

NATIONAL WATERWAYS CONFERENCE

MULTIPLYING BENEFITS: INNOVATIVE FUNDING AND TROUBLESHOOTING FOR WATER RESOURCE PROJECTS

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DASA(CW) PP&R ENVOY

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ASA(CW) PRIORITIES

ACCOMPLISHMENTS




Upgrade the Nation's Waterways

- Drought resilience strategy
- Climate Action Plan Progress Report



Build innovative, climate-resilient infrastructure

- **Principles Requirements & Guidance ASPs**
- **Re-Issue Comprehensive Benefits**
- **Environmental Justice interim guidance**
- **Tribal Partnership Program guidance update**
- **CAP Sec 165(A) pilot project**
- **Corps Water Infrastructure Financing Program**




Modernize the Civil Works Program

- Beneficial use of dredged material pilot projects and initiatives

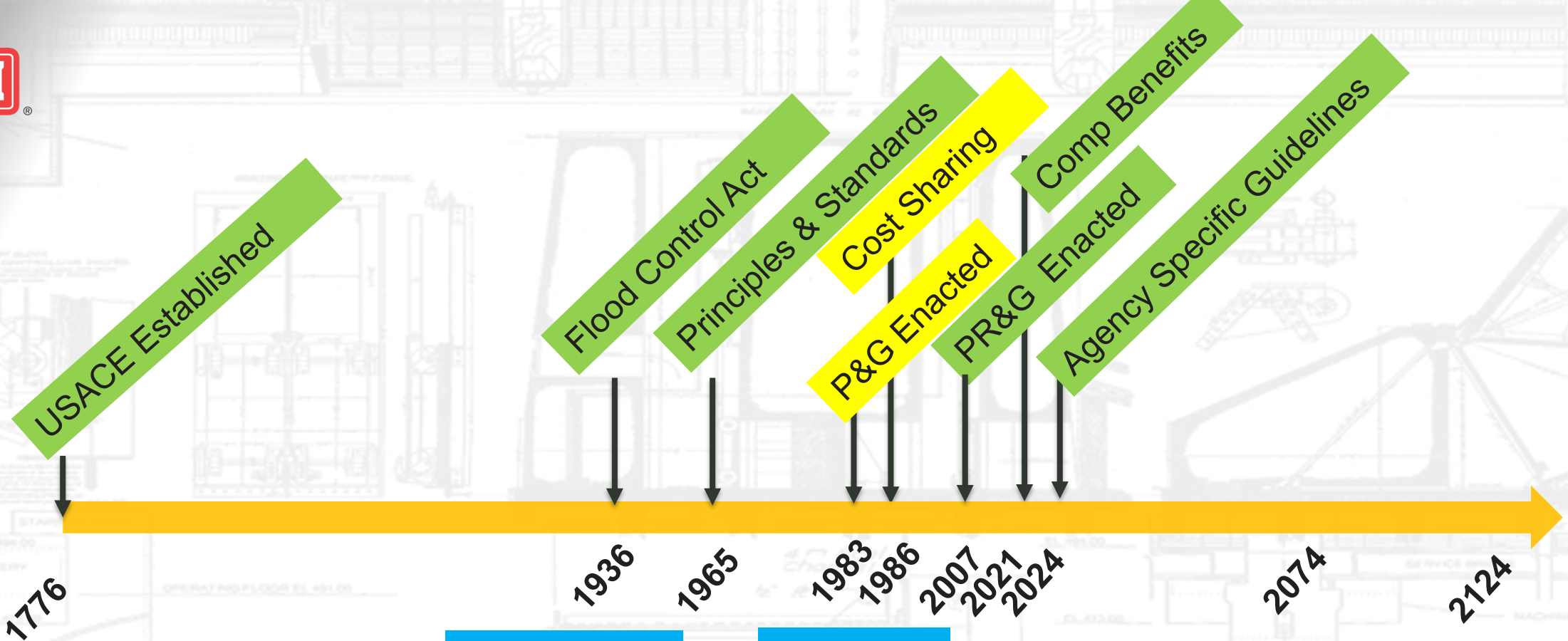


Invest in science, research and development



Strengthen communications and relationships

- Collaboration and Partnerships



Multipurpose Projects

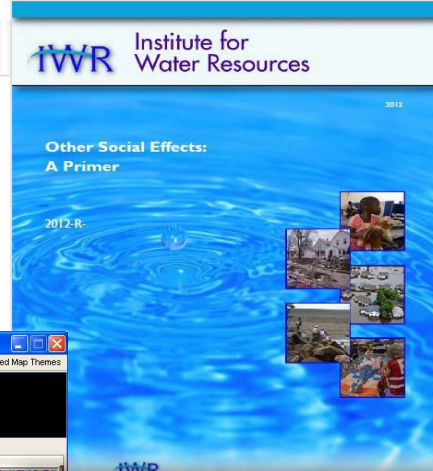
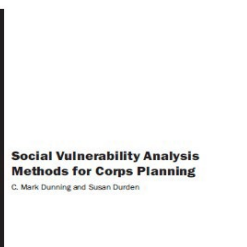
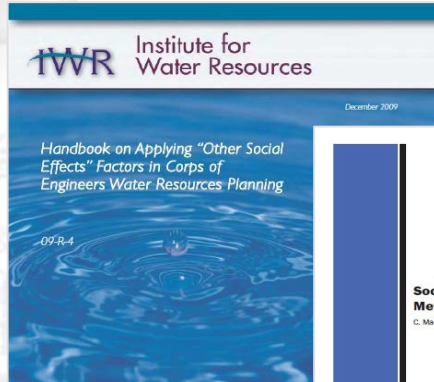
Four Accounts
NED
RED
OSE
EQ

Comprehensive Benefits and BEYOND

Navigating policy....**CHANGE is in the air**



PROJECT RECOMMENDATIONS – UNDERSTANDING ALL THE BENEFITS



A wetland is a natural area that is often wet but may not be wet all year round. Wetlands are characterized by their distinctive hydrology, soils and plants. Once

Wetlands contribute to the national and local economies by producing resources, enabling recreational activities and providing other benefits, such as pollution control and flood protection. While it is difficult to calculate the economic value provided by a single wetland, the amounts can be impressive. According to some estimates, the dollar value of wetlands worldwide is \$100 billion. (Source: Costanza et al. 1997)



