



Site Selection Guide

When looking at potential project sites for construction of a living shoreline under BCarbon's Protocol, certain factors may make a site more or less viable in terms of ecological benefits and/or potential carbon value. The following describes some general criteria, exceptions, and important notes for making an informed choice on site selection.

Please note, however, that **none of these criteria will strictly exclude a potential project from being considered by BCarbon**. Rather, they describe situations in which a site might warrant a closer look than is typical. If you feel that your site may be the exception to any of the notes outlined below, please contact BCarbon for further discussion and consultation.

GENERAL CRITERIA

Fundamentally, a BCarbon living shoreline project should be protective of a natural, expansive, tidally influenced brackish or fresh marsh edge, where:

- a) erosion and sea level rise (SLR) are the primary reasons the marsh is being negatively impacted, and**
- b) previous protection efforts have not been implemented.**

YELLOW FLAGS: potentially troublesome factors at a prospective site

- (1) Areas with previous protection activity, including:
 - Breakwater or bulkhead project
 - BUDM (Beneficial Use Dredged Material) spoil disposal project
 - Shoreline levee
 - Improved shoreline road, other than at-grade track (rare in tidal marsh but occasionally present in high marsh)
- (2) Areas with existing protective site topography, such as:
 - Substantial shoreline uplands, fronting marsh
 - Improved shoreline road, other than at-grade track (*note that this is rare in marsh*)
- (3) Areas where marsh loss is likely caused by something else, such as:
 - Severe impacts of extraction or OG/industrial contamination
 - Excessive dredged material along canal margins causing marsh impoundment and suffocation
 - Severely altered site hydrology, typically anthropogenic**

*** a potential exception: shoreline projects that incorporate a hydrologic element to correct the issue and contribute to sedimentation and shoreline project success*

SITE FEATURES CREATING LANDWARD LIMITATIONS FOR CARBON CLAIM

Certain inland topographic features can either damage or protect marsh and thus impact the amount of carbon that a particular project can claim. Sites with reduced carbon claims are still eligible under BCarbon's Protocol but may have implications for the return on investment that is needed to refinance the cost of construction.

- (1) Linear features will typically limit landward carbon allowance inside the 2-mile SLAMM limit. These features include:

- Roads, particularly roads parallel to shoreline
 - Levees, creating impoundment situation - BUDM projects/GIWW
 - Internal site protection levees
 - Rice / other agricultural levees
 - Spoil banks
 - Canals
 - Uplands within 2-mile SLAMM limit, including coastal cheniers
 - Major natural interruptions to site hydrology (eg: large marsh pond/lake, major bayou, river)
 - Large scale development
- (2) Point features* typically preclude carbon claim underneath the feature, but SLAMM limits can, in most cases, continue beyond the feature. These include:
- Ring levee, creating local impoundment situation - oil and gas and industrial sites
 - Ring levee, creating local impoundment situation - non-BUDM dredge spoil sites
 - Other spoil sites
 - Minor natural interruptions to site hydrology (eg: small marsh pond or minor bayou)
 - Small scale development

* Note that “point features” generally alter the area within the Project Boundary, rather than the perimeter itself - except in cases where the feature intersects the Boundary.

A CARBON ANOMALY OF NOTE: Areas with *empty* or *estimated* SOC stock values in the Blue Carbon Database (BCD)

When looking at the Texas Coast through the lens of the BCD, you may encounter some areas showing a carbon value of zero in the middle of otherwise high-value marsh sites. This generally indicates areas where on-the-ground soil sampling has not taken place, and thus there is no SOC stock data to feed into the BCD visualization tool.¹ The tool instead provides an “estimate” of SOC stock in the non-sampled area, drawing from the nearest polygon that has data.

Common sense coastal knowledge may suggest, in some cases, that the blue areas of marsh have higher carbon values than is reflected by the “estimate” provided in the model – specifically in cases where nearby marsh has very high carbon value and, outside the BCD tool, other visualizations of the area show that the area remains a healthy marsh. In these cases, please contact BCarbon for guidance on how to proceed. Sites with empty/estimated polygons need not be automatically discounted but may require additional testing and analysis.

At the end of the day, BCarbon’s Protocol is measurement-based. As such, in areas where no data is currently available, direct measurement of SOC stocks will be required of the developer – this is important to note as it may add to the cost of the project.

¹ Such areas may appear bright blue when being visualized in Google Earth. Note that in the BCD, the same bright blue color also corresponds to open water, which also reports a carbon value of 0. These areas are not the focus of this discussion – rather, we are interested in areas where there seems to be existing wetland based on a visual review, yet which appear as zero-carbon areas because no data has been collected there.