

Victor E. F. Solman
Wildlife Biologist (retired)
Canadian Wildlife Service
Ottawa, Ontario
Canada K2A 2P1

GULLS

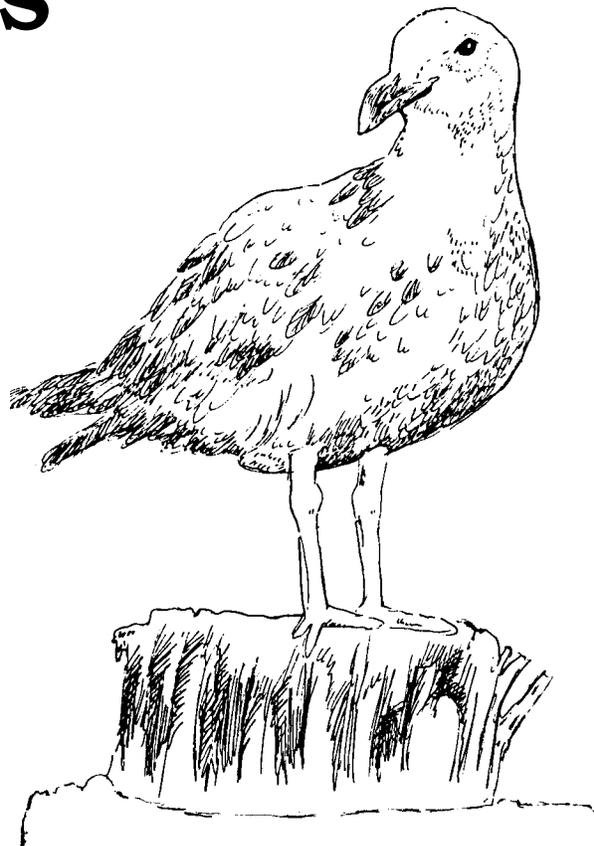


Fig. 1. Various species of gulls are becoming an increasing problem at specific locations throughout North America.

Damage Prevention and Control Methods

Exclusion

Construct complete enclosures of plastic or wire mesh.

Suspend parallel wire or monofilament strands over area needing protection.

Use porcupine wires on roosting sites.

Cultural Methods

Reduce or eliminate sources of food, water, and nesting or resting sites.

Frightening

Auditory and visual frightening devices can be effective for limited time periods.

Avitrol®.

Repellents

Polybutenes.

Toxicants

DRC-1339.

Trapping

Rocket or cannon netting over bait.

Box trapping over nests and eggs.

Spotlighting and netting by hand at night.

Shooting

Shooting with rifle or shotgun under special permit.

Other Methods

Removal of nests, eggs, and young.

Sterilization of eggs.

Identification

The term *gull* refers to members of a group of 23 North American bird species that belong to the family Laridae, subfamily Larinae. Gulls are robust birds with webbed feet, long wings and a slightly hooked beak (Fig. 1). They all possess exceptional flying ability. They are often seen swimming, and occasionally dive underwater. Adult gulls are white, with varying patterns of gray and black over the back, wings, and head. The young of larger species are often gray and take several years to develop adult plumage. The sexes are similar in appearance.



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

Distribution

The herring (*Larus argentatus*) and ring-billed (*L. delawarensis*) gulls are the most common and widespread of the species. They are distributed throughout North America, from coastal to inland areas, from unsettled areas to the downtown cores of large cities, from farmers' fields to fast-food outlets and drive-in theaters. Other common species include the laughing gull (*L. atricilla*), Franklin's gull (*L. pipixcan*), great black-backed gull (*L. marinus*), and California gull (*L. californicus*). Some species are limited to coastal habitats, while others may occur inland seasonally, rarely, or in specialized habitats.

General Biology, Reproduction, and Behavior

Most gulls nest in colonies on sand- and gravel-covered shorelines and islands. They build nests on the ground and produce 3 to 5 eggs per nest. In the Great Lakes region, the number of ring-billed gulls has been increasing at about 10% per year since the early 1970s. Bent (1947) said of it, "the ring-billed gull yields readily to persecution, is easily driven from its breeding grounds and seems to prefer to breed in remote, unsettled regions far from the haunts of man." However, a colony on Leslie Spit on the waterfront of Toronto, Ontario, increased from 20 pairs in 1973 to 75,000 to 80,000 pairs in 1982 (Blokpoel 1983). It appears that ring-billed gulls have changed some of their habits in recent years and have adapted to humans in their environment. A colony of laughing gulls in the Jamaica Bay Unit of Gateway National Recreation Area, New York, increased from 15 pairs in 1979 to 7,600 pairs in 1990 (Richard A. Dolbeer, pers. commun.).

Food Habits

Gulls feed on land or water on aquatic animals, terrestrial invertebrates and small vertebrates, plant remains, carrion, and refuse. They frequently take the eggs and young of other nesting seabirds. Small species, including ring-billed, laughing, and Franklin's gulls, may also feed in the air on flying insects.

