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MAGPIES

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MAGPIES

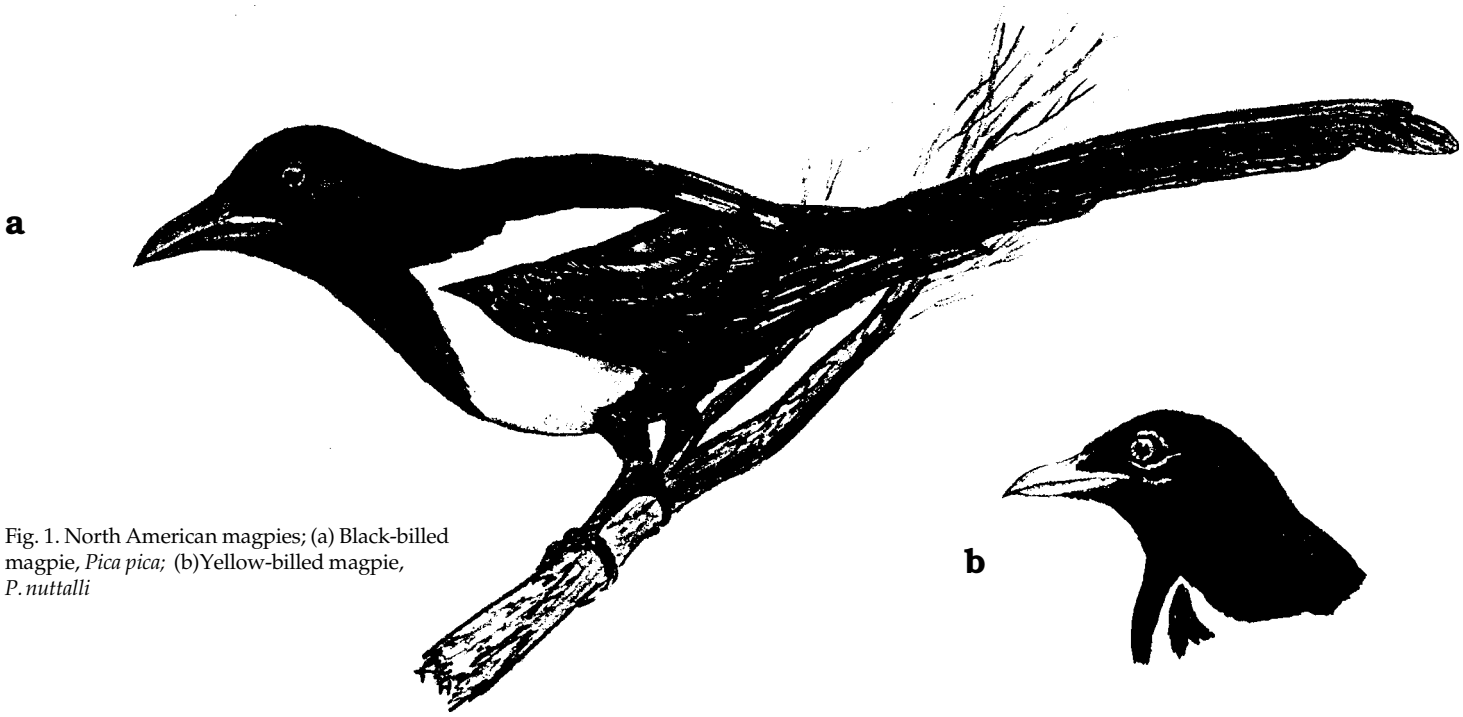


Fig. 1. North American magpies; (a) Black-billed magpie, *Pica pica;* (b)Yellow-billed magpie, *P. nuttalli*

Damage Prevention and Control Methods

Exclusion

Keep young poultry, poultry nests, and vulnerable livestock in covered fenced pens.

Netting can be used to protect small areas and valuable crops.

Habitat Modification

Remove nests of offending magpies that are raiding poultry farms.

Remove low brush and roost trees in areas where damage is excessive.

