

Table 5-2 Causes of Impacts on Tidal Marshes and Techniques for Restoration

Cause of Degredation	Impacts	Possible Restoration Tech
Tidal Restrictions	<ul style="list-style-type: none"> ·Decrease sediment inputs and depress elevations. ·Reduce salt water exchange. ·Encourage encroachment of fresh and brackish invasive species. ·Effect distribution of estuarine fish. 	<ul style="list-style-type: none"> ·Remove tide gates ·Install self-regulating tidegates or tide management. ·Install properly sized culverts and keep of debris.
Filling and Dumping	<ul style="list-style-type: none"> ·Raise elevation converting tidal habitat to upland habitat. ·Smother salt marsh plants. ·Disrupt hydrology and restrict tidal flow. ·Encourage encroachment of fresh, brackish, and upland species. 	<ul style="list-style-type: none"> ·Excavate and remove fill or debris to appropriate elevation. ·Grade to regain appropriate topography. ·Perform open marsh water management.
Grid-Ditching and/or Draining, for Mosquito Control or Agriculture	<ul style="list-style-type: none"> ·Disrupt hydrology. ·Effect distribution of estuarine fish. ·Decrease sediment inputs and depress elevations. ·Loss of salt pannes. 	<ul style="list-style-type: none"> ·Discontinue maintenance of grid ditches. ·excavated soils back into ditches. ·Perform Open marsh water management.
Excess Freshwater Runoff, Diversions, and Storm water Discharges	<ul style="list-style-type: none"> ·Reduce soil and water salinity. ·Encourage encroachment of invasive species such as <i>Phragmites australis</i>. ·Increase nutrient inputs and associated algal blooms. 	<ul style="list-style-type: none"> ·Properly divert freshwater runoff. ·Use retention ponds, proper waste water facilities, and storm water management. ·Restore tidal flow (see above)
Encroachment of Invasive Species, such as Common Reed (<i>Phragmites australis</i>) or Purple Loosestrife (<i>Lythrum salicaria</i>). *This form of degradation is often associated with the above causes.	<ul style="list-style-type: none"> ·Remove salt marsh vegetation. ·Reduce biodiversity. 	<ul style="list-style-type: none"> ·Restore tidal flow (see above). ·Remove upper several inches of soil, rhizomes (“skimming”). ·Mow, mulch, cover plants (with black plastic). ·conduct prescribed burns, or apply herbicides. ·Flood and submerse vegetation for an extended period of time.

Information compiled from Hruby and Montgomery (1988), OLISP (1994), USDA SCS (1994), Wheelwright (1996), and