Written Findings of the Washington State Noxious Weed Control Board
Yellow flag (*Iris pseudacorus* L.)

Family: Iridaceae

Description and Variation: When flowering, yellow flag is unmistakable with its showy yellow flowers colorfully displayed along the edge of water and in wetlands. In Washington, the flowers occur in late spring or early summer. Several flowers can occur on each stem, along with one or two leafy bracts. Each flower resembles a common garden iris with 3 large (3 to 8 cm) downward facing yellow sepals and three smaller upward pointing petals. The sepals are often streaked with brown to purple lines. The plant, including flower stalk, is up to 1.5 m tall. The leaves are mostly basal and are folded and clasp the stem at the base in a fan-like fashion. They stand erect or bent at the top, with shorter leaves toward the outside of the plant. Yellow flag iris is perennial, and will remain green during winter where the weather is mild. It has stout rhizomes 1 to 4 cm in diameter and roots to 30 cm long. The fruits are a large capsule to 8 cm long. It is 3-angled, glossy green and contains many flattened brown seeds. The seeds are corky and about 7 mm across. The plants spread rhizomatously and grow tightly bunched together. This is the only yellow iris found in Washington's wet areas, but when not flowering it may be confused with cattail (Typha latifolia) or broad-fruited bur-reed (Sparganium eurycarpum). Look for the fruits in the summer, or the fan-shaped plant-base at other times of year.

There is little variation in the appearance of yellow flag, aside from flowers which may range from cream to bright yellow. Some horticultural varieties have been developed with variegated leaf color.

Economic Importance: Yellow flag is a popular ornamental plant for wet areas or well-mulched soil. It is widely sold in nurseries and on the internet. It has often been planted in wastewater or stormwater treatment ponds.

Yellow flag has been used medicinally. The roots have been used for several ailments, but all parts of the plant can also causes vomiting and diarrhea. Flowers have been used to make a yellow dye, and the roots a black or brown dye.

It will sicken livestock if ingested, and is generally avoided by herbivores (although muskrats will eat the rhizomes). Contact with the resins can cause skin irritation in humans.

Yellow flag is listed on invasive species lists in Vermont, Virginia, Connecticut, and Massachusetts. It is also considered invasive in New Zealand and Australia. The Pacific Northwest Exotic Pest Plant Council lists it as 'A-2 Most Invasive-Regional' (highly to moderately invasive but still with a potential to spread).

Geographic Distribution: Yellow flag is native to Europe, Great Britain, North Africa and the Mediterranean region. It has been introduced in temperate areas nearly world wide and occurs throughout the United States except in the Rocky Mountains. It is found in wet areas throughout Washington, though it appears to be most common near developed areas.

Wetland in Western Washington *(by Eric Stockdale)*

Habitat: Yellow flag grows in temperate wetlands (to 68° N in Scandinavia). It is found on both sides of the Cascades in wetlands and along the margins of lakes and slow-moving rivers. It will grow in water to .25 meters deep, though is most common in very shallow water or mud. It will tolerate drying and anoxic sediment and is also tolerant of at least some salinity, as it is found in brackish marshes in its native range. It is also tolerant of high soil acidity, occurring from pH 3.6 to 7.7. It does well in nutrient rich conditions, and has a high nitrogen requirement. It prefers part shade or full sun exposure.

History: Yellow flag is native to Europe, the British Isles, North Africa and the Mediterranean. It is a very popular garden plant for wet or very well mulched soil, and has been introduced as an ornamental throughout the world. It was first collected in North America in 1911 in Newfoundland, and was established in British Columbia by 1931. The earliest collection in Washington is from Lake McMurray in Skagit County in 1948. It has also been used to control erosion, and is known to take up metals and nutrients in waste water treatment facilities.

Growth and Development: Yellow flag dies back in harsh winter conditions, but the rhizomes will overwinter. In spring the long leaves and flower stalks regrow from the rhizomes and flower by late spring or early summer. The rhizomes spread to form dense stands that exclude

native wetland species, including typically aggressive species such as *Typha latifolia* (common cattail).

Reproduction: Yellow flag spreads by rhizomes and seeds. Up to several hundred flowering plants may be connected rhizomatously. Rhizome fragments can form new plants if they break off and drift to suitable habitat. The flowers are pollinated by humble-bees and long-tongued flies.

Seed germination is not light dependent, needs temperatures above 15° C and is most successful at temperatures of 20° to 30° C. Germination is increased by scarification. Submersed seeds will not germinate.

Response to Herbicides: resistant to terbutryne. Cutting followed by treatment with glyphosate using a dripless wick has been suggested.

Response to Cultural Methods: Seeds germinate and grow well after being burned in late summer. Also readily resprouts from rhizomes after burning.

Response to Mechanical Methods: If pulling or digging yellow flag care should be used to protect the skin as resins in the leaves and rhizomes can cause irritation. Because rhizome fragments can grow to form new plants, care must be taken to collect all fragments.

Biocontrol Potentials: No biological control work has been done for yellow flag iris.

References

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Guard, B.J. 1995. Wetland Plants of Oregon and Washington. Lone Pine Publishing, Redmond, WA. 239 pp.

Websites:
Good factsheet on the University of Florida Center for Aquatic and Invasive Plants (with many additional listed references): http://plants.ifas.ufl.edu/seagrant/iripse2.html

GardenBed.com (http://plants.gardenbed.com/35/3405_med.asp)

USGS http://nas.er.usgs.gov/plants/docs/ir_pseud.htm