



Hungry Owl Project
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Barn Owl Box

Info & Installation



HOP is a partnership with  501(c)(3) Non Profit ID No. 51-0172331

The Dangers of Rodenticides & the Benefits of Having a Barn Owl Box

Rodenticides are expensive, counterproductive and incredibly destructive to wildlife and our shared environment. In 2012, 79.1% of raptors (owls, hawks etc) and other rodent consuming wildlife that were tested by our local wildlife hospital, WildCare, were found positive for secondary rodenticide poisoning. Rodenticides provide a very slow and horrific death for rodents, usually taking several days after ingestion to actually kill. During this period, the rodent will still forage for food and water. They will be sluggish and debilitated, and as a result, will be the first to be caught. Owls, hawks, eagles, falcons, bobcats, coyotes, raccoons, mountain lions, foxes, herons, egrets, domestic dogs and cats and even children can be at risk. Rodenticides are a serious problem and one that negates the help that these natural predators would otherwise provide. Without natural predators, rodent populations would explode.

Barn Owls, on the other hand, can be a wonderful help. They are superb hunters with voracious appetites. Installing Barn Owl boxes can be a very cost effective and eco-friendly way to help with a rodent problem. A single Barn Owl family can consume 3,000 rodents in a single 4 month breeding cycle. This is in addition to the simple joy of having such amazing creatures as a neighbors!



Barn Owl box rodent control programs work best for larger properties, such as farms, ranches, vineyards and homeowners associations. That's not to say that it's impossible for Barn Owls to help smaller properties, but Barn Owls usually do not hunt directly around their own boxes. However, if you have multiple occupied boxes, the owls from one box will not have a problem hunting around other owls' boxes. Strategic placement of multiple boxes will help give you the best coverage. Barn Owls alone will not completely eliminate all rodents, but will help keep rodent populations in check and are highly successful as a part of a non-toxic Integrated Pest Management (IPM) plan. View our "7 Steps to Non-Toxic Rodent Control" for more info, which you will find within this packet.

In the following pages you will find instructions on how to find a safe installation spot for your Barn Owl box, directions on how to install it in trees or on posts, info on cleaning and care, frequently asked questions and answers, the "7 Steps to Non-toxic Rodent Control", as well as a poster you can put up to inform your neighbors that owls are nesting nearby and that rodenticides should be avoided. We urge you to share this useful information contained in this packet with neighbors and anyone else who might be interested in owls and non-toxic solutions to rodent problems. We wish you the best of luck with your owl box and please feel free to contact us with any questions or concerns.

Selecting Safe Installation Sites

A good site and installation will not only help your chances of attracting owls to your box, but will also help ensure that it will be as successful as possible for both you and the owls for years to come. Unfortunately there is no 100% guarantee that boxes will be occupied, but a good installation will give you the best chance possible. Please read the following topics to help your installation.

Generally, the Barn Owl's habitat consists of open spaces, such as fields, meadows and marshes. However, they can be found in urban areas as well, especially when open spaces are within a few miles. Densely wooded areas are usually unsuitable.

Rodenticides

No rodenticides (rodent poisons) can be in use on the property, inside or outside. A single poisoned rodent can potentially wipe out an entire owl family. If rodenticides have been in use on the property, boxes can be installed with a minimum of 3 months since the last use. If possible, confirm that any adjacent neighbors are not using poisons as well. Feel free to share the info in this packet with them.

Noise

Owls can be noisy in and around their nests at night, especially during baby season. Some people may be comfortable with owl sounds within earshot of their home, but as a general rule of thumb, we recommend keeping around 100' of distance from the nesting box and any bedrooms.

Boxes Installed on Posts

Boxes installed on posts are typically a little more successful than boxes installed in trees. They have a slightly higher occupancy rate, are usually occupied quicker (they are often easier for the owls to find), and are better at keeping the owls safe from predators and pests. Try to make sure there is enough flat ground in front of your post installed box for an orchard ladder to rest to provide safer access for cleaning etc. It is best if there is a tree within 30' of box and within view of the entrance hole for fledglings to fly to, but make sure there are no branches or anything that can provide access for predators and pests within 5' of box. Try to face your box towards an open space so the owls can find it easier and have a clear flight path in and out. Never lean a ladder against your post installed box or its support.

