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## The Probe, Issue 36 - September 1983

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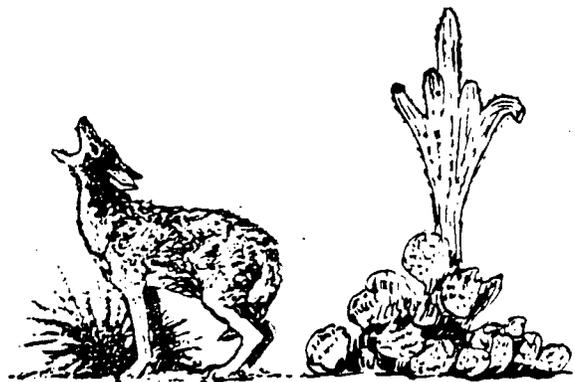
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# THE PROBE

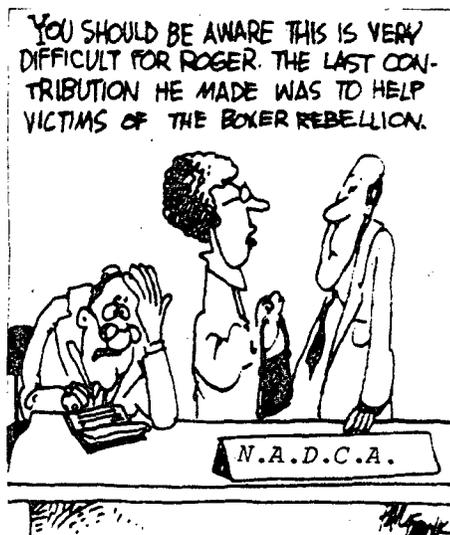


## National Animal Damage Control Association

No. 36

September, 1983

### IT'S THAT TIME AGAIN !



I know it seems like yesterday we put the bee on you to pay your dues to NADCA. As I have repeatedly stated, I'm a biologist not a damn bookkeeper therefore membership runs for a calender year. However, I'll tell you what I'm gonna do, anybody sending in their dues now will receive the PROBE for the rest of the year (probably all 2 issues) as well as all the issues in 1984. So ! that's no bargain to those of the faithful who have already signed up for 1983, but if you sign up now you will have recovered financially by Christmas and can blow it on other things like a wife. I also have a selfish motive as usual. It makes it much easier to get the membership rooster in order by the first of the year. What about giving YE ED a break ? I'll try to get a new directory out next issue so you can see who hasn't stood up to be counted. I certainly wish you wouldn't be so free with your copy. Let anybody else who wants to read it join up, the tightwads ! That's the purpose of the little white card, but please print as these eyes aren't getting any better.

Note the rates haven't gone up like everything else, but unless we get some more new members to build our base we may have to raise them.

Repeating yourself is a sign of ignorance - I've said that dozens of times.

### WORDS OF TWS WISDOM

THE WILDLIFE SOCIETY is apparently having the same recruiting problems we're having as shown in the following quotation (THE WILDLIFER, Issue #199, July/August, 1983) from L. H. Carpenter talking about reasons people give for not joining the Society: "Of all these reasons, I am most bothered by the charge that membership in the TWS is unnecessary. I feel this statement says a lot about the wildlife profession. Sure it is not necessary to belong to your professional society, but should you ? What obligation does an individual in a profession have to the overall profession ? I would be the first to say that simply having people join a society does not make a

better profession. However, it is a critical first step. Membership in an organization does open the door to participation. In a democratic society strength comes from numbers and diversity of opinion. The same is true of a professional organization. If we, as individual professional wildlfers, want our opinions and ideas heard and acted upon, it is necessary to band together to formulate and package these ideas such that they will have impact.

It is hard to understand the charge that membership in TWS is too expensive (Is \$10 a real hardship to NADCA members ?)...I suspect cost is a handy excuse. For the people that charge TWS is not active enough or that the objectives of TWS are wrong, I can only say "The door is open, walk in, develop better objectives, and bring on the action." "

I can't add much to that. NADCA was started by a bunch of nearly deads in hopes of serving the profession they had worked for during their careers. The time and effort they spend on this project gives them personal satisfaction (very difficult to put in the bank) but it would be more satisfying if we felt those still in the field were as concerned with the status of ADC as we are.

Youth's when you look ahead. Middle age is when you just look worried.

