Nuisance Wildlife Control Operator Guidebook

Iowa Department of Natural Resources

6200 Park Ave Ste 200
Des Moines IA 50321

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IOWA DEPARTMENT OF NATURAL RESOURCES
Licensing Section
6200 Park Ave Ste 200, Des Moines IA 50321
(515) 725-8200 | www.iowadnr.gov

CASHIER'S USE ONLY
0233-542-0092-MG-0642
Business Name
Full Name

NUISANCE WILDLIFE CONTROL OPERATOR PERMIT APPLICATION

APPLICANT INFORMATION:

Full Name: _____
Last First Middle

Address: _____
Address City State Zip Code

Phone Number: _____

Birth Date: _____ Years of Trapping Experience: _____

Business Name: _____

Business Address if different from above: _____

Business Phone if different from above: _____

Email Address: _____ Website: _____

I would like my business to be posted on the DNR Website ☐ Yes ☐ No

Signature of Applicant: _____ Date: _____

Conservation Officer Signature: _____ Date: _____

OFFICE USE ONLY

Test Score #1: _____ Date of Test: _____ Officer Initials: _____

Test Score #2: _____ Date of Test: _____ Officer Initials: _____

If test failed: Explain timetable for re-testing

Send to Karmin Klingenberg at Central Office:

☐ Completed application ☐ Signed copy of "Terms of Permit"
☐ Completed test with score ☐ $25.00 Administration Fee

Multiple offender file checked: Date: _____ Officer Initials: _____

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Iowa Department of Natural Resources
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Part 1: Introduction

The role of the Department of Natural Resources (Department) is to ensure the well-being of the state's wildlife populations while also assuring that individual wild animals are not posing a threat to human safety or creating unreasonable property, crop, or livestock damage. This requires the delicate act of balancing public demand for viewing and hunting with habitat limitations, highway safety, and agricultural interests. As long as humans coexist with wild animals, conflicts (some real, and some unfounded) will arise. The Department attempts to resolve these conflicts through direct action, education, and technical assistance in cooperation with private businesses, the federal government, and other agencies. Care must be taken to ensure that damage and nuisance control measures are warranted, ethical, and coupled with long term solutions.

Changes in Iowa, changes in wildlife situations

Changing factors on the Iowa landscape affect wildlife movements and behaviors as well as interactions with people. Habitat loss, intensive agricultural, urban sprawl, and climate change in conjunction with a growing human population will continue to lead to human-wildlife conflict. As the urban landscape becomes a larger influence in the state, more wildlife species are adapting to life in the city and existing in close proximity with high numbers of people. Assisting people and businesses resolve wildlife conflicts is an important aspect of natural resource management.

Nuisance Wildlife Control Operators (NWCOs) serve an important role of aiding people when confronted with a wildlife conflict. Whether it is an animal showing up in a new place, a wildlife density issue, an individual animal taking advantage of an easy food source, animals displaced by construction, or an odd one-time occurrence, a professional with expertise in wildlife removal and an understanding of wildlife behaviors can resolve a situation, educate on what is happening, and provide assurance to the persons involved. NWCOs provide meaningful service from the private sector in assisting with wildlife management.

During the 20th century, Iowa's human population shifted from being more rural to being more urban. Urban centers continue to grow, annexing more rural or agricultural areas. This expansion puts more people in contact with wildlife under strained conditions as animals that were living in these sites are now faced with compromised habitat and reduced natural food sources. It also expands the proximity of habitat corridors (such as the urban/rural divide, green spaces, or river corridors) in closer proximity to more people. Whether they are generalist wildlife species that are more adaptable (e.g. raccoons) or are making use of the habitat that exists in these areas (e.g. bobcats moving along river corridors), wildlife can and do thrive in urban settings.

What is wildlife conflict?

Defining wildlife conflict can be difficult as it moves from quantifiable depredation to perceived problems. Categories of conflict include **wildlife damages** and **nuisance wildlife**. The term damage is easily understood; however, nuisance means different things to different people. When wildlife directly impacts crops, buildings, vegetation, landscaping, or other property it falls under the category of wildlife damages. These damages can occur by wildlife eating, gnawing, trampling, taking shelter in, digging, or other interactions with private property. When other problems occur from wildlife activity such as accumulation of feces, aggressive behavior, or noises they fall under the category of nuisance. For some people, the mere presence of a raccoon near their house constitutes an intolerable situation or nuisance. For others, catching a glimpse of the same animal would be a thrilling and rewarding experience. Delineating between a true problem and illegitimate nuisance is an important part of resolving wildlife conflicts.

Education plays an important role in nuisance recognition and resolution. A wild animal that poses no real threat to the safety of the public, livestock, crops, or property should not be viewed as a nuisance simply because it exists. A public

that is knowledgeable about the habits and life history of wild animals is better equipped to recognize and solve wildlife damage and nuisance situations.

Wild animals' behaviors can be misinterpreted as cruel, aggressive, or detrimental by the public. These behaviors are typically natural, necessary for species survival, and need not be viewed as harmful. All wild animals, except those owned by specially licensed shooting preserves and licensed game breeders, are public property, and are therefore managed with state and federal oversight.

Role of hunting and trapping in wildlife conflict

Conflict situations can be the result of high populations of a particular species in a specific area. Regulated harvest, during the hunting and trapping seasons, is the preferred and most practical method of managing most wildlife. A sustained annual harvest of raccoon, beaver, muskrat and other species provides recreation opportunities, economic impacts to urban and rural communities, and is the most important single factor in decreasing the potential for wildlife damage and conflict to occur.

There are situations when regular season hunting and trapping alone may not represent adequate solutions. In such situations where regular season harvests are not adequate or practical in controlling wildlife damage, alternate options may be required.

1. If damage is extensive and occurs well outside the normal hunting and trapping seasons.
2. If damage is the result of an individual animal rather than the overabundance of an entire population.
3. If problems are being caused by species that are normally not harvested during the hunting and trapping seasons.
4. If problems are occurring in highly urbanized areas where hunting and/or trapping are not practical or typically permitted.

Part 2: Nuisance Wildlife Control Operator Permit

Under the authority of the Iowa Code Chapters 455A, 456A, 481A, and 483A the Department of Natural Resources administers a permit system for licensing individuals who desire to establish a business to address the issues of wildlife conflict. The interested party must meet criteria outlined in Iowa Code to become permitted as a Nuisance Wildlife Control Operator with the intention of conducting wildlife removal for hire.

This system allows nuisance wild animals and wild animals causing damage to property to be taken during times of the year and by methods not normally allowed under the regular hunting and trapping regulations. This process is built to assist persons who can demonstrate that they have a legitimate nuisance animal problem. In turn, this allows the Iowa Department of Natural Resources to commit more time to other areas of natural resource management and conservation.

The Terms of Permit (Appendix A) and Iowa Administrative Code Chapter 571-114 (Appendix B) outlines the requirements of the Nuisance Wildlife Control Operator Program in addition to this manual. Additional Iowa Administrative Code Chapters pertain to methods or protections for various wildlife and include, but are not limited to IAC 571 76, IAC 571 77, and IAC 571 110. Relevant Iowa Administrative Code Chapters can be found in Appendices B-E.

Disclaimer

This manual is not intended to quote complete laws or to be an official version of Iowa Code or Iowa Administrative Rules. Rather this manual presents a summary of the various regulations that apply to the nuisance wildlife control program. Iowa Code and Iowa Administrative Rules listed in this manual are intended for reference only and may be updated between published versions of this manual. If you have questions, please contact a local conservation officer.

Application Process and General Conditions for NWCO Permit

1. Be at least 18 years of age and possess a valid driver's license.
2. Pass a written examination with a minimum score of 80% before a permit is issued. If an applicant fails the examination, they must wait 45 days before being permitted to retake the examination. If the applicant fails the test a second time, they must wait a period of six months before reapplying.
3. Not currently be under any license suspension or revocation by the Iowa Department of Natural Resources or any court.
4. The applicant must successfully complete an oral, in-person interview with a representative of the department to determine the applicant's knowledge of wildlife and wildlife capture techniques, and to determine if the applicant has the ability to provide effective services to the public.
5. A $ 25.00 testing fee will be assessed when the applicant successfully completes the test. (Permit renewals will be $ 20.00).
6. Possess a valid fur harvester license and have paid the habitat stamp fee.

Nuisance Wildlife Control Operator Terms of Permit

The primary policy and procedural regulations are outlined in the Terms of Permit below and must be acknowledged by the applicant. The Terms of Permit can be found as a standalone document in Appendix A. Iowa Administrative Code Chapter 571 114 as well as Chapters 76, 77, 110 outline the rules and regulations concerning nuisance wildlife control permits and can be found in Appendices B-E.