Boxes Installed in Trees

Nesting boxes can work in trees as well, but are typically trickier than post installed boxes. Look for a mature tree, ideally with a vertically straight trunk. We recommend installing boxes 9' - 12' off the ground. It is very important that there be no branches around the box and none below it. Either select a spot free of branches or clear out branches around box. Try to keep 5' - 10' of space from any branches or anything that can provide access to box for predators and pests. Keeping the box below the canopy can help avoid squirrels. 3' of metal flashing around the base of the tree, 1' above the ground will help deter access from the ground. Try to face your box towards an open space so the owls can find it easier and have a clear flight path in and out.

Selecting Safe Installation Sites (Cont..)

Prevailing Weather

Avoid facing box opening towards prevailing winds or weather. Avoid facing box southwesterly or towards afternoon sun (unless the box is shaded from the afternoon sun).

Heat & Shade

Heat can be a serious threat to Barn Owls and especially Barn Owl chicks. It is ideal to have a bit of shade for your box, but we understand that this is not always possible. For boxes that are to be installed in exposed areas with lots of direct sun (especially afternoon sun), install our lighter colored boxes, which are better at reflecting heat. Please make sure your box has a sunroof (HOP built boxes come with sunroofs standard). Also for areas of high heat and sun, add an additional shade panel to the southwestern side of your box.

Traffic/Activity/Disturbance Around Box

It is possible to disturb nesting owls to the point that they abandon their nest, eggs or even chicks. Startling noises or activities are the most dangerous, such as turning on a weed whacker right next to the box or banging on the box or it's support. For boxes in trees, avoid tree work except during November, which is the time that Barn Owls are least likely to be around. If emergency tree work is required, please contact HOP first. Keep weed whacking, mowing or any noisy or potentially disturbing activity a minimum of 30' away from box. And never peek into your box!

Great Horned Owls

While the territory of Barn Owls and Great Horned Owls (GHO) can overlap, the much larger GHO can potentially prey upon Barn Owls. If you regularly have GHOs in the area, nesting or hunting, it may not be a safe place to try to attract Barn Owls too. However, if Barn Owls are already also in the area, our boxes can provide safe nesting for them as they are sized to allow Barn Owls in and keep Great Horned Owls out. Great Horned Owls are the owls that make the common "hoo-hoo" sound that most people identify as an owl and usually prefer more densely wooded habitat (although they can also be found all over the place).

Roads & Highways

Install boxes away from busy roads and highways. Barn Owls are a low flying owl and frequently fall victim to busy roads, highways and freeways.

Power Lines & Utility Poles

NEVER install boxes on power lines or utility poles. They can be incredibly dangerous for Barn Owls and utility companies do not want nesting boxes attached to utility poles. If a bird is killed by a power line, please contact your local utility company. Most commonly, they will need to retrofit the line and poles on either side.

Swimming Pools & Bodies of Water

Keep nesting boxes at least 100' away from swimming pools and other bodies of water and ideally, out of line of sight with the box. Owl fledgelings and chicks are at risk of drowning in close bodies of water. Please keep swimming pools covered at night.

Cleaning & Maintenance

Boxes should be cleaned annually in October, as this is the time of the year when the owls are least likely to be present. Any needed maintenance or tree work can be completed during this time as well.

Installation Instructions

For Installing on Posts

For each box, you will need:

Qty

- 1 4x6 redwood post (12 ft in length)
- 2 2x6s (each 17" in length)
- 4 2 1/2" galvanized screws
- 3 7" x 1/2" bolts with lock washers & nuts
- 6 2 1/2" x 1/4" lag screws with washers
- 2 3" x 3/8" lag screws

200lbs Concrete (2.5 80lbs bags)
Gravel or rock

Required Tools:

Power Drill
Shovel
Tape Measure
Level
Wrench
Container for Mixing Cement



**** NOTE: Before installing be sure you're installing in a safe location. Consult the "How to select a safe installation location" section or contact HOP for more information ****

1. Dig a 16" diameter hole, 3' 6" deep
2. Fill bottom of hole with 6" of gravel or rock
3. Take 4"x 6"x 12 foot redwood post and lay it on the ground with one of the 5 1/2" sides facing down. Take a 17" piece of 2x6 and center it crosswise on the post, making sure that it is perpendicular to the post and that the top edge of the 2x6 is flush with the top of the post. Attach this piece temporarily with 2 1/2" galvanized screws.

