



Frequently Asked Questions (FAQ) on

Nature-Based Adaptation Strategies (NBAS)

What is a Nature-Based Adaptation Strategy (NBAS)?

A nature-based adaptation strategy (NBAS) is a coastal adaptation and/or erosion control method that is comprised of natural or mostly natural elements, which contributes to the persistence and enhancement of coastal processes and ecological benefits while also protecting inshore areas.

The Commission also recognizes that nature-based adaptation strategies can be further categorized along a spectrum between:

- (1) **Soft Strategies**, which avoid fixing the shoreline with hard structures and instead use dynamic systems to attenuate coastal hazards, such as dune or wetland restoration, and,
- (2) **Hybrid Armoring**, which combines fixing the shoreline, such as with a buried revetment or other shoreline protective device, with a nature-based feature to provide ecological and other benefits.

What types of nature-based adaptation strategies (NBAS) have been implemented on the California Coast?

Examples include:

- Vegetated dunes
- Tidal wetlands and marshes
- Eelgrass and oyster beds
- Hybrid systems (buried revetments with dune overlays, artificial reefs)

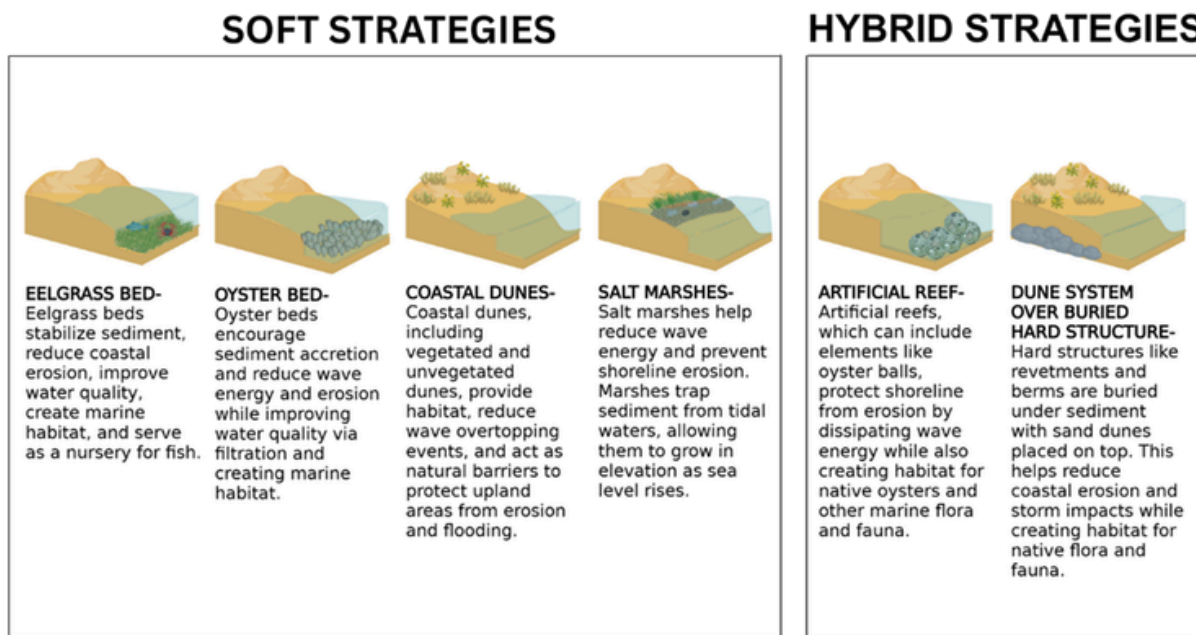


Figure: A subset of common types of nature-based adaptation strategies including soft solutions and hybrid armoring structures (Nature-Based Adaptation Strategies Guidance)



How effective are nature-based adaptation strategies (NBAS) at protecting the coast?

NBAS can reduce erosion, buffer storm waves, absorb floodwaters, and adapt naturally to changing conditions like sea-level rise. When thoughtfully planned, planned, designed, and constructed, NBAS provide multiple environmental benefits and support key provisions of the Coastal Act. For example, NBAS can preserve and enhance coastal habitats, increase biodiversity, improve public access and recreation opportunities, sequester carbon, and improve water quality.

Shoreline protective devices—often referred to as “hard” or “gray” armoring—include seawalls, revetments, breakwaters, groins, and bulkheads. These structures interfere with sediment transport, disrupt natural bluff erosion and beach-forming processes, and redirect wave action. Disrupting these processes can lead to negative effects like habitat loss and decreased coastal access and recreation space on beaches. In contrast, NBAS offer additional ecological and social benefits that traditional armoring cannot.

How does the Coastal Commission evaluate nature-based adaptation strategies (NBAS) in Local Coastal Programs (LCPs) and Coastal Development Permits (CDPs)?

A project’s classification as an NBAS does not change the standard of review under the California Coastal Act. The Commission evaluates whether a proposed NBAS is consistent with all applicable Coastal Act requirements, including protecting coastal resources and minimizing risks from coastal hazards.

The Commission will also consider the extent to which the proposed project:

- Genuinely integrates natural features and processes.
- Provides measurable habitat enhancement or restoration from baseline conditions.
- Protects public trust resources and maximizes public access.
- Aligns with community priorities and environmental justice goals.

To learn more about how the Coastal Commission evaluates NBAS, refer to our recently adopted [Nature-Based Adaptation Strategies Guidance Through a Coastal Act Lens](#).

I want to implement a nature-based adaptation strategy (NBAS). Where do I start?

The first step is to determine whether your project requires a Coastal Development Permit (CDP) from your local government or the California Coastal Commission.

To get started:

- **Consult early.** Reach out to Commission staff or your local government planners to discuss site conditions, design options, and Coastal Act requirements. Early engagement can help identify the most appropriate NBAS for your site and resolve potential issues before submitting an application.
- **Access the permit application.** Visit your local planning department or the [Coastal Commission’s Coastal Development Permit \(CDP\) application webpage](#).

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- **Prepare your submittal.** Provide detailed project plans along with proposed monitoring and maintenance measures. Include information on anticipated ecological benefits, community benefits, and how the project supports long-term climate adaptation.
- **Use the Commission's [NBAS Filing Checklist](#).** This checklist outlines the information recommended for CDP applications to help staff evaluate proposed nature-based adaptation projects.
- **Review examples.** Explore previously approved NBAS projects for guidance. Refer to the [NBAS CCC List of Permitted Projects](#) for examples of successfully permitted designs.

Applicants are encouraged to demonstrate how proposed strategies will protect coastal resources, enhance habitat, and sustain and/or improve public access while minimizing the need for shoreline armoring.