Terms of Permit

1. Permittee is a private contractor, not an employee or an agent of the Iowa Department of Natural Resources (Department) nor may they portray themselves as such. Department logos may not be used by the permittee.
2. Permittee may take, possess, and transport species protected by the Iowa Code in accordance with the terms/conditions/limitations of this permit and Iowa Administrative Code 571 114.
3. The permittee must possess a valid NWCO permit and a valid fur-harvester license and have paid the habitat stamp fee. Partners or assistants must also possess a valid fur-harvester license and have paid the habitat stamp fee. Permittees and helpers solely conducting Canada goose control activities with an SCGCP do not need to have a valid fur harvester license nor to have paid the habitat fee.
4. The permit shall be issued on an annual basis and shall expire on January 10th of each year and is not transferable.
5. All traps must be tagged with the permittee's name and address.
6. All traps must be checked, and any captured animals/birds removed, at least once every 24 hours. Permittees, who rent, lend, or otherwise transfer traps to clients under authority of this permit are responsible for the client's compliance with this requirement.
7. It will be the responsibility of the permittee to obtain proper authorization from political subdivisions when necessary to carry out nuisance wildlife control work in those respective communities, and to obtain the necessary and proper municipal, state, and federal permits when and where required.
8. Permittee may not take, possess, or transport whitetail deer, wild turkey, protected migratory birds, or threatened or endangered species without special authorization from the Department and accompanying state and/or federal permits when/where required.
9. Permittee must describe to the client the estimated costs and types of control that will be used to alleviate damage and obtain the landowner's or tenant's permission before initiating control efforts.
10. Injured animals or birds may be taken to one of the Department's licensed wildlife rehabilitators. When injured animals are encountered, the local conservation officer or biologist may be contacted for advice.
11. Animals which are euthanized or found dead will be promptly and properly disposed of by the permittee. The carcasses of all dead animals must be disposed of within 24 hours of their discovery. Methods of proper disposal include:
    a. Taking the carcass to an approved landfill that will accept it.
    b. Taking the carcass to or having it picked up by a renderer.
    c. Taking the carcass to an approved incinerator site.
    d. Burying the carcass outside the city limits. Above ground disposal of the carcasses is not permitted.

    Expenses/costs related to euthanizing an animal or disposal of carcasses is the responsibility of the permittee.

12. Animals may not be kept in possession of the permittee for more than 24 hours. During that time, animals/birds taken during control operations should be released, taken to a wildlife rehabilitator, or euthanized. No live animals may be taken from the state. Animals, birds, and/or their parts may not be retained for any purpose, and shall not be sold or given to other individuals. (This will exclude fur-bearing animals taken during the open season in rural settings when the permittee has the understanding and approval of the landowner to do so.) Animals may not be used for display or programs, kept in captivity, or used for training dogs.
13. Animals which are relocated must be released in a suitable habitat at least ten miles from the original capture site. Animals are not to be liberated in an area close to human dwellings which would result in a transfer of, rather than a solution to, the nuisance problem. Animals shall **not** be released inside the city limits of any city nor at a Wildlife Management Area without prior permission.
14. A record shall be kept by the permit holder indicating the following information:
    a. Location of call
    b. Numbers and species of animals/birds removed

c. Date of action
d. Disposition of these animals/birds

These records shall be updated within 24 hours of the event and shall be open to inspection by the Department at any time. This information shall be documented in an annual report, covering the calendar year, which shall be filed with the Department no later than January 31st of each year. Failure to file an annual report by January 31st shall be cause for permit revocation/cancellation.

An NWCO permit may be renewed by the Department when all reporting requirements for the previous year have been met. An administration fee of $20.00 will be assessed at the time of renewal.

15. The permittee or their designee shall be in possession of this permit while engaged in nuisance wildlife control activities and shall show the permit to any Department representative or landowner requesting to see it.
16. All wildlife handled under the terms of this permit shall be treated as humanely as possible.
17. The use of firearms to destroy an animal or bird is prohibited inside any city limits without prior permission according to local ordinance. The use of firearms elsewhere shall be subject to all state restrictions.
18. The use of poison is prohibited for the taking of any game bird or animal. (Except as outlined in Iowa Administrative Code 571 114 (481A)).
19. Methods of euthanizing animals must be approved by the Department and include:
    a. Gunshot
    b. Inhalants, including: anesthetics such as ether, halothane, methoxyflurane, isoflurane, nitrous oxide, or carbon monoxide, or carbon dioxide
    c. Non-inhalant pharmaceutical agents (injectables) excluding: strychnine, nicotine, magnesium sulfate, potassium chloride, chloroform, and cyanide products

    <u>All applicable laws must be followed governing the acquisition, use, and storage of any of the chemicals or agents used to conduct euthanasia.</u> Proper euthanasia methods must be used, and appropriate disposal of the animal carcasses is required.

20. Any violation of the terms/limitations/conditions of this permit as outlined above, or violations under 481A.130, accrual of habitual offender points as outlined in 481A.134, or court action outlined in 483A.21, will result in the revocation or suspension of this permit.

Part 3: Landowner / Public Relations / Urban Considerations

An NWCO could find themselves working with a number of different clients in a number of different scenarios. Flexibility to respond to the person experiencing the issue and the technical skills to address the specific species involved are important. For the purposes of this section, the term "landowner" refers to renters, lessees, homeowners, legal occupants or other persons in lawful control of the respective premises. That being said, there will be instances where assurances should be made that the true landowner and the person on premise are in agreement for control methods to be conducted.

When responding to a human-wildlife conflict, we recommend and encourage the permittee give the person seeking services the following information:

1. **An assessment of the nature of the nuisance problem**- (i.e. species identification, approximate number of animals involved, extent and type of damage).
2. **The methods to be used to solve the problem**- The permittee should recommend short term and long-term methods of control to the landowner, the estimated costs, and the advantages and disadvantages of each method. The final decision should be made mutually by the landowner and the permittee.
3. **The conditions which constitute a solution to the problem**- The permittee should explain to the landowner how much of the problem he/she expects to be able to resolve within the limits of his/her abilities and methods. He/she and the landowner should agree upon a realistic solution.
4. **An estimate of the fee or rate of payment to be charged**- The permittee and the landowner should determine and agree upon the fees to be charged, whether made on an hourly, per animal, per trip, or flat rate fee for the entire job. They should also decide how and when the payment will be made. The permittee should provide estimates of the total cost.

Written contracts are not required, but for the protection of both parties, a written document is strongly recommended. Likewise, it is strongly recommended that the contract address liability issues. The permittee and the landowner should review the property boundaries and the permittee should be made aware of any domestic animals in the vicinity that may be caught inadvertently if trapping is to be used. Additionally, the permittee should make clear whether or not they carry insurance for the type of work they are conducting.

When working with landowners, be sure to remind them that you are specially licensed by the Department which permits you to handle these wildlife situations, yet you are **not** an agent of the State of Iowa. Listen carefully to what the landowner is telling you so you can fully understand the conflict and best address it. Show the person that you truly care about helping them solve their problem as well as showing care and respect for the animals involved. Treat the animals humanely. The public wants their problems solved...as long as it is done in a respectful and human manner. Their care and welfare is important in the eyes of the public whether that is the landowner you work with or others that may observe your work. <u>Building and maintaining positive public relations and support should be as important to you, the operator, as it is to the Department.</u>

Urban Considerations

When operating in highly populated areas, special care should be taken in when conducting wildlife work. Moving equipment or animals from the vehicle to the conflict site, visibility of deceased or injured animals, operating in high pet traffic areas, and the presence of recording devices are all things to consider when working in urban areas.

Conduct work in a respectful and discreet manner. Consider operating at times of the day when less likely to encounter people. Use black plastic garbage bags for moving carcasses and keep equipment enclosed in totes or other containers. Be aware of your surroundings and who may be observing. Be in touch with city officials so they are aware of the work you are doing in case calls come in to them (or in case they know others that might be in need of your service). If there is too much of a threat to pets then let the landowner know and politely decline the job or find alternative solutions.

Part 4: Methods of Control

When faced with a wildlife damage or nuisance situation the permittee and the landowner must carefully evaluate the situation and decide upon a course of action. Below are some possible situations and actions to take, but every situation is different. Flexibility, adaptability, and creative problem solving will help resolve many conflicts.