Social Vulnerability Explorer: Welcome dave!

US Army Corps of Engineers

Variables: SoVI Class Interval: 0.5
Legend: Standard Blocks: Off

Name	Population	Tracts	With
SD A	10,254	3	3
SD B	8,250	3	3
SD C	7,557	3	3

Covered by Sub-divisions: 28,083 9
Not Covered by Sub-divisions: 0 0
Total: 28,083 9

Name	Population	Tracts	With
Plan-3-C	7,566	3	3
Plan-4-AD	16,517	6	6
Plan-5-BC	15,824	6	6
Plan-6-AC	17,825	6	6

Export Plan | Update Plan

Tracts in Plans | Tracts in Sub-divisions | Tracts in Study Area

All Tracts in Plan-6-AC			SD B		
Variable	Standard Deviation	Population	Variable	Standard Deviation	Population
SOVI	> 2.5	7,015	SOVI	1.0 to 1.5	4,190
SOVI	0.5 to 1.0	4,190	SOVI	0 to 0.5	6,820
SOVI	0 to 0.5	6,820			

1% Chance			1% Chance		
Variable	Standard Deviation	Population	Variable	Standard Deviation	Population
SOVI	> 2.5	7,015	SOVI	1.0 to 1.5	4,190
SOVI	0.5 to 1.0	4,190	SOVI	0 to 0.5	6,820
SOVI	0 to 0.5	5,854			

EPA EJScreen EPA's Environmental Justice Screening and Mapping Tool (Version 2.2) | EJScreen Website | Mobile | Glossary

Please note: Territory data (except Puerto Rico) is not available as comparable to the US. It is only comparable to the territory itself by using the 'Compare to Territory' option.

Find address or place

Compare to US | Compare to State

Environmental Justice Indexes

Supplemental Indexes

Pollution and Sources

Socioeconomic Indicators

- Demographic Index
- Supplemental Demographic Index
- People of Color
- Low Income
- Unemployment Rate
- Limited English Speaking
- Less Than High School Education
- Under Age 5
- Over Age 64

Map Contents: Socioeconomic Indicators, Low Income (National Percentiles)

- 95 - 100 percentile
- 90 - 95 percentile
- 80 - 90 percentile
- 70 - 80 percentile
- 60 - 70 percentile
- 50 - 60 percentile
- Less than 50 percentile
- Data not available