#### **GUEST EDITORIAL**

We know, we know; cows and pigs don't vote (though sometimes it seems they can be elected to office). The new cause is Animal Rights which was the subject of a 4-day conference in Montclair, NJ. Among the topics: "Reverence for Life - Are Cockroaches Included ?" We can't wait to read the position paper on that one. Dr. Alex Hershaft intends to make animal rights an issue in the 1984 elections. Which rights are those ? you'll be wondering, given that the U.S. Constitution was written by and for human-type animals. As seen in the context of contemporary setbacks to human rights - the Polish people, for instance, are in an even bigger pickle than Polish chickens - the animal rights movement should get one dominant reaction - Baaaaa. Dallas Morning News, 16 Aug 1983, Thanx to Sally Erdman

Ya can't take it with ya because it goes before you do.

#### **ANIMAL RIGHTS IN ACTION**

Of 3 fledgling peregrine falcons turned loose in a natural nesting site in the Sequoia National Park, 2 were caught and eaten by golden eagles before the 'biologists' could rescue the third.

"Project Tiger" to save the tiger population in India has succeeded. The tiger population has doubled in the past 10 years. In the last year alone, tigers have killed 150 people and 10,000 cattle.

Don't stay awake nights thinking how to succeed - stay awake all day.

#### **THE ECONOMICS OF ADC**

Weldon Robinson (remember the Denver WRC ?) made the following economic evaluation on ADC work at a Vertebrate Pest Conference in 1962:

"Thought you might be interested in the way I handled a request for our services by a man who was losing sheep to a coyote. The cooperater and I went out to the place where the damage had been done. He said, "Here is where the coyote has been jumping the fence. I have 4,000 sheep in this field and he has killed

between 10-15 sheep a night, besides causing the flock to stampede and knock the fence down, running over our tents and breaking all our dishes and equipment. There are at least 100 sheep scattered over the desert I'll never find...and worst of all they smashed our coffee pot and we can't make any more coffee."

Well right away I thought I'd better say something intelligent so he would know I knew my business...So with a thoughtful look on my face, I said, "Mister, you have a problem." Now that I had gained his confidence, I suggested as long as the cook was having lamb chops we might as well eat and I would decide upon what course to follow.

After an excellent meal with 3 helpings of everything except the paper plates, I suggested this, "Look Mister, you're a taxpayer so I'll let you decide for yourself. I could catch this coyote but it would take a couple of days and I forgot to bring a clean pair of socks with me so I'd have to drive home and back using a lot of gas and causing a great deal of wear and tear on the government truck. Then if I camp out it will cost Uncle Sam four dollars a day (remember this is 1962) besides my wages. Also, there is a chance that I could lose a trap or some other equipment or be injured, which would be additional expenses plus the cost of sending another man out to pick up my equipment. There is also a chance we might kill a valuable dog and then you and I would both be in great trouble. MY bowling team bowls every Thursday night and if I stay to catch the coyote I will miss that and a chance to win a free case of beer. It's also possible I may never catch the coyote. Now for me to catch the coyote is one solution. The other is for you to move your sheep away from the coyote."

Last time I saw the cooperator at his new location, he said he hadn't lost a sheep since I handled his problem. Thanx to Jim O'Brien, Sonoma Co., CA

I get my laundry back the same day - they keep refusing it.

#### **LETTERS TO YE ED**

Charley Andresen, Sonoma County, CA is in the hospital again. Ya can't trap starlings from a bed, Charley.

Jesse Baker, Executive Director of the Wyoming Wool Growers, and a good friend of NADCA was named the 1983 recipient of the Farm Bureau's Distinguished Service award. Mrs. Baker has been in bad health lately and they are hiring an assistant to help her out.

Gregorio Pina, Jr. retired from the Texas Rodent and Predatory Animal Control Service 31 August 1983 after 19 years. What can I say about the guy who got me so soused on margaritas the first time across the Texas border that I never knew what cabrito tasted like ?

We average about 6 complaints a year on vulture damage in Kentucky and Tennessee. This summer we've had 4 - cattle (3 taken), pig (22 lost) and 2 structural damage. One of the latter knocked out power for 3 towns. The other was a camp house with damage to chairs, boat seats, patio, etc. (Have you ever been whitewashed by a vulture ?) - Thanx to Ken Garner, USFWS, Nashville, TN

From reading an excerpt of my paper in a bootlegged copy of the August 1983 issue of THE PROBE, I was convinced that you either hadn't read the paper or had only read the abstract (that's it !). For this reason I am sending you an autographed copy...In it

you might note that the overall conclusion was that zinc phosphide poses a relatively low hazard to geese under optimal conditions (I thought I said that?). Maybe that statement won't make headlines either but that is the way it is. James Glahn, USFWS, Bowling Green, KY

Why are politics always left or right instead of right or wrong ?

