PIANC

The World Association for Waterborne Transport Infrastructure

Principles of Sustainable Dredging

Presented by

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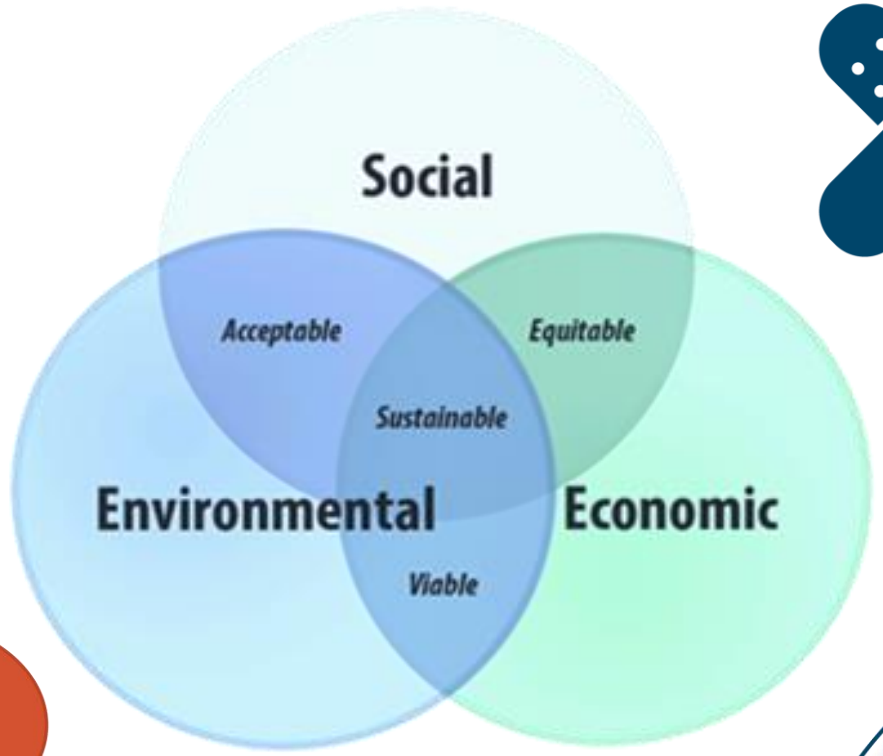
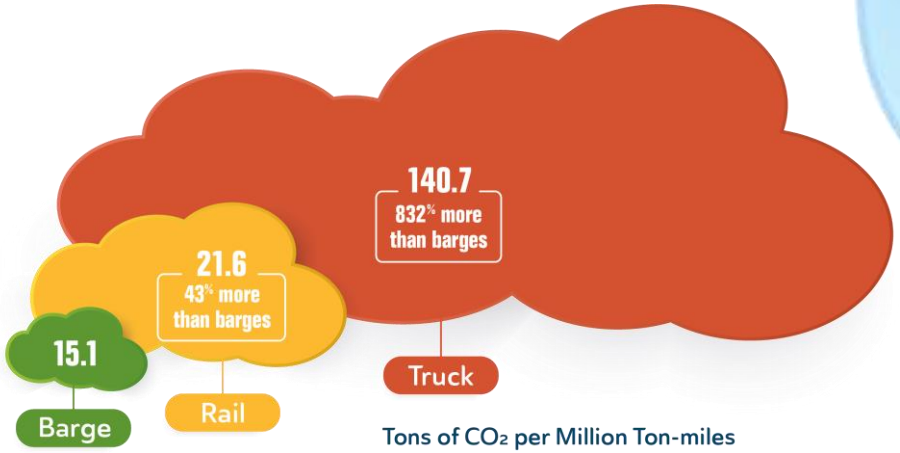
Sustainability of Waterborne Transport



