Australian Government
Australian Transport Safety Bureau

ATSB Bird Information Sheet No.1

Silver Gulls

Managing bird strike risk at Australian airports

SILVER GULL

Larus novaehollandiae

Strike Risk

ATSB rank 6 *

Between 1991 and 2001 there were 136 bird strikes reported to ATSB which involved gulls. Of these:

- 15.4% resulted in damage to aircraft
- 3.7% had an effect on planned flight
- 31% involved more than 1 bird

Although they are only medium-small birds, Silver Gulls present a serious risk to aircraft as they form large, dense flocks which can fly unpredictably. Frequently, more than one bird is struck which can potentially cause the failure of one or more engines.

*Ranking and figures were obtained from The *Hazard Posed to Aircraft by Birds* (ATSB 2002). http://www.atsb.gov.au/aviation/research/birdstrike.cfm

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About Silver Gulls

Silver Gull

Larus novaehollandiae

Other Name
Seagull

Size
Length 40cm; wingspan 94cm; weight 265-315g.

Identification
Adults have a white head, neck and body; white eyes with red eye-ring; silver grey wings that have black tips; red-orange bill and legs.
Juveniles have black eye; dark grey-brown bill and legs; brownish patch near ear; mottled brown on grey wings.

Distribution
Silver Gulls are found Australia-wide, although mostly on the coast.

Preferred Habitat
Silver Gulls congregate in a wide range of places including coastlines, estuaries, beaches, parks, sports fields, lakes, ponds, inundated grasslands, seafood industries, airports, sewer works and waste landfills.

Food
Silver Gulls are opportunistic scavengers, consuming almost any food matter including invertebrates, small fish, worms, insects, eggs and chicks of other birds and human and agricultural food waste.

Behaviour
Silver Gulls nest, roost and feed in large groups.
They can commute up to 40km from their roost or breeding colony to their feeding sites.
They aggressively defend food and nesting territories.

Breeding
Silver Gulls usually breed on off-shore islands, headlands, breakwaters, and/or causeways between August and February. Sometimes they nest on flat roof buildings and can prolong their breeding season for up to 11 months where food supplies allow.
1-3 eggs are laid in a nest made of anything from rocks or seaweed to stems from nearby plants.
Silver Gulls can reproduce for up to eleven seasons.

Juvenile

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Gulls at Airports

Nearly all bird strikes involving gulls in Australia have been with Silver Gulls. The larger Pacific Gull has occasionally been involved in strikes at airports in southern Australia. Gulls frequent some airports in stormy weather to seek shelter or food. The main attractions for gulls at airports include:

- **Water**
  Ponds, lakes, creeks, drainage ditches and depressions which fill with water after rain may attract gulls to feed and preen. Flooded creeks and drains may draw gulls to airports. High tides may cause gulls to move from estuaries or mudflats to airports.
- **Food**
  Gulls are opportunistic scavengers and take advantage of spillages or uncontained waste. Flooded creeks and grasslands make worms and other invertebrates available to foraging gulls.
- **Loafing areas/shelter**
  The flat open spaces and short grass found at airports provide a safe place for gulls to congregate away from predators and people.
- **Transit Routes**
  Gulls can over-fly airports that are between foraging sites and roosting and nesting grounds, potentially conflicting with aircraft flight paths.

DC 10 Crash: 12 November 1975.
JFK Airport, New York.
Gulls ingested into the #3 engine causing an explosion.
139 passengers, nil fatalities, 11 injured.

Managing the Silver Gull Hazard at Airports

Active Management

Active bird management involves scaring or removing birds from the airport. There are numerous options available for the task, some of which have limited effect in the long term as birds become used to them. Generally, a combination of techniques provides the best results. For Silver Gulls, the following active management options can be considered:

- ✓ Disperse gulls using pyrotechnics (such as cracker shells), portable distress callers, sirens, lights and/or vehicles. Gulls can be difficult to disperse, particularly in wet weather, and it is very important to start harassment as they arrive.
- ✓ Occasional killing (shooting) may be required (under permit from the relevant state or territory authority) to reinforce the impact of equipment used for dispersal. It should not, however, be considered as the primary solution for airports.
- ✓ Using trained animals such as birds of prey and dogs to disperse birds from airports has been highly successful in North America and Europe. This can be a costly operation, requiring specially trained animals and experienced handlers. Permit requirements for such activities vary between states and territories in Australia.
- ✓ Long range pyrotechnics such as CAPA which fire up to 300m from a plastic launcher could be trialed in an attempt to redirect gull flight tracks over an airport. Although costly, they may only need to be used sparingly.
- ✓ Where active management is required off-airport, it may include the removal of eggs and nests at breeding colonies to limit population growth (permits required from relevant state/territory authority). Extensive investigation into the size, location and local habits of the Silver Gull population must be undertaken before pursuing such action. Some management programs use the chemical alpha-chloralose to poison breeding adults at their nests. Its use is only applicable in colder climates and requires licenses/permits from the relevant state/territory authority.

Note: not all the suggested strategies have been trialed at Australian airports and it may be necessary for each airport to independently trial any particular method before incorporating it into their bird management plan.

