Spartina alterniflora

Atlantic cordgrass, salt-water cordgrass, saltmarsh cordgrass, smooth cordgrass

Threat scores

1. Ecological impact
    - "Loss of mudflat and channel habitat may seriously impact the foraging habitat for numerous residential as well as migrating shorebirds and waterfowl, including the federally and state endangered California clapper rail; also invading high marsh habitat, degrading or eliminating pickleweed (Salicornia virginica) habitat, impacting habitat for the endangered salt marsh harvest mouse" (Molnar 2008).
    - It can also hybridize with native non-invasive species of Spartina and offspring are known to have increased vigor and growth rates than either parent.
    - can cause increased rates of sedimentation, leading to the eventual clogging of flood control channels and natural sloughs, raising them to the overall elevation of the marsh plain.
2. Invasive potential
    - Spreads by seed rhizome, or vegetative fragmentation on wind and water currents.
3. Geographic extent
    - Locally pervasive
4. Management difficulty
    - Have not been able to eradicate from introduced areas.

Geography and Habitat

1. Origin: North and South America
2. First introduction: 1894
3. Introduced Willapa Bay, Washington in oyster shipment, then Puget Sound to stabilize shorelines/increase vegeta -tive cover. Intro to San Francisco Bay in 1970's for salt-marsh restoration.
4. Marine, riparian zones, estuaries/bays, wetlands, coastland
5. The tidal range varies throughout the world, but it has potential to grow from mean higher high water to approxi mately 1 meter from mean low lower water (Molnar 2008). Also grows in brackish waters.
6. Tolerates a broad range of substrates, wide range of environmental conditions
7. Inundation up to 12 hrs/day, pH from 4.5 – 8.5, salinity from 10 to 60 ppt
8. Can tolerate greater than full strength sea water
9. Hydrohalophyte, sandy shores, hypersaline river mouths, bays, beaches

Invasion pathways

1. Short-term disturbances that facilitate introduction
    - Intentional known
    - Cause- Saltmarsh restoration, land reclamation, habitat
    - Intro to San Francisco Bay in 1970's for salt-marsh restoration, New Zealand in 1950's for land reclamation/ habitat enhancement.
2. Dredge Spoil Material
    - Accidental known
    - Dredging an area infested with smooth cordgrass can promote the spread of vegetative fragments.

3. Natural Spread
    - Known
    - Cause- tidal currents
    - A viable vegetative fragment must contain either root or rhizome material and can be transported with tides. Seeds can float and may also be transported with tides.
4. Natural Spread
    - Known
    - Hitchhiking on the feet or feathers of waterfowl.

Non native locations

1. 56- Puget Trough/Georgia Basin
2. 57- OR, WA, Vancouver Coast and Shelf
3. 58- Northern California

Sources

1. Molnar, Jennifer, et al. 2008. "Assessing the global threat of invasive species to marine biodiversity." *Frontiers in Ecology and the Environment*. 6 (9), pp. 485-492.
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