**SOMEBODY DO SOMETHING !!!**

The following is abstracted from some USDA correspondence to EPA that somehow got into YE ED's grubby little hands.

EPA is proposing to cancel registration for certain 1080 uses and retain others for control of field rodents. This RPAR (need I explain that stupid acronym again?) process was started in 1976 on all field rodenticides. They issued a Position Document (PD) on strychnine in 1980 which in attempting to do away with strychnine stated that 1080 was a viable alternative. They have since issued another PD on strychnine which completely ignored the rebuttal evidence submitted by USDA stating that "...EPA had to assume a regulatory response that is consistent with the relationship between risks and benefits of use. Paradoxically, EPA states in the same paragraph that they have no formal equation for assuming risks to wildlife." Other EPA statements show we have a task ahead of us if we are to retain 1080 for field rodent use in agriculture. Based on the strychnine RPAR experience and the fact EPA has taken 7 years on the 1080 PD, USDA is requesting at least a year to adequately deal with this matter.

A review of the PD on 1080 by a competent ADC biologist finds that document the "...most absurd, incongruous and biased report..." that he has ever reviewed as a supposedly scientific report. But then considering the philosophy of Ed Johnson what could you expect? Among other things they recommend standardizing bait concentrations at 0.02% and yet in another section - "The Agency (EPA) has no direct data to specify an active ingredient concentration of less than 0.11%...for prairie dogs." They stress the need for costly surveys of prairie dog towns before using 1080 even though USFWS records show no evidence of black-footed ferrets over the last 20-30 years. Cancel registrations for the control of chipmunks, cotton rats, deer mice, kangaroo rats, and meadow mice on rangelands and croplands though they admit that the amounts used for this purpose are "not quantifiable".

What alternatives does a landowner face when confronted with a vertebrate pest problem and he has no efficacious, cost-effective, and legal means left to his disposal? The conclusion is he has to destroy the habitat that serves both harmful and beneficial species.

You can help by contacting your Congressmen and State Agricultural Officials to assist USDA in properly responding to EPA's complete disregard for the evidence that has been presented since 1976. YE ED had hoped to have a summation by Bob Schmidt on the blatant disregard EPA has for open discussion and conclusions based on scientific data rather than emotional hearsay, but hopefully we'll have it in the next issue. Any support for USDA's position can be channeled through Charles Smith (ARS, Rm. 420A, Administrative Building, 14th & Independence, Washington, DC 20250) or Terry B. Kenney (Rm. 217W same address).

Love your enemies - - whiskey, tobacco, women.

**HOWDY AGAIN**

## UNIVERSITY OF CALIFORNIA, DAVIS

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COLLEGE OF AGRICULTURAL AND  
ENVIRONMENTAL SCIENCES  
AGRICULTURAL EXPERIMENT STATION

DEPARTMENT OF WILDLIFE AND FISHERIES BIOLOGY  
UNIVERSITY OF CALIFORNIA  
DAVIS, CA 95616

June 7, 1983

TO: Whom It May Concern

SUBJECT: Transfer of Animal Control  
From USDI to USDA

The "Predatory and Other Wild Animal Act of 1931" placed the responsibility of animal control in USDA. In 1939 this function was transferred to USDI. Since I think this is the cause for much of the animal control conflict that exists today, as a highly concerned resource person I strongly recommend that Interior's Animal Damage Control (ADC) be transferred to APHIS of USDA and its Denver Wildlife Research Center (DWRC) be transferred to ARS of USDA. The Land-Grant universities of the nation could then become more active in this field through their USDA contacts.

There is no way that Interior can create the needed extension activity concerning animal control. Why not use the already existing and very effective USDA Cooperative Extension Service?

Wildlife managers have not been willing to assume the responsibility for regulating many wildlife species, such as mice and rats, pocket gophers, ground squirrels, coyotes, feral pigeons, and starlings. The evidence indicates that wildlife managers are primarily interested in game species and the more lucrative endangered species.

Wildlife are "managed" to improve their welfare, including preventing them from getting into conflict with people, but wildlife are "controlled" either to protect other species, resources, for public health reasons, or because someone currently views them as a pest.

It is not easy to train someone to be both a wildlife manager and animal control expert, but I do find it easier to teach wildlife management principles to someone who is control oriented than to teach wildlifers animal control principles.

Unfortunately, very few people have been trained in animal control, e.g., today there are only about seven animal control extension specialists in all of the U.S. The USDA has a much better chance of initiating the badly needed strong research-educational programs through Land-Grant universities than does Interior.

