**METHODS FOR COLLECTING SPECIMENS, American Society of Mammalogists**
**(complete guidelines at http://www.mammalsociety.org/committees/commanimalcareuse/98acucguidelines.PDF)**

***Live Capture***

Researchers seeking to capture, mark, and release mammals have a special responsibility to both the integrity of their research and the animals they handle to be certain that their capture methods are humane and that animals are released in the best possible condition. Methods of live capture, primarily by trapping and netting, must be designed to keep captive animals alive, uninjured, well provisioned, and in comfortable microclimatic conditions while awaiting subsequent processing and release. Live traps of various sizes, shapes, designs, and materials are available from numerous commercial outlets (e.g., Sherman, Havahart, Longworth, Little Critter, National, and Tomahawk), or they can be custom-made. Live capture methods have the advantage of allowing non-target species or individuals (e.g., lactating females) to be released unharmed. For non-fossorial mammals, live traps should enclose a volume adequate for movement therein of the target species; for fossorial mammals, trap diameter typically approximates that of the burrow. The trap mechanism should not inflict injury and should be effective in containing the captive so that it does not became stuck or partially held in the trap door. In certain circumstances, padded leghold traps may be appropriate for live-trapping larger mammals.

Live traps must be checked frequently to prevent mortality and to maintain captive mammals in prime condition. The time interval between trap checks will depend on the type of live trap, type and activity of the mammals to be trapped, configuration of the traps, climate, and season. Typically, live traps for nocturnal species should be set before dusk and checked as soon as possible after dawn. They should be closed during the day after the morning check to prevent accidental capture of diurnal species. However, live traps for shrews should be checked ca. every 1.5 h to minimize mortality. In general, live-trapping of Insectivora requires more frequent checks of traps due to the higher metabolism of these species. Special care also is required to maintain these species in captivity, even for short periods of time.
During warm weather, live traps for diurnal species should be shaded or positioned so as to avoid full exposure to the sun and should be checked every few hours to prevent heat stress of captured mammals. During cold weather, energy demands of thermoregulation require that an adequate supply of food and nesting material be placed in live traps…

Pitfalls, which are an appropriate type of live trap for some mammals, also must be checked frequently and should contain nesting material and adequate food to last until the next time traps are checked. Pitfalls may need securely fastened raised covers to keep out predators such as raccoons, as well as rain and direct sunlight...Mist nets should be tended continuously, and all captured animals should be removed immediately to avoid injury from undue entanglement or from predators. Mist nets should not be deployed at sites where large numbers of bats may be captured (for example, at entrances to cave or mines. Particular attention should be given to the time of year when bats are collected from communal roosting sites. Maternity colonies generally should be avoided during the period when young are born and during the entire time females are nursing to reduce disturbance-related mortality. Repeated disturbance and arousal of hibernating bats will cause depletion of critical fat stores, which can lead to high mortality…

***Kill Capture***

Some types of research in mammalogy require the killing of individuals, either by use of traps or firearms. Investigators must endeavor to ensure that such collecting does not adversely affect the populations being sampled. In such collecting, it is essential to employ methods of trapping or shooting that will ensure that death occurs as quickly and painlessly as possible without damage to any body parts needed for research. Some species may be taken effectively only by use of specialized traps such as snap or break-back traps (e.g., Victor or McGill traps for rat-sized mammals and Museum Special traps for smaller species); pitfalls for shrews or other small terrestrial mammals; Macabee and comparable traps for pocket gophers; harpoon traps and similar devices for moles; Conibear or similar body-grip traps for medium-sized mammals. These latter traps are preferable to leg-hold traps where appropriate. Kill traps must be positioned with care so as to ensure the highest probability of capture of "target" species and the lowest probability of capture of other animals. Traps must be secured well and marked conspicuously to prevent loss. Traps must be checked at least once each day to remove captured mammals. If a captured animal is not already dead, it should be killed immediately and humanely. Snap traps set strictly for nocturnal species should be removed or sprung during the day to avoid accidental capture of diurnal species. Pitfalls may be used as kill traps only when no other effective method of killtrapping is available. The use of formalin or ethylene glycol in pitfalls is not approved.

Mammalogists are encouraged to use the least traumatic kind of trap that will serve the purpose. If only leg-hold traps will do, it is recommended that modern types that minimize the incidence of injury to captured mammals be used and that such traps be checked frequently, at least twice each day, preferably more often. Shooting is the most effective way, and in some cases the only way, to collect certain species. This is particularly true for tree-dwelling species that seldom if ever come to the ground where they would be subject to capture in traps…