

Migratory Bird Program

Reducing Bird Collisions with Vessels

Addressing the Issue

One of nature's great phenomena that few people know about is that billions of birds migrate during the night. Shorebirds, waterfowl, and songbirds travel extraordinary distances using cues such as light from the stars and the moon to navigate their migratory journeys. The moon and the stars used to be the brightest objects at night and their phases and illumination are critically important to birds and other wildlife.

Artificial light at night, like lights on cruise ships and other structures, can attract birds to the light source and disorient them during migration. Many lights are visible up to 200 km away, which can pull birds away from their natural migration path. The brighter skies and artificial light sources are more problematic for birds during nights with low visibility, such as periods of fog, cloud cover, bad weather, or nights where there is no moonlight. Lights are also especially problematic if they are close to areas with large groups of birds, which could be along bird migration routes or near breeding colonies of seabirds.

Gulls on the deck of a cruise ship.



Artificial lights at night are one of the leading threats to birds.



Rosalie Wetzel/USFWS

Birds that become disoriented or attracted by lights can become entrapped, flying around lights until, in exhaustion, they collide with the ship, land on decks, or fall into the water. When these events affect large numbers of birds, they are sometimes referred to as a “bird storm” and the event can last several hours. “Bird storms” resulting in thousands of bird mortalities have been documented in the Atlantic and Pacific Oceans and the Gulf of Mexico.

When those birds collide with a vessel, many of them die on impact, many become stunned, and some of them can even get trapped inside the ship's cabins and quarters. This can affect operations by creating potential health and safety hazards for operators and guests and cause costly damages to the ship.

Taking Action

A variety of federal agencies, industries, and international conservation organizations are working to address this issue by reducing the amount of artificial lighting at night and bird collisions with structures.

While there are many different techniques that people can use to prevent

bird collisions, we know that prevention is the best tool we have to solve this problem.

Step 1: Predict the Event

- a. *Time of year.* Certain times of year are at higher risk for bird collision events:
 - i. When birds are migrating April-May and August-October
 - ii. When young seabirds are taking their first flights September-December, particularly during the nights when there is little or no moonlight.
- b. *Time of night.* Most bird collision events happen between midnight-sunrise.
- c. *Weather.* Bright lights combined with inclement weather, such as fog, low cloud ceiling, storms, or rain increases the risk of birds being drawn to and disoriented by the light.
- d. *Nights with large groups of birds migrating.* BirdCast (<https://birdcast.info/>) is an online tool

that predicts the number of birds migrating each night and sends notifications when large numbers of birds are likely to be migrating over an area. You can use this tool to estimate when your ship is at the highest risk for a bird collision event near shore and take actions to prevent it. When far from shore, beyond the coverage of BirdCast, a ship's radar unit can detect large numbers of flying animals in the atmosphere, such as birds and bats, and help the ship operators predict the immediate risk for an event.

Step 2: Prevent the Event

a. *Reduce Lighting.* The most important action you can take to prevent birds from being attracted to your ship during the night is to eliminate or minimize your lights. While some lighting is necessary and required for safety, operations, and navigation, you can limit lighting to when and where it's truly needed:

- Turn off or significantly dim deck and exterior lights except those used for navigation.
- Turn off interior lights when they are not in use or are not essential.
- Close blinds or lower black-out curtains in guest rooms and shared spaces to prevent light from spilling into the outdoors.

Birds flying over luxury cruise liner.



- Use automatic controls such as timers, dimmers, or motion sensors to turn lights on and off.
- Shield lights to focus light onto decks and workspaces, limiting light spillover into the sky or onto the water.

b. *Close Doors and Windows.* Birds drawn to the ship could enter through open doors and windows, including doors that open automatically. Keeping them closed will help avoid this and unwanted health issues that may arise.

c. *Alert Appropriate Crew.* Some ships have identified crew that may be able to make decisions or recommendations for eliminating lights and taking other precautions during an event.

Step 3: Manage an Event

It's crucial to have a plan in place for situations where birds are colliding with the ship or are landing on it.

- a. Turn off as many lights as you can until the event passes. Consider notifying all crew and passengers that lighting is being temporarily reduced and request that blinds, windows, and doors be closed.
- b. Give birds space and some time to recover and take flight again. There is evidence to indicate that many birds can recover and fly out of a bird collision event after 20 minutes

Cruise ship closeup with a pelican.



with quiet and little or no lighting. By allowing birds to take refuge for a few minutes, they may be able to recover and fly away.

- c. Use gloves to handle any birds.
 - i. If there are deceased birds, dispose of them properly to prevent any disease transmission.
 - ii. Live birds who do not recover after 20 minutes can be gently carried to a part of the ship that is outside, quiet, has reduced or no lighting, is restricted from passengers, and has shallow dishes of fresh water available. Do not attempt to feed the birds. Some birds may need to recover a few hours up to a couple of days before they are able to fly again.

The U.S. Fish and Wildlife Service appreciates your feedback. Please contact Jo Anna Lutmerding, at jo_lutmerding@fws.gov, with any comments or questions.

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