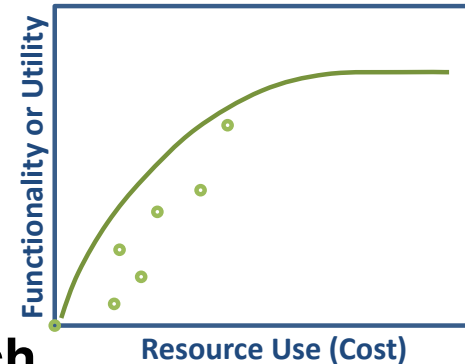


Portfolio Framework to Quantify Beneficial Use of Dredged Material

PDT: Foran, Childs, Burks-Copes, Fredette, Bates, Linkov, Banks, Suedel

- **In order to promote BU...**
 - Characterize benefits in native units
 - Specify interactions between projects
 - Optimize benefits from available resource across multiple projects
- **Objective**
 - General characterization of benefits of BU uses and project interactions
 - Characterize requirements for alternative functions
 - Quantitative portfolio approach for optimization of benefits

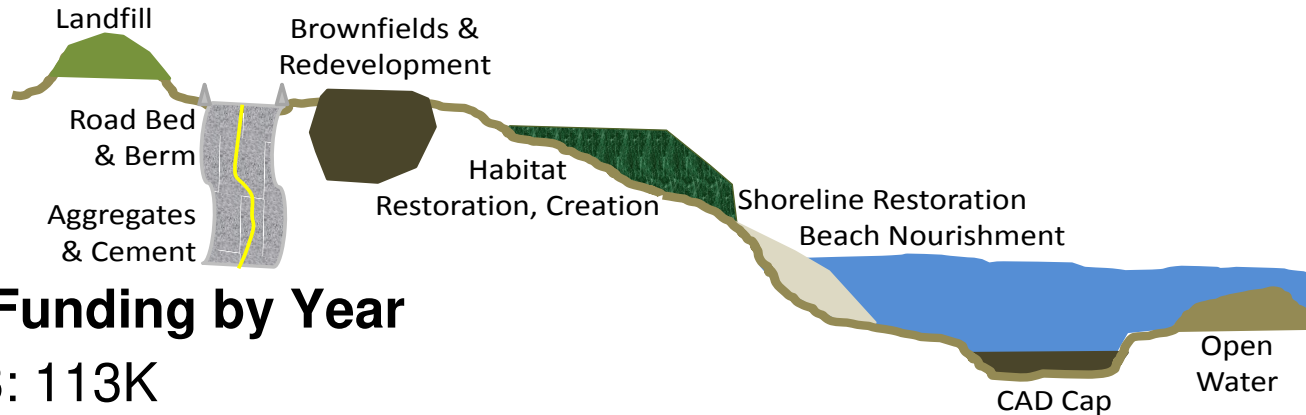


- **Approach**
 - Development and verification of a matrix of attributes and benefits
 - Relationship between the functionality of alternative and the features (material, location, etc.)
 - Mathematical optimization of benefits given the constraint of volume and type of sediment
 - Case studies (NAE, MVN)

DOER FY13 IPR

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- **Project Funding by Year**

- FY13: 113K
- FY14: 120K
- FY15: 80K

- **Major Project Deliverables**

- Model parameter matrix of BU functions by March 2014
- Portfolio optimization model by October 2014
- Case studies with New England and New Orleans Districts by September 2015

- **Benefits to Navigation Program**

- The approach necessitates the quantitative consideration of BU.
- The model can serve as an archive of the most up-to-date understanding of BU, incorporating cases.
- It provides a platform for calculating the collective utility of alternative BU projects.

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Portfolio Framework to Quantify Beneficial Use of Dredged Material

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- **FY13 Products (categories)**

- Collaborations with *districts*

- New England (POC Steven Wolf), New Orleans (Jeff Corbino) will provide historical data and hypothetical options to be utilized in the development of the matrix of and functionality of each BU option, as well as provide inputs to develop realistic case studies.