

## *Alien Invasive Aquatic and Wetland Plants*



### **Narrow-leaved and Hybrid Cattail Invasive Plants Found in Manitoba**

*Throughout North America, cattails are, more often than not, the undisputed rulers of the freshwater marsh (Mitch 2000).*

The name *Typhus* is from the Greek *typhe* meaning a cat's tail, smoke or a cloud referring to the plants appearance when seeds are released. The name *latifolia* refers to the leaf width of the plant *lati* for broad and *folia* for leaf (Mitch 2000). Narrow-leaved cattail or *Typha angustifolia*, and the hybrid *T. X glauca* are recognized as an invasive plants of wetlands and aquatic environments in North America.

### **BIOLOGY**

Cattails are perennial aquatic plants that can grow up to 3 meters generally found in wetlands, sedge meadows, streams, river banks, ditches, and lake shores (Motivans and Apfelbaum, 1987). Plants can grow on a wide variety of substrate types including wet pure sand, peat, clay and loamy soils (Motivans and Apfelbaum 1987). *Typha* species can commonly be found growing with other invasive plants including purple loosestrife and *Phragmites*.

Motivans and Apfelbaum (1987) described the cattail genus (*Typha* spp.) as follows. *Typha* is an erect freshwater aquatic herb which can grow 3 or more meters in height. A subterranean stem arises from thick creeping rhizomes. There are three species and several hybrids in North America. *Typha latifolia* has 6-23 mm wide leaves that are flat, sheathing and pale grayish-green in color. In *T. latifolia* (broad-leaved cattail) the staminate and pistillate heads are continuous or nearly so, whereas in *T. angustifolia* (narrow-leaved cattail) the heads are separated by approximately 3 cm. This spike gap distance is a diagnostic trait (Selbo and Snow 2004). *Typha angustifolia* fruits are about 5-8 mm long with hairs arising above the middle where *T. latifolia* fruits are about 1 cm long with hairs arising near the base. Flowering generally occurs in late May to July. Inflorescences are wind pollinated and can form as many as 280 to 420 million pollen grains per flower producing as many as 200,000 seeds (Mitch 2000). In some cases seed

germination may be 100% (Motivans and Apfelbaum 1987). A perennial root stock is the major source of reproduction. Species are clonal, self-compatible, and wind pollinated. Reproductive shoots are monocious, producing female and male flowers (Smith, 2000).

*Typha angustifolia* is considered an invasive species due to its rapid spreading range and ability to form monospecific stands that replace native plants (Selbo and Snow 2004). Narrow-leaved cattail is believed to have been introduced into North America from dry ballast of European ships (Mitch 2000). *Typha latifolia* is a native species common in wetlands through most of the United States where *T. angustifolia* is thought to have been introduced from Europe and occurs in the northeastern range of *T. latifolia* (Selbo and Snow, 2004). The non-native cattail *T. angustifolia* was found to colonize eight times more area than *T. latifolia* and was 15 times more abundant in a 6-year wetland study demonstrating its invasive nature (Selbo and Snow 2004).

The hybrid, *Typha x glauca*, is commonly found in regions where both *T. latifolia* and *T. angustifolia* occur and may invade new areas not previously inhabited by the parent species (Selbo and Snow 2004). The hybrid is thought to be sterile (not likely to produce seed) however form large stands by means of vegetative reproduction. The hybrid species may further threaten biodiversity through its potential to be more invasive than either of its parents or by swamping out native genotype. The hybrid may invade areas not previously invaded by the parent species including eutrophic and disturbed habitats with unstable water (Smith, 2000).

### The following table will aid in identification of species

(Source: [http://el.erdc.usace.army.mil/aqua/apis/plants/html/typha\\_sp.html](http://el.erdc.usace.army.mil/aqua/apis/plants/html/typha_sp.html))

	<i>latifolia</i>	<i>angustifolia</i>	<i>x glauca</i>	<i>domingensis</i>
<b>Appearance</b>	Coarse & stout	Slender	Either	Slender
<b>Leaves</b>				
x-section	flat	convex on back	convex on back	convex on back
width in mm	8-15	ca. 5	6-12	6-12
sheaths	tapering	auriculate	auriculate	tapering
<b>Length between female &amp; male spikes</b>	none	0.5-12 cm	0-4 cm	0.7-4.5 cm
<b>Pith color at base</b>	white	white	yellow-buff	white
<b>Female flwr. bracts</b>	none	dark brown blunt	none rarely as <i>ang.</i> & <i>dom.</i>	light brown ovate & apiculate

## ECOLOGICAL DAMAGE

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Plants are capable of growing in dense monocultures especially in disturbed habitats where populations respond by spreading vegetatively at rapid rates (Motivans and Apfelbaum 1987). Dominance within a community is maintained with the formation of dense rhizome mats and litter (Motivans and Apfelbaum 1987). Ecological impacts include closing of open water areas, eliminating habitat and species diversity, and reducing and replacing native plants. It can dominate shorelines and wetlands and replace native plants important for waterfowl and wildlife.

*Typha* stands increase silting, obstruct travel, hinder fishing and recreational activities, offer breeding grounds for mosquitoes, and increase water loss in fields and reservoirs (Holm et al. 1997).

## ECONOMIC IMPACT

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No studies were found indicating economic impacts of cattail.

## GEOGRAPHIC DISTRIBUTION

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*Typha* has a cosmopolitan distribution. *Typha latifolia* is found throughout North America from sea level to 2134 M elevation while *T. angustifolia* is found in the eastern and northern United States (Motivans and Apfelbaum 1987). *Typha latifolia* is considered an invasive species. Plants are found widespread in the continental United States, Canada and Mexico with scattered populations in central Alaska (Mitch 2000).

## MANAGEMENT

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Motivans and Apfelbaum (1987) summarized cattail management strategies. These have included water level modifications, chemical control, physical control (hand or mechanical cutting), prescribed burning, shading (using black polyethylene tarps). Chemical control may not be an option in sensitive wetland and aquatic habitats. Manipulation of water levels attempt to kill cattails by inhibiting airflow from the shoots to the roots. Wick and foliar applications of systemic herbicides followed by clipping and removal of stems has been successful (Mitch 2000).

## BIOLOGICAL CONTROL

Currently there are no biological control methods or programs aimed at controlling cattails.

## SPECIES INFORMATION LINKS

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Holm, L., Doll, J., Holm, E., Pancho, J., and J. Hergerger. 1997. World Weeds: Natural Histories and Distribution. New York: John Wiley. 1,129 pp.

Mitch, L.M. 2000. Common Cattail, *Typha latifolia* L. Weed Technology 14:446-450.

Motivans, K. and S. Apfelbaum. 1987. Element Stewardship Abstract for *Typha* spp. – North American Cattails. The Nature Conservancy. 16 pages.

Selbo, S.M and A.A. Snow. 2004. The potential for hybridization between *Typha angustifolia* and *Typha latifolia* in a constructed wetland. Aquatic Botany 78:361-369.

Smith, S.G. 2000. Thyphaceae. Flora of North America, Vol 22. Oxford, New York.

## PICTURE GALLERIES

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**Organization: Aquatic, Wetland and Invasive Plant Particulars and Photographs**

**Link: <http://aquat1.ifas.ufl.edu/typha.html>**

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