Habitat Modification

All bird management strategies should seek to initially make an airport as undesirable as possible to birds through habitat modification. An assessment of the airport should be completed by a person qualified and experienced in identifying bird attractions and recommending site-specific modifications.

Reducing Silver Gull attraction to airports may require:

Removing the attraction of water (see "Reducing the attraction of water" Information Sheet 2 – Ducks)

- ✓ Depressions which hold water after rain require filling in. In some instances, new drainage channels need to be engineered to allow the fast exit of water from the site.
- ✓ Drainage channels may require wires, netting or the installation of floating plastic balls to restrict access.

Limiting Food Supply

- ✓ Ensure effective waste management procedures are followed by staff and tenants working on the airport and actively encourage the same behaviour in the vicinity of the airport.
- ✓ Reduce the frequency of mowing, or mow at night, to limit the availability of invertebrates, such as worms or insects, which may be exposed during mowing.
- ✓ If worms adjacent to the flight strips are the main attraction to gulls (this can be determined from analysis of stomach contents) sweeper machines can be used to remove worms which are in exposed areas. Chemical treatments such as Benomyl (commercial fungicide) can be considered after all other measures have been tried. Consideration must be given to possible environmental impacts of using such chemicals.
- ✓ Public education through signs and pamphlets to discourage public feeding of gulls at or adjacent to the airport.

Restricting Loafing areas

- ✓ Employ a long grass policy in all non essential areas. Grass maintained at around 30cm makes it difficult for gulls to access invertebrates in the ground and to see approaching predators.
- ✓ Install anti-perching spikes and wires to eliminate attractive roosts and loafing areas.
- ✓ Islands in the middle of water bodies should be removed to eliminate "safe" areas for gulls to retreat.

Note: A long grass policy should only be adopted if it is carefully planned and monitored. In some instances it may increase rodent populations and attract other bird species such as birds of prey. See "Managing Grasslands" Information Sheet No. 3 – Masked Lapwings.

Avoiding Transit Routes

It can be extremely difficult to combat the problem of birds transiting across an airport which is between a feeding site and a roosting or nesting area. It usually requires the cooperation of a broad range of stakeholders which could include airports, airlines, waste landfill managers, local councils and state government environmental organizations.

- ✓ Initially, a study may need to be conducted into the flight tracks of flocks, the timing of movements and the heights of birds to better understand how the problem might be managed.
- ✓ Planning in the vicinity of airport must consider bird attracting land use. See "Land use planning near airports" – next page.

Land use planning near airports

Developments such as landfills, fisheries, feedlots, wildlife refuges, sewage lagoons, and some agricultural activities can harbour large numbers of birds. Where these are near an airport, a significant bird hazard to aircraft may develop and appropriate planning controls should be adopted.

Australia does not have consistent regulations between states/territories regarding planning policies which restrict land uses within the vicinity of airports. Each airport should be aware of the pertinent regulations in their state or territory. In the UK any potential bird attracting developments within 13km of an airport must be assessed for bird strike risk before being permitted. However, some birds may travel much greater distances than this to reach food and may cross aircraft flight paths. Therefore it may be necessary to consider certain developments which are further away.

Remedial actions such as netting landfills or designing lakes which limit bird attraction can be considered as viable alternatives to the prohibition of the land use.

Civil Aviation Regulations 1988 – Reg 96 restricts the dumping of rubbish on or near aerodromes. See:
http://scaleplus.law.gov.au/html/pastereg/0/51/0/PR004680.htm

Managing bird populations at waste landfills

Silver Gulls have developed skills in acquiring food from waste landfills. This has created artificially large urban populations of these species in some areas. The key to limiting such populations is to deny bird's access to the food available at landfills. Good practices of keeping tipping faces small and covering waste will make the following options more effective:

- ✓ Netting the landfill area to exclude bird entry. This has been done successfully in the UK but at a cost of over £1million it is very expensive.
- ✓ Suspending monofilament wire or nylon line horizontally over waste landfills at 5 metre intervals. This has been successful in other parts of the world and can also be considered for use at places where gulls breed, roost or feed.
- ✓ Using a range of dispersal tools including gas cannon, distress caller and stock whip.
- ✓ Converting to more environmentally friendly closed waste systems where waste is turned into energy or composted. This avoids the need to dump food waste in the open for birds to access.

Did you know?

- The populations of some gull species continue to grow worldwide because of their ability to scavenge and exploit human food waste.
- There are about 48 species of gull in the world, with three resident species in Australia (Silver, Pacific and Kelp Gulls).
- The Pacific and Kelp Gulls are larger than the Silver Gull and are generally only found in the southern coastal parts of Australia.
- Silver Gulls reduce the breeding success of seabirds like terns, noddies and boobies by eating their eggs and chicks.
- One study found that 85% of food consumed by Silver Gulls was from artificial food supplies such as waste landfills and scavenging at parks.
- The largest Silver Gull breeding colonies in the world containing 40,000 to 50,000 pairs are located on islands in Port Phillip Bay, Melbourne and off Port Kembla, NSW.
- Silver Gulls, leg-banded as chicks, have been recorded 3,256km away from the banding site.

For further information:

ATSB (02) 6274 7452
www.atsb.gov.au

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