Category 13: M-44 Predatory Pest Control

NOW ONLY AVAILABLE TO LICENSED GOVERNMENT APPLICATORS AND LIMITED TO EMPLOYEES OF THE USDA WILDLIFE SERVICE

M-44 Predatory Pest Control Learning Objectives

After studying this section, you should be able to:

✓ Describe M-44 predator control device use and restrictions.
✓ Detail predatory pest control for specific canid pests.

Category 13 M-44 Predatory Pest Control

Category 13, M-44 Predatory Pest Control, involves the control of predatory pests. Certification in this category is limited to USDA Wildlife Service employees. In 2017, changes were made to Nevada’s legislation. As of July 1, 2017, pesticide applications on all Federal (BLM, USFS, etc.), State, County, City or other municipality properties, including County or State owned golf courses and City, County or State Parks, must be made by a Licensed Government Applicator. See Pesticides and the Law chapter in this manual for more information or go to http://agri.nv.gov/Pest-Control/ . The category is no longer available to certified applicators, but the material will remain as a study guide for those who wish to become a licensed government applicator.

The M-44 device is a spring-activated device that delivers a dose of cyanide powder to targeted animals. It uses a cyanide capsule that has been registered as a pesticide with the U.S. EPA. This product is classified as a restricted use pesticide. The device can only be used by trained, certified applicators who are employed by the USDA APHIS Wildlife Services Agency.

The M-44 device consists of four components: a capsule holder wrapped with cloth, wool or other soft material; a cyanide capsule (a small plastic
container holding sodium cyanide); a spring-activated ejector; and a 5- to 7-inch stake. In the field, the stake is inserted into the soil with the top flush with the ground’s surface. With the ejector cocked and set, the capsule is inserted into the holder and screwed onto the ejector. The ejector is secured to the stake. A specially formulated fetid (foul-smelling) bait or other scent material is smeared on the wrapped capsule holder. The bait elicits a “bite and pull” response by the target animal. The M-44 device is triggered when a canid (i.e. coyote or wild dog) tugs on the baited capsule holder, releasing the plunger and ejecting sodium cyanide powder into the animal’s mouth. The sodium cyanide quickly reacts with moisture in the animal’s mouth, releasing hydrogen cyanide gas. Unconsciousness is quickly followed by death, normally within 1 to 5 minutes after the device is triggered.

**M-44 Predatory Pest Control Device Use and Restrictions**

**I. PURPOSE**
To establish guidelines for the use of the M-44 device by Wildlife Service personnel.

**II. POLICY**
The M-44 device may be used to reduce damage caused by wild canids in accordance with EPA use restrictions. M-44 devices and capsules produced by the Pocatello Supply Depot are for official Wildlife Service use only.

**III. REFERENCE**
The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended.

M-44 Cyanide Capsules
M-44 Use Restrictions
EPA Registration No. 56228-15

**Use-Restrictions**
In addition to the main product label instructions and directions, EPA mandates 26 use-restrictions, which provide guidance for the application, storage, disposal and training requirements, safety, and necessary recordkeeping. Individual State pesticide regulatory agencies also can require additional restrictions on the use of M-44s in their jurisdiction.

1. Use of the M-44 device shall conform to all applicable federal, state and local laws and regulations.

2. Applicators shall be subject to such other regulations and restrictions as may be prescribed from time-to-time by the U.S. Environmental Protection Agency (EPA).
3. Each applicator of the M-44 device shall be trained in: (1) safe handling of the capsules and device, (2) proper use of the antidote kit, (3) proper placement of the device, and (4) necessary record keeping.

4. M-44 devices and sodium cyanide capsules shall not be sold or transferred to, or entrusted to the care of any person not supervised or monitored by Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS), or any agency not working under a WS cooperative agreement.

5. The M-44 device shall only be used to take wild canids: (1) suspected of preying on livestock or poultry; (2) suspected of preying on federally designated threatened or endangered species; or (3) that are vectors of a communicable disease.

6. The M-44 device shall not be used solely to take animals for the value of their fur.

7. The M-44 device shall only be used on or within seven miles of a ranch unit or allotment where losses due to predation by wild canids are occurring or where losses can be reasonably expected to occur based upon recurrent prior experience of predation on the ranch unit or allotment. Full documentation of livestock depredation, including evidence that such losses were caused by wild canids, will be required before applications of the M-44 are undertaken. This use restriction is not applicable when wild canids are controlled to protect federally designated threatened or endangered species or are vectors of a communicable disease.