Wildlife management has largely been based on a "use syndrome," such as hunting, fishing, trapping and recreation, whereas control is more a consequence of health, economic survival and quality of living.

June 7, 1983

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Those who believe that the prevention or control of animal depredations cannot be divorced from wildlife management ignore the political value in our system of the separation of functions when it creates a healthier system of checks and balances (USDI - wildlife management; USDA - animal control). Since 1939 there has been too much in-house fighting between Interior's ADC and DWRC personnel with their administrators in Washington, and it is high time that these two action and research functions be given both philosophical and constructive support.

Why not integrate animal control with those concepts already developed in insect and weed control in USDA?

I do not agree with the philosophy of many wildlife managers who believe that all predator, rodent and bird problems should be the sole responsibility of landowners. I believe it is highly desirable that various levels of government provide leadership so that the most environmentally desirable control methods will be both properly researched and used.

It has been clearly demonstrated academically that no agricultural crop could remain economically successful if native mammals were not controlled, in fact these animals would also destroy most home landscaping since it consists of plants that did not co-evolve with and evolve resistance to these mammals.

It is important to note that the role of animal control is to prevent pest problems from occurring, and this can often be accomplished without destroying any offending animals or populations of wildlife.

Perhaps the main reason many people favor retaining the animal control functions in Interior is because it has been demonstrated that the environmental lobby can "control" Interior in this area, whereas they can only participate in the management of this subject in Agriculture.

Sincerely,



Walter E. Howard  
Professor and  
Vertebrate Ecologist

WEH:kap

*Howdy makes some more good points in the above letter particularly in reference to the previous article. You cannot help but be overwhelmed by the support USDI is giving to protect our use of 1080 and strychnine.*

**Characteristic signs of vertebrate damage**

ANIMAL	DAMAGE	PHYSICAL DAMAGE CHARACTERISTICS	SUPPLEMENTAL SIGN
Armadillo	Digs in lawns, hedge-rows, croplands.	Den holes 17-20 cm.	Tracks; droppings; brushy country.
Badger	Digs in croplands, pastures, and water-retaining structures.	Elliptical, 20-30 cm burrow openings with large amounts of dirt scattered around the opening.	Tracks; range and open wood lands.
Bat	Accumulations of droppings create odors and stain interiors.	Droppings hard with many insect fragments; black smears around heavily-used entrances to roost.	Sight and sound of animals at dusk.
Bear	Fruit tree branches broken; tree bark clawed or stripped; corn eaten; livestock killed; apiaries destroyed.	Branches broken down at crotches; deep vertical grooves on trunks; bark stripped off up to 2 m high and piled under tree; often deep holes made in tree by canine teeth; corn knocked down over an area, large tooth marks on cob; large livestock killed, usually by bite in the neck; sheepskin often rolled back over rib cage as animal eats internal organs; eats udders of ewes first.	Tracks; droppings; old logs torn apart; mountain country.
Beaver	New sprouts clipped; whole trees felled.	Tree stumps end in rough cone-shape; large chips; incisor tooth marks about 13 mm in width; bark removed from small stems leaving a peeled stick.	Tracks; droppings; castor scent piles; dams; stick lodges; aquatic habitat.
Cat	Defecating on premises; bird predation.	Droppings leave a bad odor; scratch marks for token covering of feces; messy feeders leaving carcass parts and feathers scattered over the area; eat both meat and feathers; large bones may show tooth marks.	Sight of animal.
Chipmunk	Seed eater; clips seedlings; eats garden produce.	Cone scales scattered under places of concealment; gnawed and clipped garden produce, tooth marks about 2 mm in width.	Burrows 5 cm in diameter; open wooded areas near rocks.
Coyote	Livestock predation; eats melons, corn, etc.	Lambs bitten through head; older sheep strangled by grasping throat; cow's tail bobbed; canine tooth marks in melons, large chunks bitten off and scattered.	Tracks; droppings; open country.
Deer/Eik	Smaller branches browsed; bark stripped off small tree trunks; bark in tatters, stem or branches broken.	Ends of branches squared, crushed off leaving strands of fibers dangling, usually up to 2 m off ground; long narrow strips of bark pulled off with no discernable tooth marks; small trees broken or bark in tatters when males whip the stems to remove velvet from antlers before rut.	Tracks; droppings; wooded areas.
Dog	Urinating on shrubs; livestock predation.	Brown foliage on outer edges of shrubbery up to a height of 60 cm; tooth marks any place on animal, particularly rear end; much mauling as they are inefficient killers.	Sight of animal; tracks; droppings.
Fox	Poultry depredation.	Tooth marks span back between wings; birds removed and eaten; toes in cramped position as they feed on leg muscles.	Tracks; droppings; bones and feathers scattered around musty dens; brushy country.
Mole	Digging in lawns and cropland.	Small pyramidal-shaped mounds with no apparent connection; dirt raised in low ridges over feeding runaways just below ground surface.	Grasslands and croplands.
Mountain Beaver	Clip conifer seedlings; gnaw on saplings.	Piles of vegetation on ground or logs to dry; oblique cuts on branches 2.5 m or more above ground leaving stubs on which it climbs higher.	Runaways; burrow openings 10-20 cm; occurs only in Pacific Coast rain forests.
Mountain Lion	Livestock depredation.	Carcass usually covered with leaves; large scratch marks to cover feces.	Tracks; droppings; wild country.
Mouse, Deer	Seed eater; nuisance in woodland homes.	Seed with small holes eaten in it; tooth marks about 1.5 mm in width; gnawing damage to foods, furniture, bedding, etc.	See or hear at night; tracks; droppings; food caches in sheltered places; rural habitats.
Mouse, Field	Seedlings and small stems up to 6 mm in diameter clipped; barks trunks of any-sized trees; eats garden crops and pasture grasses.	Cuts small seedlings like a miniature beaver; tooth marks appear as tiny grooves at different angles; works above ground attacking small to large trees; tooth marks on root crops.	Narrow, winding, clearly-defined 40-50 mm wide runways under grass and other cover; small piles of fresh-cut grass 20 mm in length usually with fresh green droppings nearby; pasture and brush lands.
Mouse, House	Contamination and gnawing damage.	Tooth marks about 1.5 mm on variety of food and other objects.	Pencil lead sized droppings very evident; black smears about 20 mm high along commonly-traveled routes; 5-toed track of hind foot commonly seen.
Mouse, Pine	Barks tree trunks and roots.	Generally works on roots underground, sometimes going above ground under snow; similar to field mouse.	Very small burrow openings connected to short runways unless in mixed population with meadow voles; woods and grasslands.
Muskrat	Crop destruction; digs in water-retaining structures.	Corn stalks cut between 7-30 cm from ground; piles of cut vegetation 12-25 cm long on land or rafts.	Tracks; droppings; scent piles; burrow openings 15-45 cm into banks, underwater entrances; reed lodges; aquatic habitats.

