



Species Spotlight

Red Crossbill

Loxia curvirostra

2018 | YEAR OF
THE BIRD 

2018 marks the centennial of the Migratory Bird Treaty Act, considered by many to be the most powerful and important bird-protection law ever passed. In honor of this milestone, National Geographic, the National Audubon Society, the Cornell Lab of Ornithology, and BirdLife International are joining forces with more than 100 other organizations, including the National Park Service, and millions of people around the world to celebrate 2018 as the “Year of the Bird.” As part of this celebration, NETN’s Species Spotlight series will focus on a different bird species each month throughout the year.

What is it?

At first glance, it might look like this bird had a face-first, high-speed collision with a window, but its crossed bill is actually a finely-tuned instrument that lets it utilize an often plentiful, though hard to access food item. A stocky finch of mature coniferous forests, the Red Crossbill is one of only two crossbill species found in North America, both of which are dependent on seed cones for their main food source. Their highly specialized bill shape helps them access the tiny seeds ensconced in tightly closed conifer cones.

Red Crossbills have a wide range across parts of North America with the right habitat, inhabiting southern taiga forests from Alaska to Newfoundland, and montane coniferous forests south to Georgia in the high Appalachians, Arizona, New Mexico, and the Sierra Nevada of California. They have never been detected during NETN’s spring breeding bird monitoring program,

however, as they have usually vacated for points north by then.

Using their bills like sideways pliers, they move their mandibles in opposite directions, biting between cone scales in such a way that the lower mandible opens the cone scale and exposes the seed, which it then extracts with its tongue.

Crossbills unique bill structure makes them ultra efficient at extracting seeds from a variety of conifer tree cones.

Whereas many bird species raise their chicks almost exclusively on insects, Red Crossbills are so adapted to living off of conifer seeds they can even be fed directly to their young. And the efficacy of their bills at extracting seeds from cones means they don’t have to wait for seed cones to open up on their own. This in turn allows them to breed any time there is a large enough cone crop to support a flock, even in the very depths of winter. That said, at least one study suggests that when day length goes below 12 hours, the birds will stop breeding regardless of how plentiful cones are around them.

Always in search of the next big cone-crop bonanza, Red Crossbills are highly nomadic and forage in flocks. Because cone crop quality and production varies so much from year-to-year, crossbills may roam long distances in search of good and abundant seeds. Once they find an adequate source of seed, a flock may set-up shop in a single tree, ignoring neighboring trees until most of the cone supply has been exhausted.

A Cone That Really Fits the Bill

Red Crossbills are a source of fascination, and consternation, for birders, ecologists, and even evolutionary biologists. Many consider them to be North America’s toughest identification challenge. But how can that be? Their bills and plumage would seem to make ID’ing them a snap. But as usual there is more than meets the eye with these birds. The primary conundrum caused by Crossbills comes from the theory that there may be several different subspecies or even species of Reds. There seems to be little agreement about how many different types there are however, though numbers consistently range from somewhere between six and 10 different kinds north of Mexico, each with variation in bill shape/size (measured in millimeters) body size, and songs. High overhead they’re almost impossible to tell apart, and even with one in-hand a skilled birder may be hard pressed to correctly categorize a Red Crossbill. Interestingly, birds that share flight-calls and bill sizes and shapes tend have specific tree cone species preferences: those with smaller bills prefer smaller-