Historical and Critical Infrastructure



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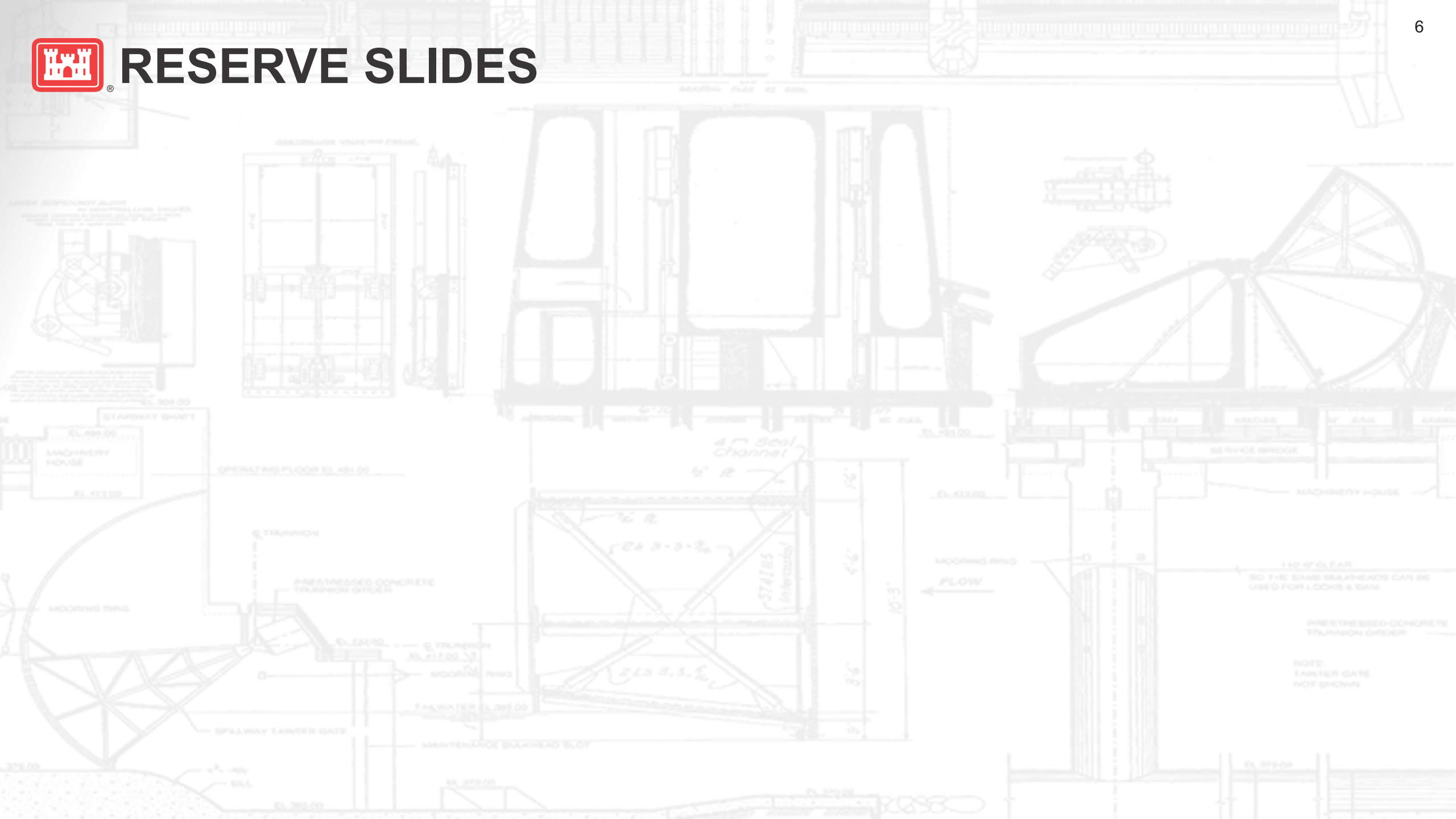