Conflict Evaluation

1. **Unfounded concerns—Education and Information:** Some calls come from people who regard certain animals as nuisances even though the animal in question has not caused any damage to property, poses no real threat of damage or to health, and cannot be controlled under the terms of this permit. The most common reason for these calls result from an unjustified concern over potential damage to property, crops, livestock, or an unrealistic perceived threat to the safety of humans or pets. In many situations, education and information will alleviate the conflict. The natural predatory and competitive interactions of wild animals are not generally a legitimate reason for control measures.
2. **Shelter locations—Managing the Habitat and Exclusion:** The activities of people often create habitat for animals that eventually become a problem. Piles of brush, wood, rocks, dense tall grass and shrub areas provide cover for many species of wildlife. Better management of these areas often reduces their attractiveness to wildlife species causing the problem. Plugging or covering holes into buildings and fencing are only a few of the exclusion techniques that can be implemented to solve a problem. Properly covering holes and entrances through which animals can enter a structure is often the most effective, long-term solution to wildlife conflict.
3. **Animal Attractants—Eliminate the attraction:** Food and habitat are the strongest wildlife attractants. Refuse, garbage, and pet food when left outdoors or on a porch or step provides a strong attraction for a number of wildlife species including raccoons, opossums, and skunks as well as certain bird species. Food attractants will eventually entice animals into close proximity of people increasing the possibility of real damage to property. Landowners are encouraged to eliminate such attractants. Removal measures will only work in the short term since the presence of the attractant will continue to draw in additional animals. Efforts should be made to educate the landowner and proper removal occurs to more permanently address the problems.
4. **Alter the situation so that the potential for damage is reduced:** In many cases this option will provide the best long-term solution to a nuisance animal problem. Poor building design and/or poor maintenance, which provides easy and inviting access to wildlife, can be corrected. Exclusions, such as fencing, screening, and repairs to existing vents, woodwork, chimneys (screens and caps should meet building code standards) or foundations are very effective at keeping wild animals out of areas in which they are unwanted. Harassment measures may also prove effective for transient problems.
5. **Removing the offending animal:** For most of the species that can be handled with a Department permit, box or cage-style live traps are recommended for capture, particularly in urban and suburban areas. Traps must tagged with permittee's name and address and must be checked at least once every 24 hours. **The use of firearms to euthanize animals is not permitted inside any city limit without proper prior permission from the municipality.** Sometimes a conibear type trap may be used to catch an animal that must be euthanized. Use good judgment when using conibear traps to avoid catching neighborhood pets and other non-target species. It is highly recommended that when an animal needs to be destroyed, it is done away from the capture sight in a humane and discreet manner.

For general trapping regulations refer to IAC 571 110 (Appendix E).

Euthanasia is the preferred method of disposal of nuisance animals. Expenses/costs related to euthanizing an animal or disposal of carcasses is the responsibility of the permittee.

Euthanasia

Species defined as game mammals or furbearing mammals (with the exception of Endangered or Threatened species) may be relocated or euthanized. Euthanasia is an approved method of nuisance wildlife control and is often recommended because of habituation and possibility of persistent conflict. Unfortunately, when particular animals become accustomed to food handouts or shelter locations they will most likely continue to use those resources. Common animals such as striped skunks, opossums, raccoons, beavers, muskrats, or woodchucks should all be considered for euthanasia when involved in a wildlife conflict situation. Euthanasia is required for furbearing animals that you believe to be sick or diseased.

Relocation of a wild animal can:

- spread disease to resident populations
- compound human-wildlife conflict
- increase negative interactions with wildlife already present in the area
- disrupt social and behavioral mechanisms in resident populations of the same species

It should also be noted that trap and relocation process can kill animals from stress factors or by leaving them vulnerable in their new location. It is often more humane to euthanize the animal.

Due to these important reasons, euthanasia of nuisance animals is preferred. Methods of euthanizing animals must be approved by the Department, should follow American Veterinary Medical Association guidelines, and include:

a. Gunshot (Gunshot may not be used inside any city without proper prior permission and adherence to municipal ordinance)
b. Inhalants, including; anesthetics such as ether, halothane, methoxyflurane, isoflurane, nitrous oxide, or carbon monoxide, or carbon dioxide
c. Noninhalant pharmaceutical agents (injectables) excluding; strychnine, nicotine, magnesium sulfate, potassium chloride, and chloroform.

When the decision is made to euthanize an animal, every effort should be made to be discreet, and to minimize the distress of the animal.

All applicable laws must be followed governing the acquisition, use, and storage of any of the chemicals or agents used to conduct euthanasia. Proper euthanasia methods must be used, and appropriate disposal of the animal carcasses is required.

All reptiles captured must be released alive back into the wild.

It is strongly suggested that operators make contact with their local Animal Shelter, Animal Rescue League, or Humane Society in order to build a working relationship with these organizations, particularly in dealing with humane euthanasia methods, wildlife rehabilitation, and/or carcass disposal.

Relocation

The following recommendations should be followed when relocating captured animals:

A. Animals should be relocated in suitable habitat at least ten (10) miles from the original capture site.
B. Animals should not be liberated in an area close to human dwelling which would result in a transfer of, rather than a solution to, the nuisance problem. **Animals are not to be released inside any city limits.**
C. Animals are not be released onto state or county game management areas.
D. Animals are not be released onto private property without the permittee first obtaining permission of the respective landowner.
E. All reptiles captured must be released alive back into the wild.

Permittees cannot hold wild animals for more than 24 hours. During that time all animals should be released, taken to a wildlife rehabilitator, or euthanized. Animals and birds taken during control operations shall not be given or sold to other individuals. The animals and/or their parts shall not be retained for any purpose.

Contact your local Department Conservation Officer to determine who is a licensed wildlife rehabilitator in your area or refer to the list on the Department website (see Appendix F).

Handling of Sick or Injured Animals

Many wildlife diseases are readily transmissible to a wide range of species, including humans and their pets. Because different diseases may exhibit similar symptoms, it is usually not possible to diagnose a disease simply by observing an animal's condition or behavior. Common symptoms of disease may include:

1. lack of coordination
2. lack of aggressiveness or over aggressiveness
3. secretions from the eyes, nose or mouth
4. weak, rapid or uneven respiration
5. malnourishment
6. local or general loss of muscle control
7. loss of large patches of hair/fur

Potential causes of these symptoms could include viral infections (i.e. distemper, rabies, tularemia), bacterial infections (i.e. botulism), or parasite infestations (i.e. mange, roundworms). Poisoning or starvation may also cause animals to behave abnormally. Since it will often be difficult to know more than that the animal is sick, the animal should be handled as little as possible and only with equipment to protect against bites and contact. It is recommended to wear elbow-length rubber or disposable plastic gloves under thicker protective gloves, wear safety goggles, and consider wearing a face covering when contacting a possibly sick animal.

Animals that are obviously sick, but have not bitten or been handled by humans, must be euthanized.

Animals That Have Bitten a Person

Any person that is bitten by a wild animal should seek medical attention from a health care provider or physician as soon as possible. Under such conditions the animal should be maintained in confinement until instructions are provided for disposal by the health care professional. The same precaution applies if a person has handled an obviously sick animal which may be harboring a contagious disease. Children are particularly inclined to handle lethargic small mammals. If the animal cannot be restrained safely, it should be euthanized and the carcass temporarily kept for possible testing. When euthanizing an animal for testing **keep the head intact so that it may be submitted for testing and keep the carcass refrigerated (not frozen)**. Work with the local veterinarian, wildlife health professionals, or health care providers to submit the animal for testing. Refer to Part 10: Wildlife Diseases for more information.

Under no circumstances should an animal that has bitten someone, or is needed for rabies examination, be shot in the head or subject to head trauma, since the brain is required to be intact for rabies determination.

Information regarding submitting an animal for testing can be obtained from your local veterinarian or by calling the Iowa Public Health Veterinarian at 515-281-4933. For additional Iowa Veterinary Medical Association contact see Appendix F.

The costs, if any, related to transporting and/or testing of an animal for rabies (or other disease) is the responsibility of the person who was bitten.

Disposal of Carcasses

The carcasses of all dead nuisance animals must be disposed of promptly (within 24 hours) and properly. This would include:

1. Taking the carcass to an approved landfill that will accept it.
2. Taking the carcass to, or having it picked up by a renderer.
3. Taking the carcass to an approved incinerator site.
4. Burying the carcass outside the city limits. <u>Above-ground disposal of the carcasses is not permitted.</u>

Part 5: Administration Liabilities

Through the wildlife damage and nuisance animal control permit system, the Department provides a mechanism by which landowners can address wildlife damage problems. However, the Department is not liable for any action, or lack of action, taken by the permittee, their assistants, or the landowner, nor is the Department liable for any damages or injuries caused or suffered by either party. Any control measure undertaken by a nuisance wildlife control operator is considered a contractual matter between the permittee and the complainant. Liability insurance to cover the permittee is highly recommended but not required.

Record Keeping Requirements

Each permittee shall keep records of their nuisance animal control activities. Reports shall be summarized on the Department provided report form (Appendix I) and shall be sent to the Department by the 31st day of January each year. **Timely submission of this report is a condition for permit renewal.** Detailed records, documenting the landowner's name, address, phone number, dates of service, service person's name, species of nuisance animal, and control methods used shall be kept on file and up to date at the business location specified on the permit. Permittee's shall allow, at any reasonable time, a Department official to examine and inspect such records and animals in their possession.