Frightening

A frightening program using pyrotechnics, scarecrows, and propane cannons in conjunction with human presence is effective for magpies in most damage situations, especially for roosts and crops.

Repellents

None are registered.

Toxicants

None are registered.

Trapping

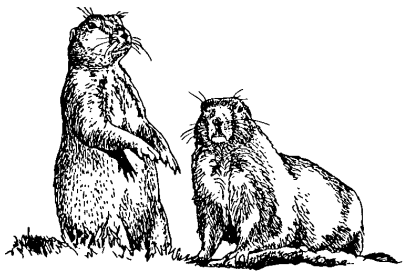
Modified Australian crow and circular-funnel traps can be used to help protect heavily damaged crops from a large local population. Proper care of traps and decoy birds is necessary.

Use No. 0 and 1 padded-jaw pole traps to take a few offending individuals.

Check local, state, and federal laws before trapping.

Shooting

Shooting magpies can eliminate damage from a few offending birds and will increase the effectiveness of a frightening program. Shotguns are recommended for most shooting.



PREVENTION AND CONTROL OF WILDLIFE DAMAGE — 1994

Cooperative Extension Division
Institute of Agriculture and Natural Resources
University of Nebraska - Lincoln

United States Department of Agriculture
Animal and Plant Health Inspection Service
Animal Damage Control

Great Plains Agricultural Council
Wildlife Committee

Identification

Magpies have lived in close association with humans for centuries. They are found throughout the Northern Hemisphere and are a common bird of tales and superstitions. Magpies and their many brash behaviors are the basis for the cartoon characters Heckyl and Jeckyl.

Magpies are members of the corvid family, which also includes ravens, crows, and jays. They are easily distinguished from other birds by their size and striking black and white color pattern. They have unusually long tails (at least half of their body length) and short, rounded wings. The feathers of the tail and wings are iridescent, reflecting a bronzy-green to purple. They have white bellies and shoulder patches and their wings flash white in flight. Like other corvids, they are very vocal, even boisterous. Typical calls include a whining "maag" and a series of loud, harsh "chuck" notes. Where magpies are not harassed, they can be extremely bold. If hunted or harassed, though, they become elusive and secretive.

Two distinct species are found in North America, the black-billed and yellow-billed magpies (Fig. 1). They are easily separated by bill color, as their names imply, and by geographic location. Black-billed magpies average 19 inches (47 cm) in length and 1/2 pound (225 g) in weight. They have black beaks and no eye patches. Yellow-billed magpies are somewhat smaller (17 inches [42 cm]) and weigh slightly less than 1/2 pound (225 g). Their bills and bare skin patches behind their eyes are bright yellow.

Range

Magpies are found in western North America. Ranges of the two species do not overlap. Black-billed magpies are found from coastal and central Alaska to Saskatchewan, south to Texas, and west to central California, east of the Sierra-Cascade range. They migrate in winter to lower elevations, and in northern parts of their range, south to areas within their breeding range. Occasionally they wander to areas further east and south of their normal range.

Yellow-billed magpies are residents of the Sacramento and San Joaquin valleys of central California and range south to Santa Barbara County. They do not wander outside of their normal range as often as black-billed magpies, but they have been found in extreme northern California.

Habitat

Magpies are associated with the dry, cool climatic regions of North America. They are typically found close to water in relatively open areas with scattered trees and thickets. The black-billed magpie inhabits foothills, ranch and farm shelterbelts, sagebrush, streamside thickets, parks, and in Alaska, coastal areas. The yellow-billed magpie inhabits farmlands, stream groves, and areas with scattered oaks or tall trees. Their range coincides with a few species of mistletoe that are often used in building their nests.

Food Habits

Magpies are omnivorous and very opportunistic, a characteristic typical of other corvids. They have a preference for animal matter, primarily insects, but readily take anything that is available. Congregations of magpies can commonly be seen along roadsides feeding on animals killed by cars or in ripening fruit and nut orchards. They also pick insects from the backs of large animals and were historically associated with large herds of bison. Their diet changes during the year, reflecting the availability of foods during the different seasons.