Governance



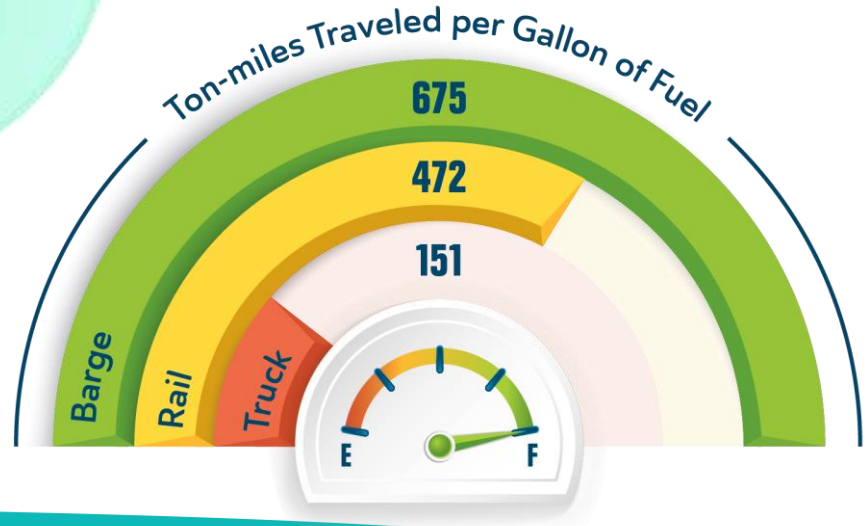
Tons of CO_2 per Million Ton-miles

Inland Waterways Transport has the Lowest *Injury* Record Compared to Rail or Truck

1 For Every Barge Injury, There Are -

96	**1,145**
Rail Injuries	Tractor-Trailer Truck Injuries

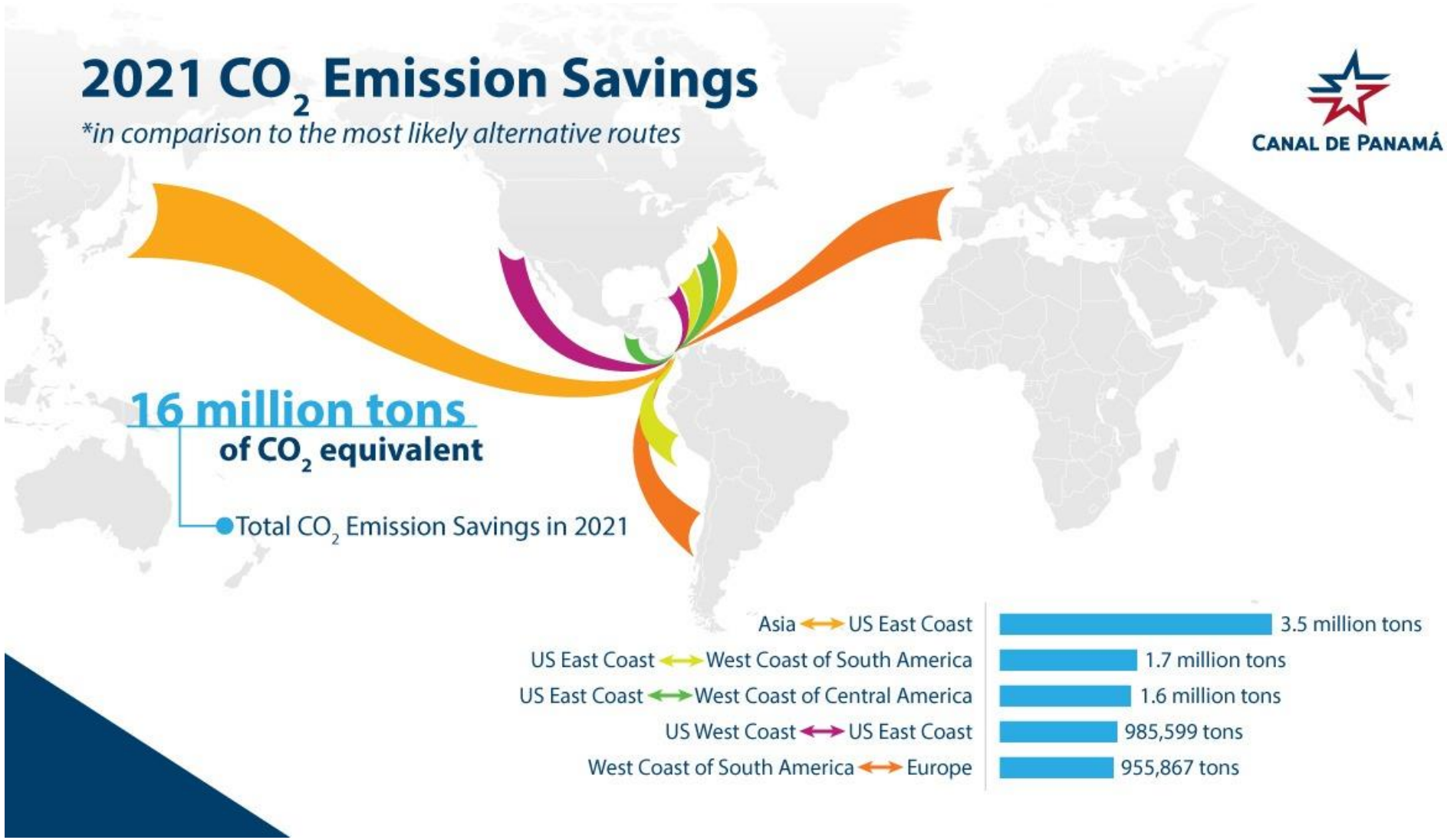
Ratio of Injuries in Freight Transportation



