IN THIS CHAPTER

- Exploring the essentials of beginning sailing
- Dissecting the parts of a sailboat
- Answering basic sailing questions
- Describing where sailing can take you

Chapter 1

Ready, Set, Go: Time to Start Sailing

It is an interesting biological fact that all of us have, in our veins, the exact same percentage of salt in our blood that exists in the ocean, and therefore, we have salt in our blood, in our sweat, in our tears. We are tied to the ocean. And when we go back to the sea, whether it is to sail or to watch it — we are going back from whence we came.

—JOHN F. KENNEDY

Water covers nearly three-quarters of the planet. Over the course of human history, the oceans (as well as lakes and rivers) have served as pathways upon which trade and civilization have developed. Getting away from shore, you feel a link to those ancient mariners who set off over the horizon. When you're flying across the water, you're harnessing the same forces of nature that powered the early explorers.

Why are humans drawn to the sea? President John F. Kennedy had a poetic answer. Generations before you have felt the call of the wind and waves, beckoning to accept their offer of unknown possibilities — adventure and serenity.

Even in today's high-tech, fast-paced world, sailing regularly rates high on pollsters' lists of desirable activities. So if you ever find yourself dreaming of packing it all in and setting sail over the horizon or of simply having your own boat to sail near home on a warm, breezy afternoon, you're not alone. And this chapter shows you that getting out on the water is easier than you think.

What You Need to Start Sailing

Starting sailing is a little different from starting most sports. In basketball, you can start to learn the basic moves, such as dribbling and shooting, without worrying about the "playing field" — the court boundaries or the height of the basket. But the sailor's "playing field" — the wind and the water — is constantly changing. The wind changes strength and direction, while waves and/or current change the water conditions. Sailing is harnessing the power of Mother Nature, and sailors need a healthy respect for her power. So in this section, we cover some important weather and safety considerations you need to know before you start sailing.

Also in this section, we encourage you to begin your sailing career by taking lessons from a qualified instructor — we both did — so you can focus on learning the basic moves while the instructor makes sure that the conditions are suitable for learning.

Taking lessons

You can find sailboats near almost every body of water. And where you find sailboats, you can find sailing schools and/or a sailing club with experienced sailors looking for crew. Most boats longer than 15 feet (5 meters) are meant to be sailed with more than one person, and the average 30-foot (9-meter) sailboat is best sailed with at least four crew members. So go down to the local marina, check out the bulletin board, and ask around. The offers you get to go sailing may pleasantly surprise you.

WARNING

Although having friends to take you sailing can make practicing and progressing easy, we strongly recommend taking lessons from a sailing school with certified instructors before you head out on your own. For a variety of safety reasons, we don't recommend sailing alone while you're learning the basics. In Chapter 2, we help you find the right sailing course for any experience level.

Location, location, location

You can probably guess that the weather and water conditions in a given area affect the sailing possibilities and that most sailors put away their sailing clothes in wintertime in the snowy latitudes, while Southern Californians can sail year-round. But even snow and ice can't stop some die-hard enthusiasts who sail ice boats on frozen northern lakes. Not to be outdone, adventurous sailors in dry desert areas blast around on "land yachts" or "dirt boats" with wheels. Assuming that you plan to go sailing on regular, salt or fresh, nonfrozen water, your main concerns are twofold: the water conditions (waves, currents, depth, and water temperature) and the wind conditions (wind strength and changeability). Some areas have very consistent conditions during a particular season; in others, conditions are more variable. In some places, a typically windy spot and a calm location may be less than a mile apart due to some geographic feature.

REMEMBER

That's why knowing the local conditions can be invaluable to any sailor. We encourage new sailors to start, if possible, in steady light-to-medium winds and protected (calm) waters. A sailing school knows where and when to find those conditions in your area. But as you gain experience, you can enjoy boating in more challenging conditions, such as sailing in windy Chicago or San Francisco in midsummer, cruising in foggy Maine, or blasting down the Molokai Channel in Hawaii.

