

United States Department of Agriculture
Animal and Plant Health Inspection Service**Wildlife Services Directive**WS 2.470
February 2025

LASER USE AND SAFETY FOR AVIAN HARASSMENT**1. PURPOSE**

To establish policy and guidance on laser use and safety training standards for Wildlife Services (WS) personnel who use lasers for wildlife damage management.

2. AUTHORITY

- a. 7 U.S.C. 8351 to 8353, and 16 U.S.C. 667, authorizes officers, agents, and employees of the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) to conduct a program of wildlife services and to enter into agreements with states, local jurisdictions, individuals, and public and private agencies, organizations, and institutions for the purpose of conducting such services.
- b. Authority to promulgate a policy addressing employee responsibilities is pursuant to USDA Departmental Regulation 4070-735-001.

3. BACKGROUND

- a. Lasers are an effective non-lethal and environmentally sound tool for mitigating bird damage to agriculture, natural resources, property, and human health. The use of lasers by WS personnel can be more cost effective than other methods of bird damage management and can be an important part of an integrated wildlife damage management program. WS laser use guidelines and training requirements increase the safety of people and wildlife.

4. DEFINITIONS

- a. Laser: Acronym for “Light Amplification by Stimulated Emission of Radiation.” As such, lasers differ markedly by the physics (energy, wavelength, and beam characteristics) of light emitted (laser versus multispectral spotlight), and WS application determines the type of laser used. In WS operations, lasers are typically used in dispersing avian wildlife.
- b. Maximum Permissible Exposure: The amount of radiant exposure to eyes or skin before causing tissue damage.
- c. Laser Safety Officer: Individual appointed by Project Leader or State Director who is familiar with laser technology, safety, and training. Roles include selection of appropriate lasers, acquisition, and training.

5. POLICY

- a. Trained WS personnel are authorized to operate lasers (handheld and/or automated laser systems) to perform official WS duties.
- b. WS shall not loan lasers to non-WS entities.
- c. WS shall not use lasers on airfields unless airport management and/or the FAA provide WS with written permission to do so (i.e., inclusion on Form 12a will suffice; see references AC 150/3200 33C for specific separation distances to include in Form 12a). WS personnel working within 5 miles of a runway (see references AC 150/3200 33C) must be mindful of beam termination points.
- d. WS supervisors with authority over state programs, national programs, and research projects must approve laser use for wildlife management in their respective area of supervision and shall identify a Laser Safety Officer (LSO) who shall approve laser purchases and laser applications.
- e. WS can purchase and use lasers of classes 1-3 (determined by maximum permissible exposure).
- f. WS personnel using automated systems will ensure beams terminate at the perimeter of the application area.

6. SAFETY

- a. WS personnel must take into consideration the potential hazards of using lasers for wildlife management purposes (Laser Use in Wildlife Management – USDA WS Report).
- b. WS personnel shall adhere to laser safety standards described in the owner's manual and WS requirements (as identified in the training program) pertaining to the use of lasers in wildlife management.
- c. WS personnel shall ensure that the manufacturer's label warning of potential exposure to radiation is displayed on the laser device.
- d. WS personnel may take additional precautionary measures (e.g., optical density glasses depending on operational situation, such as extreme elevation and dark conditions) to limit unintentional exposure to themselves, other people and animals during laser operation.

7. STORAGE and SECURITY

- a. WS personnel shall follow manufacturer's guidelines on storage instructions.
- b. WS personnel shall store lasers in a locked and secured box, locked building/room, or in a locked box in vehicle when not in use.
- c. For long-term storage (a week or longer), WS personnel shall store lasers in a dry, cool place to prevent damage or corrosion. Batteries should be removed during long-term storage (over 2 weeks).
- d. During transport, WS personnel shall secure lasers in a manner that prevents accidental activation.

8. PRODUCT PROCUREMENT

- a. WS State Directors/Project Leaders/ National Coordinators and LSOs must procure lasers for wildlife management from companies that provide evidence for adherence to FDA and EPA guidelines for laser manufacturing and use. Lasers must have a label indicating classification. Generally purchased from companies that focus on wildlife management.
- b. WS personnel must ensure that lasers have a safety system including an interlock or key switch and trigger or dead-man switch. Programs and current employees will have a 2-year grace period (from date of this directive) to install missing safety switches.

9. TRAINING REQUIREMENTS (or attachment)

- a. Before WS personnel can use lasers, they must complete requirements identified in the Directive.
 - 1) Initial Requirements.
 - a. WS personnel must complete the WS National Training Academy (NTA) Laser Use and Safety online training and pass the test with an 80% or higher score.
 - b. After completing the NTA Laser Use and Safety online training, a Laser Safety Officer must perform an equipment check with the employee before using lasers during their job duties.
 - 2) Continuing Training.
 - a. Continued training must be completed every 3 years via an NTA online platform.

10. RESPONSIBILITIES

- a. WS State Directors, Project Leaders, National Coordinators, LSO, or supervisors must ensure training is completed before using lasers.
- b. Training Records will be maintained by NTA.

11. SCOPE

This Directive is applicable to all WS personnel.

12. REFERENCES

- a. Laser Use in Wildlife Management – USDA WS Report, November 2020 (archived at USDA Wildlife Services National Wildlife Research Center’s Library).
- b. [FAA AC 70-1B: Outdoor Laser Operations](#)
- c. [FAA AC 150/5200-33C: Hazardous Wildlife Attractants on or Near Airports.](#)

13. ATTACHMENTS

None

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