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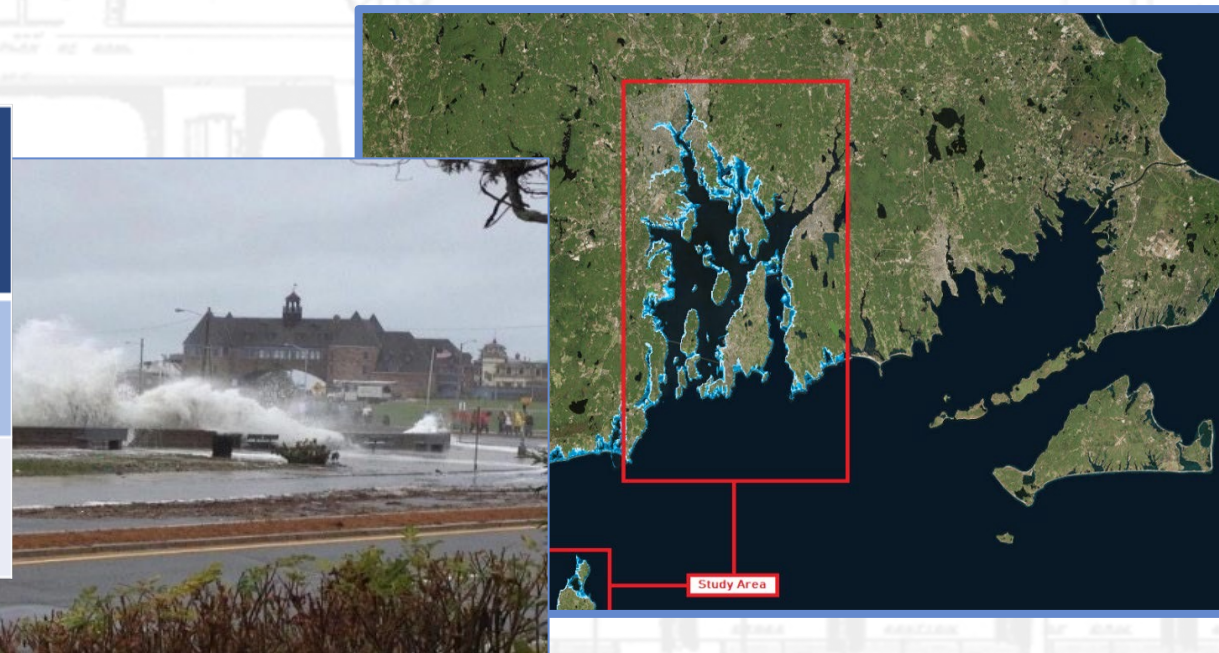
RESERVE SLIDES





RHODE ISLAND COASTLINE CSRM FEASIBILITY STUDY

	Structures Justified Using NED Benefits	Structures Justified using OSE/EQ Benefits	Community Groups Justified Using NED Benefits
TSP - Prior to Cost Increases	533 (323 Res, 210 Non-Res)	0	14
RP - Inclusion of Cost Increases	290 (117 Res, 173 Non-Res)	149 (146 Res, 3 Non-Res)	7



- Tiered from the North Atlantic Coast Comprehensive Study (NACCS).
- Point Judith to the Massachusetts Stateline and comprises portions of Block Island
- Covered more than **457 miles** of coastline **19 municipalities**.
- Experiences extensive inundation from storm surge due to **low-lying topography, densely populated residential and commercial areas, and extensive low-lying infrastructure**.
- Considered Structural (Floodwalls, Surge Barriers and bulkheads), but none were justified.
- Developed a completely non-structural TSP