The black-billed magpie's diet typically consists of over 80% animal matter: insects, carrion, small mammals, small wild birds, hatchlings, and eggs. The remainder of its diet consists of fruits and grains. The yellow-billed magpie's diet is about 70% animal matter and 30% fruits, nuts, and grains. Nestling magpies are fed a diet of mostly animal matter, primarily insects.

Magpies often store or cache food items in shallow pits that they dig in the ground. This behavior is commonly observed in winter, but can be seen throughout the year.

General Biology, Reproduction, and Behavior

Magpies, like other corvids, are intelligent birds. They learn quickly and seem to sense danger. They are boisterous and curious, but shy and secretive in the presence of danger. They mimic calls of other birds and can learn to imitate some human words. They have readily adapted to the presence of humans and have taken advantage of new food sources provided.

Magpies are gregarious and form loose flocks throughout the year. Pairs stay together yearlong, but mates are replaced rapidly if one is lost. Nest building typically begins in early March for black-billed magpies and earlier for yellow-billed magpies. Black-billed magpies build large nests, sometimes 48 inches (125 cm) high by 40 inches (100 cm) wide, made of sticks in low bushes or in trees usually within 25 feet (7.5 m) from the ground. The nest chamber is a cup lined with grass and mud, and normally enclosed by a canopy of sticks. Two entrances are common. Yellow-billed magpies build similar nests, but theirs often resemble mistletoe clumps, which are common in trees where they nest. Magpie nests are usually found in small colonies. Magpies nest once a year, but will renest if their first attempt fails. Other species of birds and mammals often use magpie nests after they have been abandoned.

Black-billed magpies lay 6 to 9 eggs, whereas yellow-billed magpies lay 5 to 8. Incubation normally starts in April, except further north where it may begin as late as mid-June. The incubation period is 16 to 18 days and young are

able to fly 3 to 4 weeks after hatching. Young forage with the adults and then join other groups in summer to form loose flocks. Winter congregations may include more than 50 individuals. Yellow-billed magpies, though, may form nightly roosts of 50 or more soon after nesting.

Magpies are not swift fliers. They elude predators and danger by flitting in and out of trees or diving into heavy cover. They usually stay near cover, but often forage in open areas on the ground. Like other corvids, magpies walk with a strut and hop quickly when rushed. They are found close to water, using it for drinking and bathing.

Damage and Damage Identification

Magpies have come into conflict with humans in North America for quite some time. Poisons were used extensively in the 1920s and 30s to resolve serious depredations and livestock predation. During this time, magpie populations were greatly suppressed. Today, however, no toxicants are currently registered and populations have increased. Magpies cause a variety of problems, especially where their numbers are high. Most problems occur in localized areas where loose colonies have concentrated in close proximity to humans.

Magpies can cause substantial damage locally to crops such as almonds, cherries, corn, walnuts, melons, grapes, peaches, wheat, figs, and milo. Their damage is probably greatest in areas where insects and wild mast are relatively unavailable. Typically, other birds such as blackbirds and robins cause more damage to growers in fruit orchards and grain fields because of their greater abundance.

Magpies are often found near livestock where they feed on dung- and carrion-associated insects. They also forage for ticks and other insects on the backs of domestic animals. Perhaps the most notorious magpie behavior is the picking of open wounds and scabs on the backs of livestock. If they find an open wound, such as that from a new brand, they may pick at it until they create a much larger wound. The wound may eventually become infected and, in some instances, may kill the animal. Magpies, like ravens, may peck the eyes out of newborn or sick livestock.

Magpies rob wild bird and poultry nests of eggs and hatchlings. Typically, that does not affect wild bird populations except in local areas where limited habitat makes nests easy to find. They can be very destructive to poultry, however, especially during the nesting season when magpie parents are gathering food for their young.

