Whatcom Weeds

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WATER CALTROP & WATER CHESTNUT

Trapa bicornis & *Trapa natans*

THREAT: Water caltrop and water chestnut are closely related aquatic plants native to Asia. Water caltrop, also called ling, horn nut, giant mosaic plant, devil pod and bat nut, is considered by some to be an agriculturally derived variety of water chestnut (not the water chestnut commonly used in cooking). Both plants can be invasive in still or slow moving freshwater; water chestnut has also been found in freshwater areas of estuaries. Water caltrop and water chestnut can form a thick mat of vegetation on the water surface, affecting native plants and wildlife, as well as impacting recreational uses and water quality. Plants can spread both vegetatively and by seed. In some areas of the world, the seeds inside the nut are used for food. Water chestnut has become a problem in the eastern U.S. and Canada. Both water caltrop and water chestnut are on the Washington State quarantine list, making it illegal to buy, sell or transport these plants in this state.

DESCRIPTION: Water caltrop and water chestnut are annual freshwater aquatic plants. Both plants have triangular floating leaves that form a rosette, a foot or more in diameter. The leaf stems have inflated petioles, which keep the plant afloat. Both plants have inconspicuous white flowers and produce a distinctive hard fruit. In water caltrop, the 3 to 4 inch nuts have 2 horns and are sometimes sold as curiosities. The nut of the water chestnut has four ½ inch spiny horns. Water chestnut is a rooted plant with ropy stems that grow up to 16 feet long. It has submerged feathery leaves, as well as the waxy floating leaves. Water chestnut flowers from mid-summer until the plants are killed by the autumn frost. Mature nuts drop to the floor of the water body, and the seeds usually sprout the following spring. Seeds may remain viable for up to 12 years.

MANAGEMENT OPTIONS: As with all aquatic weeds, control of these plants is difficult and eradication may be unrealistic. To prevent the spread of aquatic plants, all plant material should be removed from boating and recreational equipment before moving to another water body. Water chestnut can be controlled using mechanical and chemical means. There has also been some preliminary work done on biological control agents for this plant. Hand pulling may be effective for small populations. Cutting can be used to maintain open waterways, but must be repeated throughout the season. For mechanical control, it is important to remove all plant material from the water, to prevent plant pieces from resprouting. To be effective, control work must be continued, as needed, throughout several growing seasons. There has been little research done on the control of water caltrop, but it is likely to be similar to the control for water chestnut. Contact the weed control board for recommendations.

Water Chestnut
Drawing courtesy: USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. ***Illustrated flora of the northern states and Canada.*** Vol. 2: 612.