8. The M-44 device shall not be used: (1) in areas within national forests or other federal lands set aside for recreational use, (2) in areas where exposure to the public and family and pets is probable, (3) in prairie dog towns, or (4) except for the protection of federally designated threatened or endangered species, in national or state parks, national or state monuments, federally designated wilderness areas and wildlife refuge areas.

9. The M-44 device shall not be used in areas where federally listed threatened or endangered animal species might be adversely affected. Each applicator shall be issued a map, prepared by or in consultation with the U.S. Fish and Wildlife Service, which clearly indicates such areas.

10. One person other than the individual applicator shall have knowledge of the exact placement location of all M-44 devices in the field.
11. In areas where more than one governmental agency is authorized to place M-44 devices, the agencies shall exchange placement information and other relevant facts to ensure that the maximum number of M-44s allowed is not exceeded.

12. The M-44 device shall not be placed within 200 feet of any lake, stream, or other body of water, provided that natural depression areas which catch and hold rainfall for short periods of time shall not be considered “bodies of water” for purposes of this restriction.

13. The M-44 device shall not be placed in areas where food crops are planted.

14. The M-44 device shall be placed at least at a 50-foot distance or at such a greater distance from any public road or pathway as may be necessary to remove it from sight of persons and domestic animals using any such public road or pathway.

15. The maximum density of M-44s placed in any 100-acre pasture land areas shall not exceed 10; and the density in any one square mile of open range shall not exceed 12.

16. No M-44 device shall be placed within 30 feet of a livestock carcass used as a draw station. No more than four M-44 devices shall be placed per draw station and no more than five draw stations shall be operated per square mile.

17. Supervisors of applicators shall check the records, warning signs, and M-44 devices of each applicator at least once a year to verify that all applicable laws, regulations, and restrictions are being strictly followed.

18. Each M-44 device shall be inspected at least once every week, weather permitting access, to check for interference or unusual conditions and shall be serviced as required.

19. Damaged or nonfunctional M-44 devices shall be removed from the field.

20. An M-44 device shall be removed from an area if, after 30 days, there is no sign that a target predator has visited the site.

21. All persons authorized to possess and use sodium cyanide capsules and M-44 devices shall store such capsules and devices under lock and key.

22. Used sodium cyanide capsules shall be disposed of by deep burial or at a proper landfill site. Incineration may be used instead of burial for disposal. Place the capsules in an incinerator or refuse hole and burn until the capsules are completely consumed. Capsules may be incinerated using either wood or diesel fuel.
23. Bilingual warning signs in English and Spanish shall be used in all areas containing M-44 devices. All such signs shall be removed when M-44 devices are removed.

   a. Main entrances or commonly used access points to areas in which M-44 devices are set shall be posted with warning signs to alert the public to the toxic nature of the cyanide and to the danger to pets. Signs shall be inspected weekly to ensure their continued presence and ensure that they are conspicuous and legible.

   b. An elevated sign shall be placed within 25 feet of each individual M-44 device warning persons not to handle the device.

24. Each authorized or licensed applicator shall carry an antidote kit on his person when placing and/or inspecting M-44 devices. The kit shall contain at least six pearls of amyl nitrite and instructions on their use. Each authorized or licensed applicator shall also carry on his person instructions for obtaining medical assistance in the event of accidental exposure to sodium cyanide.

25. In all areas where the use of the M-44 device is anticipated, local medical people shall be notified of the intended use. This notification may be through a poison control center, local medical society, the Public Health Service, or directly to a doctor or hospital. They shall be advised of the antidotal and first-aid measures required for treatment of cyanide poisoning. It shall be the responsibility of the supervisor to perform this function.

26. Each authorized M-44 applicator shall keep records dealing with the placement of the device and the results of each placement. Such records shall include, but need not be limited to:

   a. The number of devices placed.
   b. The location of each device placed.
   c. The date of each placement, as well as the date of each inspection.
   d. The number and location of devices which have been discharged and the apparent reason for each discharge.
   e. Species of animals taken.
   f. All accidents or injuries to humans or domestic animals.

March 9, 2004

**Predator Pest Control, Specific Pests**

**Coyotes:** In Nevada, the most common predator is the coyote. They will den at any altitude, and will eat anything from watermelon to livestock. The main problem is in eastern Nevada, where coyotes take many lambs, and work on
Coyotes are the most common predator in Nevada. The M-44 device and trapping are the only controls in Nevada.

