

VERTEBRATE PEST CONTROL

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NOTE: For recommendations on the use of chemicals to control vertebrate pests, contact your Extension Service agent. It is necessary to obtain a permit prior to killing protected animals in Georgia. Get a permit by writing the Wildlife Resources Office of the Georgia Department of Natural Resources, 2070 U.S. Highway 278, S.E., Social Circle, Georgia 30279; or call 404/656-4994.

In the following section non-game animals include pocket gophers, chipmunks, bats, amphibians, and reptiles. A permit is also required to take furbearing animals or game animals out of season. A current hunting or trapping license is required to take game or furbearing animals in season.

To begin the permit process for taking protected birds call USDA Wildlife Services at (706) 546-5637. For permits to kill other protected animals call the Wildlife Resources office of the Georgia Department of Natural Resources (770) 761-3044.

MAMMALS

Species	Habitat Modification	Exclusion	Frightening	Repellents	Toxicants/ Fumigants	Trapping	Other
Beaver	Eliminate food, trees, woody vegetation where feasible Continually destroy dams Install water control device (Clemson beaver pond leveler)	Fence small areas along stream and yard Fence around valuable trees	Continual destruction of lodges and dams	None are registered	None are registered	Very effective if done by a trained Wildlife Control Expert	None
Chipmunk	Store food such as bird seed and dog food in rodent-proof container Ground cover, shrubs, and wood piles should not be located adjacent to structural foundation	Seal all cracks and holes in foundations ¼ inch mesh hardware cloth buried 1-2 feet deep to exclude from gardens and flower beds	Not effective	Area repellent such as Naphthalene (moth balls) may work in confined area but only outside (like in a shed - never in a house) Taste repellents containing Bitrex or Thiram applied to seeds, bulbs, or vegetation not meant for human consumption	None are registered	Very effective; using standard mouse or rat snap traps baited with peanut butter	None
Gray squirrel or flying squirrel	Trim trees away from house Remove diseased trees or trees with cavities	Sheet metal bands on isolated trees to prevent climbing in order to protect developing nut crop Seal all openings to buildings, especially around chimney, eaves, and soffets Install excluder in attics to allow squirrel to escape and prevent re-entry	Not effective	Some products containing hot sauce (capsaicin) and other distasteful compounds may work (may also be used with deer)	None are registered	Can be very effective but should only be done by qualified Wildlife Control Expert Permits may be required	On bird feeders suspended by rope. Place rope through plastic conduit to reduce climbing

VERTEBRATE PEST CONTROL - MAMMALS (continued)

Species	Habitat Modification	Exclusion	Frightening	Repellents	Toxicants/ Fumigants	Trapping	Other
Voles	Eliminate ground cover such as grass and weeds Remove mulch from base of trees and plants Soil cultivation to destroy burrows, tunnels and ground cover	Recommended to protect trees, ornamentals and gardens Use ¼ inch mesh hardware cloth buried 1-2 feet deep	Not effective	None proven effective	Anticoagulants like rat poisons always use caution around pets and children	Very effective using standard rat or mouse traps baited with peanut butter	None
Moles	Reduce soil moisture and food sources by reducing watering and cautiously using lawn pesticides to treat for insects and grubs	May be cost effective in very small area like flower bed or garden ¼-inch hard ware cloth or sheet metal	Not effective	None are registered	Several products (poisons) are available for placing in the tunnel or hole	Difficult but can be effective in some situations	None
Deer	Difficult; habitat modification is not generally recommended Plant deer-resistant plants Harvest crops early Lure crops may draw deer away from valuable crops	Fences – up to 8 feet tall; less if with dog Electric fences can be effective Individual tree protector; fence or pipe to prevent antler rubs	May provided some limited protection in certain situations	Many are available; some commercial; some 'home' remedies Effectiveness varies with ingredients and timing; start applying prior to damage; high density deer population will not likely be repelled Taste and odor repellents are available; beware of advertising Sound repellents are generally ineffective	None	Not available to landowners	Contraception is possible in lab situations and limited effectiveness in field; expensive Hunting is best in most situations but not allowable in some instances Commercial control at night with licensed professionals
Coyote	Destroy dens if possible Reduce habit at for mice and other food items	Fencing pastures and yards to reduce danger to livestock and pets Keep pets inside, especially at night	Guard dogs can be effective for livestock	None shown to be consistently effective	Available to livestock producers and Wildlife Control Experts; generally not available to homeowners/gardeners	Can be very effective but requires considerable knowledge; best left to Wildlife Control Experts	Hunting if safe and legal
Hogs	Difficult	Fencing may be effective for small areas	May provide limited protection in some instances	None	None	Very effective but costly and time intensive	Shooting or hunting. Check all game regulations.