Turn the post over, lay it on the ground and repeat the above process for the second 17" piece of 2x6. Make sure that the ends of this 2x6 align with the ends of the 2x6 already attached to the other side of the post and, once again, make sure that it is perpendicular to the post and that the top edge of the 2x6 is flush with the top of the post. Attach this piece temporarily with 2 1/2" galvanized screws.

Continued -->

Installing on Posts (Cont..)

4. Now, avoiding the galvanized screws already in place, straightly drill three 1/2" holes through the 2x6 post assembly at the crossing point. Be sure to stagger the placement of these holes and to keep them about 1 3/4 " in from the edges of the 2x6s. The assembly can now be through-bolted together by inserting a 7" x 1/2" bolt with lock washers and a nut in each of the three drilled holes and tightening them securely.
5. Lift the post upright and center its end in the hole on top of the gravel. One pair of ends of the 2x6s attached at the top of the post should face in the direction that the owl box has been designated to face. (This means that the narrower face of the 4x6 post will be facing 'front' – i.e. the direction that the owl box opening will face).

Ensuring that the post bottom is resting firmly on the gravel at the bottom of the hole, check the measurement from the surface of the finished ground around the hole to the top of the post assembly. This dimension should be NO LESS than 8'-11" and NO MORE than 9'-4". If the top of the post assembly is too high, it can be forced down a bit deeper into the gravel it is sitting on. If the top of the post assembly is too low, however, the post must be lifted up and additional gravel must be added underneath it at the bottom of the hole.

6. Once the proper post height has been verified, the post assembly must be made plumb in both directions and then temporary bracing can be installed to hold the assembly in place while the concrete is poured.
7. Be sure to CHECK ONCE AGAIN that:
 - the bottom of the post is firmly seated on the gravel at the bottom of the hole
 - the post assembly is centered in the hole
 - the post assembly is plumb in both directions.

Now add the concrete to the hole, preparing the mixture as per the manufacturer's directions. The mix should be agitated as the hole fills up (poking in it with a piece of rebar or similar is adequate) to ensure that no air pockets are formed during the pour. The hole should be completely filled with concrete up to a level within 2" of existing grade.

8. Once the post assembly installation is sound, the Owl Box should be placed on top of the horizontal 2x6 pieces that were bolted to the top of the post. The Box should be carefully centered in both directions on top of this post assembly and it should be square with the structure beneath it. From inside the box, three 2 1/2" x 1/4" lag screws with washers should then be driven through the floor of the box into each of the 2x6 framing pieces that it is sitting on. Care must be taken to position these screws such that they are centered on the edges of the 2x6s below. Two 3" x 3/8" lag screws with washers should then be driven through the bottom of the box into the top end of the 4x6 post.
9. Finalize the installation by checking both inside and outside the box for any sharp points or edges that could injure the birds. Please eliminate any hazards present by filing them flat or removing them. Please let HOP know immediately (while you are still on site if possible) if there are any current or foreseeable problems with a box installation so that we can act quickly in taking whatever measures might be necessary to keep the birds safe.

Installation Instructions

For Installing in Trees



<p>For each box, you will need:</p> <p>Qty</p> <p>4 4 ½" lag screws with washers</p> <p>1 3' wide metal flashing (flashing optional to wrap base of tree)</p>	<p>Required Tools:</p> <p>Power Drill</p> <p>Ladder</p> <p>Tape Measure</p>
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**** NOTE: Before installing be sure you're installing in a safe location. Consult the "How to select a safe installation location" section or contact HOP for more information ****

Tree installations can be tricky, we highly recommend having at least one additional set of hands to help you!