No chemical control of mountain lions is registered in Nevada.

Skunks are a serious problem for bee keepers in Nevada. They can also transmit rabies.

calves at calving time. They are becoming pests in urban areas as predators of small pets. The largest population of coyotes in the U.S. is located just two miles from our nation’s second largest city, Los Angeles. Coyotes mate in January, and have a 64-day gestation period. They give birth to six to 10 pups in a litter.

Very few controls are available. The M-44 cyanide cartridge device is the only control besides traps that can be used in Nevada. Placement must be at least three miles from any habitation. A habitation is considered to be any county, state or federal roadway and any dwellings of man or his animals (barns, etc.). This makes the M-44 device difficult to place. Devices must be visited at least once a week, and there are 26 restrictions included in the use of the M-44 (see previous section). The product is registered for use in the state of Nevada.

Mountain Lions: This is the largest of Nevada’s carnivorous predators. It has two to five kittens every other year. Their diet consists of deer, rodents and livestock. Livestock killers are not very common, but when a mountain lion does become a livestock killer, help should be sought from the U.S. Fish and Wildlife Service.

No chemical control is allowed. Few problems exist when mountain lions remains in the wild, as they are of little danger to man. A mountain lion is a trophy animal and permits from Nevada Department of Wildlife must be obtained prior to harvest.

Skunks: Skunks are beneficial in that they eat insects. However, they can cause problems when they eat bees, chickens or eggs. They are a serious problem for bee keepers. They also transmit rabies, a generally fatal illness. Skunks normally have one litter per year, but occasionally there is a second litter. Litters usually consist of five to eight kittens.

Skunks can be live-trapped. Use a completely covered trap and the skunk will not spray. Bait the trap with a piece of meat, cantaloupe, fruit or dog food.

Bobcats: Bobcats mainly eat rodents and birds, but they will also prey on young lambs and fawns. The bobcat mates in February, has a 50-day gestation period, and gives birth to two to four kittens.

No chemical control is allowed. However, bobcats are hunted and trapped for pelts. A trapping license must be obtained to trap bobcats. Contact the Nevada Fish and Wildlife Department for more information.

Feral dogs: Most feral dogs are descendants of domestic dogs that have gone wild. Their appearance can often be similar to that of many common dog breeds. Feral dogs feed on many things, including carrion and garbage.
They can be efficient predators that prey on small and large animals. A 1974 study found that impacts by feral dogs were primarily to wildlife, and the second most serious damage was to livestock.

Feral dog management may include exclusion, trapping with subsequent euthanization, and shooting (outside of congested areas). The long-term solution to feral dog problems is responsible pet ownership and effective local dog management programs.

**Badgers:** Badgers are beneficial as they eat rodents. However, they are pests because they can damage fields and ditch banks by digging after their rodent prey. This damages alfalfa fields and ditch borders.

Badgers may be trapped or shot and gas cartridges may also be used.

**Foxes:** Foxes do very little damage, although they will sometimes eat young lambs and chickens.

**Weasels:** Not common in Nevada, weasels are predators of all kind of fowl. They may be shot or trapped.

**NOTE:** Most predators are beneficial to some extent, and one should apply control measures only as a last resort, and then only with the help of the Nevada Department of Wildlife or the U.S. Fish and Wildlife Service.

**Rabies:** Rabies is an acute encephalomyelitis (inflammation of the brain) that is caused by the rabies virus. Rabies can be transmitted by any animal that has salivary glands. There are three stages: prodomal, excitative and paralytic. The incubation period is 15 to 50 days. Many mammals, including the predators discussed above, can carry and transmit rabies to other animals, including man. Any animal suspected of having rabies must be handled with extreme care. The county health service and local animal damage control should be contacted immediately. Avoid contact with any potentially rabid animal.

**Conclusion**

Category 13, M-44 Predatory Pest Control, involves the control of predatory pests. Certification in this category is limited to USDA Wildlife Service employees only and as of July 2018 requires those individuals to become a Licensed Government Applicator.

Feral dogs cause 70 percent of the predation to farm flocks in Nevada.

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Updated in 2018 by M. Hefner, University of Nevada Cooperative Extension, and B. Allen and C. Moses, Nevada Department of Agriculture.
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