2021 CO_2 Emission Savings

*in comparison to the most likely alternative routes

CANAL DE PANAMÁ



PIANC IS

A worldwide network of professionals,

Providing expert advice
on cost-effective and sustainable
waterborne infrastructure,

And the leading partner
for governments and the private sector
in the design, development and
maintenance of ports,
waterways and coastal areas
…

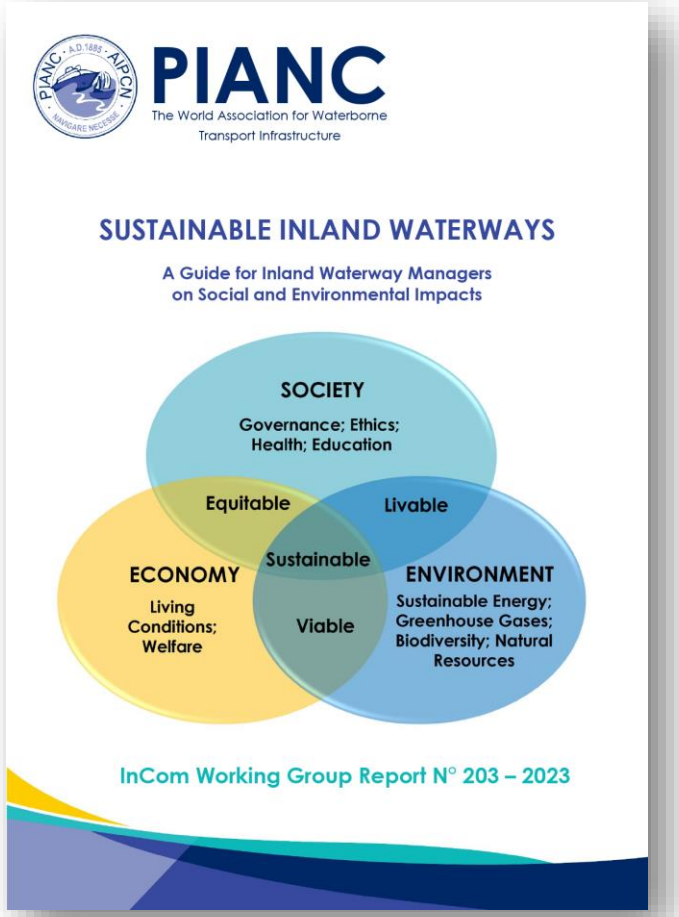
SINCE 1885!

