

ZIZANIA AQUATICA L.
Wild Rice

FAMILY: Gramineae (Poaceae).

SYNONYM: *Zizania palustris* L.

HABIT: Herbaceous annual, 2-3 m.; flowering July-September; fruiting August-October.

SIMILAR SPECIES: This grass has a terminal panicle with the staminate spikelets grouped above the pistillate ones. This arrangement is unique in native Ohio grasses and makes this plant distinctive on close inspection. Its light green color gives it a slight contrast to the other shallow-water vegetation, but it would be easy to overlook, particularly when not in bloom.

TOTAL RANGE: E. Que. and N.S. to Man., s. to FL and LA.

STATE RANGE: There are post-1960 records from Ottawa, Pickaway, Summit, and Tuscarawas counties. There are pre-1960 records from Ashtabula, Erie, Greene, Hocking, Lake, Licking, Lorain, Lucas, Montgomery, Perry, and Stark counties. In addition, Braun (1967) lists a Clark County record.

HABITAT: Wild rice grows best in full sun, in water no more than two feet deep. It cannot tolerate rapid changes in water level, but after it becomes established it will grow in mud later in the year. There must be a rather constant movement of the water in the spring and fall. This movement produces periodic erosion and redeposition of the soil and reduces competition from other aquatic plants. Wild rice rapidly disappears from stabilized areas through succession. It grows in a variety of substrates from fine mud to gravel, and even among boulders. In order to germinate, the seeds must remain in water over winter.

Likely sites for such conditions in Ohio are along streams and in estuaries along Lake Erie. Some of the reports are from old canal beds, but it is doubtful that these adventive populations are persistent.

HAZARDS: Water level and water movement are very important for this plant's survival. It will disappear in areas that are drained and also in areas with reduced water flow, such as dammed up sites. Powerboats can dislodge these loosely-rooted plants.

A variety of natural predators are known for wild rice. Muskrats eat the young shoots. Carp thrash about in bottom sediments and uproot young plants, and they have been blamed for the decline of large populations in many areas, but their role in decimating large populations is debatable. Two types of caterpillars are known to attack wild rice, one feeding on the seeds and another feeding on the pith inside the culms. Various types of fungi are also known to attack this plant.

RECOVERY POTENTIAL: Presumed good if suitable habitats are available. This species is successfully cultivated in many areas outside of Ohio for human

consumption and for wildlife uses.

INVENTORY GUIDELINES: Collect mature flowering or fruiting material. Spread out a couple of lower panicle branches to reveal the number of spikelets per branch. Collect leaves from the base of the plant as well as those collected near the panicle. Many of Ohio's specimens are incomplete and difficult to identify to variety.

COMMENTS: Wild rice has variously been treated as two species, *Z. aquatica* and *Z. palustris* (see Synonym) each with two varieties (Dore, 1969); or as a single species with four varieties, the treatment followed here. The "species" are distinguished by the texture of the lemmas, and varieties vary in measurements of ligules and leaves, and the number of spikelets on the lowermost panicle branches. The varieties are extremely variable, however, and intergrade in some specimens.

Ohio material has both the thin-textured lemma referable to *Zizania aquatica* L. var. *aquatica* and thick textured lemmas. Varietal distinctions are difficult to determine with the thick textured lemma types due to incomplete specimens. We may have both *Z. aquatica* L. var. *angustifolia* Hitchc., and *Z. aquatica* L. var. *interior* Fassett.

This is an economically important plant and is grown commercially in areas outside Ohio. It formed the staple of many northern Indian tribes and has been extensively planted outside its natural range. For this reason, its natural range is difficult or impossible to determine. Many Ohio specimens were collected in artificial environments, such as canal beds. These populations were certainly not native, and are unlikely to persist.

SELECTED REFERENCES:

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