1. Open front cleaning flap and or owl box roof by removing eye screws.
2. Make sure box will be as level as possible. A slight lean forward is acceptable, but never lean box back. A box leaning backward makes it more difficult for juveniles to get out of the box. Feel free to attach a small block or wedge between box and tree to help keep box level if required.
3. Affix box to tree with three to four 4 ½" lag screws with washers (this will not harm a healthy tree).
4. Do not leave anything inside box. Barn Owls create their own nesting material.
5. Be sure to secure front cleaning flap and or owl box roof with eye screws upon completion.
6. OPTIONAL: To further deter predators and pests from having access to box, affix 3' wide metal flashing to base of tree, 1' above the ground.

Cleaning & Maintenance

WHY CLEAN

Cleaning your owl box is very important for the health and safety of the owls. Barn Owls, as with other owls, regurgitate the undigested bones and fur of the rodents they eat and cough up a 2-3" long pellet. The mother owl will use these pellets, by breaking them up with her beak, to form a soft nest to lay her eggs. The chicks, once hatched, begin regurgitating 1 to 2 pellets a day not too long after they hatch. With up to 5-7 chicks in a clutch and sometimes 2 clutches a year, the build up of pellet material can be enormous. While this pellet material serves as natural bedding material, too much can be detrimental to the wellbeing of your owl family. An excess build up of pellets can leave little room for owls the following year, can contribute to higher heat and poor ventilation inside the box and the extra weight can put additional strain on box mounts. Please clean your boxes annually.



WHEN TO CLEAN

In Northern California, we recommend **ONLY** cleaning Barn Owl nesting boxes in October. This is the time of the year when the owls are least likely to be inside the box. This time may be different in other regions. However, it is possible for owls to be inside your box at any time of the year, please be very cautious when approaching your box. If you find owls or other occupants inside, try to avoid flushing them out of the box (being out during daytime is very dangerous for Barn Owls). Carefully back away and contact us.

HOP CLEANING SERVICE

If you are unable to or do not wish to clean your box, have the Hungry Owl Project clean your box. Contact us at info@hungryowl.org or 415-453-1000 x 20.

Cleaning & Maintenance (Cont..)

HOW TO CLEAN

Recommended tools:

- Crow bar or pry bar
- Gloves & face mask
- Bucket or bag to collect and dispose of materials

Please ALWAYS use gloves and a face mask to help minimize the possible health risks of dealing with non-sterilized owl pellets. In over a decade of cleaning owl boxes, we've yet to have any problems, but it is better to be safe than sorry! We recommend using an orchard ladder to reach your box. Try to never lean a ladder directly against your box.

Step 1: Open cleaning flap.

After verifying that no owls are present, open the cleaning flap. HOP Barn Owl boxes have a cleaning flat on the bottom-front of the box. Loosen the two eye-screws to open.

Step 2: Remove material.

The pellet material inside the box can occasionally be very hard. This is where a crow bar or pry bar can come to use. Scoop the material into your bucket or bag. If material is hard, use the crow bar or pry bar to loosen it up. Sometimes it only takes a little pull from the back and the whole thing slides out. Do not use any cleaning or disinfecting products. Tighten the two eye screws and your box should be good to go.

Step 3: Scatter or dispose of material.

The contents of the box can be scattered on the ground, but we recommend doing it far away from your box. Otherwise, just toss your material in the trash.

BOX MAINTENANCE

October is also the best time to perform any needed maintenance on or around your box. If you need to do any tree work or any other work that could disturb your owl occupants, take the opportunity in October as well. While cleaning, check for any needed repairs. Does your box need a new coat of paint? A tightening of any screws? If repainting, please use non-toxic exterior paint or stain. Contact HOP for more info.

PANDORAS BOX

Sometimes, you may find some interesting surprises inside your owl box such as Screech Owls, Squirrels, Song Birds, Wasps, Bees, Opossums or other wildlife. If you do, please discontinue cleaning immediately and call HOP for advice. If you find any dead owls in or around your box, please let us know.

Frequently Asked Questions

How can I tell if my box is occupied?