Magpie roosts can be a nuisance because of excessive noise and the odor associated with droppings. During winter, magpies may congregate in loose colonies and form nightly roosts of hundreds after they have migrated southward and to lower elevations. They typically roost in dense thickets or trees.

Legal Status

Magpies are protected as migratory nongame birds under the Federal Migratory Bird Treaty Act. Under the Federal Codes of Regulation (CFR 50, 21.43) it is stated, however, that "a Federal permit shall not be required to control . . . magpies, when found committing or about to commit depredations upon ornamental or shade trees, agricultural crops, livestock, or wildlife, or when concentrated in such numbers as to constitute a health hazard or other nuisance. . . ." Most state or local regulations are similar, but consult authorities before taking any magpies.

Damage Prevention and Control Methods

Exclusion

Exclusion is generally not feasible to protect crops from magpie depredation unless crops are of high value or the area to protect is relatively small. Nylon or plastic mesh netting can be used to cover crops, but netting is expensive and labor-intensive, making it uneconomical to use in most situations. Netting can be used to protect individual trees and is most appropriate in small areas where depredation is extreme.

Exclusion is an ideal method to keep magpies from livestock when it is economical to do so. Poultry nests and young kept in fenced coops and feeding areas (maximum 1 1/2-inch [3.8-cm] mesh) are relatively safe from magpies. Lambing pens can reduce the incidence of eye pecking. Livestock with open wounds or diseases can be kept in areas that exclude magpies until they are healthy.

Habitat Modification

Predation on poultry often increases during magpie breeding season. Raids of increasing intensity can often be tied to a few offending breeding pairs with young. Removal of their nests can effectively reduce predation. If removal takes place early in the nesting season, magpies may renest, often in a completely new area.

Clear low brush to reduce nesting habitat in areas where several black-billed magpies are regularly concentrated and cause significant yearly damage. This method reduces habitat for all wildlife, however, and should be carefully considered before undertaken.

Removing or thinning roost trees will force magpies to find new roost sites. The primary factor to consider is the number of trees that need to be removed to satisfactorily reduce cover so magpies will relocate. Usually, the removal of only a few trees will discourage magpies.

Frightening

Frightening devices are effective for reducing magpie depredations to crops and livestock. Several methods are used to frighten birds and are explained in greater detail in the chapter on **Bird Dispersal Techniques** in this manual. A combination of human presence, scarecrows, pyrotechnics

(fireworks), and propane cannons provide a good frightening or hazing program and can reduce depredations significantly. The cost of using each of these techniques must be compared to determine the most effective combination to obtain the greatest benefit-cost ratio. The success of these devices varies greatly with location, availability of alternate food supplies (such as insects and wild mast), and how the techniques are used.

In a hazing program, the periodic presence of a person is important because it reinforces most techniques. The mere presence of a person will normally keep magpies at a distance, especially where magpies have been hunted.

Frightening devices such as scarecrows and other effigies, eye-balloons, hawk kites, and mylar (reflective) tape are used to deter magpies. Most are effective for only a short time, but their effectiveness can be extended by moving them regularly. The human scarecrow is still one of the most effective frightening devices. Painted eyes on both front and back of the head and arms made of flaps that blow in the wind will increase its effectiveness. Place scarecrows at regular intervals in the threatened area (one for every 2 to 10 acres [1 to 4 ha]) along with a combination of other frightening devices.

Pyrotechnics or fireworks can be used to repel animals. These explode, whistle, or scream after being ignited. Typical pyrotechnics are shellcrackers, rope firecrackers, and racket and whistle bombs. These can be purchased from suppliers, but some states require a permit from the state fire marshal. Shellcrackers are probably the most widely used and are shot from a 12-gauge shotgun, travel about 75 yards (70 m), and then explode. The 15 mm pistol launcher, however, is more economical, easier to carry, and allows reports and whistle and racket bombs to be shot. The variety seems to be more effective for magpies. The projectiles travel from 35 to 70 yards (30 to 65 m) depending on the style. These can be shot whenever magpies are seen in the damage area, but conservative use will reduce acclimation. Check state and local laws regarding pyrotechnics.