Feeling the wind

You probably know that a sailboat doesn't move unless it has wind. (Yes, you can start the engine, get a tow, get out a paddle, or swim along pulling your boat — but we're talking about "sailing" by using the power of the sails, right?) The wind rules a sailor's universe; it's the sailor's alpha and omega. To become a sailor, you need to raise your awareness of the weather, starting with the importance of feeling and finding the wind's direction.

Look around for a nearby flag, and use its direction as a clue. In Chapter 5, we show you how to develop your feel for sensing the wind direction and staying aware of any shifts. Knowing the wind's direction is crucial because you get your boat to move by adjusting the angle of the sails relative to the wind's direction. When the wind direction changes or you change course, you need to change your sail *trim*, or the angle of your sails to the wind, as you see in Chapter 5.

WARNING

No matter how constant the weather seems to be on shore, the wind is frequently shifting both speed and direction. Staying aware of these changes is important for your safety and comfort while sailing. Sensing the wind's speed is also important so that you avoid going sailing when the wind is too strong or blustery or getting *becalmed* — unable to sail when the wind dies. Check out the marine forecast

(www.weather.gov) or study the forecast for your area on a marine weather app recommended in Chapter 8 before a day of sailing to avoid getting caught in unpleasant (and potentially dangerous) conditions on the water, such as thunderstorms or thick fog.

Considering safety


REMEMBER

Before going out on the water, you need to consider some safety issues and be prepared with basic safety gear, especially life jackets. In Chapter 3, we give you plenty of tips on what to wear and bring so that you're comfortable and safe on the water. Chapter 7 covers other essential safety information, such as safely recovering a person who falls overboard and getting a capsized dinghy upright and sailing again.

Looking at a Sailboat

Sailboats come in all sizes, shapes, and types. The beauty of sailing is that you can't help but find a boat (or two or three) that's just right for you. All sailing craft, big or small, have at least one (and sometimes more) of the following components, which we outline in the following sections: a hull, an underwater fin for steering control and stability, a mast to hold up the sail (or sails), a sail, and plenty of rope.

All sailboats have a hull

The hull is (ideally) the floating body of a boat and can be made of a wide variety of materials, including wood, fiberglass, metal, plastic, or even cement. The hull can be as small as a surfboard or more than 100 feet (30 meters) long.

You can get a good idea about how fast a boat is by how it looks. Just as you can tell that a sports car will be faster than a golf cart, you can tell that a big, heavy, wide boat with a short mast is a good cruiser but won't break any speed records on the water. Sailboats fall into three basic types based on their hull shape, as Figure 1-1 illustrates.

- **Windsurfers and kiteboards:** These boats are basically surfboards with a sail or kite. They come in many sizes and shapes, depending on their intended use and the skill level of the rider. Windsurfing and kiteboarding are great ways to enjoy the sport with equipment that you can put in or on top of your car. For more on this fun and fast part of the sport, check out Chapter 13.

WHAT FLOATS YOUR BOAT?

Have you ever sat in a boat and wondered how the heck it doesn't sink? Well, you don't have to wonder anymore.

Your boat floats because it's less dense than the water in which it sits. *Density* is expressed as mass per unit volume. The density of fresh water is 62.2 pounds per cubic foot (1 gram per cubic centimeter). Salt water is denser, at 64 pounds per cubic foot, so a given object can float better (or higher) in salt water than in fresh water. In salt water, a boat floats if it's less dense than 64 pounds per cubic foot, including everything on board: mast, sails, and people. If the density of a boat in salt water is 32 pounds per cubic foot (½ gram per cubic centimeter), the boat floats half in and half out of the water.

The weight of a boat is also called its *displacement,* because the boat displaces (pushes aside) a volume of water equal to its weight. An object with very light displacement, such as a surfboard, lies on top of the water like a leaf. A boat with heavy displacement sits lower in the water, displacing more water to stay afloat.

Here's the amazing part: You can build boats of nonbuoyant (denser-than-water) materials, such as steel or concrete, as long as you design them with enough volume that their total density is less than the density of the water. As proof of that principle, consider the fact that an empty aluminum soda can floats, but the same can sinks if you flatten it and decrease its volume. (Don't try this experiment on the water, of course; you'd be littering.)