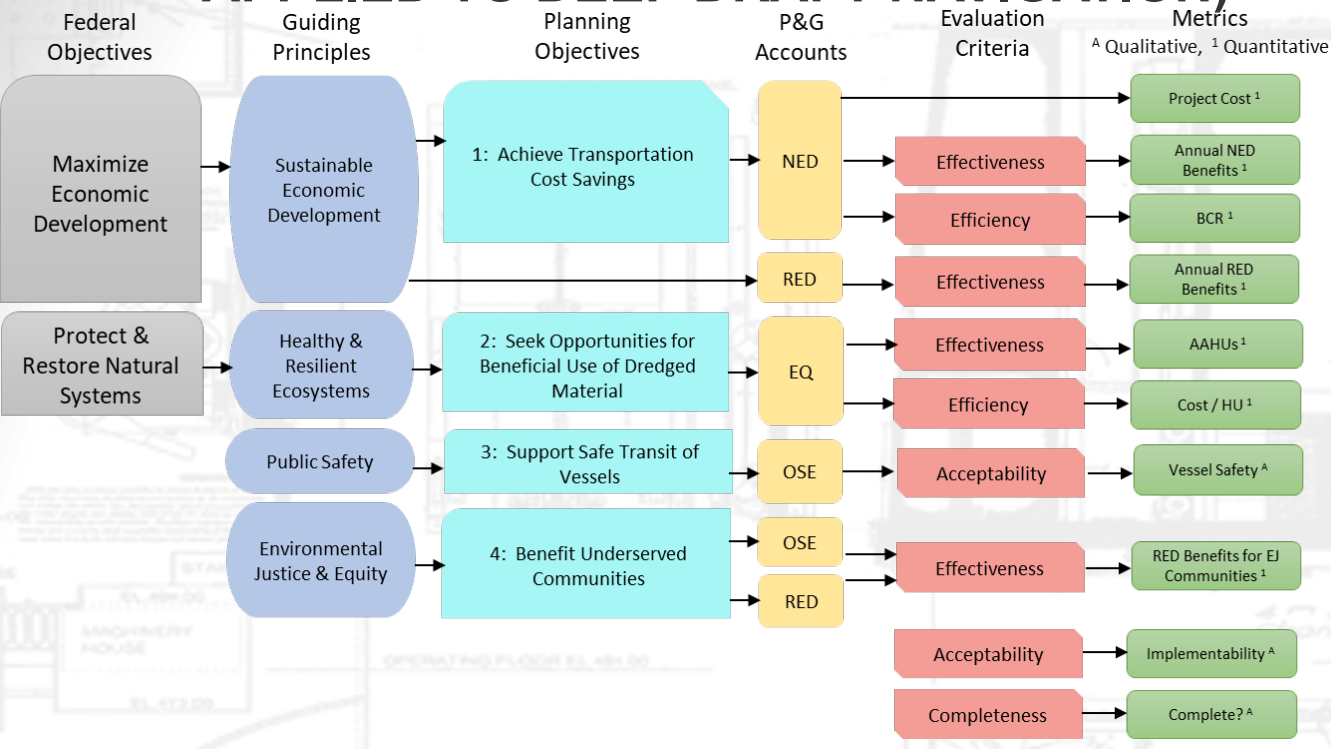
EXAMPLE 1 – STACKED TABLE (AS APPLIED TO FLOOD RISK MANAGEMENT)

<i>Federal Objectives</i>	<i>Maximize Economic Development</i>					<i>Avoid Unwise Use of Floodplains and Flood Prone Areas</i>		<i>Protect and Restore Natural Systems</i>					
<i>Guiding Principles</i>	<i>Sustainable Economic Development</i>					<i>Floodplains</i>	<i>Public Safety</i>	<i>Healthy and Resilient Ecosystems</i>	<i>EJ / Equity</i>	<i>Watershed Approach</i>			
Planning Objectives (See Table X)	Obj 1	Obj 1	Obj 1	Obj 4	Obj 5	Obj 2	Obj 2	Obj 3	Obj 6	Obj 7			
<i>P&G Accounts</i>	<i>NED</i>	<i>NED</i>	<i>NED</i>	<i>NED</i>	<i>RED</i>	<i>OSE</i>	<i>OSE</i>	<i>EQ</i>	<i>OSE</i>	<i>OSE</i>			
<i>Formulation / Evaluation Criteria</i>		<i>Efficiency</i>	<i>Effectiveness</i>			<i>Effectiveness</i>		<i>Effectiveness</i>	<i>Effectiveness</i>	<i>Effectiveness</i>	<i>Completeness</i>	<i>Acceptability</i>	
<i>Metrics</i>	Cost	BCR	Annual NED Benefits	Recreation Benefits	Annual RED Benefits	Structures at Risk	Life Safety Risks Reduced	ER Benefits	EJ Benefits	Comprehensiveness of Plan	Accounts for Necessary Investments	Implementability	Satisfaction
No Action Alternative													
Alternative 1: Economic Focus ^E													
Alternative 2: Environmental Focus ^{L,N}													
RECOMMENDED - Alternative 3: Sponsor Requested ^P													
Alternative 4: Life Safety Focus ^S													
Alternative 5: Balanced Plan ^T													

Plan identification: ^T Total Net Benefits, ^E NED Plan, ^L LEDPA, ^N Non-Structural Plan, ^P Locally Preferred Plan, ^S Life Safety Plan (meets TRG 1 and 4)



EXAMPLE 2 – METRICS TABLE WITH HORIZONTAL RELATIONAL DIAGRAM (AS APPLIED TO DEEP DRAFT NAVIGATION)