Propane cannons fire loud blasts at timed or random intervals. A variety of styles are available. Conceal cannons in threatened areas, move them every 3 to 5 days, and use sparingly to avoid habituation. For magpies, the blast interval should be no greater than one every 2 minutes and the interval should be varied. Shooting a few magpies with a shotgun and using pyrotechnics will increase the effectiveness of propane cannons.

Repellents

No effective chemical repellents are available for magpies.

Toxicants

None are registered.

Trapping

Trapping is effective in reducing local magpie populations and damage where they have concentrated in high numbers because of food availability or winter conditions. Several trap designs have been successful in capturing magpies. Traps made of weathered materials are most successful, but still require time for magpies to become accustomed to them. Traps are most effective in areas frequented by magpies or along their flight paths into damage areas. Consult federal, state, and local laws before trapping.

An effective trap design commonly used for capturing magpies is the modified Australian crow trap (Fig. 2). This is an inexpensive decoy trap that becomes more effective after the first birds (decoys) are caught. The standard measurements in figure 2 can be modified to facilitate transportation and storage, but the dimensions of the ladder openings or slots must remain the same. The trap can also be built to fit onto a trailer for transporting from one site to another.

The modified Australian crow trap has been used effectively in Washington and Oregon by baiting the trap with a red-colored, dry dog food. Initially, place dog food on the middle slat of the ladder until the first magpies are caught. Inside under the slots, place 10 pounds of dog food and water. Carrion, such as a chicken carcass or a road-killed rabbit, can also be used as an attractant. Check the trap daily, remove all but two magpies, and replace bait and water as needed. Nontarget birds that are captured should be immediately released unharmed. This trap can take several magpies, but it does require some time and expense to maintain properly.

Another trap design that has been successful for trapping magpies in Alberta is a circular-funnel trap (Fig. 3). Prebait the area to be trapped. After magpies start feeding, place the trap nearby where they can adjust to it. To attract magpies into the trap, place a line of bait leading into it. After the first birds are caught, remove all but one or two decoys and any remaining prebait. Keep trapping an area until most magpies are caught and then move the trap to a new location. This trap is probably not as efficient as the crow trap for catching large numbers of birds, but it is not as cumbersome and may be more effective at trapping magpies prone to feeding on the ground.

Padded-jaw pole traps can also be used to take a few offending magpies. These are leghold traps, No. 0 or 1 coil or jump spring, placed on 5- to 10-foot poles that are erected in threatened areas (Fig. 4). They can also be placed on routinely used perches. Traps do not have to be covered. The jaws need to be well padded with foam rubber or cloth and wrapped with electrician's tape to allow the leg to be snugly caught without breaking it. Run a heavy-gauge wire through the trap chain ring and staple the wire to the top and bottom of the post, allowing magpies to slide to the ground and rest. Both sides of the trap should be anchored with fine wire or thread to give the trap some stability. Other perches that cannot have traps placed on them should be removed or covered with tack board or porcupine wire to prevent magpies from landing. Traps must be monitored frequently and placed in areas where nontarget