- **Multihulls:** *Multihulls* are boats with more than one hull (makes sense, doesn't it?). A boat with two hulls is called a *catamaran;* a boat with three hulls is a *trimaran.* Multihulls, especially small, light ones, can be thrilling to sail. With a little wind, one hull lifts out of the water, and you feel like you're flying across the water. (You can find out more about sailing a small catamaran, often referred to as a *cat* [without the fur] in Chapter 11.) Bigger multihulls (more than 30 feet, or 9 meters) can be great cruising boats. Because of their width, they're very stable and have a tremendous amount of space for their length. Multihulls are fast, too, because they're very light and don't have heavy *keels,* or as much surface area underwater, as *monohulls* (boats with one hull) of the same size. Check out "All sailboats have an underwater fin" to find out more about the daggerboards used on most multihulls instead of a keel. Huge multihulls more than 120 feet (37 meters) long compete in races across oceans and hold most of the point-to-point, long-distance sailing speed records, including sailing nonstop around the world in 40 days! (For more on the fast world of offshore racing, see Chapter 14.)

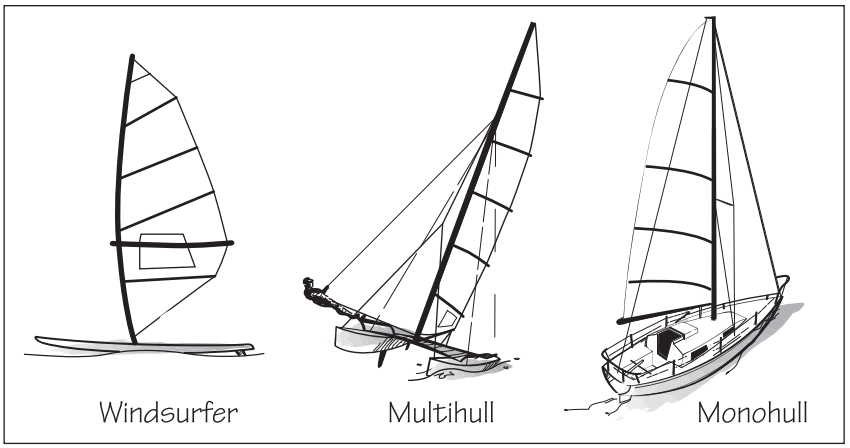

FIGURE 1-1: Three types of sailboats: windsurfer, multihull, and monohull.

» **Monohulls:** These sailboats are the most common type of boat, and they have one hull (still makes sense, right?). Most of the world's sailing and racing takes place in monohulls, broadly classified as either dinghies or keelboats, as the next section explains. Most sailing schools teach their basic sailing classes in monohulls — dinghies or keelboats (although some specialty schools, often in tropical climes, teach windsurfing and kiteboarding too). For more information on learning how to sail, including types of boats and where to find a good school, check out Chapter 2.

All sailboats have an underwater fin

Hanging underneath the back end of most sailboats is a rotating fin called a *rudder.* The rudder does just what you think it does: steers the boat. Underneath the middle of most sailboats is a second, larger, fin called a *keel* or *centerboard*.

Comparing keelboats and dinghies

The primary purpose of both keels and centerboards is to keep the boat from skidding sideways from the force of the wind and to provide lift so that your boat can sail closer to the wind. (When you're sailing, your sails and the underwater fins act like wings.) Although a few exceptions exist, if the fin is fixed (not movable) and made of a heavy material such as lead, it's usually a keel; if the fin is lightweight and retractable, it's usually a centerboard.

Keelboats: *Keelboats* have a *keel,* a fixed, heavy lead fin for ballast hanging under their hull, as Figure 1-2 shows, providing stability against the wind's force. The smallest keelboats are model (sometimes radio-controlled) sailboats, but keelboats that carry human passengers are usually more than 20 feet (6 meters) in length.