A license renewal fee of $20.00 must be paid for annual renewal of the Nuisance Wildlife Control Operator Permit.

Live Animals and Sale of Animals

State wildlife regulations clearly prohibit any person from taking game or protected birds or animals alive from the wild. The sale of wild animals, dead or alive, and their parts, is also strictly prohibited, except for the specific provisions outlined in 481A.23, 481A.50, and 481A.55 of the Code of Iowa.

This would include and prohibit the sale of pigeons which are captured or taken under the provisions of Iowa Code chapter 481A.58 and Iowa Administrative Code chapter 571 114.

Live animals taken, possessed, and/or transported under this permit shall not be removed outside the state.

Complaints

Complaints from the public regarding violations of the wildlife damage and nuisance control regulations by permittees should be forwarded to the Law Enforcement Bureau of the Iowa DNR, 6200 Park Ave, Suite 200, Des Moines, Iowa 50321. Complaints against nuisance wildlife control operators will be thoroughly and fairly investigated by officers of the Department.

Permit Suspension and/or Revocation Procedures

Persons under any department or court issued license suspension or revocation are ineligible to apply for, obtain, or maintain a nuisance wildlife control operator permit for the period of their suspension or revocation.

The Iowa Code, chapters 481A.130 and 481A.133 provide the legal basis for permit suspension or revocation. Any violation of the terms/limitations/conditions of this permit as outlined above, or accrual of habitual offender points as outlined in 481A.134, or court suspension under 483A.21, will result in the revocation of this permit.

Hearings may be provided for under chapter 17A of the Iowa Code.

Part 6: Special Handling Restrictions and Additional Permits: Endangered, Threatened, Special Concern and other Protected Species

The NWCO permit does allow handling of certain protected species. There are wildlife species present in Iowa that are protected federally under the Endangered Species Act (ESA) or Migratory Bird Treaty Act and/or protected at a state level by Iowa Code or Administrative Rule. These protections may be due to population concerns, migratory behaviors, or special cultural importance. It is important to be aware of these protections and accurately identify any wildlife involved with a conflict situation.

Federal Protections

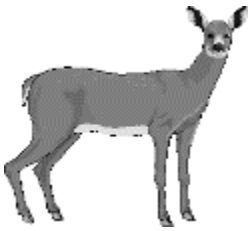
Special attention is required for species that are listed under the ESA as Endangered or Threatened. In addition, federal protections apply to hawks, owls, eagles, protected migratory birds, waterfowl, and songbirds through the Migratory Bird Treaty Act. Examples of wildlife that may be encountered that either fall under ESA protections or other federal protections include, but are not limited to, Indiana Bat, Northern Long-eared Bats, Tricolored Bats, Canada Geese, all hawks, all owls, woodpeckers, and swallows. These animals require special permits through the United States Department of Agriculture Animal and Plant Health Inspection Service (USDA APHIS) to do any type of hands on work. They may also require additional permits from the Department due to state level protections. Note: typically these protections apply only to capturing/handling, lethal controls, or active nesting periods. Aversive conditioning and exclusion are legal without prior authorization as long as it does not result in direct handling or injury to the wildlife. For Canada Geese specifically please see Part 9.

Contact information for USDA APHIS can be found in Appendix F.

State Protections

The State of Iowa also has wildlife species that are listed as endangered, threatened, or of special conservation needs. These species are protected at the state level according to Iowa Administrative Code 571 77 (481B). Appendix C includes the list of wildlife species referenced in IAC 571 77.2 as of November, 2024. Some species on this list that may be encountered include but are not limited to Spotted Skunk, Massasauga Rattlesnake, Prairie Rattlesnake, Western Hognose Snake, Least Shrew, Diamondback Water Snake, Southern Flying Squirrel, and Bullsnake.

Should you encounter a problem with one of these species, contact your local Department Wildlife Biologist or Conservation Officer to consult with them to determine how this particular situation should be handled.


White-tailed Deer, Wild Turkeys, and Canada Geese are protected game animals managed at the state level as well as the federal level for geese. While habitat management, aversive conditioning, and exclusion can be implemented and recommended to reduce conflict with these species, special Department permissions and programs are to be implemented for direct control or population management. In the case of a complaint about turkeys or deer, please have the complainant contact the local Department Depredation Biologist. For Canada Geese, refer to Part 9 on information for navigating State and Federal protections as well as how to work with a Department Wildlife Biologist to best handle the situation.

Urban Ordinances

Where wildlife and humans exist together, there will be conflict. Special attention is required in these situations as **municipal or city ordinances** may be more restrictive than statewide regulations. The NWCO Permit by itself does not allow for use of devices or practices that are prohibited by local ordinances. Examples of things often restricted by ordinances include types of trap allowed, noise restrictions, or discharge of firearms. Make sure to check with proper

city authorities to adhere to local ordinances and obtain any permissions or permits required for carrying out control practices when inside city limits.

Migratory Birds

Migratory birds are protected by both state and federal regulations. Thus, the control of migratory bird species requires a federal permit in addition to a state permit. Federal regulations do not protect feral pigeons, European starlings, or English sparrows, thus a Federal permit is not required to control these species. European starlings and house sparrows are not protected under IAC 571 76 (Appendix D)**.** However, special regulations regarding pigeons are included in IAC 571 114 (Appendix B). All other species of birds are protected in Iowa. Control guidance for Canada Geese can be found in Part 9.

Bird Control - Pesticide Usage

Extreme caution must be exercised when using pesticides for the control of pigeons, European starlings or house sparrows because of the possibility of:

1. Direct poisoning of non-target bird species, or
2. Secondary poisoning of other bird species

Because of these risks, the state regulations are very restrictive in non-industrial areas where non-target species are likely to be present.

The incidental taking of migratory birds by poison bait ingestion, or the killing of hawks and owls or other predatory/scavenger bird species by secondary poisoning is not treated lightly and can result, not only in the loss of valuable birds, but also severe fines for the unlawful killing. **The prompt and proper disposal of target carcasses, to ensure that secondary poisoning does not occur, is a responsibility of the permittee. If secondary or non-target poisoning occurs the permittee will be held responsible and may be charged as a violation under Iowa Code 481A.58.**

Part 7: Mammal Species Information

The following section aims to highlight information pertinent to identifying and assisting with mammal species often involved with conflict situations. This information goes in depth on certain areas of a number of wildlife species but does not include every species that may be encountered nor is it meant to go into comprehensive details on research or every aspect of these animals. Additional resources may be found in Appendix F or by contacting the local Department Wildlife Biologist or Conservation Officer.

A number of species will only be present in Iowa under rare circumstances. Some of these species were extirpated from Iowa, not having been documented in the state for a long time or now only as rare visitors. Other species are not native to Iowa but unfortunately have been found in other nearby states. Special consideration should be given to Eastern Spotted Skunks (aka Civet Cat). Once widespread in Iowa but now are rarely seen, if spotted skunks are observed in an area please avoid trapping there and report the observation to Department personnel. Likewise, if any of the species in the list below are observed or encountered please report it to Department personnel immediately.

