

The 2014 Audubon Guide to Binoculars

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When it comes to birdwatching, what you choose to look through makes all the difference.

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I see them whenever I lead bird walks--birders who cannot find the objects of their affection with their binoculars. When they do manage to find a bird they can't keep it in their binocular field, can't see field marks, and can't distinguish subtle colors. Often they leave in frustration before the walk is over.

These poor souls don't realize that their problems are caused by the binoculars they're using--maybe a pair that once belonged to their grandfather, or cheap compacts, or a pair with some ridiculous configuration, like the 16x32s I saw on a recent walk (more on the numbers later), which were designed to appeal to unknowledgeable buyers. There's no getting around the fact that birders--even beginners--need more from their binoculars than any other users. "Bird-worthy" binoculars must be bright enough to show subtle features in poor light and sharp enough to resolve fine detail. They must focus quickly enough to "get on" a fast-moving bird. They must have a field of view wide enough to locate birds rapidly and follow them in flight. They must also provide accurate color rendition, have no observable distortion in the center of the field, and should not fog up in wet or humid weather. And they should work with or without eyeglasses. While our guide by no means includes all the best on the market, each of the recommended models will give you years of birding bliss.

There are great choices in every price range (click to the second page for our picks), but the market is also littered with junk. Buy "bird-worthy" binoculars and you'll enjoy birding more than you ever thought possible. Buy junk and you are apt to give up in frustration. This guide should help you make the right choice.

Numbers Game

One of the first things you'll notice when you go shopping is that all binoculars are described by two numbers, such as 8x42 (pronounced "eight by forty-two"). The first number tells you the magnification, or how many times the object is being enlarged. The second tells you the diameter of the objective lens (the lens at the fat end of the tube) in millimeters. Thus 8x42 binoculars magnify the image eight times and have an objective lens that is 42 millimeters in diameter. When comparing binoculars of equal quality, the bigger the difference between the two numbers, the sharper and brighter the image. There are, however, some practical limits. Binoculars with objectives larger than 42 millimeters will be too big and heavy for most people to carry around all day. Binoculars with objectives smaller than 30 millimeters will be lightweight and easy to carry, but they are not bright enough to show all the detail you need in poor light. Most experienced birders choose "full-sized" models with objective lenses that are 40 millimeters to 45 millimeters in diameter or "midsized" models with objective lenses from 30 millimeters to 35 millimeters. Full-sized binoculars will give you almost all the detail your eye is capable of seeing in all but the poorest light. Midsized models will sacrifice a little detail in poor light, but they make up for it in reduced size and weight.

How Much Magnification?

Many beginners assume that the job of binoculars is to enlarge an image, so it must be better to buy the most powerful binoculars they can find. This is a mistake, because brightness and field of view are far more important than magnification. In fact, too much magnification makes binoculars useless. Keep in mind that binoculars that magnify an image eight times also magnify the small movements of your hand eight times. Ten-power binoculars magnify those movements ten times. The more the image moves, the less useful information you get from it. Since your brain must work harder to interpret a shaky image, higher-power binoculars will be tiring to use. Higher magnification also increases the distortion from rising hot air currents--called "heat shimmer"--which can make it impossible to get a sharp image when looking across a field or a marsh. Ten-power (or higher) binoculars also slash the field of view and are not as bright as seven-power or eight-power models. I strongly recommend binoculars that magnify the image six, seven, or eight times. I prefer seven-power binoculars, and I'm not alone: Roger Tory Peterson used a pair of 7x42s when he worked on the last edition of *The Peterson Guide*. David Sibley used the same size when preparing the *Sibley Guide*.

Check Out the View

A wide field of view makes it easier to find birds and to follow them when they fly. Prove this to yourself by taking a cardboard paper towel tube and holding it up to your eye while you try to find a robin. Then try to keep sight of your robin (through the tube) as it flies. Impossible, right? Next cut off two-thirds of the tube and try again with the remaining one-third. You have just dramatically increased the field of view. Now it's much easier to locate the bird and then keep it in sight. Think of your binoculars as a pair of expensive tubes with a bunch of expensive glass inside. The wider the field of view, the easier it will be to find birds and track them. Since birds move fast, being able to find them quickly with your binoculars is critical. You can find the field of view in the specifications sheet included with most binoculars. Makers describe the field of view of any given model as the diameter of the field you see from a distance of 1,000 yards. Some manufacturers instead give the angle of view, because they consider it a more useful number. To convert an angle of view to field of view, multiply the angle by 52.5 (to convert field of view to angle of view, divide by 52.5). Bird-worthy binoculars should have an angle of view of at least 6.5 degrees, which is equivalent to a field of view of 341 feet at 1,000 yards.

Making Things Perfectly Clear