

# *Northern Harriers in your Field*



**CALIFORNIA  
RAPTOR CENTER**  
University of California, Davis

## NORTHERN HARRIERS IN YOUR FIELD

Growers of alfalfa, wheat and sugar beets often have Northern Harriers nesting in their fields. That's because these ground-nesting hawks find more and more of their natural habitat taken over by human activities. So they select cultivated areas that offer the same advantages as natural grass and marshlands. They prefer large expanses of medium-height grass, preferably with water nearby. Large fields provide excellent cover for hiding nests and raising young where other predators can't find them.

### *Do Northern Harriers harm crops?*

No. In fact, these birds are helpful because they catch lots of mice and rats which can damage crops. They catch other things as well -- frogs, snakes, lizards and birds. Since Northern Harriers are strictly predators, they don't eat crops. Nest sites take up a circle of ground no more than three feet wide, and nests are usually distributed far apart.

### *Why is it important to know if there are Northern Harriers in my fields?*

All raptors (hawks, eagles, owls, harriers, falcons, kites, vultures) are protected by federal and state laws. So it's important to alert field workers to be on the look-out for them. When a nest site is disturbed by human activity, it is required that efforts be made to save the birds. Wheat and alfalfa crops are often harvested during the nesting season of Northern Harriers. This means you may get the opportunity to stage a "Raptor Rescue," either by doing it yourself or by calling a local wildlife care group to lend a hand.

### *How do I conduct a Raptor Rescue?*

If you already know there are Harriers in your field, you can go into the field a day or two before the harvest. Bring a cardboard box lined with towels to gather up eggs and chicks. On the other hand, if you are surprised by a big brown hawk flying up from your field during harvesting, the operator should stop the equipment, gather up eggs and chicks and take them to safety. It's important that chicks be kept warm in a box with the lid closed, and that the box be kept in the shade. (Not too hot, not too cold). Eggs should be wrapped individually and packed carefully so they won't be rattled. Call your local wildlife care group or the California Raptor Center at UC Davis (530) 752-6091 and get the birds there right away.

When you're searching the field, it's important to find all the chicks. An average Northern Harrier clutch is 4-5 eggs or chicks. But there can be as many as 7. Watch where you step. Chicks will run from the nest and hide among the plants near the nest site. It's easy to step on a chick or to miss seeing it entirely. Eggs are small and white, sometimes with a bluish tinge. Chicks will be of various sizes, ranging from a tiny fuzz ball to a gangly half-grown bird. Chicks are grey and fuzzy with long legs. They have black markings where feathers are developing under their baby down, and you'll be able to see the dark ear holes at the sides of their heads. Young chicks will display wide-open mouths with hooked beaks and stare up at you with their dark eyes. Pick them up carefully, put them together in a sufficiently large box and close the lid to calm them down.

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### *What do Northern Harriers look like?*

Northern Harriers (formerly called Marsh Hawks) are slim brown or grey hawks with large wings and an easy-to-see white rump patch on their back between the body and tail. They have powerful feet with talons for catching live prey and downward-curving hooked beaks for killing and tearing it up. They are 18-24 inches in length, have wingspans of 40-54 inches and long tails. The adult male is quite small with light grey feathers above, whitish plumage underneath, black wing tips and a barred tail. The adult female is much larger with chocolate brown feathers above, slightly streaked brown plumage below and barred tails. Juveniles are brown like the female but have bright cinnamon-orange breast feathers. Northern Harriers are most unusual because they have a round facial disk (like an owl) with very large ear holes hidden beneath the facial disk feathers.

### *How do I know if there are Northern Harriers nesting in my field?*

The best way is to look for pairs of Northern Harriers soaring over the field. You may see them "sky-dancing" and doing other sorts of barrel-roll mating behaviors over the fields in early spring. Later, you may see them flying and landing with streamers of grass or weeds grasped in their talons during nestbuilding. Once the female is incubating on the nest, you may see the male standing as a grey sentinel on the ground or on a low perch at the edge of the field. You may see the male hunting in the early mornings or late afternoons, flying low over the tops of vegetation and along ditches with wings tilted upward. You may also see him flying over the nesting field transferring food to the female, often by dropping it. The female will usually receive the food from the male away from the nest site and may make several "false landings" before arriving at the nest to feed her chicks.

### *How do I find a Northern Harrier nest?*

Because of these "false landings," Northern Harrier nests can be hard to find. They are well hidden, usually in the middle of a field so there is a large area of protective vegetation all around them to prevent detection by predators. Nests are constructed on the ground using grass and weeds. Harriers build simple platform-like nests raised slightly above ground level, to keep eggs and new chicks dry, but still low enough not to be easily seen from above.

