Western SARE How-To

Quick Guide

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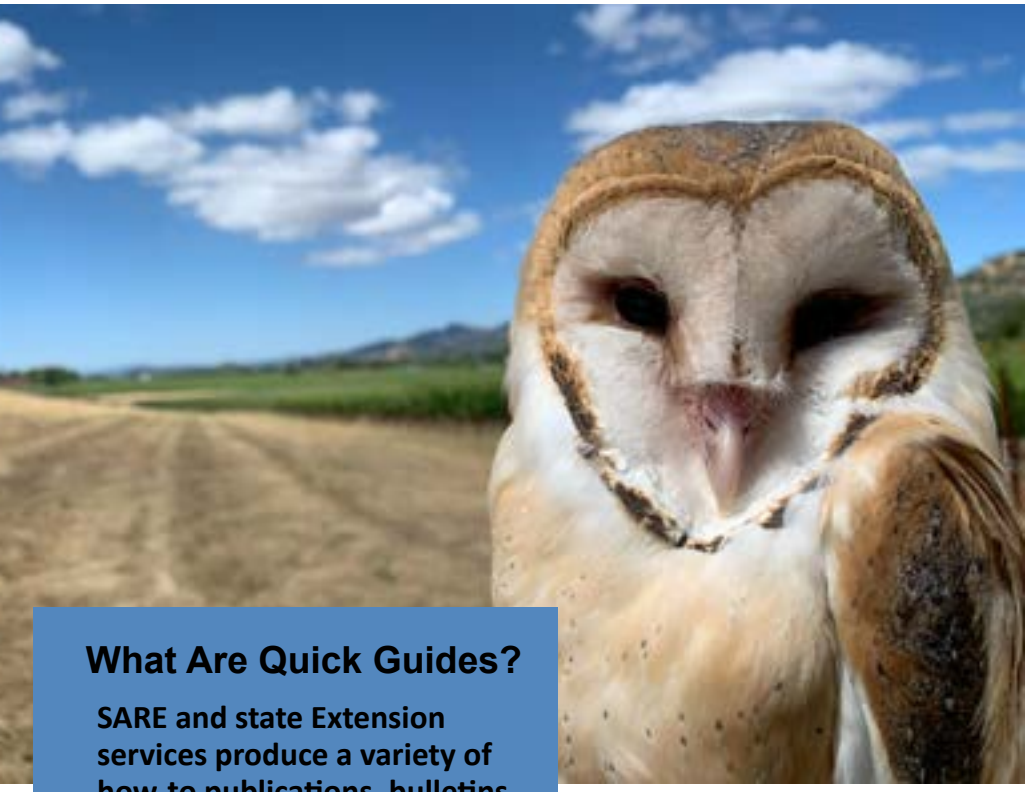
Welcome in Barn Owls to Provide Rodent Control



Barn owls are rodent-killing machines. Hunting at night, barn owls feast on mice, gophers and voles and can bring a half-dozen or more back to their nests each night to feed their growing young.

For farmers, ranchers or land managers facing serious rodent problems, encouraging native barn owls to nest on their land can provide effective, ongoing biocontrol. Western SARE has funded multiple research projects looking at how to incorporate barn owls into a broader integrated pest management system. Here are some tips:

Decide if Barn Owls Are Right for Your Operation – Barn owls hunt at night so can be effective biocontrol for nocturnal rodents like mice, gophers and voles. If you have a serious rodent problem in your fields, barn owls can help. They're not effective if the rodents are only in or near buildings, and should not be encouraged where endangered small mammal species are present. Also consider:

- Building and installing barn owl boxes is an investment, but one that can provide long-term benefits.
- Barn owl boxes will need some ongoing maintenance, including getting cleaned out every year or two.
- Like any biocontrol method, barn owls won't drive rodent populations to zero. Outbreaks can occur that will need to be managed.

What Are Quick Guides?

SARE and state Extension services produce a variety of how-to publications, bulletins and project reports.

Western SARE Quick Guides distill this information into a short, easy-to-digest format. They are intended as a supplement to these more extensive publications.

Producers adopting new practices are encouraged to consult with local Extension agents and ag professionals.

Encourage Barn Owls to Provide Rodent Control

What You Can Do

Barn owls nest in cavities but many natural cavities they would typically use – like hollow trees – have been removed from the landscape. Providing barn owls with artificial nest boxes helps them because nest sites are often a limiting factor for barn owl populations, and nest boxes are safer than natural cavities.

Build (Or Buy) and Install Barn Owl Boxes in and around Your Fields – During the mating and nesting season, barn owls are looking for a safe place to raise their young and a lot of rodents to feed them. If you already have the rodents, you just need to add owl boxes to house them. A quick internet search will turn up dozens of how-to videos for building your own boxes, or suppliers to buy them from.

