

Coastal Mitigation Matching Game Answer Key

Marsh Restoration:

Benefits: Vegetation protects against erosion, protects mainland shorelines from tidal energy, storm surge, and wave forces, filters pollutants, provides habitat, and absorbs atmospheric CO₂

Constraints: Conditions must be right (e.g., sunlight for grasses, calm water); can be affected by seasonal changes

Levees:

Benefits: Protect land subject to flooding and storm surges

Constraints: Can be costly, contribute to subsidence, and can by overtopping, underflow, slumping, or erosion

Barrier Island Restoration:

Benefits: Creates protective beach for inland areas during hurricanes; replenishes sand lost to erosion

Constraints: Periodic maintenance cycle required; high costs to import beach material

Sediment Diversions:

Benefits: Maintains sediment transport to wetlands, which protects coastal land from storms

Constraints: Requires continual management; can be very costly

Elevated Houses:

Benefits: Protects individual structures against flooding and storm surge, gives stability on unstable land

Constraints: Can be very costly, can fail due to long-term erosion around structure and intense hurricanes

Shoreline Protection:

Benefits: Natural protection for shores and marshes and inhibit erosion inshore of the structure; will induce sediment deposition

Constraints: May not be sustainable in the long-term, because they are not likely to provide reliable protection against erosion in major storms

Ridge Restoration:

Benefits: can provide storm surge protection to nearby communities and help prevent saltwater intrusion into freshwater wetlands, provide a unique habitat

Constraints: Construction of this project type is limited to the locations where they existed historically

Content sources: EPA and Restore the Mississippi River Delta documents