COOPERATIVE EXTENSION SERVICE • Maryland Institute for Agriculture & Natural Resources
Maryland Sea Grant Extension Program

## Aquatic Plant Identification and Management Workbook, *Series 2*

*The Aquatic Plant Identification and Management Workbook Series is designed to acquaint pond owners in Maryland with naturally-growing aquatic plants and the general means for managing their growth. Aquatic plants play an important role in the natural ecology of ponds: they provide food and shelter for many fish, aquatic animals and other wildlife, and they provide oxygen, which can benefit fish production.*

*Sometimes, however, growth gets out of hand and the plants become so numerous they interfere with the intended use of the pond, for example, fishing, swimming, boating — they are then called aquatic weeds. When this occurs, control measures often become necessary.*

*The suggested chemical controls in this workbook are intended as guidelines and must not replace directions on chemical labels. A list of fact sheets describing a variety of aquatic plants and their management is available from the Maryland Sea Grant Extension Program or your local Cooperative Extension Office.*

*EMERGENT VEGETATION*

# Alligator-Weed

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*Maryland Sea Grant Extension*

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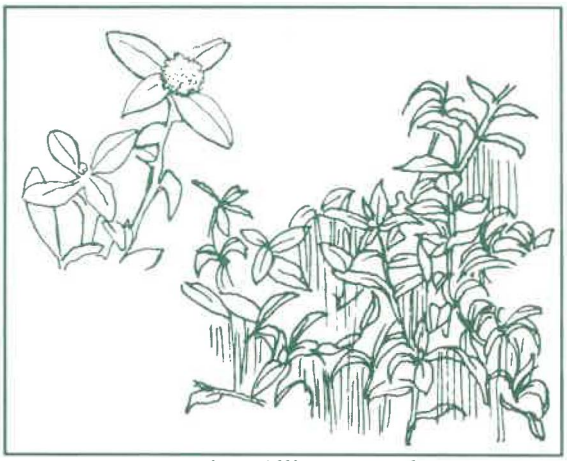
### INTRODUCTION

Vascular flowering aquatic plants are seed-bearing and are characterized by a system of conductive and supportive tissue. They can be classified into several broad categories of vegetation: floating, submersed, emergent and terrestrial. This workbook series focuses on alligator-weed, an emergent plant.



Betty Mack Wilson

*Emergent Vegetation: Alligator-weed*

As a group, emergent plants are usually found rooted in shallow waters and all or part of the plant extends above the water line or hydrated soil. Some plants are not truly aquatic, and may be found in dry fields completely removed from a water source. The plants are usually rooted to the bottom of a pond, have a rigid cell structure, and are not dependent on the water column for support.

### ALLIGATOR-WEED (*Alternanthera philoxeroides*)

Alligator-weed is not native to the United States but was introduced from South America; although not as common to Maryland as waterprimrose (*Jussiaea angustifolia*), it can inhabit different fresh water and brackish water ponds; the plant often grows along the pond bank in water less than three feet. Whether free-floating, loosely attached, rooted emersed, or in a dry field, alligator weed is often found in conjunction with other aquatic species.

Generally found in coastal regions, it grows best in fertile waters, where it can often form dense mats that extend from shore

**CHEMICAL CONTROL.** The following is a table of chemicals labeled to treat alligator - weed. The table was compiled from information gathered from the aquatic chemical industry. Inclusion in the table does not imply endorsement by the University of Maryland nor by the authors. Omission of chemicals is a result of oversight on the authors part or of new label registration. The table is for comparison purposes only and is not intended to replace the chemical label. Do not use the table for treating aquatic plant problems.

**ALLIGATOR WEED**

| Chemical Name | Chemical Type | Application | Restriction | Comments |
|---|---|---|---|---|
| Weed RHAP LV-6D | Isooctyl Ester 2,4-D | 1 2/3-3 pt/acre in 50-100 gal water | do not use water for irrigation or domestic purposes | at temperatures above 95°F, vapors may damage nearby crops |
| Weed RHAP VL-4D | Isooctyl Ester 2,4-D | 2.5-4.5 pt/acre in 50-100 gal water | do not use water for irrigation or domestic purposes | at temperatures above 95°F, vapors may damage nearby crops |

through the long branching stems when the ocean's alligator weed can become a serious problem, impeding boat traffic and water flow.

There has been some success in controlling the plant through biological means, namely with the alligator-weed flea beetle. Other than food for the beetle and infrequent grazing by deer and cattle, alligator-weed has little value for wildlife. The dense mats do provide excellent cover area for snakes, and in areas further south than Maryland, alligators. It also can be important in crawfish culture as a potential forage crop.

## IDENTIFICATION

Alligator-weed is a perennial plant; its hollow stems can be simple or branched. Leaves are glossy, opposite, lance-shaped; they have a distinct midrib, and can be up to four inches long. The leaf axils may possess a few hairs. Flowers are found from May through October on long peduncles in a solitary head up to 1/2 inch in diameter. The flower consists of 6-20 white florets with five stamens on each flowering head. Reproduction appears to be vegetative by buds (called axillary buds) and, rarely, by seeds.

## CONTROL

When chemicals are used to control aquatic vegetation, certain precautions must be followed. Always read the label and follow the directions. It is best to spot treat areas where the alligator-weed is first sighted instead of waiting until it takes over a pond completely. Determine the water uses and any use restrictions associated with the chemical control. Obtain all of the necessary permits. Make sure that you have properly identified the aquatic plant and have chosen the correct chemical control. Mix and apply the chemical according to the label directions. Keep the necessary record — it is required by law. Finally, monitor the water for dissolved oxygen and pH shifts after treatment to determine the effectiveness of the treatment and whether any fish kills occur. Heavy plant die-off can cause oxygen depletion while heavy growth can cause pH shifts on a daily cycle.

## REFERENCES AND FURTHER READING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**NOTE:** Because of the ecological role and sensitivity of aquatic vegetation, as well as Baywide efforts to restore this important resource, the state does not permit the use of chemical control in tidal waters, and greatly restricts their use in nontidal, flowing waters. Acquaint yourself with all regulations governing plant control activities, and obtain all necessary permits. Non-chemical means should be utilized where practicable.

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