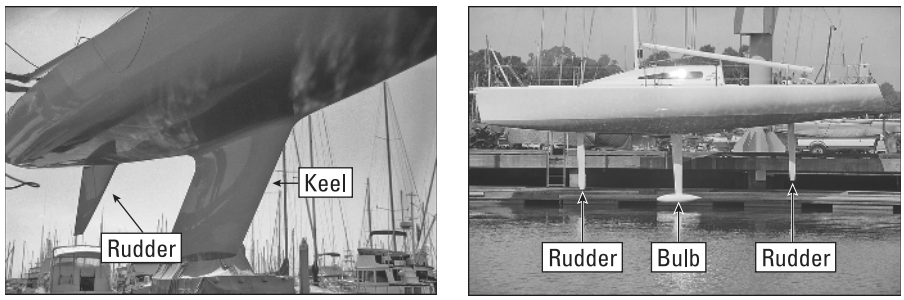

FIGURE 1-2: Keels and rudders come in different shapes and configurations. The photo on the left is common; the right photo has twin rudders and a canting ballast fin and bulb.

Photo courtesy of Sally Samins

Dinghies: *Dinghies* are small, nimble sailboats that are typically more responsive than their ballasted cousins sporting keels. But watch out — dinghies can *capsize,* or tip over. Instead of that ballast weight in the keel, they have a lighter fin called a centerboard that's retractable. The centerboard may also be called a *daggerboard* if it retracts vertically (see Figure 1-3), depending on its position and movement (or a *leeboard* if it's mounted on the side of the boat). Most dinghies range in length from 8 to 20 feet (2.5 to 6 meters).

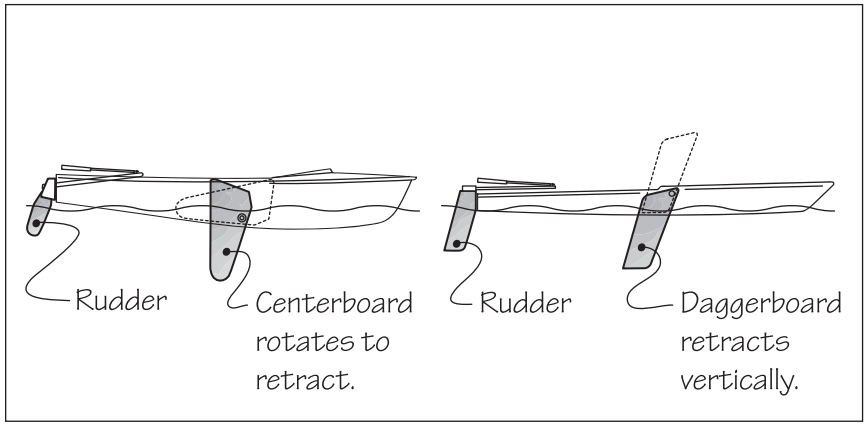

FIGURE 1-3: Two dinghies: (left) with a centerboard and (right) with a daggerboard.

© John Wiley & Sons, Inc.

Comparing tillers and wheels

So how do you drive (or *steer*, in sailor speak)? Well, those rudders shown in Figure 1-2 and Figure 1-3 are connected to either a *tiller*, a long lever arm that allows you to turn the rudder, or a *wheel*, which is attached to cables that turn the rudder. Generally, smaller boats have tillers, and bigger boats have wheels, because bigger boats have greater force on the rudder and would require an enormous lever arm.

A boat with a wheel steers just like your car: Turn left to go left and right to go right. But you push a tiller to the right to turn left and to the left to go to the right. (Check out Chapter 4 for more on steering.) Steering sounds trickier than it really is; a tiller is quite responsive, and you quickly develop a feel for the correct way to turn.

All sailboats have a mast

The *mast* is the vertical pole that supports the sails, as the dinghy in Figure 1-4 shows. Although most modern sailboats have one mast, some sailboats have several masts that can carry many sails. (Remember the pictures of the *Niña*, *Pinta*, and *Santa Maria* in your history textbook?) You may have heard of *square riggers*, *schooners*, or *yawls.* These types of sailing craft are named for the number and position of their masts and the profile of the sails. If you want to know how to identify these cool, vintage sailboats, check out the glossary.