Mick Thompson photo



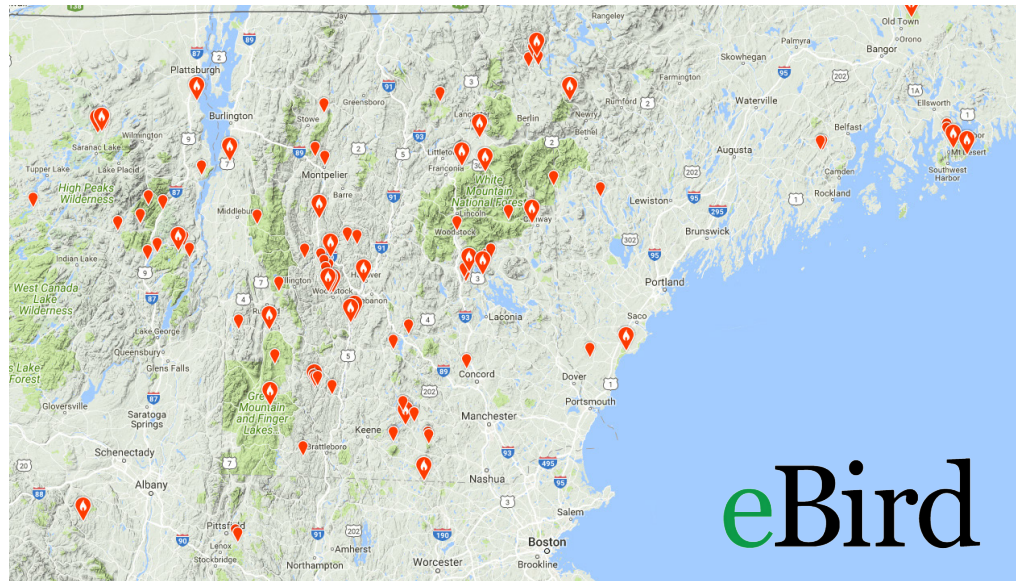


The separate subspecies of Red Crossbills have differently shaped bills that are specialized for specific tree cone types.

coned species like hemlocks and larger-billed birds go for the bigger cones such as the ones hanging off of white pines. Biologists also think that the differing calls play a key role in helping to make sure the different subspecies don't mate with each other.

They're Heee-ere...Crossbills invade the Northeast

As briefly noted earlier, Red Crossbills are primarily birds of the southern taiga forests (subarctic coniferous forests with mostly pine, fir, spruce and larch trees) found from Alaska to Newfoundland. But when conditions are just right they can be observed over much farther and wider expanses. As if to give the Year of the Bird a proper kick-off, it appears the winter of 2018 in the Northeast has all the right ingredients to be a doozy for Crossbill crossovers. The drought of 2016 combined with the wet spring of 2017 has, at least in part, led to spruces, hemlocks, pines, and other conifer trees in the Northeast to be loaded down with one of the biggest cone crops in decades. At the same time, conifer crops across the mountains of the West and much of the western boreal forest are having particularly bad cone years. All this means that signs are pointing to a major "irruption" of Red Crossbills this winter in the Northeast. This is the time of year that crossbill flocks, ranging from a dozen to several hundred birds, flit over the landscape in search of a large enough food supply of cones to support



This eBird species map shows many observations of Red Crossbills across this northeast since January 1st of 2018. Bird experts expect even more to pour into the region during February and March.

a second round of breeding and nesting. In years such as this one when the cone crops fail out West, legions of cone-craving crossbills pour into the East looking for food. The last major Red Crossbill irruption was during the winter of 2012–13. A quick glance at eBird species maps already show that this may be an even bigger year with Red Crossbills being spotted all over the Northeast, from Maine to Massachusetts - including some NETN parks.

So if you're out in the woods near a stand of some cone-

laden pines or spruces this winter and you hear a bunch of chattering bird noises overhead - look up. You have a good chance to lay eyes on one of the more unique bird species that inhabits this planet. Hopefully you have some binoculars hanging from your neck and are able to pass a few minutes observing these stout finches feed on their favorite food. And if you get chance - enter your observations into eBird (www.ebird.org), your

local ornithologist or just plain bird-lover will thank you.

For more information

- For info on NETN's long-term Breeding Landbird monitoring program see <http://go.nps.gov/landbirds>.
- To keep track of the progress of the Red Crossbill irruption, see [eBird's species observation map](#).
- Read up on the latest Crossbill science and see a video of their feeding technique in this [All About Birds](#) article.

“Crossbills can transform an otherwise silent walk in the winter woods into a bird-chatter filled treasure hunt. This irruptive, enigmatic icon of the northwoods has arrived in abundance this winter. When food is plentiful, such as this year, nests with eggs can be found in all months spanning from December to October.”

- Kyle Jones, Marsh-Billings-Rockefeller NHP Natural Resource Manager