

***Typha latifolia* L.**

Halkomelem (Island): stʔ'áʔqən

Halkomelem (Upriver): stthéeqəl

Ucwalmícwts (Lílwat): q'am'q^w-az' (fruiting plants); k^wut-áltəx^w (leafy, vegetative plants); tʔ'úʔl'ax^w (edible rhizome)

English name: common cattail

Family: Typhaceae (Cat-tail family)

Identifying Characteristics:

Typha latifolia is an emergent wetland herbaceous perennial that reaches 1-3m tall and grows from coarse rhizomes (Figure 1). They grow prolifically from thick underground rhizomes, forming dense rhizome mats and leaf litter that can outcompete other wetland species attempting to establish or survive. Flat sword-shaped greyish-green leaves are sheathed alternately along the sides of a slender cylindrical spike and are about 1-2cm wide.



Figure 1. *T. latifolia* on a freshwater shoreline.

Male (staminate) and female (pistillate) flowers are green then brownish and tightly packed at the top of the spikes (Figure 2); males at the top and slightly wider, females just below, 12 – 30 mm wide (Douglas et al, 2001). The female flowers produce long hairs that easily catch and hold the copiously amounts of pollen produced for wind-distribution. After pollination, the staminate portion at the top of the spike disintegrates, leaving behind the “cattail” that gives the plant its common name.

In early fall, 1mm long fruits (dry nutlet with copious seeds) are closely packed on the spikes and are easily dispersed (Figure 4) by wind and water (Douglas et al, 2001).



Figure 2. *T. latifolia* flowers.

Distribution:

T. latifolia is a cosmopolitan species, distributed across temperate regions of the northern hemisphere, from the Arctic to around 30°S, including the Middle East, and at higher altitudes in Japan and North Africa (Figure 3).

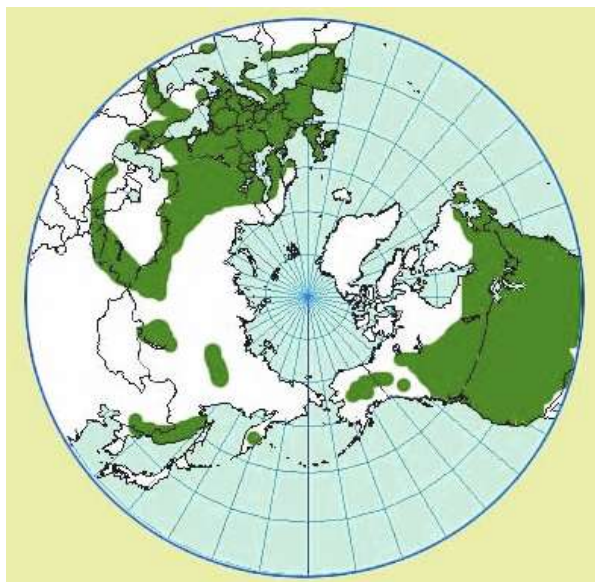


Figure 3. Global distribution of *T. latifolia*

T. latifolia is found in every province and territory in Canada. This hardy plant has a broad amplitude for different climates, which has allowed it to naturalize and become weedy or invasive in southern latitudes including Australia, Indonesia, Malaysia, New Zealand, Papua New Guinea,

and Philippines (GSID, 2019). In BC and elsewhere, where ranges overlap, *T. latifolia* hybridizes naturally with the narrow-leaved cattail (*T. angustifolia* L.) to form blue cattail (*Typha* × *glauca* Godr.). In BC, the Conservation Data Centre considers *T. x glauca* an exotic introduced species (BCCDC, 1987). *T. x glauca* is generally restricted to unstable environments, often with basic, calcareous, or somewhat salty soils (BCCDC, 1987).

Habitat:

T. latifolia can be found in or adjacent to any riparian ecosystem including but not limited to ponds, marshes, freshwater shorelines, and wet ditches. Cattails can thrive on sites with fluctuating water levels ranging from fully flooded (hydric) to dry mesic soils in summer droughts. They will tolerate mild salinity and some acidity as well. Cattails are early colonizers that can form dense and exclusionary monocultures after a wetland has been disturbed (Stevens and Hoag, 2006). Cattails thrive on a wide gradient of substrate types including wet sand, peat, clay, and loamy soils (BCCDC, 1987).

Typical plant species associated with *T. latifolia* including common reed (*Phragmites australis*), cordgrasses (*Spartina* spp.), tule (*Scirpus acutus*) and other spikerushes (*Scirpus* spp.), and wapato (*Sagittaria latifolia*).

Reproduction and Propagation:

Cattail biomass productivity has been researched extensively (Campbell et al, 2000). Emerging from winter dormancy, net annual production (estimated as the maximum standing crop (shoot biomass) values for a typical site are generally between 1000 and 1700 g/m dry weight, which exceeds the average standing crop yields for food crops such as maize and sorghum (BCCDC, 1987).

Cattail seeds are exceptionally well adapted to wind and water dispersal due to the slender hairs at the base of the seed (Figure 4). Each inflorescence can have anywhere from 20,000-700,000 seeds that germinate quickly once they fall. The estimated distance travelled by wind is 3600 m (Clements, 2010).

Cattails are notorious for forming clonal colonies by spreading widely from underground rhizomes (Gucker, 2008). This also means that some dense clusters of cattails in a given area will be genetically identical and the rapid spread of rhizomes will impede establishment of other less-competitive species of plants.



Figure 4. Dispersing cattail seeds.