Any of these signs may indicate that you have occupants: scratches around entrance hole, "white wash" (owl poop) on tree, post or on ground below box, appearance of "plugged" drainage holes on bottom of box and hearing screeches, squawks, screams and clicks after dark. Whether you think your box might be occupied or not, please never disturb it. Sometimes there can be owls present even if none of the signs are immediately noticeable. If you'd like us to check your box for you, you can enroll the box in our monitoring program. For a small fee we make annual visits in late spring/summer to check on the occupancy of boxes, followed by a full report detailing occupancy, with any needed suggestions for improving or caring for box. You also get a discounted rate on our box cleaning services! Contact us for more info on our Monitoring Program.

I have owls, what do I do now?

Congratulations! It can be an incredibly rewarding experience to live in the company of owls. Both for their astounding abilities as rodent hunters and for the simple joy of witnessing the life cycle of Barn Owls. You may have owlets present, you may see mom and dad leaving and returning with food from evening until morning, you may hear a wide variety of sounds coming from inside and around your box. Please allow them to complete their nesting cycles without disturbance and enjoy the experience. Barn Owls are typically very faithful to their nests and most commonly will return each year for the rest of their lives. Please clean your boxes annually - consult the cleaning and maintenance info. We would love to hear about your occupied box, send us an email to let us know and if you have a photo please include it (please be very discrete and only take photos from a distance). Email us at: info@hungryowl.org

I still have no owls, what do I do?

Unfortunately there is no guarantee that owls will move in. We've had seemingly perfect locations where owls didn't move in for many years and we've had locations where they moved in within days of installation. Please consult the "Selecting Safe Installation Sites" info in this packet to make sure you've given your box the best chance possible. Be patient, sometimes it takes time. If you have any other questions, please contact us at info@hungryowl.org

I'm worried about the owls in my box, is something wrong?

Owls can exhibit a wide variety of behaviors and it's not uncommon that we are contacted by box owners wanting to make sure their owls are ok. To remain on the safe side, if you are ever concerned about the owls living in your box please contact us. To help us help you, please take some notes first. Include the species of the owls, approximate age, behavior, locations of boxes or owls, sounds you are hearing, whether they appear injured and anything else you think might be relevant. Contact us at info@hungryowl.org or 415-453-1000 x 20. If your situation is an emergency, call our emergency line at 415-518-9670

Frequently Asked Questions (Cont..)

Another species of owl has moved into my box, what should I do?

It's not uncommon for Screech Owls or other owls to move into Barn Owl boxes. If you think another species has moved into your box, it's best to allow them to complete their nesting cycle without disturbance. You can also install a box designed for their species and you may have luck with them moving to the new box. Feel free to contact us for advice and more info at info@hungryowl.org

Do I need to clean my Barn Owl box every year?

Please clean your Barn Owl box every year during the month of October, as this is the time owls are least likely to be present. Even if you don't think it has been occupied it's important to at least check it during this window and remove any debris/nesting materials. View the "Cleaning & Maintenance" pages in this packet for more info.

What if I want to move my box?

Please only move boxes in October, as this is the time owls are least likely to be present. Be very cautious when approaching the box and if owls are still present please contact us for further info.

What if I need to perform tree, yard, landscaping or construction work near my box?

Please avoid doing anything that could potentially disturb boxes except in October, as this is the time owls are least likely to be present. If you need to perform emergency tree work, please contact us first. Be very cautious when initially approaching the box and if owls are still present please contact us for further info.

My neighbor is using rodenticides (rodent poisons), what should I do?

We encourage you to inform them of the dangers of rodenticides in a non-confrontational way. Many people simply haven't heard any reason as to why using rodenticides might not be a good idea. You can use the info found in this packet or visit our website for more info you can share on rodenticides and non-toxic alternatives. We have letters, posters and more that can be shared. Feel free to contact us for more information or further advice.



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The 7 Steps To Non-Toxic Rodent Control

1. Exclusion

Rats and mice can enter a home or building through 1/4" - 1/2" gaps. Without sealing off their method of entry, the rodent problem can continue to persist. Seal off possible points of entry. Pest control companies such as Hitmen (www.hitmenpest.com) or Bio Pest (www.bio-pest.com) also provide exclusion services (let them know you were referred by HOP).

