

SPARTINA

PROHIBITED WEED BULLETIN - 1

Did you know?

The Pacific coast is home to several species of invasive cordgrass (*Spartina anglica*, *S. densiflora*, *S. patens*, *S. alterniflora*) that are invading thousands of hectares (ha) of intertidal mudflat along the west coast of the US and rapidly spreading into the Strait of Georgia. These invasive grasses are capable of forming massive; single-species stands in ecologically critical habitat in the intertidal and low marsh communities of estuaries and outlets.

BC has over 27,000 km of coastline, including 59,300 ha (146,500 acres) of tidal flats and marsh in over 440 estuaries. Approximately 25,000 ha of BC tidal mud flats are internationally recognized as important habitat for fish and migratory birds and support Canada's highest density of wintering waterfowl, shorebirds and raptors.

What is it?

Spartina is a perennial grass with erect (10 - 350 cm height), large smooth, often in-rolled leaves, angularly orientated along the stems. It forms thick mats of reproductive roots, rhizomes and seed that are spread mainly by tidal currents, but also by water birds, ballast water, dredging, aquaculture and intentional plantings for erosion control. *Spartina* inflorescences (flower clusters) occur at the end of the stem (2-24 cm long). In early spring, new seedlings germinate and rhizomes sprout new shoots. Rapid growth occurs from May to August, with the majority of flowering in July and seed setting in September. *Spartina* remains green longer than most native intertidal plants, making it easier to locate in mid to late fall.

Why should we care?

If permitted to expand along BC's coast, *Spartina* infestations are likely to significantly decrease habitat for shorebirds, waterfowl, fish, shellfish and other invertebrates; cause sediment accumulation; disrupt tidal drainage patterns; and impact coastal based industries, such as shellfish growers, fisheries and tourism.

Spartina disrupts the ecology, structure and function of mudflats and intertidal habitat, which provide the basis for a complex food web. *Spartina* can eliminate important intertidal nursery grounds for clams, mussels, juvenile fish, Dungeness crab and other invertebrates. *Spartina* can alter estuary hydrology, resulting in elevation changes that can affect navigation and cause coastal flooding.



Spartina anglica (English cordgrass),
Image: G.L. Williams.



Spartina densiflora (Dense flowered
cordgrass), Image: G.L. Williams.



Spartina patens (Saltmeadow cordgrass),
Image: G.L. Williams.

BC Spartina Working Group

- Ducks Unlimited Canada
- Canada Wildlife Service
- Fisheries and Oceans Canada
- BC Ministry of Environment
- Metro Vancouver
- City of Surrey
- Corporation of Delta
- Port Metro Vancouver
- Community Mapping Network
- Friends of Semiahmoo Bay
- BC Ministry of Forest, Lands & Natural Resource Operations
- Seagrass Conservation Working Group
- Greater Vancouver Invasive Plant Council
- Coastal Invasive Plant Committee

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How big is the problem?

Spartina infestations in BC are limited to <1 hectare (2 acres), but there are well over a thousand plants dispersed over thousands of hectares. This creates unique management challenges in detecting, accessing and eradicating many small sites along BC's coastline. Impacted areas include the Fraser Delta (Boundary Bay, Roberts Bank, Burrard Inlet) and Vancouver Island (Baynes Sound and Courtney Estuary). Left uncontrolled, Spartina will spread in distribution and density across tens of thousands of hectares, leading to loss of migratory bird habitat as observed in estuaries in Washington and California.

What are we doing about it?

Eradication is still possible, but the current treatment options and level of funding will not likely enable BC to achieve eradication. BC has committed to eradicate *Spartina* by 2018 under the West Coast Governors' Agreement on Ocean Health and the Pacific Coast Collaborative Agreement. These cross border partnerships with Washington, Oregon and California are aimed at reducing the ecological and economic impacts of invasive species and promoting ocean health.

Since 2004, the BC *Spartina* Working Group has mapped infestations, manually removed individual plants and clones by machine and people, conducted evaluations on effectiveness and undertaken public education and training, including development of the www.spartina.ca website. In 2010, a *Spartina* Response Plan outlined the issues, treatment options, required funding and recommended next steps. Since its beginning, the Working Group has developed a strong, cooperative relationship with the Washington State Department of Agriculture - the leading manager of *Spartina* for Washington State.

How are we doing?

Research indicates slow action to eradicate *Spartina* permits the invasive grass to spread rapidly, increasing impacts and control costs several fold. Such delays in Washington State have resulted in *Spartina* control costs of over \$1 million annually since 2003. In BC, our mechanical control efforts to date have met with limited success, with only 10% (0.2 acre) of existing *Spartina* infestations being removed in 2010 due to limited annual funds. Each year new infestations are discovered and known infestations continue to expand.

Where to from here?

The BC *Spartina* Working Group will continue to assess treatment options for *Spartina* eradication found effective in other jurisdictions. The Working Group will also continue to collaborate with provincial, federal, US and industry partners to conserve BC's vulnerable coastlines.

To get involved in *Spartina* eradication efforts in your community or for more information, please contact:

Vancouver Island & Gulf Islands: *Coastal Invasive Plant Committee* - 250-857-CIPC (2472)
Metro Vancouver: *Greater Vancouver Invasive Plant Council* - 604-880-8358
Sea-to-Sky: *Sea-to-Sky Invasive Species Council* - 604-698-8334



S. densiflora
infestation on
Denman Island, Sept. 2010,
Imaae: Claire de la Salle.