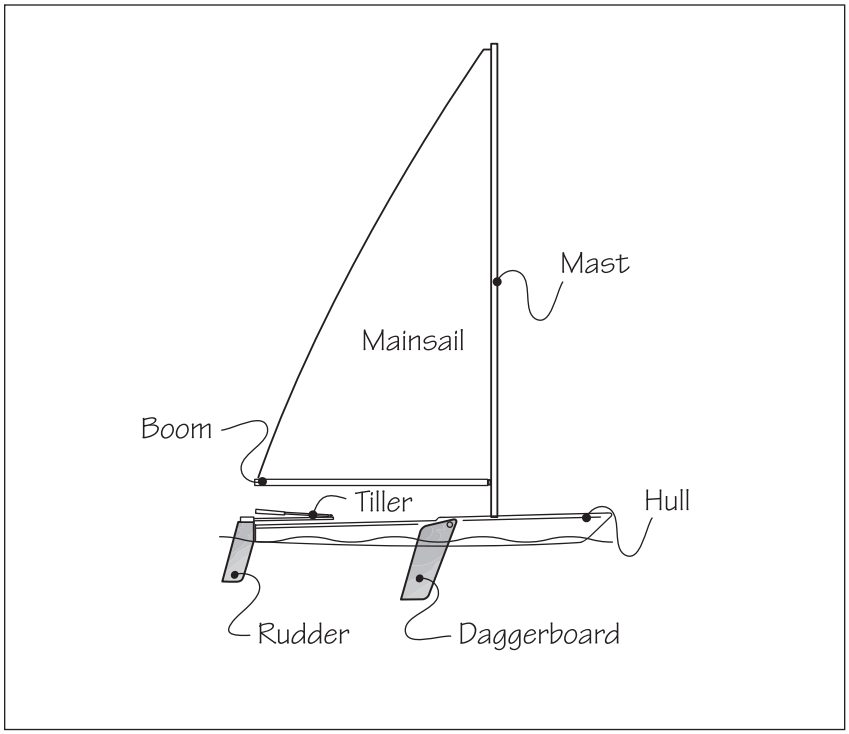

FIGURE 1-4: The basic parts of a dinghy.

Although older boats have wooden masts, most modern boats have masts made of aluminum, which is easier to mass-produce into a lighter and stronger pole. For

the ultimate in strength and light weight, the fastest racing boats use carbon fiber. On bigger boats, an array of wires usually supports the mast. These wires are called the *standing rigging.* See the *forestay*, *backstay*, and *shrouds* on the keelboat in Figure 1-5.