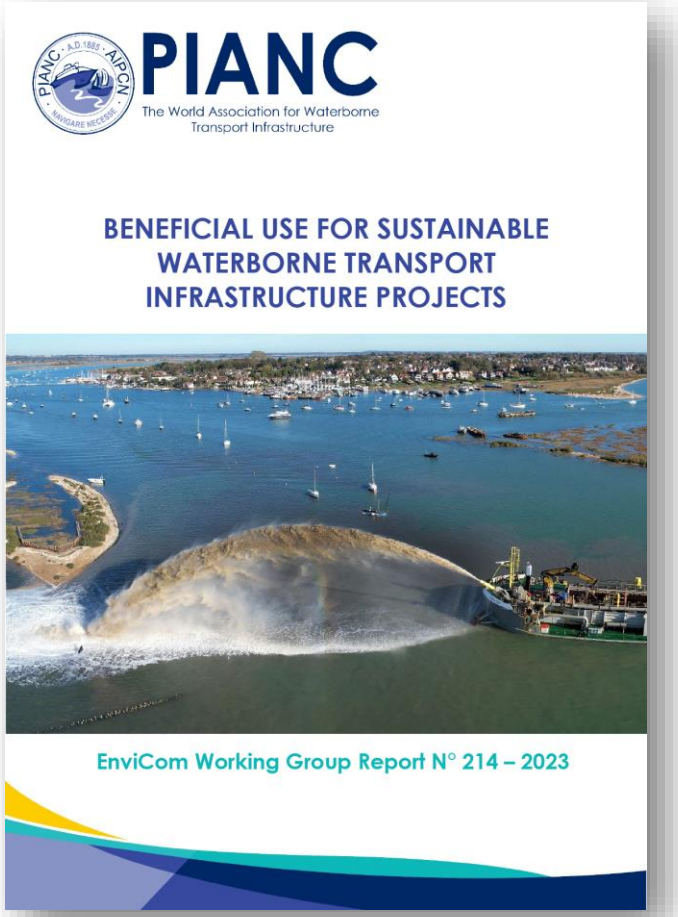
WHAT PIANC DOES

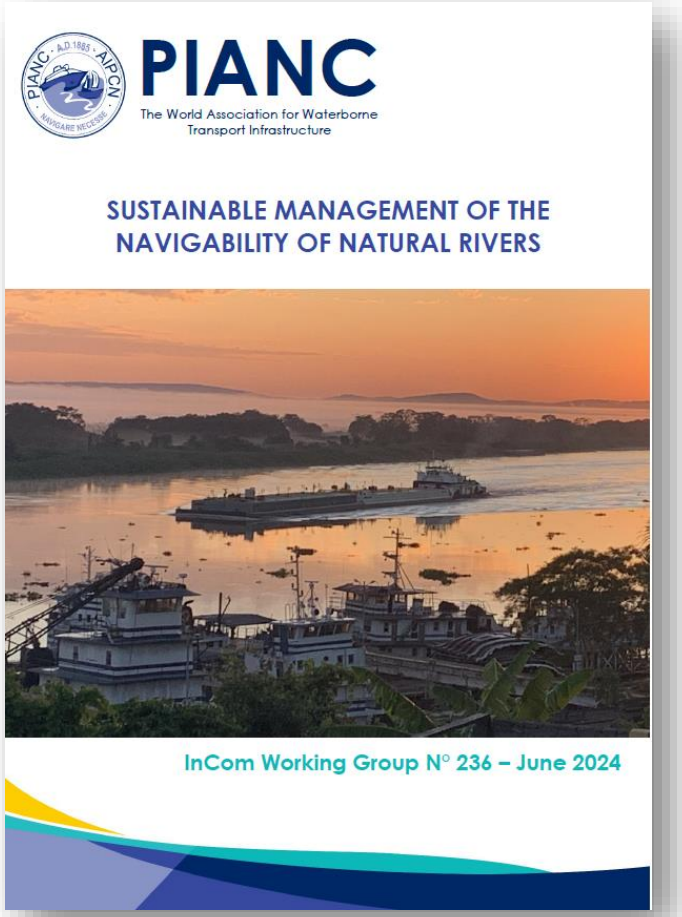
- Deliver high-quality technical reports within our International Commissions and Working Groups
- Create a worldwide network of the best international experts, both public and private, on technical, economic and environmental issues pertaining to waterborne transport infrastructure
- Support Young Professionals and Countries in Transition
- Keep the network connected through PIANC's international/regional/local events

Remain the leading international source of waterborne transport-related information in the 21st century

