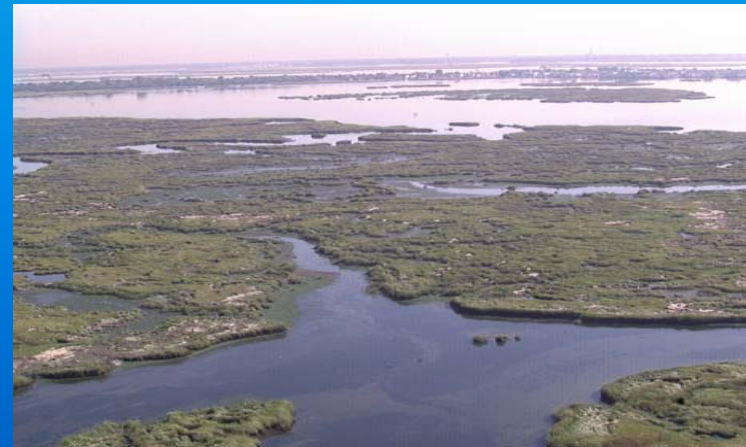
- Pre-1930's construction: non-Federal.
- 1930's to Present: Construction of authorized shore protection projects cost-shared. Non-Federal share has increased in recent years.
 - ▶ WRDA 86 standard cost sharing: 65% Federal, 35% non-Federal.
 - ▶ **Current standard cost sharing: 50% Federal, 50% non-Federal.**
 - ▶ Periodic nourishment: 50 % Federal, 50% non-Federal.
 - ▶ Features formulated for recreation: 100% non-Federal.
 - ▶ Private beaches: If no public access, 100% non-Federal; if public access, 65% Federal, 35% non-Federal.
 - ▶ Locally Preferred Plan.
 - ▶ Directive language can specify a larger Federal share, even 100%.



US Army Corps
of Engineers

Challenges Posed by Watershed- Basin Planning

- Developing a plan that has state and agency support.
- Identifying implementing agencies other than the Corps, when not within Corps authority to implement.
- Construction cost-sharing, especially for elements locally preferred.





US Army Corps
of Engineers

Challenges Posed by Watershed- Basin Planning

- **Regional Sediment Management (RSM) -**
*a systems-based approach for
collaboratively resolving sediment-related
issues within a regional context.*





US Army Corps
of Engineers

Interest of Corps for Future Collaborations

- **Memorandum of Agreement (MOU).**
- **Sharing of new technology and data.**
- **Independent Technical Review.**
- **Corps National Planning Center of Expertise for Hurricane & Storm Damage Prevention (PCX-HSDP).**





US Army Corps
of Engineers



Questions?

**Fare una
domanda?**

**Soulever
une
question?**