Here are plans SARE researchers recommend:

- scvas.org/build-a-barn-owl-box
- nestwatch.org/learn/all-about-birdhouses/birds/barn-owl/

A barn owl box in an orchard.

Adult and juvenile barn owls in a nesting box.

Tips for home-built boxes

Boxes mounted outdoors need to be watertight.

The entrance should be several inches above the floor, so eggs and hatchlings can't fall out.

Larger boxes allow more room for growing chicks and better air circulation.

While several how-to videos include them, don't install perches or porches below the entrance. Fledgling owls will climb onto them waiting for their parents to bring back meals, and are then vulnerable to other predators. (Great horned owls, for instance, are very territorial and will attack barn owls.)

Deciding How Many to Install – Barn owls are not territorial, so boxes can be spaced as close as every 150 feet or as distant as one per field. More is better, so let your willingness to invest in them and ability to maintain them be your guide. And don't worry if some of the boxes you install don't look like they're being used. Even boxes that aren't holding nesting chicks are often used by adults looking for a few hours of quiet time away from the screeching kids.

Where to Site Boxes – The best way to install owl boxes is atop a steel pole set in concrete. (They are less vulnerable to predators than if sited in trees.) The height isn't critical, but eight to 12 feet high is common. (Let your tallest, sturdiest ladder be your guide.) Here are some other location considerations:

- Keep boxes away from busy roads and highways as much as possible, and don't face the entrances directly out onto a road.
- Face the entrance to boxes to the north or east, especially in hot areas, even if the entrance faces a neighbor's land. Owls will hunt in 360 degrees all around their nest but will avoid nesting boxes that get too hot in the afternoon sun. In hot areas, adding shade panels helps protect owls.
- Don't install boxes anywhere that interferes with your equipment or operations.
- Don't install boxes near homes. A nest full of hungry fledgling owls will screech loudly every time a parent flies in with a meal – so 14 times a night or more. It does not make for restful sleep!

Barn owl habitat. From the All About Birds website, www.allaboutbirds.org, © Cornell Lab of Ornithology.

How to Know if They're Working – Once installed, owls may take up residence right away or it could take a few seasons. Two easy ways to tell if owls are nesting in a box are to look for bones and owl pellets on the ground beneath it, or blood and gut stains on the box itself. (Biocontrol isn't pretty, after all…) Also expect some variability year to year as owl populations fluctuate.

How to Maintain Owl Boxes – Nest boxes need to be properly constructed, installed and maintained. Small, poorly built or dilapidated boxes can cause mortality. Once every year or two, boxes should be cleaned out and refilled with a few inches of wood shavings to keep eggs from rolling around. (Wear a mask when cleaning and don't use shavings from pressure-treated wood.) Do the cleaning in late fall (October-December) to avoid the breeding season and skip a box if it turns out to be occupied.

If you find a chick beneath a box that is still covered in fluffy down rather than fully formed feathers, put the chick back in the box or call a wildlife rescue center. (Chicks with full feathers can survive so leave those alone.)

Photo by Steve Elliott.

One way to know if boxes are occupied - and know the owls are working - is to look for owl pellets beneath them and count the rodent skulls!

Barn Owls: Big, Beautiful Rodent-Killing Machines

As with any biocontrol method, protect your beneficial predators so they can do their job controlling your pests. For owls, that means avoiding second-generation anti-coagulant rodenticides. Instead, use burrow fumigation, trapping or safer rodenticides if there are rodent flare-ups.

Day-hunters like hawks and kestrels will also perch on owl boxes.

Encourage Other Raptors – Barn owls alone won't solve a ground-squirrel problem since squirrels are active in the day while the owls are sleeping. However, because barn owls aren't territorial, hawks, kestrels and even eagles often perch and hunt from their boxes in the day, providing 24-hour rodent control.

For even better rodent control, also install raptor perches when you install barn owl boxes. Mount a wooden cross brace to a 10- to 15-foot high pole. Hawks and kestrels will use them while hunting during the day, and barn owls use them at night.

Benefits You May See

Barn owls can help keep rodent populations under control and deter rodent damage to fields, irrigation lines and equipment. As night-hunters, they're effective at controlling mice, gophers and voles. Their boxes can also serve as hunting platforms for day-hunters like hawks, kestrels and eagles, which can help control and deter ground squirrel populations. In addition, there's often great satisfaction knowing you're hosting and helping these gorgeous natural predators.

Bottom line: Barn owls are effective biocontrol against rodents, but like any biocontrol option they won't drive pest populations to zero and may need to be augmented occassionally.

Learn More about This Project and Other SARE Research

Project Reports: projects.sare.org/sare_project/gw19-200/

projects.sare.org/sare_project/sw18-063/

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Unless noted, all photos by Ryan Bourbour.

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