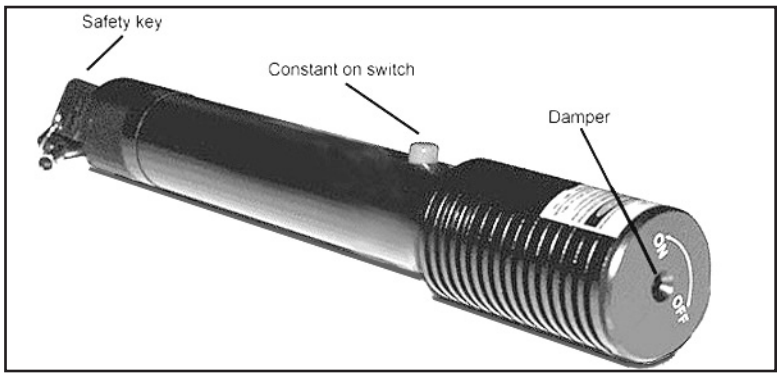
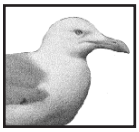
USDA/WS

Use Of Lasers In Bird Dispersal

Disperse birds in roosts at night and other sites without using shotguns, pyrotechnics, or harming the environment.

Avoids disturbances with people and other wildlife





Applications:
(At night)
Roosts in trees
Geese in ponds
Barns
Marinas
Fish ponds

Effective on:
(Large & Small birds)
Canada geese
Cormorants
Egrets
Heron, Gulls, Ducks
Pigeons
Starlings
Crows
Wild turkeys
Vultures

Recent research conducted by the U.S. Department of Agriculture's (USDA) Wildlife Services' (WS) National Wildlife Research Center (NWRC) indicates that relatively low–power, long–wavelength lasers provide an effective means of dispersing problem bird species under low–light conditions, while presenting no threat to the animal or the environment. For example, double-crested cormorants and Canada geese have shown extreme avoidance of laser beams. In addition, a variety of other avian species, including waterfowl, wading birds, gulls, vultures, and crows, have also exhibited avoidance of laser beams during field trials, but response is dependent upon context and species.

The lower power levels, directivity, accuracy over distance, and silence of laser devices make them safe and effective species–specific alternatives to pyrotechnics, shotguns, and other traditional avian dispersal tools.

Bird Dispersal

Best results are achieved under low-light conditions (i.e., sunset through dawn) and targeting structures or trees proximate to roosting birds, thereby reflecting the beam. In field situations, habituation to lasers has not been observed.

Laser Classification and Safety

The bird's eye generally filters most damaging radiation (e.g., short–wavelength radiation from the sun). In tests conducted with double–crested cormorants exposed to a relatively low–power Class–III B laser (see laser classification below) at a distance of 1 meter, no ocular damage was noted. However, unlike birds, the human eye, with the exception of the blink reflex, is essentially unprotected from thermal damage to retinal tissue associated with concentrated laser radiation.

Therefore, standards have been set forth for laser classification. The Class–III B category of lasers includes moderate–power lasers (between 5 and 500mW, continuous wave) that are generally not capable of producing hazardous diffuse reflection except for conditions of intentional staring done at distances close to the laser head.

Safe and successful laser dispersal of birds in a variety of settings is dependent on site conditions, particularly in urban areas. The operator should consider background, range of the beam, and reflections. Lasers should not be aimed in the direction of people, roads, or aircraft.