Where do the biggest challenges in BUDM for SAV occur?

Planning

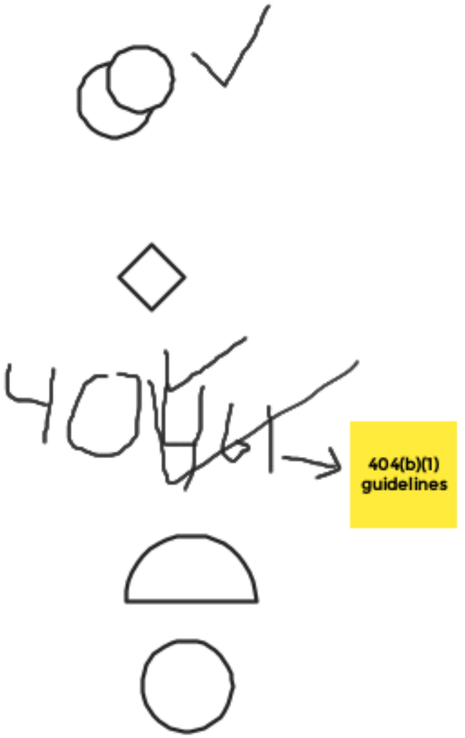
Correctly identifying stressors/conditions limiting SAV.

Restoration Planning Specifically

specifically during PED

Prioritization of potential BU for this vs marsh etc. Is BU for CSRM vs ecosystem restoration etc.

Regulatory



404(b)(1) guidelines

consultation with NMFS

Mitigation for seagrass

O&M

Especially when maintenance has been deferred for many years and habitat develops in interim

"Proving" that the benefits outweigh the costs can be difficult.

Other

Resource agency buy-in for open water placement

Funding

"Proving" to resource agencies that nearshore placement may be beneficial.

Meeting the Federal Standard

What are these specific challenges?

Lack of suitable material is also a challenge.

Contracting to do beneficial use may be tricky. There may be issues figuring out specific contracting language or how to physically get the material to a site.

"Counting" the benefits of placing dredged material in a more costly location (for SAV or nearshore placement) is not necessarily and easy task.

Finding a balance between least cost beneficial use and incorporating enough precautions (even if at an added cost) to be sure it's successful

Funding for monitoring long-term

Coming up with a monitoring program when sediment is essentially "sprinkled" on an area can be difficult. SPN will be doing strategic placement within San Francisco Bay soon.

natural eelgrass beds have lots of interannual variability so selecting reference site(s) can be challenging

Environmental dredging windows to construct by O&M in SAV areas are too short

Specifically with 404(b)(1) - 40 CFR 230.10(a)(1) which requires us to prioritize "activities which do not involve a discharge of dredged or fill material into the waters of the US"

There are few studies of BUDM for SAV to show success/failure - so it's difficult to get buy-in with a LACK of information either way

I volunteer Alex's Mordecai Island Planning Study. O&M placed material and there are SAVs on front side now. Very tough and costly resource agency issues involved

resource agency buy-in

Agreement as to whether the SAV mitigation and/or restoration will be effective

1. submerged bottom ownership, 2. protection of mitigated seagrass

Uneven track record of success. Logistics of planting/seeding are difficult.

Some confusion from all parties involved between habitat creation for mitigation and habitat creation for beneficial use

Building consensus on short and long-term benefits and adverse effects with resource agencies

Getting all resource agencies - state and fed on board to acquire a water quality certificate for open water placement. Agencies typically want placement confined.

What would help with overcoming these challenges?

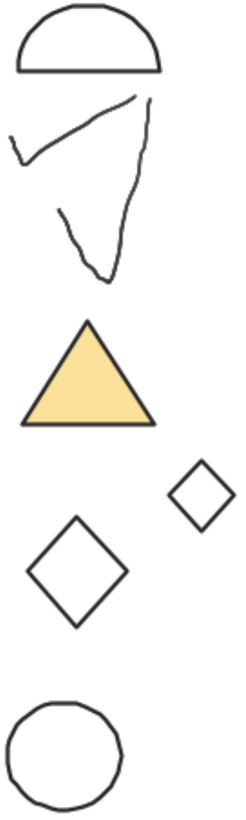
More research

Models suggesting likelihood of success

Interagency groups

Inventory of sites that may need elevation changes to promote SAV growth

Pilot studies



Other? Use sticky notes

MORE EDUCATION: Have an easy-to-find and up-to-date library of resources relating to these kinds of projects. Case studies, design documents, etc.

Agree with this! I second the idea of a website with case studies and info that practitioners could reference during stakeholder discussions.

Sharing information gained from studies/ monitoring within the Corps. Perhaps a data-sharing platform for disseminating this type of information

Specific to 404(b)(1) - need to demonstrate that the discharge of dredged material into waters of the US has more of a benefit to the aquatic environment than upland CDF

What are some novel BUDM opportunities for SAV?

Currently - seagrass mitigation bank in St. Petersburg, FL. Project involves filling a historic dredge hole and planting seagrass. Dredge hole is in the middle of a successful dense (70% coverage)

We have an idea in a feasibility study to raise seafloor elevation (could be up to 3+ ft.) with dredged material from the Tampa Harbor deepening.

Tampa Harbor GRR also includes a dredged hole restoration site and an island restoration site that would create SAV habitat using dredged materials from deepening

Construction would occur in the 2026 timeframe, but response to the idea from the resources agencies so far has been positive.

New Jersey Backbays Feasibility Study. Need to use creation of SAV for mitigation of impacts to shallow soft bottom estuarine habitats (non-SAV). Develop appropriate ratios for mitigation.

Is this concept of BUDM for SAV part of the EWN toolbox, and if not, would it be suitable to investigate adding this measure?

Elevate areas behind breakwaters with DM to SAV elevations (in areas where conditions are appropriate and SAV is "needed")

Integration of sea grass with other features (including softening of hard, ie breakwaters etc)

How can ERDC help support? Research Needs, Partnerships, etc?