ANIMAL	DAMAGE	PHYSICAL DAMAGE CHARACTERISTICS	SUPPLEMENTAL SIGN
Nutria	Tree seedlings; eat sugar cane, rice, and vegetation; burrow into levees.	Pull seedlings up and eat roots; similar habits to muskrat.	Tracks; droppings; burrows larger than muskrat; aquatic habitats.
Opossum	Poultry depredation; gets in houses.	Kills 1-2 birds at a time, removes entrails from rear; smashes eggs; when it gets into houses moves at night.	Tracks; variety of habitats expanding northward.
Pig	Roots up vegetation; eats ground-nesting birds.	Ground disturbed, plants uprooted.	Tracks; rub marks and tusk gashes on trees with large coarse hairs stuck in bark; brushy country.
Pocket Gopher	Roots eaten; seedlings completely consumed; basal bark stripped; unsightly mounds on lawns	Clips off roots underground; may pull whole seedlings underground; tooth marks about 2 mm in width; eats basal bark on small trees under snow cover.	Distinctive horse-shoe shaped earthen mounds connected by underground passageways; long dirt piles pushed out into snow tunnels; woods, alfalfa fields, and lawn areas in suburbia.
Porcupine	Barks branches and main trunk of trees; gnaws wooden surfaces coated with human salt such as axe handles and toilet seats.	Clip small branches with clean, slanting cut up to 20 mm in diameter; barks larger branches or main stem; tooth marks about 8 mm; usually works at any height but most commonly around a large supporting branch on which it can sit.	Tracks; droppings; dens; woodlands.
Prairie dog	Destroys rangeland.	Vegetation denuded among the many burrow systems; 10-13 cm burrow openings circled by mound of dirt so they resemble a crater.	Tracks; droppings; sight of animals; open range.
Rabbit	Small twigs clipped; bark stripped off larger stems; garden depredations.	Small stuff less than 6 mm clipped with a clean, 45° angle cut; bark is nibbled off in patches or stripped off leaving light inner wood; tooth marks 2 mm wide; works only at ground level or on top of snow cover.	Tracks; droppings; depending upon species, found in deep woods, suburbia, or desert prairie.
Raccoon	Field crops; eggs and poultry killed; invade homes.	Corn is husked, kernels eaten from terminal end, stalks knocked down; heads of birds are bitten off and left some distance from body, breast and crop torn and chewed, sometimes bits of flesh near water; shells heavily cracked lengthwise.	Tracks; droppings; woodlands.
Rat, Field	Bark chewed; objects in house taken; leatherwork, etc. gnawed on.	Bark damage similar to that of tree squirrels but usually confined to upper part of tree.	Tracks; droppings; usually large twig nest in vicinity.
Rat, Norway & Roof	Contamination and gnawing damage; poultry depredation.	Tooth marks 3-4 mm on variety of foods and other objects; droppings about 20 mm (Norway rat) and 13 mm (Roof rat) long very common; usually kill more birds than eat by biting them on the throat; pile in corner, eat more than weasel.	Tracks; black smears 40 mm high along well traveled routes; burrow openings and runways in grass; scattered foods near feeding areas.
Skunk	Eats eggs and poultry; digs in lawns; dens under houses.	Egg shell margins crushed in small hole and contents licked out, left near nest; maul poultry when attack adult birds; dig small holes in lawns looking for grubs.	Odor; tracks; droppings; hair; open woodlands, agricultural land.
Squirrel, Ground	Seed eating; clips seedlings; garden crops.	Same as chipmunk.	Burrow about 50-60 mm in diameter variety of species and variety of habitats.
Squirrel, Tree	Twigs up to 1 cm in diameter; bark stripped from larger trees; woodwork chewed indoors; cone cutting.	Small twigs clipped cleanly but somewhat ragged on large ones, buds or fruit eaten; bark taken in ragged patches though whole trees can be stripped; woodwork splintered around window frames as animal tries to get out; cones cut green, scales scattered from vantage point.	Sight and chattering; tracks; droppings; woodlands and agricultural land.
Weasel	Eggs and poultry depredations.	Bite through the skull, upper neck, or jugular vein leaving single or double sets of punctures; kill more than they eat, usually on the head or breast; eggs usually taken away.	Tracks; droppings; wooded areas.
Wildcat	Livestock predation.	Lambs are usually killed by a bite on the back of the head or neck.	Tracks; droppings; scratch marks covering feces.
Woodchuck	Bark trees; crop depredation; dig holes in farm land.	Bark shredded, claw marks evident, tooth marks not clear, 6 mm; large burrows about 30 cm in diameter	Tracks in fresh dirt at burrow entrances; agricultural land.

