



FIGURE 4.4. A large weed patch in a pond.

plant, like cattail, could overwhelm native plants and deprive them of space, nutrients, and light.

### **What Causes Excessive Growth of Some Plants?**

The quantity, types, and species of aquatic plants are controlled by a complex set of factors. By understanding how plants get out of control, you can usually cure a weed problem, not just treat its symptoms. As with farm crops and garden plants, the two main factors controlling pond plant growth are nutrients and light. Nutrients can be dissolved in water or bound to sediments, or they might drain into the pond along groundwater seepage areas. Excessive nutrients encourage more weedy plants, often to nuisance levels. Light penetration through the water is a major factor affecting the depth at which submerged plants can live. The depth of light penetration can be seriously reduced when suspended sediment particles or phytoplankton fill the water. In excess amounts, floating-leaf plants also can totally shade and prevent the growth of submerged plants.

Fish, waterfowl, and other animals eat certain kinds of plants, which controls their number and distribution. Excessive wave action along some shorelines can severely affect the ability of plants to get established and grow. For example, floating duckweed is sensitive to both water and wind motion, which reduce its ability to spread in surface waters.

Aquatic plants have evolved a variety of strategies to ensure their successful transfer from one water body to another. Most aquatic plants will readily re-grow from fragments of leaves or roots. They spread by

seed and through other reproductive structures. Some plants are absent from a pond simply because there has been no opportunity for their seeds or reproductive tissue to get transported there. But given the chance, they will readily colonize and spread from one pond to another.

### **Step-by-Step Approach to Choosing a Pond Weed Strategy**

If you are deciding whether to manage aquatic plants in your pond, it should be a well-considered choice. Consultants, extension agents, environmental protection staff, naturalists, and research-based Internet sources can provide you with professional help and information to make good decisions.

If you remove the pest plant that is currently there, something else will usually grow in its place. Three key steps are needed before choosing the most appropriate pond weed management strategy:

#### **Step 1: Clearly define your overall goals and week-to-week uses of your pond.**

Depending on your goals, different management options are appropriate.

- Do you like to use the pond for fishing and recreation?
- Is your goal to provide access to the pond for boats or swimming in the immediate future?
- Do you need the pond for livestock, irrigation, or collecting runoff?

#### **Step 2: Identify what types and species of plants should be targeted.**

Some plants are problems; others are not. Different management strategies work for different plants. Some exotic weeds have native counterparts that are very similar in appearance. Ask representatives from your soil and water conservation district, the Natural Resource Conservation Service, aquatic plant retailers, or cooperative extension to help you identify your plants. A list of clearly presented, illustrated guides to aquatic plants appears at the end of this chapter.

#### **Step 3: Include key facts when selecting the most appropriate strategy.**

Just as you consider which options best fit your