Cultivation:

Where there is standing water, plant divided rhizomes into the muddy substrate where they will quickly establish and reproduce vegetatively and sexually. Seeds can be harvested when ripe and

sown into pots of muddy substrate sitting in water; as the plants get larger, increase the amount of water that the pot is standing in until the plant is inundated. Alternatively, sow seeds in a domed tray and mist periodically. Plants can be planted out when they are 10-30cm tall.

Interactions and Human Interest:

The tolerance of *T. latifolia* to high concentrations of lead, zinc, copper, and nickel has been studied extensively (Taylor and Crowder 1984; Anning and Akoto, 2018). This species has also been used as a plant in constructed wetlands for secondary waste water treatment (Amarakoon et al, 2018). At KPU Langley, a constructed *Typha* wetland designed by Cornelia Hahn Oberlander is used to collect stormwater runoff from roads and paved surfaces for cleansing prior to discharge into Logan Creek.

Cattails are one of the most versatile plant species on the planet. Every part of the plant can be used, from making paper and shelter, to food. Cattails have been used as a food source of Indigenous peoples all around the world. The cattails can be consumed year-round: young shoots and pollen in the spring, boiled immature flowers in the summer, and the rhizomes can be consumed in the fall/ winter months.

To store for the winter, greens were placed in containers with edible oil and berries and stored underground or in root cellars. The fibers of the pithy stalk are harvested both for food and to make cordage, baskets, paper, or other woven materials.

The pollen of the flowers was used to line shoes or fill pillows and blankets to make them softer and more comfortable. Over-exposure to the cattail pollen may cause some skin irritation so there is usually a heavy material covering any cattail comfort.

Cattail stalks and leaves also make useful building supplies in emergency situations. Fibers can be used for roofing or insulating a shelter, making ropes, belts, or straps. Dried leaves can be woven into chair seats and matting. Dry fibers can also be burned as biofuel. and dry flower stalks as fire starters.

Ethnobotany:

As noted above, cattails are globally an incredibly versatile plant, with many uses recorded among the First Nations of BC and throughout Turtle Island (Moerman, 2010; Turner, 2014). One of the most popular uses of the cattail was to harvest the leaves to make woven mats. For example, flat cattail leaves were sun-dried, split, and made into cordage to make baskets (Turner and Bell, 1971). The mats were used for clothing such as capes and skirts, to insulate dwellings, as protection from rain, curtains, door coverings, flooring, knee pads, canoe seats, and sun shades, bags and baskets (Turner et al 1980; Gordon, 1995). The absorbent seed fluff was used for diapers, to cover wounds and as a firestarter (Turner et al, 1980; Turner, 2014).

As a foodstuff, roots were pit cooked, young, fruiting heads were boiled or roasted (Turner et al, 1980), and green shoots with the highest nutritional values, were cooked in various ways (Kuhnlein and Turner, 1991). A paste made from the roots of cattails can be used to treat burns, bites, scrapes, and cuts (Kuhnlein and Turner, 1991).

Harvesting:

In the spring, young shoots can be harvested before the flower forms and peeled back to uncover the “heart”, which can be eaten raw or cooked (Figure 5). Immature “green” flowers are high in protein and can be harvested in the summer, but they need to be boiled or steamed (Kuhnlein and Turner, 1991).

Recipe:

Cattail Wild Rice Soup (adapted from Davis, 2017)

NOTE: Only harvest *Typha* shoots from uncontaminated wetlands.

Ingredients:

250 ml dry wild rice (4 cups cooked)
2 tablespoons sesame oil
125 ml chopped green onion
500 ml cattail shoots, sliced (about 30 cattails)
2 carrots, peeled and chopped
2 potatoes peeled and chopped
2 celery stalks chopped
salt and pepper to taste
1 litre water



Figure 5. Chopped cattail stems.

Directions:

Cook the wild rice until tender. In a heavy-bottomed soup pot, sauté the onion, celery, and cattail shoots in sesame oil until tender and translucent. Add carrots, potatoes, and water and cook until soft. Then add cooked wild rice and seasonings and simmer to heat rice, about 15–20 minutes. Serves 2 to 5 depending on how hungry you are.

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Images:

Figure 1. Hansen, W. (2012). *Typha latifolia* (Cattail, Reed Mace, Bull Rush, Black Paddy). *Hansen's Northwest Native Plant Database*. Retrieved from http://www.nwplants.com/business/catalog/typ_lat.html

Figure 2. Guinther, E. (2004). Flowering stalk of *Typha latifolia* (Typhaceae) showing separation of male (staminate) and female (pistillate) flower spikes. Retrieved from https://commons.wikimedia.org/wiki/File:Typha_flwrs.jpg

Figure 3. Adapted from Central Yukon Species Inventory Project (CYSIP), https://www.flora.dempstercountry.org/0.Site.Folder/Species.Program/Species.php?species_id=Typha.lati

Figure 4. Ziarnek, K. (2008). Dispersing cattail seeds. *Typha latifolia* in Krajnik in Oder river valley, NW Poland. Retrieved from https://commons.wikimedia.org/w/index.php?title=Category:Typha_latifolia&filefrom=Typha+latifolia+kz01.jpg#/media/File:Typha_latifolia_kz02.jpg

Figure 5. Panak (2007). *Typha latifolia*, section. Retrieved from https://commons.wikimedia.org/w/index.php?title=Category:Typha_latifolia&filefrom=Typha+latifolia+kz01.jpg#/media/File:Typha_latifolia_section.jpg