REPELLENTS FOR DEER, RABBITS AND OTHER MAMMALS

These materials may give temporary protection. Repellents are most likely to produce satisfactory results if protection is needed for a week or two. If protection is required, fencing is often a more effective treatment. Retreatment may be necessary, especially after rain. Repellents are most effective when applied before damage starts. Local density of animal may negate efficacy of any repellent treatment. Some repellents are contact and water soluble; other are systemic and therefore require less frequent application. Read and follow all label instructions. Some repellents are not labeled for use on food crops. Contact wildlife specialist for additional products

PROBLEM OR LOCATION	CHEMICAL AND FORMULATION	METHOD AND RATE	TARGET SPECIES	REMARKS AND RESTRICTIONS
Browsing on conifer seedlings, ornamentals, hardwoods	Putrescent Whole Egg solids. Can be homemade.		Deer	A taste repellent. Not for use on edible plants. Brands or product names: Deer away, BGR.
	Liquid 15% Powder 36%	Apply to vegetation - spray, dip, or shake as per label.		
Fruit trees, field crops, ornamentals, nursery stock, vegetables, non-crop areas	Ammonium Soaps of higher fatty acids	Dilute as per label. Spray on crops to be protected.	Deer Rabbit	Retreat after rain or as necessary.
	Liquid 15%	May work as border treatment. Label may include use as paint for stems and trunks.	Deer	Brand or product names: Hinder Rabbit
	Other taste repellents - Mint Oil - Garlic Oil - Capsaicin - Bitrex ®		Deer Rabbit	Retreat after rain or as necessary. Apply before damage is noticed. Follow label instructions - some products not labeled for edible crops. Brand or product names: Tree-Guard, Liquid Fence, Deer-Off, Phantskydd, This-1-Works®
	Odor Repellents - Milorganite®	Apply as per label	Deer Rabbit	Retreat as necessary. Most home odor repellents are not effective. Milorganite® is a mild organic fertilizer - very effective if used properly.
Gnawing on wood siding, decks, fence posts	Benzylidylethyl-methyl-Ammonium-Saccharide and Thymol	Apply as per label. Do not apply indoors. Avoid contact with water or food sources. Do not mix with other chemicals.	Rats Squirrels Skunks Rabbits	Manufacturer claims of effectiveness may need further testing. May repel woodpeckers. Brand name: Ro-Pel®

REPTILES AND AMPHIBIANS

There are no toxicants or fumigants registered for reptiles and amphibians. Commercial snake repellents are available but none have been shown to be consistently effective. Snakes lack a sense of smell and do not hear sound so repellents are of questionable efficacy. Nearly all reptiles except venomous (poisonous) snakes are protected. Amphibians enjoy less legal protection. All native birds are protected and require state and federal permits. Harassment and repellents (non-lethal only) are generally allowed. Check with local wildlife law enforcement officials prior to working with birds.

ANIMAL	PROBLEM OR LOCATION	CHEMICAL AND FORMULATION	METHOD AND RATE	REMARKS AND RESTRICTIONS
Reptiles Snakes, lizards, turtles and alligators				No venomous lizards in Georgia. Six of 40 species of snakes are venomous. All harmless snakes protected. Send skins, frozen or preserved specimens to state specialist for identification. Call DNR. Do not kill. Fix in Formalin. Frozen is better. Do not damage head. Alligators are protected in Georgia. Contact Georgia Wildlife Resources biologists for alligator problems. Use traps to remove nuisance turtles.
Amphibians Frogs, toads, salamanders, and their tadpoles	Animals getting into swimming pools, houses	None		No chemical controls currently available. Hand removal with a dip net is recommended. Keeping sticks or rocks in small garden pools will allow animal to climb out.
Birds	Nesting in rafters of pole barns; pecking holes in siding; roosting; eating fruit	No toxicants or fumigants registered.		Recommendations are for physical exclusion with fence, net or barrier. Brand name: Bird-X® netting, Nix-A-Lite®, sticky caulking.
Goose	Droppings on lawn, playground, drive way; eating grass; nesting	Methyl anthranilate	Follow label directions.	Goose repellent made from Concord grapes. Expensive. Must reapply after mowing, rain or irrigation.