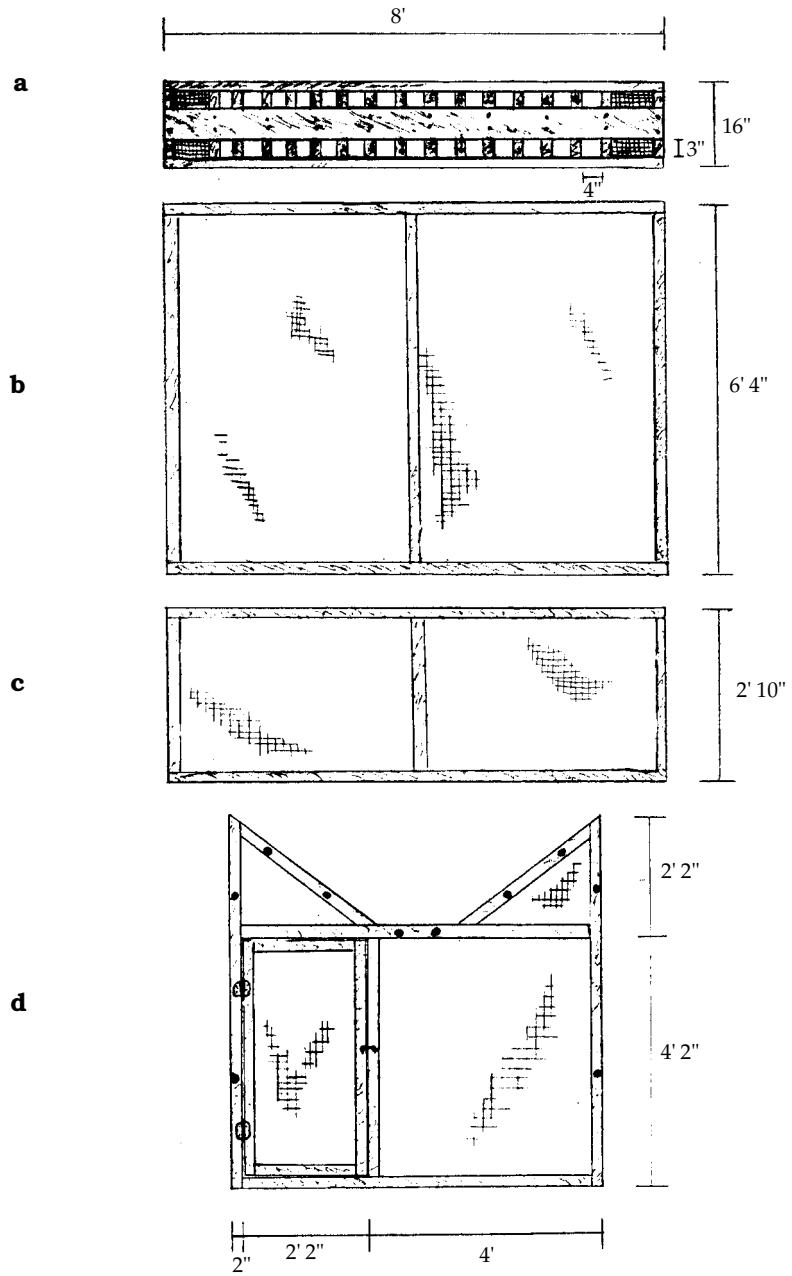
Fig. 2. Modified Australian crow trap for magpies: a) entrance ladder (top view); b) side panel; c) top panel; d) end panel with door; and e) assembled trap.

Materials Needed:

28	8 foot, 2 x 2-inch boards Cut these into: 12, 8 feet; 10, 6 feet; 4, 4 feet; 4, 34 inches; 6, 30 inches; 2, 22 inches; 17, 12 inches
1	8 foot, 1 x 6-inch board
56	feet of 4-foot-high, 1 x 2-inch wire mesh
24	4 1/2 inch bolts with wing nuts and 2 washers
2	small door hinges
1	door hook latch or locking style
	3 1/2 inch nails, staples, haywire

Assembly Instructions:

Construct the entrance ladder. Cover both ends with wire-mesh pieces 7 x 16 inches. Make two side, top, and end panels. One end panel is constructed with a support beam in the center (as pictured in the assembled trap) and the other with a door. Cut and tightly staple wire mesh to the inside walls. Cut or file any sharp projections that will protrude into the cage. Assemble the trap, holding it together with baling wire. Drill 10 holes in the end panels (shown in d) and through the adjacent panels. Put bolts through these holes with washers on both sides and secure with wing nuts. The side panels and entrance ladder can be snugly held to the top panels with haywire or bolts.