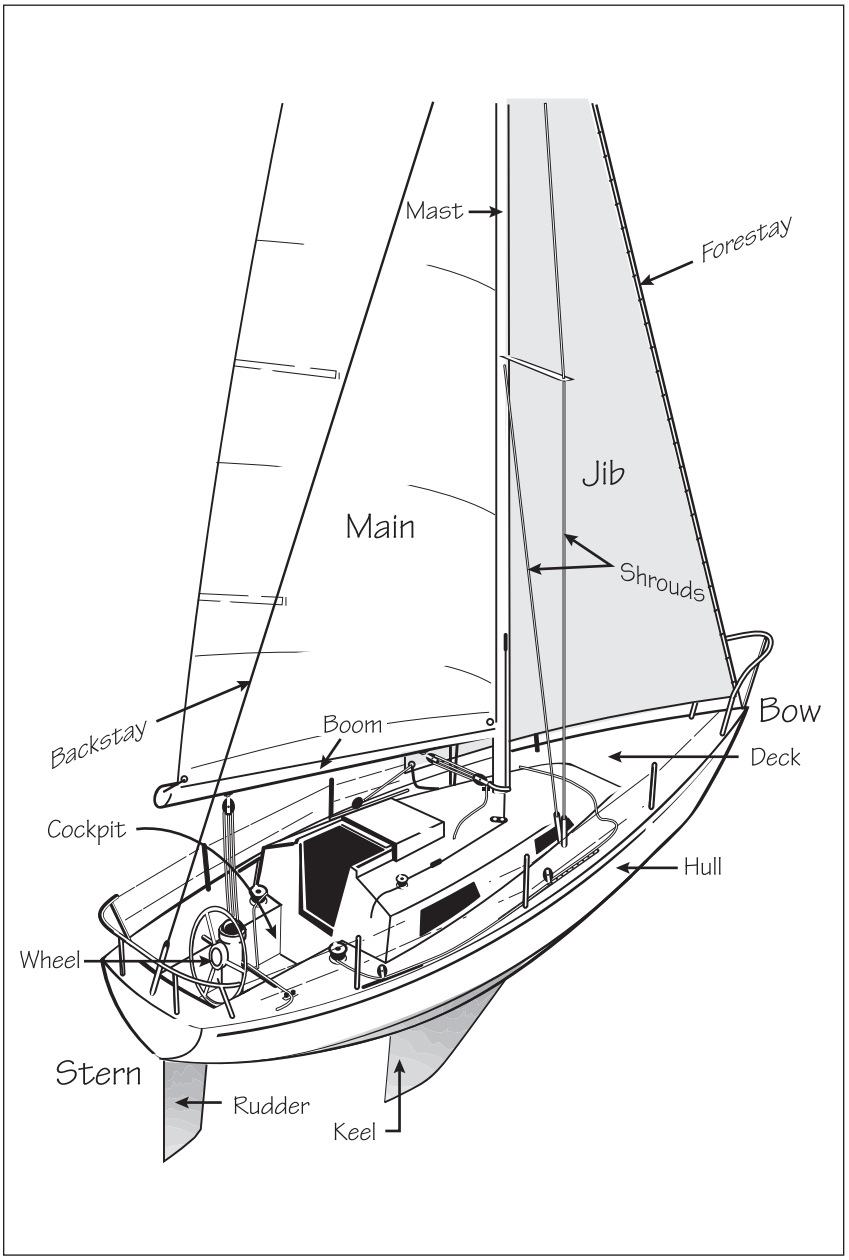

FIGURE 1-5: The basic parts of a keelboat.

All sailboats have sails

The mast (and standing rigging) supports the third and most common feature of sailboats: the sails. A *sail* is simply a big piece of fabric that catches the wind, enabling you to use its force to move the boat. The sails are your engines; their power or fuel comes from the wind. The *main,* or *mainsail,* sets along the back edge of the tallest mast. Some boats carry only a mainsail; others have a *headsail* as well. A headsail sits in front of the mast. Headsails come in different types, but the most common is a *jib.* (Refer to Figure 1-4 and Figure 1-5 for the basic parts of a dinghy and a keelboat, respectively.)

TECHNICAL STUFF

Back in the old days of square riggers, sails were made of flax or cotton canvas, and heavy and very stretchy. Today, most sails are made of a polyester fiber called Dacron. But high-tech racing boats have sails made of exotic, lightweight, yet strong materials such as Mylar, carbon fiber, and Kevlar (the fabric in bulletproof vests).

You can use many types of specialty sails to make a boat go as fast as possible at different angles to the wind. A common specialty headsail is the *spinnaker* — a big, colorful, parachutelike sail used when sailing *downwind* (going with the wind), which you can learn how to fly in Chapter 12.

All sailboats have lots of rope

When a sailboat is *rigged* (prepared and ready to go sailing), all the ropes used to raise and adjust the sails can look like spaghetti. All this pasta is part of the boat's *running rigging.* Even the simplest sailboat has several adjustment ropes, each of which has its own name. The rope running up mast that's used to pull the sails up, for example, is called the *halyard.* Just to make everything more confusing, the "proper" names for ropes on a sailboat, when they have a purpose and use, are *lines,* as in "Throw me a line." But most sailors use the terms interchangeably without confusing their crews, and both are equally acceptable (and we use both terms in this book).

REMEMBER

When you're starting out, understanding what the lines do is more important than worrying about what to call them. So the only line that you need to know to start sailing is the *sheet* — the primary line that adjusts the sail *trim* (the angle of the sail to the wind), referred to by the sail it adjusts (such as *mainsheet* and *jib sheet*).

Depending on the wind strength and the size of the sails, pulling in the mainsheet (and most of the other lines) can be a tough job. Most boats use a system of *blocks* (pulleys) to make it easier to pull in the lines that carry a lot of load. So you don't

have to hold that mainsheet with your teeth when your arms get tired; the typical mainsheet system also has a conveniently located cleat.