Native Extirpated

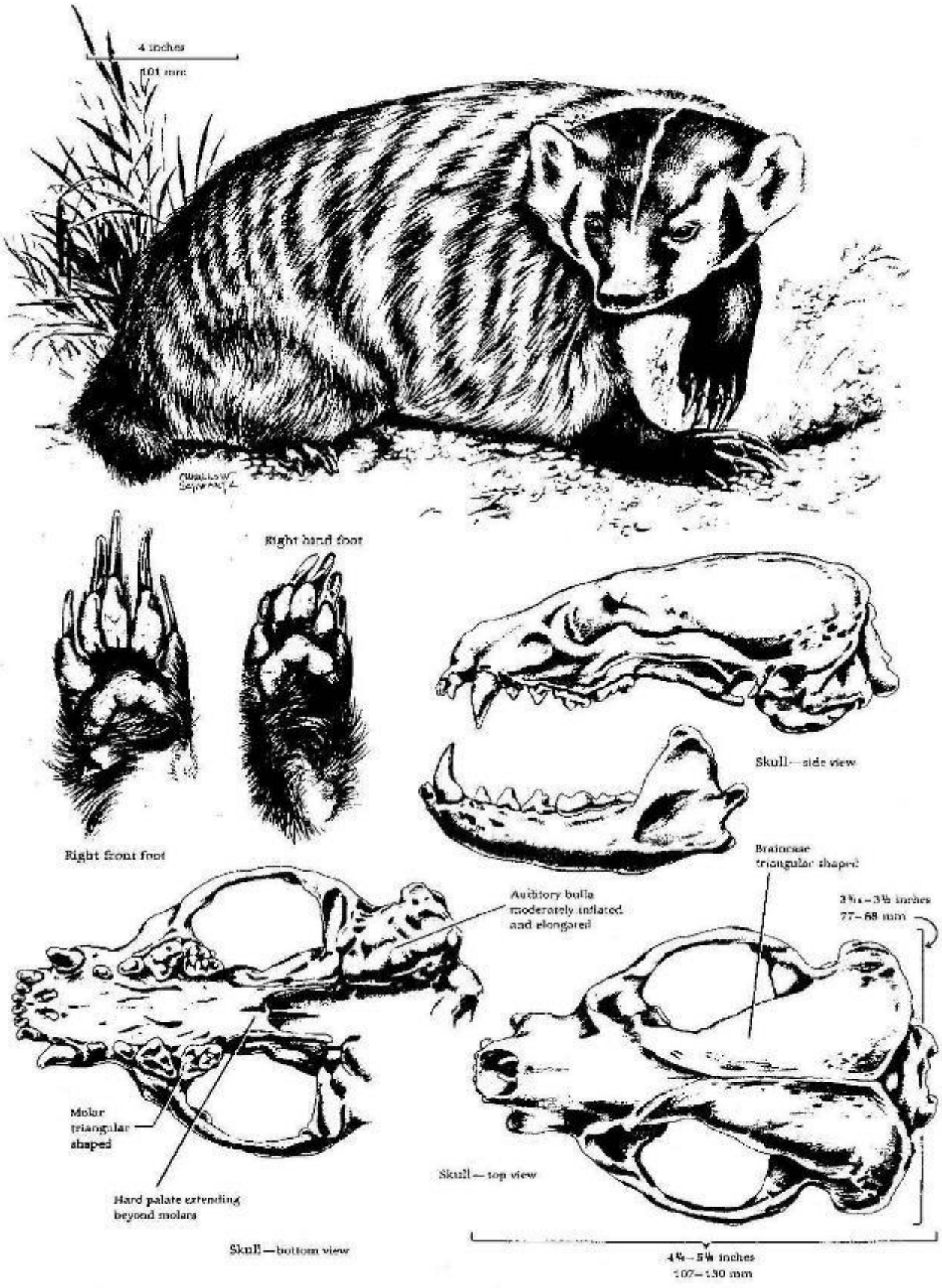
- Mountain Lion
- Black Bear
- Gray Wolf
- Elk
- Moose
- Eastern Spotted Skunk (Civet Cat)
- Fisher
- Marten

Other Non-native

- Other large ungulates (e.g. Red Stag, Fallow Deer, etc...)
- Nutria
- Feral Hogs

Badger

Scientific Name - (Taxidea taxus)



Description: Badgers are medium-sized heavy-bodied animals. Adult females average about 17 pounds in weight while adult males average 24 pounds. They range from 26 to 35 inches in length. Badgers have wide, flattened bodies, short, powerful legs and short, bushy tails. They are adapted for digging, having large front feet with massive claws over an inch long. The fur on the upper parts is grizzled gray and black with a slight yellowish tinge. The underparts and the short tail are yellowish. A white stripe runs from the nose to the crown of the head and tapers off on the neck or back. The badger has white cheeks and an elongated black spot in front of each ear. The feet are black.

Habitat: Throughout most of its North American range badgers prefer open country, living in the prairies and plains where ground squirrels and other small burrowing mammals are abundant. In Iowa, badgers are distributed throughout the state, although they are less abundant in timbered regions.

Habits: Badgers are active mostly at night, spending daytime underground. Body fat is stored during late summer and serves as an energy reserve for the coming winter. Badgers do not actually hibernate but do spend most of the winter underground, occasionally coming out on warmer winter days. Although they do not spray they will release a strong musk odor when disturbed. Badgers will often make a hissing sound when they feel threatened. Badgers have an insatiable desire for digging. They have often been called pioneers because they dig numerous dens that are available for other animals, such as fox, raccoon and skunks, to live in once they have departed.

Reproduction: Very little is known about the reproduction of the badger. Mating probably takes place in September. There is a delayed implantation of the embryos until February or later, and the embryos then develop in approximately five weeks. This makes a total of only about six weeks for the entire period of development, although the whole gestation period may last seven or more months. A single litter is born in April or May and averages three young. At birth the young are furred and blind. Eyes open at about five weeks of age. Weaning occurs when the young are about half grown, but the female continues to bring food to them. The young stay in and around the burrow until fall. Some females will breed when one year old.

Food: Badgers are strictly carnivores with their most important foods being rodents and rabbits. When the ground squirrels are not plentiful, mice of all kinds are sought and eaten. In the wild, badgers do not seem to require water to drink since they often live far from surface water.

Sign: The most obvious indication that badgers are present is the occurrence of tunnels, dug in open fields, with a large mound of dirt in from of them. Often the badgers will excavate several shallow holes at the same site when digging out a gopher. Badger tracks are sometimes mistaken for coyote tracks but can be distinguished by the five toes and the claw marks of the front feet, which are well in front of the toe marks. Badgers normally cover their droppings (scats) or leave them underground.

Predators: People are of the major adverse factor affecting badger populations.

Disease: Very little is known about badger diseases. They are apparently susceptible to tularemia and rabies.

Parasites: Ticks, fleas and roundworms parasitize badgers as do many other kinds of parasites.

Importance: Few fur harvesters pursue badgers. Some badgers are taken in traps set for other predators, but most are trapped or shot near areas that they have dug extensively. Bader fur is used almost exclusively as trim.

Baits and lures: Most baits and lures used for fox and coyote will attract badger.

Sets: Dirt hole and scent-post sets. Longer chains and stakes will prevent the captured badger from digging them up and escaping.

Bats of Iowa

Species Common Name	Species Scientific Name	Range	Roosting Structure	Typical Colony Size	Winter Behavior	Notes on Human Structure Use	WNS Confirmed/ Susceptible	Federal T&E Status (Year Updated)
Big Brown Bat	*Eptesicus fuscus*	Statewide	Cavities	Dozens to hundreds	Hibernate	Common	Yes	
Little Brown Bat	*Myotis lucifugus*	Statewide	Cavities	Hundreds	Migrate & Hibernate	Common	Yes	*
Northern Long-Eared Bat	*Myotis septentrionalis*	Statewide	Loose bark, varies	Individual to tens	Hibernate	Uncommon	Yes	Endangered: 2022
Indiana Bat	*Myotis sodalis*	Southeast 1/3 Iowa	Loose bark, caves	Tens to dozens	Migrate & Hibernate	Rare	Yes	Endangered: 1967
Silver-Haired Bat	*Lasionycteris noctivagans*	Statewide	Foliage, loose bark	Individual	Migrate	Rare		
Tricolored Bat	*Perimyotis subflavus*	Statewide, more eastern	Varies, tree foliage	Individual to tens	Hibernate	Uncommon	Yes	Proposed Endangered: in process
Evening Bat	*Nycticeius humeralis*	Southern 2/3 of Iowa	Varies	Dozens to hundreds	Migrate	Uncommon		
Hoary Bat	*Lasiurus cinereus*	Statewide	Tree foliage	Individual	Migrate	Rare		*
Eastern Red Bat	*Lasiurus borealis*	Statewide	Tree foliage	Individual	Migrate	Rare		

*Undergoing review process and decisions scheduled in next 5 years.

Bats are among the least understood and most misrepresented of all the mammals in Iowa. While a healthy respect is due any wild animal, the fear and paranoia that many persons have for bats is both regrettable and generally ill founded. These attitudes largely result from inaccurate information and sensationalism in news stories. Misinformation, sometimes given by knowledgeable professionals, only increases the prejudice and superstition that surrounds these unique flying mammals. This guide provides a summary of some general aspects of bat biology and, in particular, the current information about those species that occur in Iowa. Our hope is that such information will be used not only to correctly inform the public about bats, but also to help instill a more rational attitude toward these beneficial and relatively harmless animals. Since there are so many kinds of bats and their habitats are so varied, the generalizations presented pertain to the nine important insect-eating species that compose the bat fauna of Iowa. References such as America's Neighborhood Bats by Merlin D. Tuttle and Just Bats by M. Brock Fenton contain additional information about bats.

The Importance of Bats

Throughout most of the world, bats play important ecological roles, having both direct and indirect benefits to the ecosystems they inhabit. Bats which are fruit and nectar eaters, for example, provide the primary and sometimes only means of seed dispersal and pollination of many topical forest plants. In fact, more than 450 products used by humans come from bat-pollinated plants including food (bananas, cashews, dates, figs); wood (balsa); fiber (kapok); beverages (tequila); dyes, fodder, fuel and medicines. There are three species of vampire bats that consume bird or mammal blood. However, all vampire bats are found from Mexico southward; none occur in the US or Canada. Most bats in North America feed on insects of various sexes and kinds. The Little Brown Bat, for example, may capture up to 600 tiny insects, including mosquitoes, in a single hour (Tuttle 1988). The large Big Brown Bat, on the other hand, often feeds on a quantity of moths and beetles of agricultural importance (See Whitaker 1993 for details of pest control by bats). Bats should be considered for what they really are—integral members of our environments. As such, they deserve attention from both conservationists concerned with species preservation and the general public.