OUR TECHNICAL REPORTS

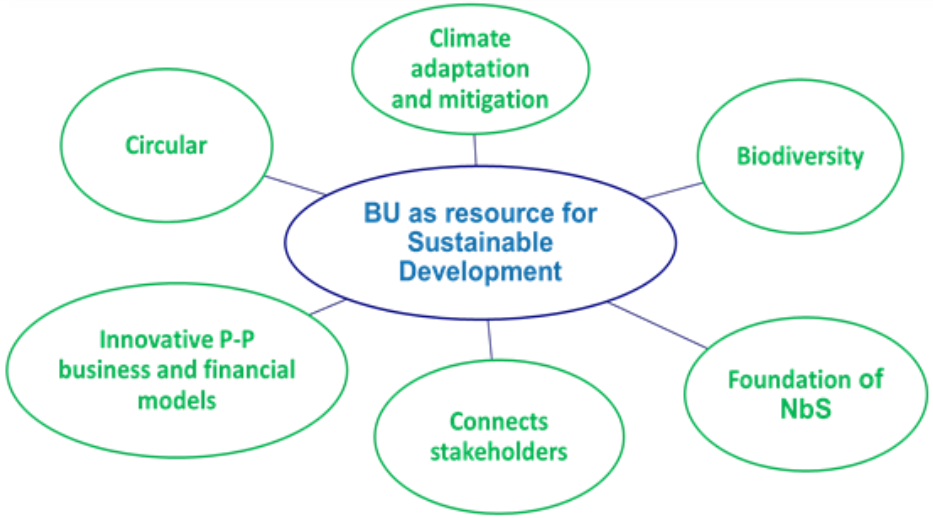






Sustainable Dredging

- Specific to dredging, this includes:
  - **Beneficial Use of Sediments**
  - Climate Adaptation and Mitigation
  - Circular Economy
  - Nature Based Solutions
  - Biodiversity
  - Innovative Public-Private Partnership Business and Financial Models
  - Stakeholder Involvement
  - **Governance**



WG 214: Beneficial Use for Sustainable Waterborne Transport Infrastructure Projects

Working Group Report Goals

- Increase industry-wide Beneficial Use (BU) practices globally
- Develop strategies to overcome barriers to BU
- Advance circularity and sustainability goals by managing sediment as a resource

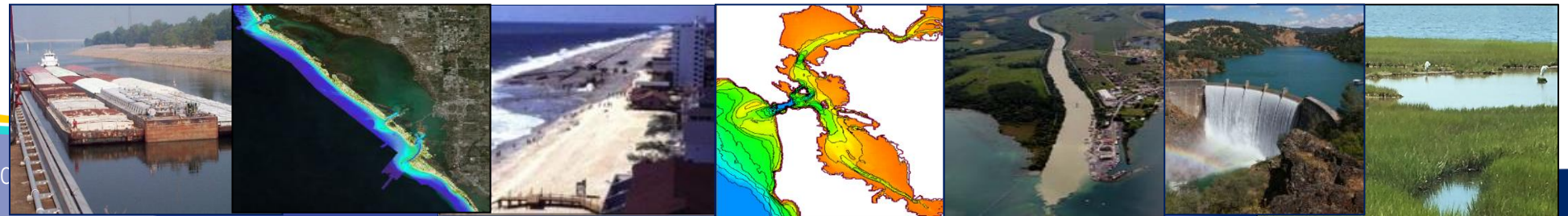
Coastal bird habitat created by beneficial us of dredged material In Baptiste Collette Bayou, Louisiana, USA (Photo: PJ Hahn).

Regional Sediment Management

"A systems approach using best management practices for more efficient and effective use of sediments in coastal, estuarine, and inland environments for healthier and more resilient systems."