Damage

Increasing gull populations in North America during the past century have led to a variety of problems for different segments of society. Gulls cause damage to agricultural crops and threaten human safety at and near airports. They are involved in more collisions with aircraft than any other bird group because they are numerous and widely distributed. The presence of gull roosts near reservoirs increases their potential for transmitting diseases to human populations. Gulls occasionally cause a nuisance when they nest on rooftops and seek food from people eating out-of-doors. Gulls are predators of several seabirds during the breeding season. Expanding and colonizing gull populations may have detrimental affects on the breeding performance of these other, often preferred, species.

Legal Status

Gulls are classified as migratory species and thus are protected by federal and, in most cases, state laws. In the United States, gulls may be taken only with a permit issued by the US Fish and Wildlife Service. Permits are issued only after frightening techniques, physical barriers, or both have been used correctly and qualified personnel certify that these methods have been ineffective. Some states may require an additional permit to kill gulls. No federal permit is needed, however, to frighten or mechanically exclude gulls.

Damage Prevention and Control Methods

Exclusion

Exclusion of gulls from attractive areas (garbage dumps, sewage discharge areas, drive-in theaters, catering establishments) near airports can significantly reduce gull use of airport surfaces and flightways used by aircraft.

Exclude gulls from limited resting areas such as window ledges and roof tops by covering the surfaces with porcupine wires (see **Pigeons**). Exclude them from large areas such as water reservoirs, cropfields, and landfills, by installing wire or plastic netting or suspending parallel steel wire (28-gauge [0.36 mm]) or nylon monofilament line (50-pound [23-kg] test) over the area. Wire or monofilament spacing may be 40 feet (12 m) for large gulls to 15 feet (4.5 m) for smaller ones.

Birds have long been excluded from ponds in which fish are raised by using heavy, easily visible wires. Amling (1980) used strong, fine steel wires (28 gauge [0.036 cm]) on long, parallel spans up to 80 feet (25 m) apart to exclude gulls from a water reservoir. Wires have been used successfully to exclude most herring and ring-billed gulls from garbage dumps. McLaren et al. (1984) found that a wire spacing of 30 feet (9 m) worked if the food attraction was not too great. Fifteen-foot (6-m) spacing worked even with very abundant food. Blokpoel and Tessier (1984) reported the successful exclusion of ring-billed gulls from food service areas in Toronto using widely spaced nylon monofilament lines. They used more closely spaced lines to exclude the same species from part of a nesting area used by more than 70,000 pairs of gulls.

The reason that gulls rarely fly under or between fine parallel wires is not clearly understood. Other birds, including pigeons, regularly fly under and between the wires. The fine wires

and lines are almost invisible at 35 feet (10 m) or more and may not be easily seen by gulls as they spiral down to land. The avoidance reaction when the wires are seen is spectacular and may disturb other gulls enough to make them avoid the wired area.

Cultural Methods

Habitat modification to discourage gull use of areas includes reducing or eliminating food, nesting and resting sites, and water. Reducing food availability is not easy, because of gulls' adaptability in using a wide variety of foods. Human food wastes, fruit and vegetable crops, insects, earthworms, and other invertebrates and vertebrates are all potential foods that may require careful control to reduce their availability. Municipalities may find it useful to modify or eliminate artificial feeding sites that gulls have habituated to in recent years, such as garbage dumps and landfills, fish docks, trawlers, food processing plants, sewer outfalls, and livestock feedlots.

Manipulate grass height by limiting mowing to discourage gulls from using airports, park areas, and playing fields as resting or loafing areas. A height of 8 inches (20 cm) may discourage laughing gulls, but herring gulls can see over it and will not necessarily be discouraged unless the grass is higher. Where ponds are attractive to gulls, filling or draining may aid in reducing the suitability of such habitats.

Frightening

Frightening devices used successfully against gulls include shotgun shells, shellcrackers, gas-powered exploders, and broadcasts of distress and alarm calls (see **Bird Dispersal Techniques**). In addition, gulls can be harassed by trained birds of prey or radio-controlled small aircraft, which can be constructed to resemble falcons. To be successful, all scaring devices should be used by experienced, dedicated personnel. Continuity and care in use are the most important factors. Most

distress and alarm calls are species-specific and may even be specific to local dialects. They must be used sparingly to avoid familiarity and are best used from a stationary source. The birds will first approach the source of sound and after 5 to 10 minutes will move away from the area. Shellcrackers can be used to direct the departure. They are most effective when the birds are airborne and have begun to move away from the sound source. Frightening devices are not a cure for repeated presence of gulls. Dead gulls or gull decoys placed in dead gull postures can be used, especially in conjunction with other frightening devices to frighten gulls from an area.

Avitrol® concentrate (4-aminopyridine) is federally registered for the control of herring gulls in the United States. The current label allows for its use to frighten gulls that are feeding, nesting, loafing, or roosting near or in the vicinity of sanitary landfills, airports, and structures. Apply the concentrate to bread, as specified on the product label. Mortality is minimized by limiting the amount of bait offered. Avitrol® used for this purpose is a Restricted Use Pesticide. State and federal permits are required in order to use Avitrol® on gulls.