Gophers are territorial and live alone (except when with young). They will defend their territory, but if one dies, others are immediately ready to move in. Therefore, exclusion, as much as possible is very important. Metal barriers can be installed in the ground to prevent Gophers from getting into an area. Putting plants in raised beds with 20 gauge Gopher wire lining the bottom can help keep them out. Vulnerable plants can be placed in Gopher baskets. Laying Gopher wire down before laying a new lawn will help exclude Moles and Gophers. For a variety of the Gopher and Mole solutions visit: www.gopherslimited.com

2. Prevention

Rats and mice look for food, shelter and water. The removal of these will go a long way in preventing a rat or mouse infestation. Remove places where they nest and hide such as ivy, thick vines, dense shrubs and any debris piles. Do not feed pets outside, clean up under bird feeders, pick up fallen fruit and put fertilizers in metal containers. Keep compost away from buildings, use secure trash bins and keep tree branches away from buildings.

Gophers and Moles can be repelled with Castor oil based deterrents. They work well if used regularly every 4-6 weeks. Plant mostly native aromatic plants and those that deter Gophers (such as Gopher Splurge, Sour Clover and Daffodils). Water less when earthworm eating Moles are present (moist soil will make it easier for them to find the worms).

3. Trapping

Rats and mice can be trapped successfully using regular mouse traps, but placement is key. Please do NOT use inhumane glue traps or any form of trap outside the home to avoid killing non-targeted wildlife.

Gophers and Moles can be trapped successfully. We recommend cinch traps as we have found them to be the most humane and easiest to use (requiring little digging). For traps and information on trapping methods, as well as exclusion and prevention techniques visit: www.gopherslimited.com

The 7 Steps (Cont..)

4. Work Together

Rodent problems are a community problem. Work together as a community to find solutions. It's important that there is an agreement NOT to use any form of rodent poisons such as store bought D-Con, that can be fatal to natural predators of rodents (such as hawks, owls, eagles, falcons, coyotes, foxes, raccoons, opossums, bob cats, mountain lions and more). In 2012, 78.1% of raptors (owls & hawks) brought into WildCare (www.wildcarebayarea.org) tested positive for rodenticide poisoning. Without these predators rodent populations would explode out of control. Rodent poisons are counterproductive and pose a threat to wildlife, pets and even humans.

5. Be an Advocate

Be an advocated for protecting the environment for natural beneficial predators that are already controlling rodent populations. There are non-toxic solutions that are both cost effective and sustainable. Share the message.

6. Research

Identify the rodent species that are giving you problems and then research non-toxic solutions. There is a lot of information to be found. You can start at the Hungry Owl Project (www.hungryowl.org), Raptors Are the Solution (www.raptorsarethesolution.org) and the Safe Rodent Control Resource Center (www.saferodentcontrol.org).

7. Attract Beneficial Predators

Once a safe habitat has been created free from any poisons, Barn Owl nesting boxes can be installed to attract owls that will help control the rodent population. A family of Barn Owls (from a single nesting box) can consume 3,000 to as many as 5,000 rodents in a single 4 month breeding cycle. One adult Barn Owl can consume 500 Gophers a year. They prey on Gophers, Rats, Mice, Voles, Moles and more. Barn Owls are cavity nesters and are easy to attract to a location by installing nest boxes.

The owls will help solve rodent issues, as one part of a non-toxic Integrated Pest Management (IPM) approach that is safe, successful, long term and inexpensive. The owls alone are not the solution, but they are a very important part of the 7 steps needed for complete rodent control success.

For owl boxes, site consultations, installations and maintenance:
www.hungryowl.org



OWLS ARE NESTING IN THIS NEIGHBORHOOD



Photo by Luc Viatour

PLEASE DO NOT USE RODENT POISON

Poisoned rodents usually take several days to die and during this time are very easy prey. Wildlife and domestic animals frequently fall victim to secondary rodenticide poisoning: owls, hawks, eagles, falcons, bobcats, coyotes, mountain lions, foxes, herons, egrets, domestic dogs & cats and even children can be at risk.

For information on non-toxic alternatives, contact the Hungry Owl Project

www.hungryowl.org • 415-453-1000 x 20

HOP is a partnership with:  wildcarebayarea.org