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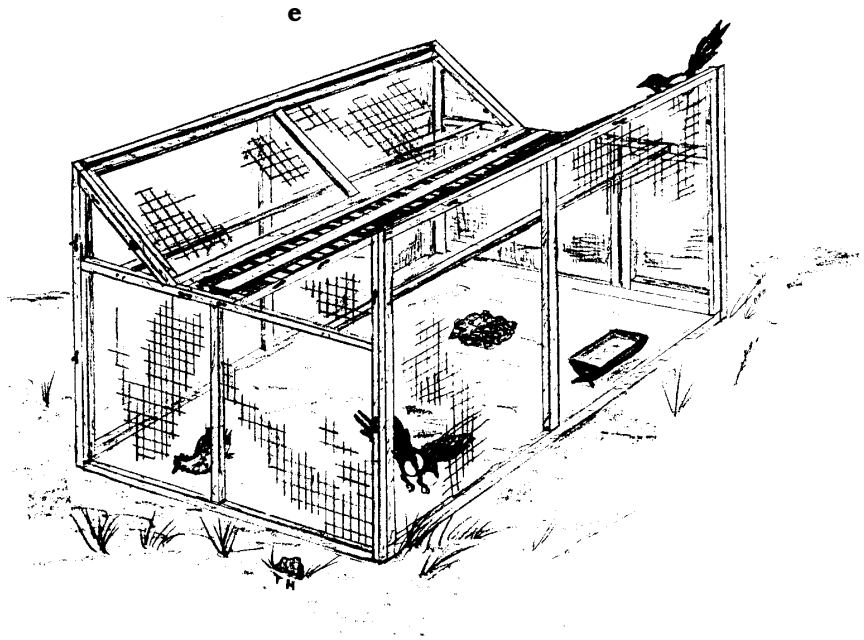

Fig. 3. Circular-funnel magpie trap: a) assembled trap; b) wire mesh cut for funnel; c) shaped funnel.

Materials Needed:

1 1/4-inch reinforcing rod 12 2/3 feet long
1 2 foot 6 inches x 12 foot 8 inches piece of 1-inch welded-wire mesh
2 2 foot 6 inches x 4 foot wire mesh (cut to fit top)
1 2 foot 6 inches x 3 foot 6 inches wire mesh (cut and tapered for funnel)
3 stakes about 10 inches long with 'U-shaped' heads

Assembly Instructions:

Bend the 1/4-inch rod in a circle and weld. Attach the 12-foot 8-inch wire mesh piece to the rod with haywire and crimp the ends of the wire mesh around the rod. Cut out the funnel, shape, and attach to the ground-side, inside wall with haywire. Cut out the wall according to the size of the tunnel opening. Cut out the rectangular opening (12 x 16 inches) on three sides opposite the funnel, but leave the fourth side as a hinge for a door to remove magpies. If light-gauge wire is used, an additional reinforcing rod around the top and on the sides may be needed to make the trap sturdy. Cut out the top and attach. Stake down the trap in the area to be trapped.

