NARROW-LEAVED CATTAIL
(*Typha angustifolia*)

Description: Narrow-leaved cattail is a member of the Typhaceae or cattail family. Narrow-leaved cattail is an erect, rhizomatous perennial aquatic herb that can range in height from 3 to 10 feet. Leaves of the plant are long, linear, parallel-veined, strongly planoconvex, 1/8 to 1/3 of an inch wide, and deep green in color. Leaves originate from the base of the simple, slender stem and spread outward as they rise into the air. The flower head of the plant is a compact terminal spike that is shaped like an elongated cylinder. The flower spike is divided into pistillate flowers that form the conspicuous brown club located below the yellow spire of staminate flowers. The pistillate and staminate flowers are separated by a gap of 1 to 4 inches. Seeds of the plant are very small.

Narrow-leaved cattail

Distribution and Habitat: Narrow-leaved cattail is native to Europe and is now widely distributed in the eastern and northern United States. The plant can be found on wet or saturated soils growing within aquatic sediments in wet meadows, marshes, lakeshores, bogs, river banks, and along slow moving streams. Narrow-leaved cattail can tolerate saline and/or alkaline environments. The plant occurs in early to mid-successional communities and may be common or dormant in brackish estuarine marshes.

Life History/Ecology: Narrow-leaved cattail is a rhizomatous perennial aquatic herb that can reproduce vegetatively and through seed production. Seeds can germinate when shed but there must be favorable environmental conditions. In favorable environmental conditions, seedlings may germinate from April to September. Leaves and new rhizomes are formed early in the spring. Narrow-leaved cattail generally flowers from early to mid-summer. Aerial shoot growth can continue into November or until the first freeze when plants go dormant. A single inflorescence can produce 20,000 to 700,000 small single-seeded fruits.

History of Introduction: Narrow-leaved cattail is native to Europe and was introduced to the Atlantic seaboard from the dry ballast of European ships in the 1800s. The plant migrated westward into the Great Lakes region during the late 19th century along canals, railroad swales, and roadside ditches. In the early- to mid-1900s, migration continued into areas west of the Great Lakes region and expanded into the Great Plains region. In North Dakota, narrow-leaved cattail is widely scattered throughout the state and has been reported in more than thirty counties including McKenzie, Billings, Slope, Bowman, Stark, Grant, Mercer, Mountrail, Ward, McHenry, Rolette, Cavalier, Pembina, Walsh, Grand Forks,

Benson, Eddy, Griggs, Steele, Trail, Cass, Barnes, Ransom, Richland, Sargent, Dickey, McIntosh, Emmons, Burleigh, Kidder, and Stutsman.

Effects of Invasion: Narrow-leaved cattail is an aggressive species that can occur in a variety of natural communities throughout North America. The plant forms extensive monocultures very rapidly through vegetative reproduction, thus displacing desirable native plant communities. Narrow-leaved cattail can become a problem in irrigated agricultural lands and managed aquatic systems. The plant invades farm ponds, irrigation canals, and drainage ditches which can result in impeded water flow and increased siltation.

Control:
Management objectives for narrow-leaved cattail control should involve prevention and controlling the spread of the plants in natural communities. Eliminating or reducing seed production and vegetative spread of established populations is also important. Narrow-leaved cattail is a prolific seed producer; therefore, infestations should be monitored for several consecutive growing seasons to prevent germination of new plants. Control methods should be combined into an integrated management system for the best long-term control of the plant. Management techniques selected should be site specific, determined by land use objectives, extent of narrow-leaved cattail infestations, desired plant community, and effectiveness and limitations of available control measures.

Mechanical – Hand pulling or mechanical cutting may be effective for narrow-leaved cattail control if followed by submergence. In Iowa, cattails that were cut and flooded with at least 3 inches of standing water over plant stems were effectively controlled. Cattails that were cut in May were actually stimulated and increased 25 percent in stem counts the following year, but eventually the invasion declined back to pre-cut levels. Cattails cut in August were controlled up to 80 percent when followed by submergence and cattail stems or fragments that were cut were removed. In Montana and Utah, cattail shoots that were cut below the surface of the water prior to flower production were reduced in population by 95 to 99 percent when repeated two to three times during one growing season. Cutting cattails later than the flowering growth stage may only effectively prevent regrowth for that particular growing season. Disking or cutting the plant in the dormant state can be an effective control measure. Disking can damage the rhizomes of the plant and delay the formation of shoots. This management technique is typically more effective when combined with water-level control and seed establishment prevention. Cattail survival may also be decreased when disking is combined with continued drying and freezing in the fall for two to three consecutive years. However, disking may seriously disturb the site and other desirable native species. Crushing cattails combined with reflooding can also be effective in controlling populations if conducted after June. In one study, cattails that were crushed and flooded in the spring or early summer needed to be crushed again in the fall to control new seedlings. Bulldozers and cookie cutters can be used to effectively control cattails, although these methods are typically expensive and can alter wetland basin morphology.

Burning can reduce stem density and kill top growth of cattails. However, the plant can resprout following a prescribed burn. Prescribed burns should be conducted in the winter or before significant growth has occurred in the spring so fuels are dry enough to carry the fire. However, burns may be slowed by frozen or saturated soils at this time. Prescribed burns can more effectively control cattail populations when combined with higher water depth or reflooding in the spring to smother residual shoots. Further research is needed to determine the effects of prescribed burns for cattail control. Manipulating water levels alone may reduce cattail infestations as well. In one study in Wisconsin, deep flooding to a depth of 16 inches, reduced established cattails after a two year period. In another Wisconsin deep water study the results were somewhat contradictory from the previous study. The

results indicated that deep flooding caused cattails to become the dominant emergent plant initially before becoming stressed and reduced in numbers a few years later. Draining a wetland or maintaining low water conditions may not be recommended because the effects may significantly alter the overall plant community of an area.

Chemical – The most effective herbicides are those that can be readily translocated to the rhizomes of the plant. Glyphosate, or Rodeo, applied in mid- to late-summer can effectively reduce narrow-leaved cattail infestations.

Contact your local county extension agent for recommended use rates, locations, and timing.

Biological – No biological control agents are currently available for control of narrow-leaved cattail. Cows, muskrats, and geese will graze on the plant and may be an effective control measure for cattails. Grazing may be more effective when implemented during the three-week window when flower spikes are emerging. Grazing seedlings or young cattails without extensive rhizomes can also reduce densities or eliminate cattail stands.

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Narrow-leaved cattail photograph courtesy of Janet Novak, Connecticut Botanical Society.