Bats and the Endangered Species Act

Worldwide, bat populations are declining, some reaching critical levels, necessitating steps to protect them. While some efforts have been made in the United States through the Federal Endangered Species Act (Act), most declining species are not adequately protected. In Iowa, all bats in their natural habitats and outbuildings are protected as nongame species under Section 109.42 of the Code of Iowa. As of November 2024, the Indiana Bat and the Northern Long-eared Bat are listed as Endangered under the Act. The Tri-colored Bat (formerly referred to as Eastern Pipistrelle) is proposed as Endangered, while the Little Brown Bat is currently under review with a decision expected in 2026 as is the Hoary Bat with a decision expected in 2028. Bats in a building occupied by humans are not protected under the Iowa Code with the exception bats listed as endangered species (as mentioned above).

Please review the note from the United States Fish and Wildlife Service on the Endangered Species Act (Act) related to take and handling of bat species listed federally as Endangered or Threatened:

The classification of certain bat species to endangered species will not prevent citizens from removing bats from dwellings or other structures, but additional coordination with the Service may be needed. The Act's implementing regulations include a take exception for the defense of human life (see 50 CFR 17.21(c)(2)). The regulations require that any person taking, including killing, endangered wildlife in the defense of human life under this exception must report that take as set forth at 50 CFR 17.21(c)(4). It is important to note that Federal regulations do not supersede State or local laws that are more restrictive than those mentioned here. Please consult your local Service field office (https://www.fws.gov/our-facilities?program=%5B%22Ecological%20Services%22%5D) or your local conservation officer with any questions or concerns.

When the presence of a bat or bat colony is not imminently endangering human safety, we recommend contacting the local Service field office for assistance. We encourage the bat removal to be conducted safely and humanely and a certified bat rehabilitator may be a good source of information for the task. Additionally, we recommend the White-nose Syndrome Response Team's acceptable management practices (AMPs) for nuisance wildlife control operators (available at https://www.whitenosesyndrome.org/mmedia-education/acceptable-management-practices-for-bat-control-activities-in-structures-a-guide-for-nuisance-wildlife-control-operators). The AMPs were developed in concert with wildlife control operators, State and Federal agencies, private conservation organizations, and the Centers for Disease Control. The AMPs are recommended for use with all structure-dwelling bat species, regardless of their conservation status. Again, these recommendations do not supersede or replace any existing, valid State or local government laws regarding the handling of bats in homes and artificial structures.

Myths and Diseases

Although both ecologic and economic importance, bats have been culturally valued in only a few societies, most notably in China. In nearly all cultures, however superstitions and misinformation have prevailed, resulting in needless and senseless persecution of bats. Some false notions, such as bats deliberately entangling themselves in women's hair or that bats are blind, can be easily dismissed as old superstitions. Other misinformed ideas are more difficult to change. Perhaps the most serious of these is that "most bats carry disease," particularly rabies and histoplasmosis.

Bats and Rabies

While rabies is a serious disease of the central nervous system and any bite or scratch from an animal should be treated as a serious possible transmission, only a small percentage of bats carry the virus. Only 2-4% of bats suspected to have rabies due to interactions with people or odd behavior test positive in Iowa—the majority are free of the disease virus. That being said, bats accounted for approximately 34% of reported rabies animal cases in 2022 in the US and proper caution is warranted.

The early suggestion that bats could carry rabies without showing clinical symptoms was incorrect because bats that contract the disease die quickly and rarely show the aggressiveness shown by rabid dogs and cats. Like any wild animal, bats should be handled cautiously even though most species in Iowa cannot puncture human skin with their teeth. Healthy bats found in homes should be captured with a heavy glove or net and released outside to carry on their normal ecological roles as insect eaters. If any bat appears sick or shows abnormal behavior, it should be sent to the hygienic laboratory in Ames or Iowa City. As with any wild animal, respect and caution should be taken when handling bats and, in the case of unprotected contact, seek medical attention and submit the animal for disease testing.

Bats and Histoplasmosis

Histoplasmosis is also a disease associated with bats. The disease organism is a soil fungus sometimes found in both bird and mammal fecal droppings. Droppings of poultry and pigeons encountered in enclosed environments are the primary source of the infection for humans. Although the fungus grows most readily in moist areas, it has occasionally been found in droppings in hot attics where bats roost. Anyone entering such an area should avoid stirring up and breathing dust where bird or bat droppings have accumulated. When removing droppings, use a properly fitted respirator that can filter particles as small as two microns in diameter.

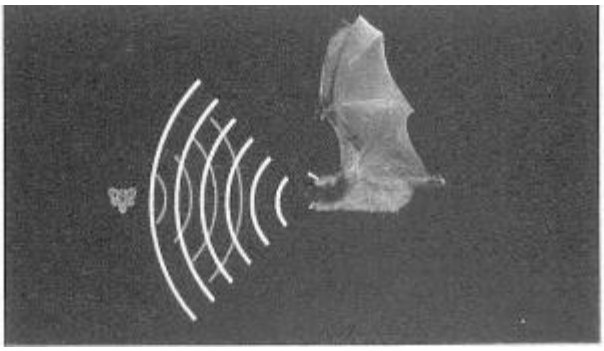
Movements, Feeding, and Roosting

It is in the pursuit of night-flying insects that one of the most interesting adaptive features of bats is best developed. Bats can echolocate flying prey by emitting vocal sounds from the larynx and mouth that are usually, but not exclusively, in the ultrasonic range (up to 180 kHz). These sound waves that are funneled by the ears into a specialized portion of the brain. So specialized is this mechanism that bats can even compensate for rapidly changing distances and angles as they approach their prey. Excellent summaries of how bats use their sonar systems are provided by in a number of studies published in the last 50 years.

Insect-feeding bats can often be seen foraging in twilight hours along streams and forest edges or in town under streetlights. The foraging flight is erratic since bats dive after the insects, catching them with their mouths, wing tips or tail membranes. Insects too large to be handled in flight may be taken to a night roost to be eaten. Since bats prefer juicier insect parts, legs and wings usually are discarded.

When not foraging, bats utilize a variety of roosts. Some species have alternate day and night retreats, the former being the more secluded. Although Iowa's bats generally use natural roosts (e.g. loose tree bark, caves, tree cavities and foliage), some species, especially the Big and Little Brown Bats, also utilize buildings or other man-made structure. In most North American species, males generally do not roost with the females and young.

When evening approaches, roosting bats become restless and often are noisy prior to departure. If their roosting shelter is large, the bats may even fly about before emerging. Upon departure, they frequently go first to water and drink by skimming the surface and scooping water with their lower jaws. Bats may then feed for more than two hours before returning to their roosts.



Simple diagram showing how bats use echolocation to locate objects, including prey.

For many species, there is a second shorter feeding period just before dawn; but by daylight, or shortly thereafter, all bats have returned to their day retreats. Females usually modify this pattern when their young are born since nursing mothers must spend more time with their offspring.

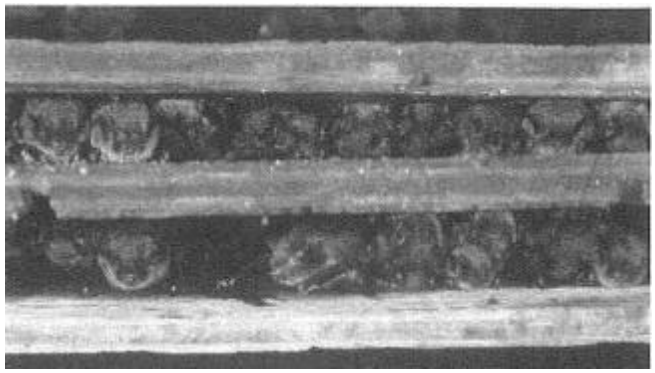
When a bat lands in the roost, it banks slightly then catches hold with its hind feet. This maneuver, which resembles a cartwheel, puts it in the characteristic upside-down roosting position. While such a position may aid in detection of predators, the primary advantage seems to be in facilitating take-off. The bat simply releases its hind feet, spreads its wings and becomes airborne. However, many species can crawl with their wrists and hind feet along flat surfaces to jump-off points for flight or can simply flip into the air using both wings and legs.

