



INVASIVE ALIEN SPECIES

Saltcedar (*Tamarix ramosissima*, *Tamarix chinensis*, *Tamarix parviflora*)

aka Tamarisk

SK Provincial Designation:
Prohibited

Overview:

Saltcedars are deciduous, loosely-branched shrubs or small trees and native to Asia. They were introduced in the 1800s and used as ornamentals, to establish wind breaks, and to stabilize soil in riparian areas. They reproduce by seed but can also sprout vegetatively from buried stem or branch pieces. Saltcedar produces massive quantities of tiny seeds which have a short viability period but can germinate quickly in a broad range of conditions. It develops a deep tap root (as deep as 5 m) to access groundwater and can tolerate extended periods of drought once established. Saltcedar has replaced large tracts of native cottonwood/willow stands in the U.S. and has lower wildlife value and greater water uptake than native tree stands.

It tolerates high levels of salinity and this salt accumulates among leaf scales during evapotranspiration. The resulting leaf litter increases salinity of the soil over time, making it unsuitable for native vegetation. Invasion by saltcedar is linked to disturbance/removal of native vegetation and/or alteration of natural flooding patterns by human activities³ such as dams (stabilization of water levels, increased sedimentation, etc.).

Seedlings are poor competitors and intolerant of flood scouring.¹ Saltcedar develops dense stands which accumulate sediment, increasing saltcedar habitat and altering stream channels and floodplains.

Several species of *Tamarix* (including *T. ramosissima*, *T. pentandra*, *T. chinensis*, *T. parviflora*) were introduced to North America. Species identification is difficult because some of the species are very similar in appearance and hybridization is common.³



Habitat:

Saltcedar grows in many soil types but prefers fine-textured soils. It tolerates a wide range of saline or alkaline soils, but is intolerant of shade. It mainly inhabits the margins of water courses such as rivers, streams, irrigation canals and lakeshores.

Identification:

Stems: A few to several stems per plant. Young stems are slender, smooth and reddish-brown; the bark on older stems is furrowed.

Leaves: Leaves are bright green, diamond shaped, scale-like, alternate, overlapping - strongly resembles cedar or juniper foliage - and 0.5 to 3 mm long. Leaf edges are thin & dry and turn yellow-orange in autumn.

Flowers: Flowers are small, pale pink to white, and borne in finger-like clusters which are 2 to 5 cm long.

Seed: Seed capsules are 3-4 mm long and the petals are usually retained on the capsule. Seeds are less 0.5 mm long with a 2 mm tuft of hairs at one end.

ABOVE: Saltcedar (photo by Steve Dewey, Utah State University)
BELOW: Saltcedar infestation along a stream



Prevention:

Saltcedar is available for sale under the names Pink Cascade and Summer Glow through both catalogue and out-of-province nursery retailers. The tiny seeds are dispersed by wind and water. Because of their small size they are difficult to detect in soil,² making contaminated soil and/or equipment another possible pathway for spread. Seedling infestations are easiest to control – established infestations will require significant funding and effort over multiple years.

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Saltcedar (*continued*)

Control:

Grazing: Grazing is not recommended. Cattle and goats will eat saltcedar but trampling from livestock in riparian areas would be detrimental and the livestock would spread the seed to other areas. Goats would require herding to protect native species. Invasive plants should never be considered as forage.

Cultivation: Root ploughing has been used in the desert in the U.S. on large, dense stands.³

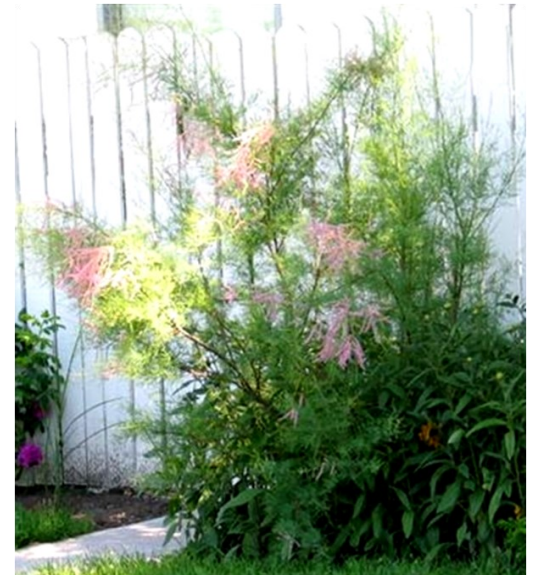
Mechanical: Cutting alone is ineffective, as saltcedar re-sprouts vigorously. The method most employed is herbicide applied to cut stumps with the best results from autumn applications. Hand pulling of new, young plants can be effective. Burning has been used in the U. S. and re-sprouts treated with herbicide.

Chemical:⁵ Triclopyr and imazapyr have been used for cut-stump treatments, and imazapyr and/or glyphosate for foliar applications.² Picloram has been used on frilled tree bases.³ Herbicide applications in riparian areas require certified applicators and must meet provincial Codes of Practice. Consult your local Ministry of Agriculture representative for more information.

Biological: The tamarisk leaf beetle (*Diorhabda elongata*) is a defoliator which has been released in the U.S. since 2001 and is beginning to have a substantial impact.⁴ Currently there is no biological control being implemented in Canada.

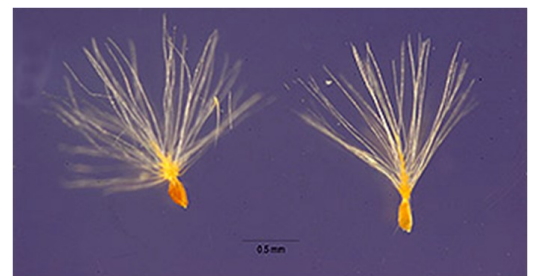


Photo by:
Richard Old
www.xidservices.com



Photos (clockwise from top left)

1. Saltcedar flower clusters
(photo by Richard Old, www.xidservices.com)
2. Saltcedar planted in a Saskatoon yard
(photo by Debbie Nordstrom)
3. Saltcedar leaves
(photo by Steve Dewey, Utah State University)
4. Saltcedar seeds, scale bar is 0.5 mm
(photo by Jose Hernandez, USDA-NRCS PLANTS data base)
5. Saltcedar seedling
(photo by Joseph DiTomaso, UC Davis)



1 Ecology of *Tamarix ramosissima*. 2007. Global Invasive Species Database. <http://www.issg.org/database/welcome/>

2 McClay, A. 2007. Risk assessment fact sheet for saltcedar, *Tamarix ramosissima*.

3 Carpenter, A. 1998. Element Stewardship Abstract for *Tamarix ramosissima* Ledebour, *Tamarix pentandra* Pallas, *Tamarix chinensis* Loureiro, *Tamarix parviflora* De Candolle, Saltcedar, Salt cedar, Tamarisk.

4 Tamarisk Coalition <http://www.tamariskcoalition.org/tamariskcoalition/Index.html>

5 Always follow the product labels. Pesticides should only be applied by certified pesticide applicators. The use of pesticides in any manner not published on the label or registered under the *Minor Use of Pesticides* regulation constitutes an offence under both the *Federal Pest Control Products Act* and provincial acts in Saskatchewan. For the latest information on pesticides for agricultural use in Saskatchewan, please consult the provincial *Guide To*