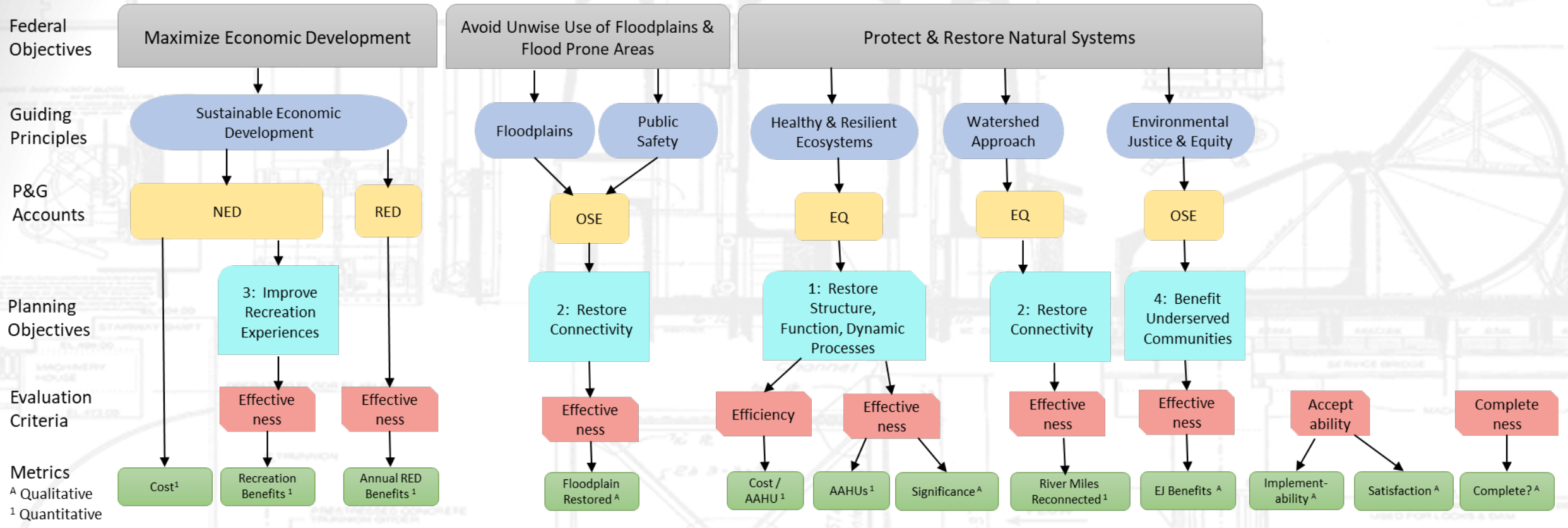


Metrics	Cost	Annual NED Benefits		BCR		Annual RED Benefits	RED Benefits for EJ Communities	AAHUs		Cost / HU	Vessel Safety		Completeness	Implementability
Scenarios		Forecast A	Forecast B	Forecast A	Forecast B			Forecast A	Forecast B		Forecast A	Forecast B		
No Action Alternative														
Alternative 1: Deepening														
Alt 1a: -56 feet														
Alt 1b: -57 feet ^E														
Alt 1c: -58 feet														
Alternative 2: Deepening (-57 ft) + Widening														
Alternative 3: Deepening, Widening and Beneficial Use of Dredged Material														
Alt 3a: -56 feet ^L														
Alt 3b: -57 feet ^T														
Alt 3c: -58 feet ^P (Recommended)														

Plan identification: ^T Total Net Benefits, ^E NED Plan, ^L LEDPA, ^P Locally Preferred Plan



EXAMPLE 3 – METRICS TABLE WITH VERTICAL RELATIONAL DIAGRAM (AS APPLIED TO ECOSYSTEM RESTORATION)



Metrics	Cost	AAHUs	Significance of Outputs	Cost/AAHU	River Miles Reconnected	Floodplain Restored	Recreation Benefits	Annual RED Benefits	EJ Benefits	Implementability	Satisfaction	Completeness
No Action Alternative												
RECOMMENDED - Alternative 1: Aquatic Habitat Focus^{R L}												
Alternative 2: Floodplain Habitat Focus												
Alternative 3: Recreation Focus ^P												
Alternative 4: Balanced Plan ^T												

Plan identification: ^T Total Net Benefits, ^R NER Plan, ^L LEDPA, ^P Locally Preferred Plan