If you (or your field workers) have observed the adult birds over a period of time, you may be able to locate the nest right away. If not, two or more people can make several trips walking the field abreast about 20 feet apart. This will eventually cause the female to fly up from the nest when someone gets too near. It's better not to disturb the nest site until you're ready to make the rescue. There is a danger that the parents may abandon a nest that is disturbed too early in the season or too many times. The greater danger, though, is that repeatedly trekking to and from the nest creates a scent-trail leading predators directly to the chicks. Removing the chicks from the field is the only way we know of to save them. Leaving an uncut patch of field around the nest does not work because predators immediately find the nest.

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### *Could there be more than one nest in my field?*

Yes. If the field is very large or if you have another suitable field close by there may be more than one nesting pair. Sometimes an older male may have 2, 3 and even as many as 4 females in a "harem." Each female will have her own nest site some distance away from the others and the male will (to the best of his ability) hunt and bring food to all the nesting females. Watching the fields for females to come up for exercise once a day can provide clues about the number of nests, even though you may be seeing only one male Northern Harrier.

### *How long is the Northern Harrier nesting period?*

Three to four months. Incubation may begin any time after the second egg is laid, and eggs are laid every two to three days. So there may be considerable overlap between the end of the egg-laying period and the onset of incubation which is normally done only by the female. It takes about 29-31 days for a single egg to hatch and about 29-39 days for an entire clutch of eggs to hatch. Male chicks fledge (fly away from the nest) in about 32 days, whereas the heavier females may remain in the nest until they are 42 days old. Juvenile Harriers ready to fledge are chocolate brown with barred tail feathers, a white rump patch and bright cinnamon-orange plumage on the breast. They have fully developed their round facial disks.

Young Harriers remain dependent upon their parents for some time after fledging. About three weeks after fledging, the young may begin to leave their home ranges, although some may stay near their nest site for as long as 50 days. Immature birds will migrate out of the nesting area alone rather than in the company of nest mates. Observers have found that females tend to survive better than males and that Northern Harriers can live to be 12 years old in the wild.

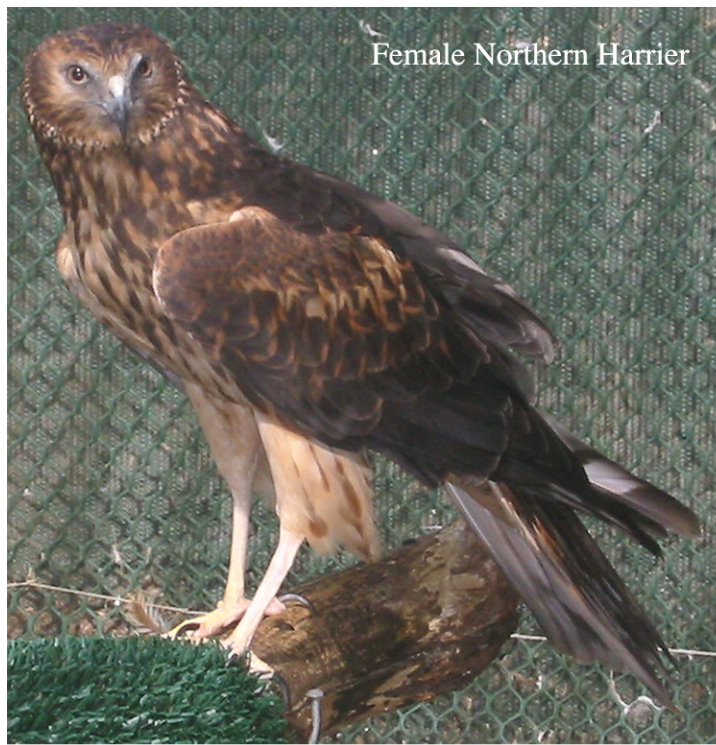
### *What happens to the chicks and eggs at a rehabilitation facility?*

Raptor rehabilitation facilities are licensed by the California Department of Fish and Game. Trained volunteers work hard to ensure that every live chick that comes to a rehabilitation center nursery is raised and released back to the wild. Baby chicks are hand-fed prepared mouse five times a day while older chicks are fed three times a day, gradually learning to self-feed mouse pieces and finally whole mice. Sometimes juvenile birds spend time with a surrogate parent bird in order to imprint (identify themselves as a Northern Harrier), although this is not really needed since released Harriers quickly lose their habituation to people.

Juveniles that are ready to fledge are "hacked out," a slow-release process in which birds are gotten used to a particular outdoor place for several days by being housed and fed in a hack box. The birds are then released from the box and food is put out every day at the "hack site" while the birds learn to hunt successfully for themselves. In this way, they have a back-up food supply for times when their hunting techniques fail or prey is hard to find.

(Note: Some, but not all, eggs can be hatched. Live chicks have priority for scarce resources; some eggs arrive damaged; some eggs come too late in the season for successful release.)





Female Northern Harriers have an overall brown coloration, a light colored chest with dark brown streaks, and dark brown wing and tail feathers. Male Northern Harriers are similar but have an overall gray coloration and are smaller than females. Both sexes can be identified by their facial disk and white tail band.



Northern Harriers fly low over open fields and can hover when searching for prey.