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William D. Fitzwater, *WILDLIFE DAMAGE CONTROL, PART ONE, PEST CONTROL*, vol. 51, no. 2, pg. 34-38 (1983)

## Alternative control measures

Animal	Fumigants	Repellents	Toxicants	Traps	Other Controls
<b>MAMMALS</b> Armadillo	NR <sup>2</sup>		NR <sup>2</sup>	Conibear Leghold Live	Fencing Night hunting Soil insecticides
Badger	NR <sup>2</sup>		Strychnine NR <sup>2</sup>	Conibear Leghold	
Bat	NR <sup>2</sup>	Bird glues Naphthalene	Chlorophacinone DOT	Funnels Mist nets Vertical wires	Batproofing Fiberglass dusting Fogging High frequency sounds Lights
Bear			NR <sup>2</sup>	Culvert-type Leghold Snares	Electric fencing Elevated apiaries Hunting with dogs
Beaver		NR <sup>2</sup>	NR <sup>2</sup>	Conibear Leghold Purse-type	Chemosterilants Night hunting Pipes to drain dams <sup>b</sup>
Cat (domestic)		Allyl isothiocyanate Bone oil Capsaicin Citronella Eucalyptus Lemongrass oil Methyl nonyl ketone Methyl salicylate Naphthalene Nicotine Paradichlorobenzene Pyridine Thymol	NR <sup>2</sup>	Conibear Leghold Live	Licensing Sterilization
Chipmunk	Aluminum phosphide Calcium cyanide Magnesium phosphide	Naphthalene Paradichlorobenzene Thiram	Endrin Strychnine NR <sup>2</sup>	Leghold Live Snap	Proofing of outbuildings Shooting
Coyote	Gas cartridge NR <sup>2</sup>		Compound 1080 Sodium cyanide(M44) Strychnine	Leghold Snares	Calling/shooting Close herding Chemosterilants Denning Fencing (electric & woven wire) Guard dogs Hunting (dogs, aircraft, & snowmobiles) Shed lambing Sirens & flashing lights
Deer/Elk		Ammonium soaps of higher fatty acids Bone oil Capsaicin Putrescent whole egg solids Thiram Ziram	NR <sup>2</sup>	Live Snares	Chemosterilants Deer-resistant plants Fencing (individual plants electric, woven wire) Herd reduction/shooting <sup>c</sup> Plastic plant covers
Dog (domestic)		See CAT + Blood Diethanolamide condensate/coconut oil Methylene chloride Pentanthiol Triethanolamine salt of lauryl sulfate	Sodium cyanide(M44) NR <sup>2</sup>	Leghold Live	Fencing Licensing Sterilization