In a sailboat, the wind is your fuel, and the sail is your engine. So the gas pedal is the sheet (shown in Figure 1-6), the rope that pulls in the sail and harnesses the power of the wind.

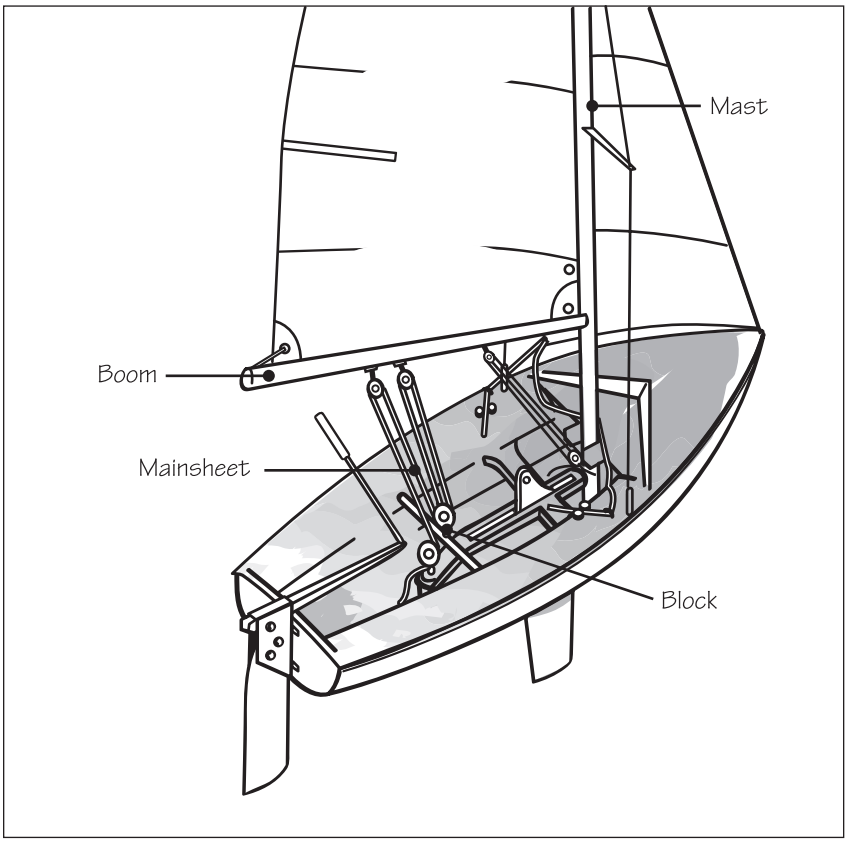

FIGURE 1-6: Mainsheet system on a dinghy.

Tackling Some Basic Sailing Maneuvers

Now that you know the basic components of a sailboat, you may have some basic questions. Earlier in this chapter, we cover how you drive this thing (with the wheel or tiller connected to the rudder) and show you the gas pedal, or mainsheet (see "All sailboats have lots of rope" earlier in this chapter). If you're a responsible driver, your next question may be "Where's the brake?" (or "How do you stop

this %#$@ thing?"). In this section, we also answer a few other basic questions you may have, including "Can you sail anywhere?" and "Where do I go next?"

Coasting to a stop

So you want to find the brake pedal? Unfortunately, sailboats can't stop on a dime (unless you run them into something hard like land, throw out an anchor, or take other drastic measures). Essentially, a sailboat has no brake. But when you let out the sheet and let the sail *luff,* or flap in the wind like a flag, you've taken your foot off the gas pedal, and your boat can coast to a stop. Heavier boats take longer to slow down because of momentum.

Some new sailors get nervous when the sails start *luffing* (flapping); the sails are loud, and the sheets attached to the sails can start whipping around if conditions are windy. But relax. Luffing sails produce no power, and the boat gently decelerates. So just stay low and out of the path of the flapping sail (and that hard boom), as Figure 1-7 shows.

