Wildlife Preservation and Asset Protection

The significant expense of repairing wildlife-related damage, the costly penalties and bad publicity incurred for harming wildlife, and the ineffectiveness of cracker shells, propane cannons, and other repetitive sound deterrents, highlight the need for safer, more effective wildlife control solutions.

Featuring advanced range and directionality, LRAD® systems are in use around the world preserving wildlife, controlling bird incursions, and cost effectively protecting assets.

LRAD systems are easily programmed to broadcast a near infinite variety of tones and predator calls to ensure against habituation and safely deter wildlife up to 3,000 meters away.

When integrated with cameras, motion sensors, night vision devices and radar, LRAD 950NXT systems can operate autonomously across an IP network to provide critical asset operators a completely unmanned perimeter security solution capable of remotely responding to and safely deterring wildlife and human incursions.

LRAD 450XL

LRAD 500X-RE

LRAD 950NXT

LRAD - Humane Wildlife Preservation & Cost Effective Asset Protection

Unlike other wildlife deterrent systems that disperse sound in all directions, LRAD's proprietary audio technology focuses sound in a 30° beam while substantially reducing sound levels behind the systems and in surrounding areas.

LRAD's advanced driver and waveguide technology maintains a smooth frequency response with an intensity variation of less than 5dB to prevent audio fading and ensure every tone and predator call is clearly delivered above wind and background noise.

LRAD systems are safe, rugged, portable, easy to operate. Every LRAD system comes with an all-weather microphone for live broadcasts and a hardened MP3 player to record and playback messages. LRAD systems are built to stringent Military Specification (MILSPEC) standards and are rugged, reliable and fully functional in austere environments.

WILDLIFE & ASSET APPLICATIONS

AIRPORTS

The dangerous and potentially deadly effects of bird strikes on commercial and military aircraft were demonstrated in 2009 when a U.S. Airways flight was forced to land on the Hudson River shortly after takeoff. In 2022, 17,190 bird strikes were reported, an increase of 10 percent compared to 2021. More than 276,000 bird strikes have been reported to since 1990, costing the aviation industry billions of dollars annually in aircraft damage and out-of-service delays.*

Manually operated or integrated with remote command and control centers, LRAD is a humane bioacoustic deterrent that has proven highly effective in preventing aircraft bird strikes near runways at airports and military air bases throughout the world. When integrated with millimeter band avian radar, LRAD systems automatically detect and deter birds entering runway control zones by broadcasting a wide variety of intense, directional sounds and predator calls to safely steer birds out of the path of aircraft during takeoffs and landings when they are most vulnerable to bird strikes.

WIND & SOLAR FARMS

Wind and solar power are the fastest growing alternative energy solutions, but they are proving deadly to birds and bats. More than 1.1 million birds** and one million bats*** are being killed every year by wind turbines in the U.S. Additionally, thousands of birds are scorched or incinerated annually in the solar flux generated by heliostat mirrors installed on solar farms.

The bird strike problem is becoming so serious that measures to protect the avian population are affecting the growth of wind and solar farm installations.

LRAD systems protect birds, bats and alternative energy installations by deterring wildlife incursions and preventing trespassing, asset theft and vandalizing, saving renewable energy companies millions of dollars in wildlife and intruder-related equipment costs and damage.

INDUSTRIAL FACILITIES

Industrial facilities attract communal bird roosts causing sanitation issues and significant property damage. In addition to giving off an unpleasant odor, avian fecal accumulation can infiltrate the water supply and create bacteria contamination that can harm workers. By implementing LRAD systems into industrial wildlife control programs, birds are safely dispersed and move onto more suitable roosting grounds.

When integrated with cameras, motion sensors, night vision, and radar, LRAD 950 NXT systems can be automated and remotely operated across an IP network to provide facility operators a completely unmanned perimeter protection solution capable of safely deterring wildlife and human incursions.

MINING OPERATIONS

Drilling and mining operations that create tailings ponds and waste areas can be deadly for wildlife. These water sources contain dissolved minerals that can kill birds and animals. Government agencies levy large fines and penalties on operators that fail to implement measures that curtail or prevent wildlife access to toxic waste areas.

Remotely operated LRAD systems integrated with millimeter band avian radar are being used in many mining operations to prevent waterfowl from landing on hazardous tailing ponds and wildlife incursions into waste areas.

Genasys and its avian radar partner, DeTect, Inc., were recognized by the Canadian Association of Petroleum Producers (CAPP) during its 2012 Responsible Canadian Energy Awards ceremony when it presented its President's Award to Canadian Natural Resources Limited for their Horizon Oil Sands Wildlife Management System.

Since 2009, Horizon Oil Sands has operated a leading bird deterrent program to prevent mortalities related to the Horizon External Tailings Facility (ETF). DeTect's Merlin bioacoustic deterrent system was deployed at the Horizon ETF utilizing technology originally developed for aircraft bird strike prevention. Using radar-controlled LRAD systems and lasers, the Merlin Detect and Deter system demonstrated 97.5% efficiency in deterring birds approaching the facility.

OIL & GAS

Oil and gas platforms are ideal areas for birds to roost, creating sanitation issues and significant property damage. Birds perch, feed and nest on unmanned platforms causing guano-related health concerns for maintenance workers and expensive repair and cleanup costs. Manned and unmanned platforms also face safety and security issues when fishing boats get too close.

When integrated with cameras, motion sensors, night vision and radar, automated and remotely operated LRAD-RX systems provide platform operators a completely unmanned perimeter protection Solution capable of safely deterring wildlife and vessel incursions.

By implementing LRAD systems in oil & gas platform wildlife control programs, birds are safely dispersed and move on to more suitable nesting grounds, and fishing boats are effectively warned away.

LARGE ANIMAL INCURSIONS

In many northern Canadian villages, polar bears have become increasingly accustomed to people, resulting in several dogs and villagers being mauled or killed.

When polar bears damage property or attack people, they are either killed or relocated. Relocating bears using trained veterinarians, tranquilizer guns, and helicopters equipped with nets is an expensive and hazardous operation.

LRAD systems humanely discourage polar bears from interacting with people and move them away from villages. Law enforcement and wildlife officers in northern Canada have used LRAD's long range warning tones to disrupt and deter bears from approaching areas of human activity. With its near infinite variety of tones and warnings, LRAD systems ensure against habituation and provide a highly effective bioacoustic deterrent.

FISHERIES / AGRICULTURE

Wildlife-related fishery and agricultural losses, and the ineffectiveness of standard deterrents, highlight the need for more effective wildlife control solutions. Wildlife become habituated to the repetitive sounds of cracker shells, propane cannons and other standard deterrents rendering them ineffective.

LRAD systems broadcast a wide variety of tones and predator calls to safely deter wildlife over distances up to 5,000 meters and ensure against habituation.

* https://www.faa.gov/sites/faa.gov/files/Wildlife-Strike-Report-1990-2022.pdf

** https://abcbirds.org/blog21/wind-turbine-mortality/

*** https://www.scientificamerican.com/article/wind-energy-could-get-safer-for-bats-with-new-research/

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