Repellents

Polybutenes can be used as a tactile repellent to keep gulls from landing on beams, posts, and other structural materials. Research is being conducted on methyl anthranilate, a product that has shown some efficacy in repelling gulls from shallow pools of water used for loafing and watering.

Toxicants

The toxicant DRC-1339 is a Restricted Use Pesticide that is registered in the United States for the control of nesting herring gulls, great black-backed gulls, and ring-billed gulls. Its use is limited to coastal areas where high gull populations are conflicting with less-abundant colonial waterbirds. The toxicant is mixed with bread and is placed directly on gull

nests. DRC-1339 is slow acting and apparently painless. Death is caused by uremic poisoning.

Trapping

Gulls can be live trapped by several techniques, including rocket or cannon netting over baited sites, setting box traps over nests and eggs, and spotlighting at night and capturing with hand nets. Gulls are very mobile and if relocated, would likely home back to their original place of capture. Therefore, live-trapped gulls should be euthanized with carbon dioxide gas.

Shooting

Shooting gulls with shotguns or rifles can be a highly selective and useful form of control under certain conditions. Federal and possibly state permits are required. Shooting has been used to eliminate gulls that habitually fly over airport runways (for example, Kennedy Airport, New York) and offending individuals that are preying on the eggs and nestlings of protected species (for example, black-headed gulls, Norfolk, United Kingdom). Caution must be used so that shooting does not disturb the protected species. Shooting is not a very successful method for reducing large colonies because of the relatively small number of gulls that normally can be shot.

Other Methods

Removal of nests, eggs, and young. To be effective, removal of all nests, eggs, and young from a colony should be done every 2 weeks. Activities are time-consuming and labor intensive and re-nesting is usually attempted, often in more remote areas. Permits are necessary.

Sterilization of eggs. Several methods can be used to ensure that eggs do not hatch, including pricking, formalin injection, shaking, and spraying with or dipping in an oil emulsion solution. To inhibit replacement, eggs must be returned to the nest and not externally damaged.

Acknowledgments

John F. Bardwell and Alfred J. Godin reviewed a draft of this chapter and provided helpful comments.

Figure 1 is by Jill Sack Johnson.

For Additional Information

- Amling, W. 1980. Exclusion of gulls from reservoirs in Orange County, California. *Proc. Vertebr. Pest Conf.* 9:29-30.
- Bent, A. C. 1947. Life histories of North American gulls and terns. Dodd, Mead, and Co., New York. 333 pp.
- Blokpoel, H. 1976. Bird hazards to aircraft. Clark, Irwin, and Co. Ltd., in assoc. with Environment Canada. 235 pp.
- Blokpoel, H. 1983. Gull problems in Ontario. Info. Leaflet, Canadian Wildl. Serv., Ottawa, Ontario. 9 pp.
- Blokpoel, H. 1985. Report on damage to crops by gulls in southwestern Ontario. Canadian Wildl. Serv. Ottawa, Ontario. 3 pp.
- Blokpoel, H., and G.D. Tessier. 1984. Overhead wires to exclude ring-billed gulls from public places in Toronto, Ontario. *Wildl. Soc. Bull.* 12:55-58.
- Blokpoel, H., and G.D. Tessier. 1986. The ring-billed gull in Ontario: A review of a new problem species. *Occas. Paper No. 57*, Canadian Wildl. Serv., Ottawa, Ontario. 34 pp.
- Dolbeer, R. A., M. Chevalier, P. P. Woronecki, and E. B. Butler. 1989. Laughing gulls at J. F. K. Airport: safety hazard or wildlife resource? *Proc. Eastern Wildl. Damage Control Conf.* 4:37-44.
- McAtee, W. L., and S. E. Piper. 1936. Excluding birds from reservoirs and fish ponds. Leaflet 120, US Dep. Agric. 6 pp.
- McLaren, M. A., R. E. Harris, and W. J. Richardson. 1984. Effectiveness of an overhead wire barrier in deterring gulls from feeding at a sanitary landfill. Pages 241-251 *in Proc. wildl. hazards to aircraft conf. training workshop*. US Dep. Trans., Fed. Aviation Admin., Washington, DC.
- Solman, V. E. F. 1973. Birds and aircraft. *Biol. Conserv.* 5:79-86.
- Solman, V. E. F. 1978. Gulls and aircraft. *Environ. Conserv.* 5:277-280.
- Solman, V. E. F. 1981. Birds and aviation. *Environ. Conserv.* 8:45-51.
- Solman, V. E. F. 1984. Reducing gull use of some attractions near airports. Pages 209-212 *in Proc. wildl. hazards to aircraft conf. and training workshop*. US Dep. Trans., Fed. Aviation Admin., Washington, DC.
- Solman, V. E. F., H. Blokpoel, and J. Laidlaw. 1984. Keeping unwanted gulls away, a progress report. *Proc. Eastern Wildl. Damage Control Conf.* 1:311.
- Thomas, G. J. 1972. A review of gull damage and management methods at nature reserves. *Biol. Conserv.* 4:117-127.

Editors

Scott E. Hygnstrom
Robert M. Timm
Gary E. Larson