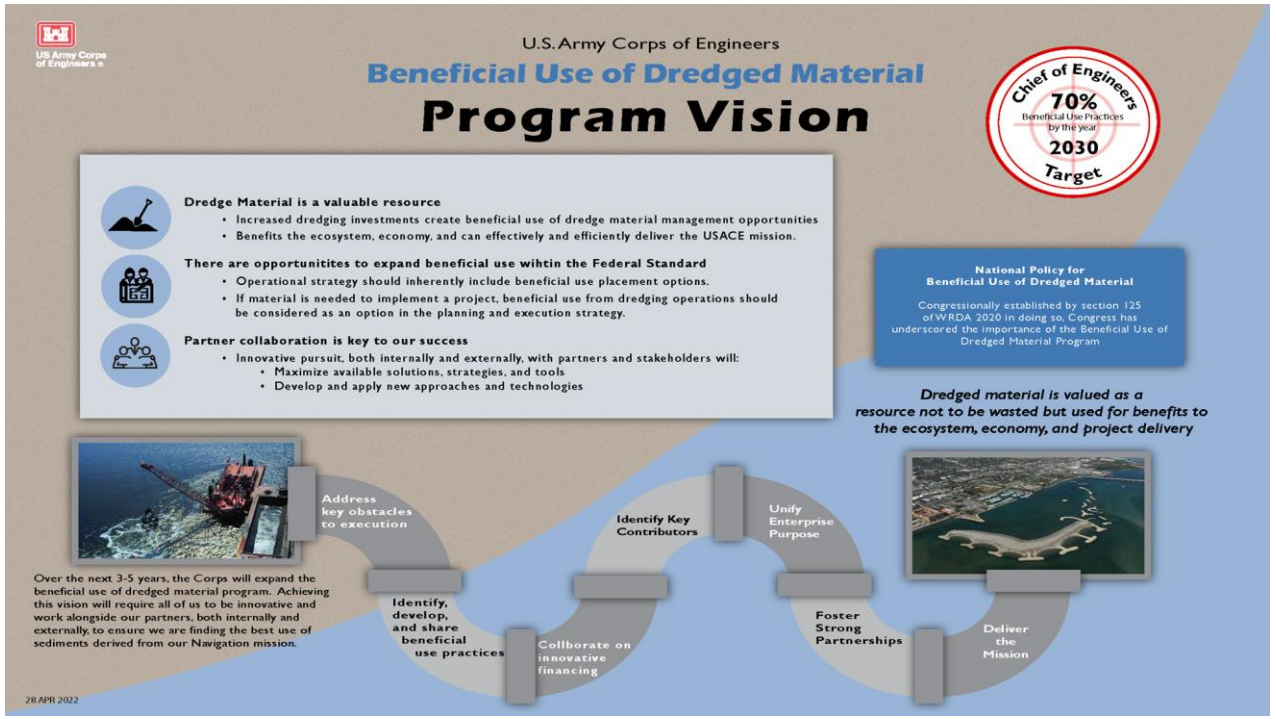
- Recognizes sediment as a valuable *resource*
- *Work across business lines, projects, and authorities* to create short and long-term economically viable and environmentally sustainable solutions
- *Improve* operational efficiencies and natural exchange of sediments
- *Consider* regional implications of project scale actions and benefits
- *Apply/Enhance* tools and technologies for regional approaches
- *Share* lessons learned, information, data, tools, and technologies
- *Communicate and collaborate*

https://rsm.usace.army.mil/



Expanding Beneficial Use of Dredged Material

- Achieve multiple economic, social, and environmental benefits
- Current beneficial use: 30-40%
- Advance BUDM practice to 70% by the year 2030 "70/30 Goal"
- Pursue innovation collectively with USACE partners and stakeholders
- Aligns with two of four LTG Spellmon's Key Priorities: Partnerships & Innovate



Climate Change Adaptation & Mitigation

Sediment BU >> SDG #13 Climate Action

Modify dredging equipment with high-efficiency engines or dual fuel engines

Reduce offshore disposal transport distances

Create or restore carbon sinks such as salt marshes and mangrove forests

Climate adaptation BU projects include:

- Restore ecosystems
- Maintain and restore barrier islands to improve community resiliency (e.g., Cat & Ship Islands on Mississippi coast; EWN Atlas V2*)
- Use ripened sediments to reinforce dikes (e.g., Kleirijperij EWN Atlas V2*)

Dredged sediment is being used to raise agricultural land in The Netherlands. For example, in the Clay Ripener study, Kleirijperij dredged sediment is being used for this purpose.

***https://ewn.erdc.dren.mil/?page_id=4174**

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