Animal	Fumigants	Repellents	Toxicants	Traps	Other Controls
Fox	Gas cartridge NR <sup>2</sup>		Sodium cyanide(M44) Strychnine NR <sup>2</sup>	Leghold	Calling/shooting Dispose of dead poultry Electric fencing Pen up poultry securely
Mole	Aluminum phosphide Calcium cyanide Ethylene dibromide Ethylene dichloride Magnesium phosphide	Paradichlorobenzene Thiram	Arsenic trioxide Strychnine Zinc phosphide	Choker Harpoon	Barriers Flooding Soil insecticides
Mountain Beaver	NR <sup>2</sup>		Strychnine NR <sup>2</sup>	Conibear Leghold	
Mountain lion			NR <sup>2</sup>	Leghold	Hunting with dogs
Mouse, Deer Outdoors Indoors —	Thiram same as HOUSE MOUSE	Biomet-12 Compound 1080	Anticoagulants <sup>1</sup>  Endrin Strychnine Zinc phosphide	Snap	
Mouse, Field (Meadow vole)	Aluminum phosphide Calcium cyanide Magnesium phosphide	Biomet 12 Capsaicin Thiram	Anticoagulants <sup>1</sup> Compound 1080 Endrin Strychnine Zinc phosphide	Snap	Individual tree protectors Low barriers Removal of vegetative cover
Mouse, House	Aluminum phosphide Calcium cyanide Carbon disulfide Choloropicrin Ethylene dibromide Ethylene dichloride Magnesium phosphide Methyl bromide	Biomet-12 Naphtahlene Polybutenes R-55 repellent Thiram	Anticoagulants <sup>1</sup> Arsenic trioxide Compound 1080 Endrin Phosphorus Strychnine Zinc phosphide	Automatic Glues Live Snap	Food storage in metat High frequency sounds Liquid baits Mouseproofing Tracking dusts Sanitation
Mouse, Pine	See FIELD MOUSE				
Muskrat	Calcium cyanide Carbon disulfide		Zinc phosphide NR <sup>2</sup>	Conibear Leghold	Fencing Move gardens from water edge Protection of dams Remove vegetation Shift water levels Shooting
Nutria			Zinc phosphide NR <sup>2</sup>	Conibear Leghold Live on rafts	Night hunting Raft baiting Vegetation control
Opossum			Strychnine	Leghold Live	Electric fencing Night hunting Pen up poultry securely
Pig, Feral			NR <sup>2</sup>	Live	Electric fence Hunting with dogs
Pocket gopher	Aluminum phosphide Ethylene dichloride Gas cartridge Magnesium phosphide	Paradichlorobenzene R-55 repellent	Arsenic trioxide Compound 1080 Gophacide Sodium arsenite Strychnine Zinc phosphide	Specialized	Flooding 2-4 D range treatment
Porcupine		NR <sup>2</sup>	Strychnine NR <sup>2</sup>	Leghold Live	Den hunting Electric fencing Proofing outbuildings Shooting
Prairie dog	Aluminum phosphide Calcium cyanide Gas cartridge Magnesium phosphide NR <sup>2</sup>		Compound 1080 Strychnine Zinc phosphide	Leghold Live	Flooding