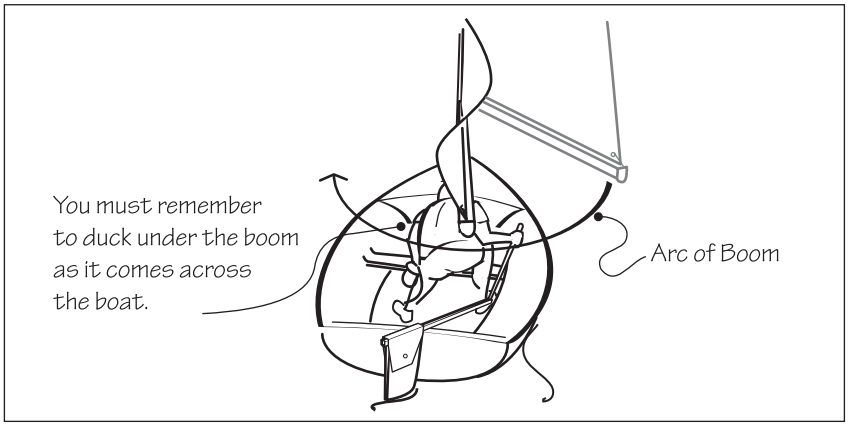

FIGURE 1-7: Beware of getting hit in the head by the boom when the sail luffs.

Sailing into the wind

You may wonder whether you can sail anywhere. Our answer is yes, you *can* sail anywhere! You can even sail to a point directly into the wind, but not by just steering straight there. If you try steering your boat directly into the wind, your sails luff, and you slow and then come to a stop. So to sail to a point directly upwind, you must take an indirect zigzag route, as Figure 1-8 shows. First, the zig: Pull in your sails (with their sheets) as hard as you can and then steer a course as close as you can to the wind direction without having the sails flap. Halfway to your

destination, the time comes to zag and perform the basic sailing maneuver of tacking. (Check out Chapter 5 for more about tacking and other basic maneuvers.)

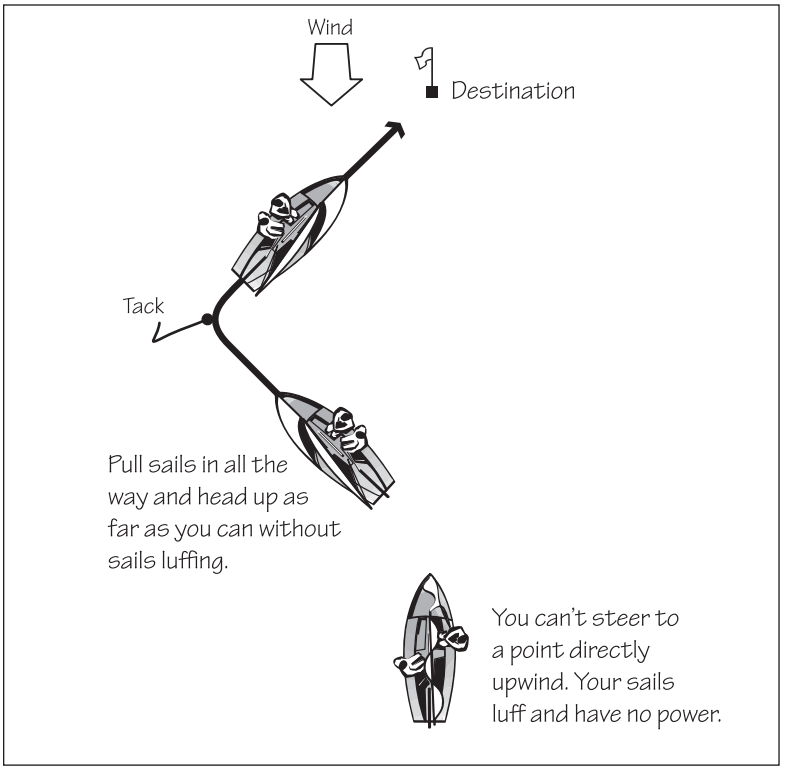

FIGURE 1-8: To sail to a destination directly upwind, you must take an indirect route.

A *tack* entails a course change of about 90 degrees. In a tack, as you begin the turn, your sails start to luff because you're steering directly toward the oncoming wind. But as you continue your turn, the sails refill, with the wind now blowing across the opposite side. If you time your tack correctly, you're steering directly toward your initial destination.