Special attention should be paid to bat behavior and movements in late spring and mid-summer. In spring, several species have adapted for the female to carry her young with her as she flies before the pups are strong enough to roost on their own. This extra encumbrance can reduce her agility and make the bat appear clumsy when she is just weighed down. Additionally, when the pups first start flying and exploring on their own, about a month after birth, they are often clumsy and find their way into unfortunate places. This is when higher numbers of calls come in about bats in houses as these youngsters find their way accidentally into the house from the attic or crawlspace. When making a determination of bat's health based on its movements, consider these nuances.

Migration, Hibernation, and Reproduction

Fall is a time for migration for most North American bats. During this time, large numbers of bats may be flying in and around caves, mines or similar cavernous structures. This phenomenon (swarming) may be associated with reproduction since mating occurs in many species during this time of year.

Although fall migration may commence as early as late July, by August most bats are "moving," and may seek temporary refuge in or on buildings en route to their places of hibernation. Additional fat deposition, however, may occur after arrival at the wintering site (hibernaculum). In Iowa, four species- Little Brown Bat, Northern Long-eared Bat, Tri-colored bat, and Big Brown Bat commonly hibernate in caves, and mines in eastern counties. A fifth species, Indiana Bat, has been found hibernating in only a few isolated locations in Iowa. Other bats migrate southward. The only species currently known to overwinter in buildings in Iowa is the Big Brown Bat. During hibernation, the bat's depressed body temperatures reduce metabolism and fat utilization. If hibernating bats are disturbed or aroused, their metabolism increases, depleting fat reserves and diminishing their chances of surviving the winter.



Little Brown Bats inside a bat house.

While most mating activity occurs prior to hibernation, some takes place during winter arousal periods when there are prolonged spells of warm water. In many bats, sperm cells are retained in the female's uterus until spring when ovulation and fertilization occurs. Gestation is about 50-60 days, with most young being born between late May and late June, soon after females have returned to their summer roosts. Colonial species form nurseries of 50 to 1,000 or more individuals in a variety of locations, including tree hollows, under loose tree bark, and in buildings. Females of solitary species roost in tree foliage.

While most bats produce one or two young per year, the Red Bats and Hoary Bats regularly have three or four. When birthing, the female turns right-side up as the young is born, receiving the baby in a pouch formed by the tail membrane. Naked and with closed eyes, the young bat resembles a miniature adult. In colonial species, the young (normally left in the roost when the mothers forage) form small clusters. Returning mothers recognize their own young by their own distinct odor and/or sound.

Young bats grow rapidly and are able to fly in about three weeks when they are approximately three-fourths grown. In Iowa, this usually is in late June to mid-July. After the young are weaned, the nursery colony disperses. Hence, by late July or early August most young of the year, having left the nurseries, frequent temporary roosts elsewhere.

Ectoparasites

A variety of ectoparasites have been found in fur, in ears, and on the wing and tail membranes of bats. Several kinds of bat bugs (an ancestor of bed bugs), fleas, mites, chiggers and lice have been taken from bats in Iowa, especially colonial species. Consult pest experts for more information on any of these ectoparasites.

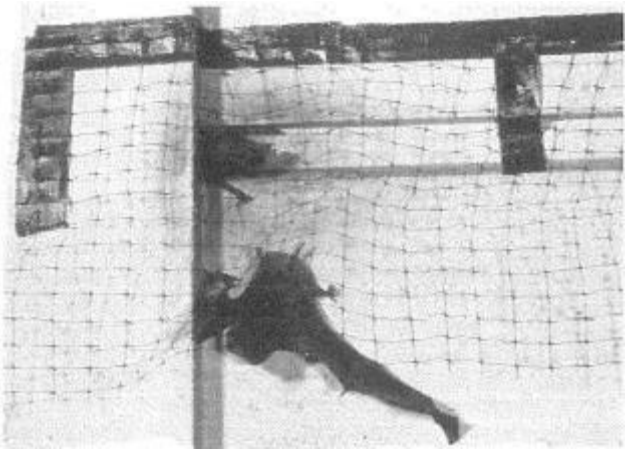
Longevity

For their small size, bats are surprisingly long lived. This longevity, however, is a necessity for species survival given the generally low reproductive rate of one or two young per year for most species. While data are too scarce for age estimates of non-colonial species (i.e. Silver-haired, Red, and Hoary Bats), the following longevity records exist for those that are colonial: Little Brown Bat- 33 or 34 years in other states, Northern Long-eared Bat- 18.5 years, Indiana Bat- 13.8 years, Tri-colored Bat- 14.8 years, and Big Brown Bat- 19.0 years. An interesting record from Iowa was a pregnant female Little Brown Bat caught at the Manchester Fish Hatchery 23 years after it had been banded (Bowles 1983)!

Bats in Buildings

For most people in Iowa, encounters with bats are uncommon, even though both Big and Little Brown Bats regularly utilize man-made structures. Bats that enter buildings are often migrants seeking temporary roosts, or young of the year that have left their nurseries. If a bat is encountered in your house, try to shut it in a room, then open a window and remove the screen. If you must catch the bat, use a net, cloth, leather glove, or place a large plastic container over it and slide cardboard underneath the container opening. Take the bat outside and release it.

In winter, a hibernating Big Brown Bat hanging in the attic is best left alone; it will find its way out in spring. Be tolerant and remember that a few hibernating bats do not constitute a threat to you. Most methods used to control small numbers are either ineffective or costly (e.g. ultrasonic sound producers) or temporary (e.g. moth balls), and may cause the bats to move from secluded retreats to places where encounters with people are more likely. It is best to seal the attic well and make sure doors fit tightly. Since bats can move from one place to another within building walls, make sure cellar doors are also tightly fitting and kept shut. Persons with bat colonies in buildings should not be unduly frightened because the bats will not attack. Examine the attic for openings or gaps during daylight hours or in the early evening, usually about 15 minutes after sunset. Wait until fall (about September) to plug openings, after the bats have left their summer roost and before cold weather has begun. Sealing thoroughly is the only safe and permanent method to exclude bats but you need to ensure that all bats have left the building and will not be trapped inside.



Putting netting over known bat entrances allows them to leave but not to return.

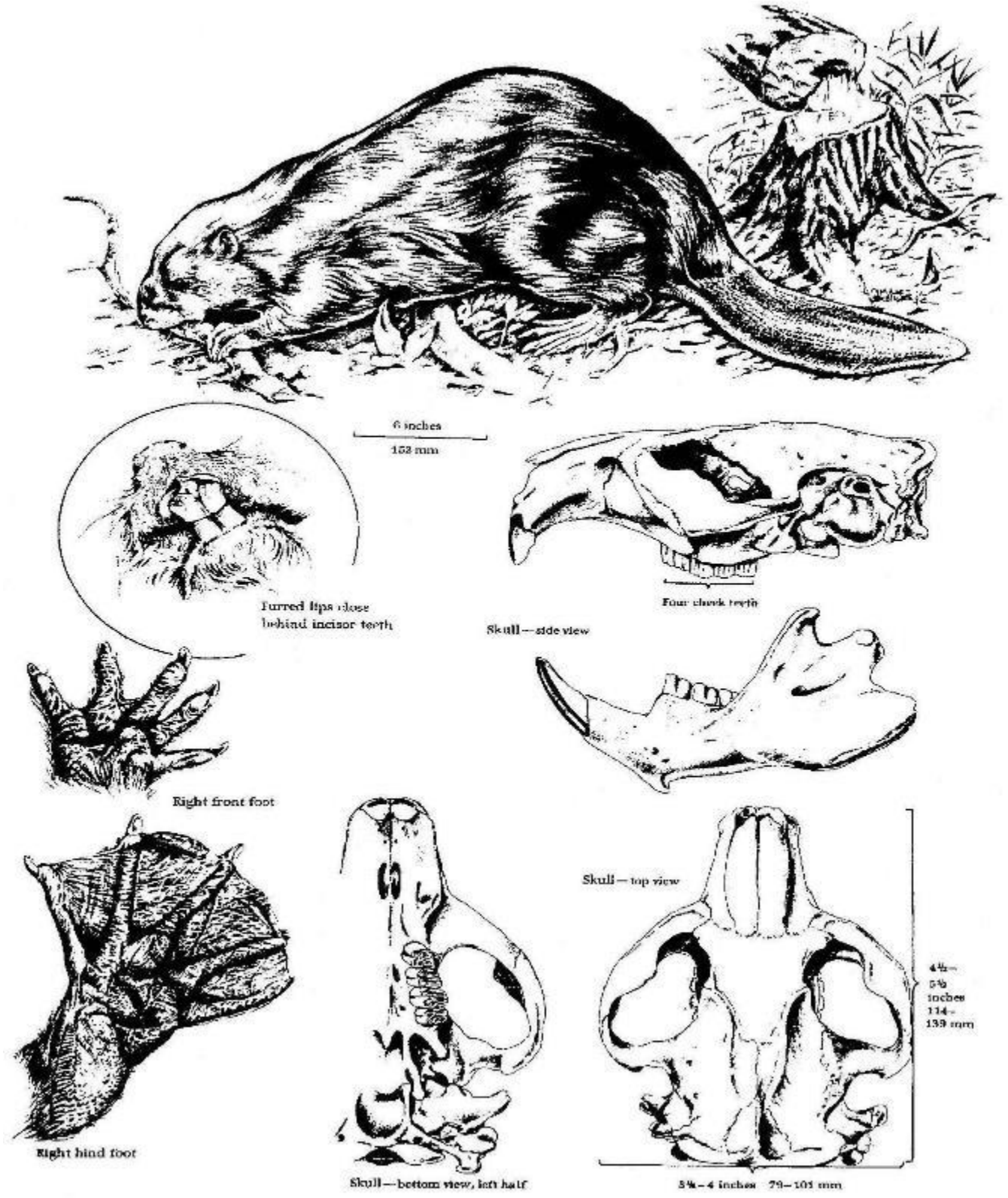
When it is not possible to wait until after the bats leave in fall, a half-inch polypropylene bird netting (used to protect fruit trees) can be hung during the day where bats exit so as to allow emergence but prevent reentry. A 2-foot strip of netting can be fastened with duct tape or staples several inches above the exit opening and extended about a foot on either side and below. Such methods should be attempted only in spring before young are born, or in late August after they can fly. You should never seal bats inside a building or separate mothers from nursing young.