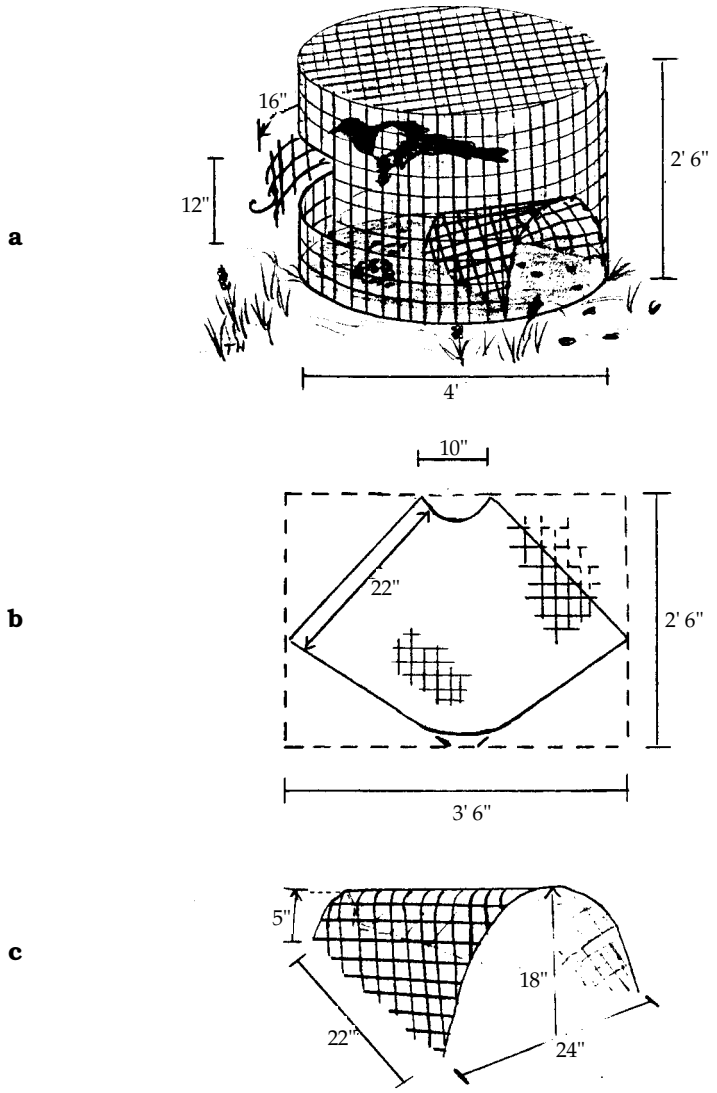

Fig. 4. Padded-jaw pole trap.

capture is highly unlikely. Be sure to check all laws regarding the use of pole traps.

Shooting

Shooting can be an effective means to eliminate a few offending magpies or to reduce a local population. Shotguns are recommended for shooting. Magpies can be stalked or shot from blinds under flight paths. They also can be lured with predator calls. Magpies, though, quickly become wary and learn to avoid hunters. Shooting in conjunction with a hazing program provides greater control of damage than does shooting alone. Consult local, state, and federal laws on shooting.

Economics of Damage and Control

Magpies benefit agricultural producers by consuming thousands of insects and by scavenging, but they can also have a negative local impact that can turn severe. Losses are greatest where nesting magpies are in close proximity to poultry producers or concentrated in numbers that constitute a problem. Damage may increase dramatically when wild mast and insects are relatively unavailable.

Each producer in the range of magpies should develop a management plan before magpies become a problem. Preparedness enhances the success in decreasing depredation. The cost of the different options for control should be weighed and compared with the success in controlling the problem. Long-term solutions should be implemented wherever possible, but be prepared to take remedial control measures when necessary. Prior to the depredation season, an estimate of the magpie population and the availability of alternate food sources should be determined to make preparations accordingly.

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Figure 1 by the author.

Figures 3 and 5 courtesy of US Dep. Agric.

Figure 4 courtesy of Alberta Agric.

For Additional Information

Alberta Agriculture. 1983. An improved magpie trap. Alberta Agric. Print Media Branch. Agdex 685-3. 3 pp.

Bent, A. C. 1964. Life histories of North American jays, crows and titmice. Dover Pub., Inc., New York. 495 pp.

Birkhead, T. R. 1991. The magpie: the ecology and behavior of black-billed and yellow-billed magpies. Poyser Popular Bird Books, Academy Press. 300 pp.

Kalmbach, E. R. 1927. The magpie in relation to agriculture. US Dep. Agric. Tech. Bull. 24. Washington DC. 29 pp.

Kalmbach, E. R. 1944. Local control of magpies through destroying nests and roosts and through trapping. US Fish Wildl. Serv. Wildl. Leaflet 252. 4 pp.

Linsdale, J. M. 1937. The natural history of magpies. Pacific Coast Avifauna No. 25. Cooper Ornith. Club Publ., Calif. 234 pp.

McAtee, W. L. 1933. Protecting poultry from predacious birds. US Dep. Agric. Leaflet 96. 6 pp.

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