SHORELINE STABILIZATION TECHNIQUE SELECTION PROCESS

General Conditions

1. All seawalls must have Class B or larger rip-rap extending 6 feet lakeward from the base.
2. Considering current lake level operating targets and variability and the desire to prevent unnecessary impacts, rip-rap must be confined to the area between 6 feet below full pond elevation and no more than one foot above full pond elevation to the maximum practicable extent. Potential exceptions include areas where entire placement is above the FERC Project Boundary, where banks are already eroded above the full pond elevation or where severely eroded banks must be sloped back or terraced to provide minimum bank stability.
3. Seawalls are not allowed in areas with an average eroded bank height of less than 3 feet.
4. Proposals for stabilization where bank height is less than 2 feet can use approved bioengineering techniques and enhanced rip-rap techniques only.
5. The bank height is the average height of the eroded shoreline (measured from the original lake bed to the top of the eroded bank) in the area to be stabilized.
6. Bio-engineering is a stabilization approach that uses natural and living material.
7. Bio-Bioengineering techniques may include use of rip-rap with live stakes, rock filled gabions, live staked crib walls, biologs, and numerous other approaches.
8. Applicants can use bioengineering, rip-rap, seawalls or any combination of stabilization techniques where use of hardening structures are allowed.
9. Stabilization in an IMZ requires review/approval by the applicable state wildlife agency and reasonable mitigation requirements as determined through consultation with the state wildlife agencies.
10. Stabilization is not allowed from March 1 through June 30 in areas identified as IMZs in the SMP.
11. New or expanded stabilization activities (excluding bioengineering) may not be undertaken within the 50-foot Environmental Offset associated with an Environmental classification in the SMP.
12. Stabilization of eroded banks that are 3 feet in height or higher may be considered for bank reshaping by either cut or fill techniques provided:
    a. The stabilized bank uses a combination of rip-rap (not installed any higher than one foot above full pond) and bioengineering techniques;
    b. The cut or filled area, above the height of the rip-rap, is stabilized using vegetation in density and composition similar to other naturally vegetated areas in the vicinity of the stabilized shoreline;
    c. The toe of the rip-rap is vegetated if the lower limit of the rock provides a stable beach-shelf at an elevation 2-4 feet below full pond;

d. The work can be conducted in accordance with all applicable buffer regulations; and

e. The amount of cut or fill does not substantially alter the full pond contour, is strictly limited to only that necessary to provide a stable angle for rip-rap and revegetation, and is specifically quantified in the written authorization from DE-LS for the project.

13. Stabilization in areas classified as Natural, due to the presence of significant cultural resources, should not have artifacts impacted by using any shoreline stabilization techniques.

14. Applicants are encouraged to avoid activities (including stabilization) that could have an adverse impact upon existing water willow beds. Rip-rap installed below the normal lake level elevation and associated with water willow beds must be limited to one layer deep to allow spaces between the stone for water willow recruitment.

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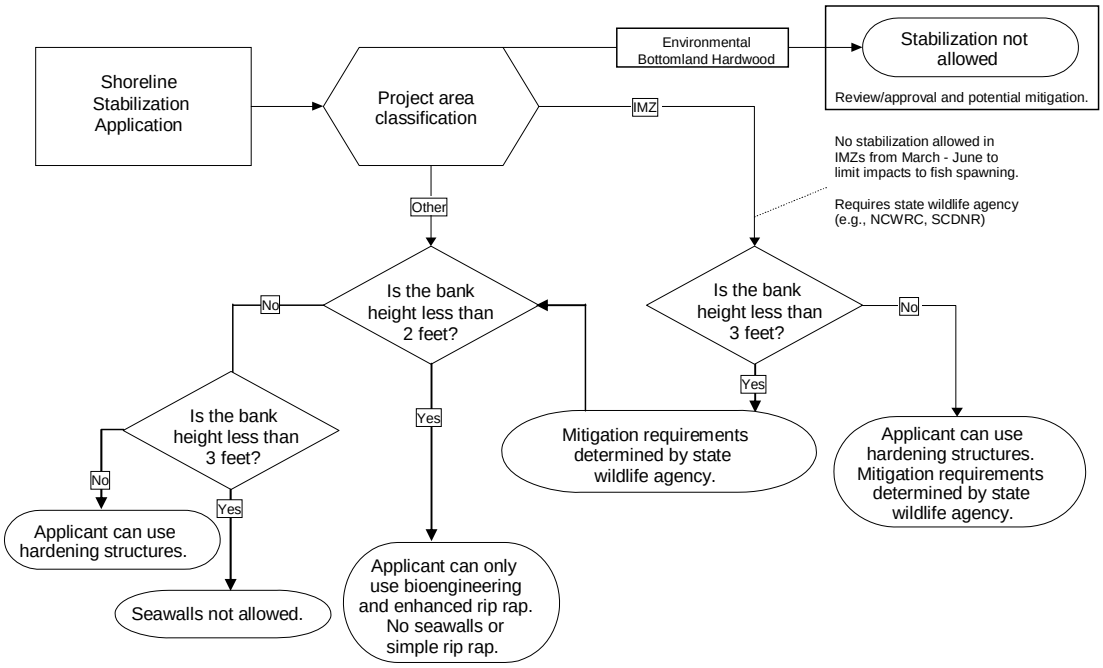

Figure 5A-1