Animal	Fumigants	Repellents	Toxicants	Traps	Other Controls
Rabbit (Cottontail, Jack & snowshoe)		Ammonium soaps higher fatty acids Blood Capsaicin Naphthalene Nicotine Thiram Ziram	Anticoagulants' Strychnine NR <sup>2</sup>	Conibear Live Snares	Clean cultivation Drives Fencing Removal of brush Shooting Tree guards
Raccoon & Ringtails		NR <sup>2</sup>	Strychnine	Leghold Live	Electric fences Lights Night hunting Pen up poultry securely Proofing attics Rodentproofing buildings Tight garbage can lids Tree guards
Rat, Field (Cotton, Pack, Kangaroo, & Wood)		Biomet-12 Naphthalene	Anticoagulants' Compound 1080 Strychnine Zinc phosphide	Leghold Live Snap	Rodentproofing buildings Wide, weed-free buffer strip
Rat, Norway & Roof	Aluminum phosphide Calcium cyanide Chloropicrin Ethylene dibromide Ethylene dichloride Magnesium phosphide Methyl bromide	Paradichlorobenzene R-55 repellent	ANTU Arsenic tricyde Bromethalin Compound 1080 Fluroacetamide Phosphorus Red squill Scillirosid Zinc phosphide	Glues Leghold Live	Food storage in metal containers High frequency sounds Liquid baits Paraffin blocks Ratproofing Sanitation
Skunk		Ammonia Naphthalene Paradichlorobenzene	Strychnine NR <sup>2</sup>	Conibear Leghold Live	Fencing Night hunting Proofing buildings Soil insecticides
Squirrel, Ground	Aluminum phosphide Calcium cyanide Carbon disulfide Ethylene dibromide Ethylene dichloride Gas cartridge Magnesium phosphide Methyl bromide	Biomet-12 Naphthalene Paradichlorobenzene	Anticoagulants' Compound 1080 Strychnine Zinc phosphide	Conibear Leghold Live Snap	Shooting Tree guards
Squirrel, Tree		Biomet-12 Bird glues Naphthalene Paradichlorobenzene R-55 repellent Thiram	Strychnine NR <sup>2</sup>	Conibear Leghold Live Snap	Proofing buildings Shooting Tree guards
Weasel				Conibear Leghold Live	Pen up poultry securely
Wildcat			NR <sup>2</sup>	Leghold	
Woodchuck/ Marmot	Aluminum phosphide Calcium cyanide Carbon disulfide Gas cartridge Magnesium phosphide Methyl bromide		NR <sup>2</sup>	Leghold Live	Fencing Shooting

Animal	Fumigants	Repellents	Toxicants	Traps	Other Controls
<b>BIRDS</b>					
Blackbirds	?	Captan Mesuroi	Aminopyridine Staricide	Funnel (top/side) Mist net	See STARLING
Crow	?	Captan Coal tar	Aminopyridine NR <sup>2</sup>	Funnel (top)	See STARLING
Gull			Aminopyridine	Cannon net	Audiovisual scare devices
Pigeon	NR <sup>2</sup>	Bird glues Naphthalene	Aminopyridine Endrin Fenthion Staricide Strychnine	Bob types Cannon net Funnel (side)	Antiroosting devices Audiovisual scare devices Nest destruction Ornitrol (chemosterilant) Proofing buildings Removal of food/water
Sparrow	NR <sup>2</sup>	Bird glues Naphthalene	Aminopyridine Endrin Fenthion Strychnine	Drop (elevator) Funnel (top/side) Mist net Nest box Snap	Antiroosting devices Audiovisual scare devices Nest destruction Proofing buildings Removal of food/water
Starling	NR <sup>2</sup>	Bird glues Naphthalene Mesuroi	Aminopyridine Endrin Fenthion Staricide Strychnine	Funnel (top/side) Mist net Nest box	Antiroosting devices Automatic exploders Distress cries Fireworks & Shellcrackers Proofing buildings Scarecrows
Misc. Birds	See STARLING				
<b>REPTILES</b>					
Snakes	NR <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	Funnel/drift Plastic netting	Cut vegetation Fencing Remove vegetative cover Rodent control
<b>AMPHIBIANS</b>					
Toads & Frogs			NR <sup>2</sup>		Kill insect food sources Low barriers Screen water inlets

<sup>1</sup>Anticoagulants for use against a particular species may include the following: brodifacoum, bromadiolone, bromethalin, chlorophacinone, diphacinone, fumarin, pival, prolin, valone, and wafarin.

<sup>2</sup>NR — While there may be effective chemicals available against a particular species, they are not registered at this time.

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**YE ED - William D. Fitzwater**

Sorry, our typesetter got drunk and we didn't have any space to properly introduce Howdy's letter and the 6 pages of tables. The tables are not an attempt to brag but I thought they might be of interest to those of you who don't read PEST CONTROL. I also would like any notes you care to add to improve the information. I overlooked EPIBLOC which should have been included under 'Other controls' for the Norway rat. I also found out later that magnesium phosphide is formulated for indoor use only.

The next newsletter will come out around November 1st as finances necessitate the cutting down of this publication to 10 or 11 per year. Also I'll be gone on the 'dog and pony show' in the Midwest and the Eastern ADC conference as mentioned in the previous letter. Hopefully, the color will be good in the Northeast too. The fact that I'm going to be gone doesn't excuse you from not giving me more poop for this rag as well as getting your dues in.

Adios,



**National  
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