In exceptional cases, additional exclusion or removal may be necessary. Identifying the species involved and understanding their habits is important to ensure proper handling and endangered species restrictions. Before any action is taken, you should recognize that most bat colonies do not cause problems and in most cases it is best to be tolerant and leave the bats alone.

More information about bats can be found in the Mammals of Iowa Field Guide (https://store.extension.iastate.edu/product/15391) or on the USFWS website. Further information about bats in Iowa can be found at https://www.birdsofiowa.com/bats/bats.htm.

Beaver

Scientific Name - (Castor Canadensis)



Description: Beavers are the largest members of the rodent family in North America. Adult beavers weigh from 35 to 65 pounds and may reach lengths of four feet. Beaver are usually brown in color and have distinctively large protruding front teeth. The tail is large, flat, scaled, naked and black in color. The hind feet are webbed for swimming and

considerably larger than the front feet. The front feet are quite dexterous in manipulating food and are often used for digging. The eyes and ears of beaver are small.

Habitat: Beavers are dependent on water for survival and are found along many of Iowa's waterways. Beaver particularly like to inhabit small rivers with willows and other brush lining the shoreline.

Habits: Beaver may stay under water for up to 15 minutes. It takes a beaver about three minutes to cut down a tree five inches in diameter. Beaver often build dams across streams and small rivers. The dams provide more permanent habitat then waterways which may dry up during periods with no rain.

Reproduction: Beaver breed from January through March with a gestation period of approximately 90 days. They young, kits, are born from April through June. There are typically three to four kits per litter. They are fully furred, have their eyes open at birth, weigh about one pound and are 15 inches long. The young are weaned when six weeks old and become mature when two years old. The young will live with their parents until they are mature. Most beaver do not breed until they are three years old.

Food: Beaver eat from one to two pounds of food daily. They eat up to 100 percent woody plants in the winter but eat only about 10 percent woody plants in the summer. Willow and cottonwood saplings are favorite woody plants. Corn and various water plants are preferred summertime foods.

Sign: Beaver cuttings will be easily spotted if beaver are present. Beavers may also be distinguished by castor deposits and slides, leading from the water to cuttings, cornfields or other desirable food and habitat.

Predators: Coyotes, otters and mink may prey upon beaver. People and flooding conditions are primary factors limiting the population.

Diseases: Tularemia and *giardia lamblia* (see Wildlife Diseases) are most common diseases known in beavers.

Parasites: Lice, fleas, beetles, flies, roundworms and flukes parasitize beavers.

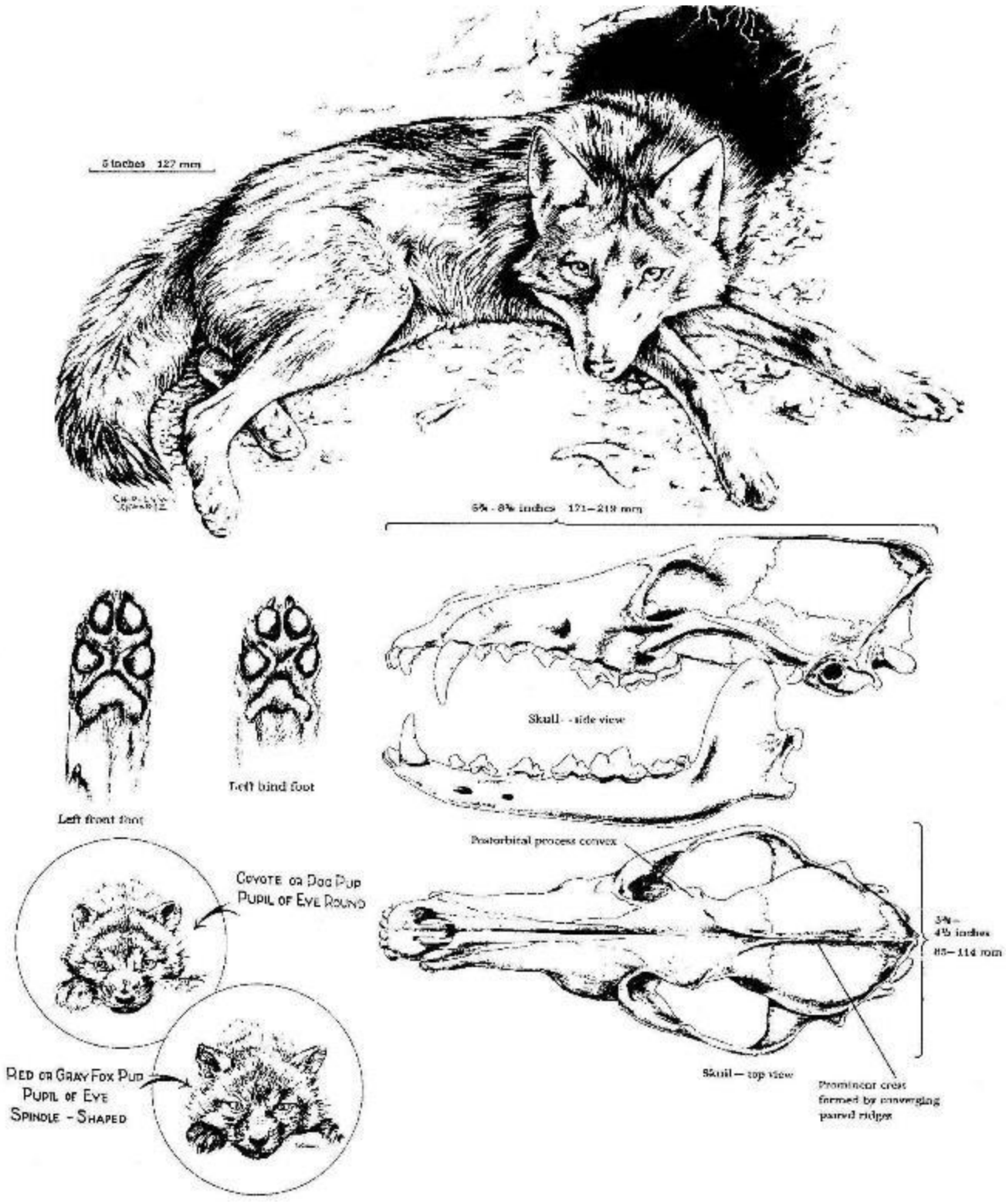
Importance: The search for beaver pelts was a major motivating factor for the exploration and later exploitation of North America. Beaver pelt hats and coats were the fashion standard in Europe in the early 1800s. Today beaver pelts are used to make coats, hats and trim. Beavers are the source of castoreum, which is used as a fixative in perfumes and as a trapping scent. They are also very delicious when properly cooked. Although beavers can cause damage to cornfields and drainage projects, they provide valuable habitat by constructing their dams.

Baits and lures: Small sticks with the bark partially peeled, carrots, corn, beaver castor, sweet flag and anise are used successfully.

Sets: Scent mound, slide, spillway and baited sets.

Coyote

Scientific Name - (Canis latrans)



Description: The coyote is extremely doglike resembling a small German Shephard. A callus is usually obvious on the front leg in the region of the elbow. The pelage is fairly long, coarse and heavy. The coyote is easily distinguished from red and gray foxes by its larger size, coloration, shorter tail and round pupil of the eye (foxes' pupils are vertically elliptical). (See coyote and fox pup figures lower left on preceding page.) Typical Iowa coyotes are colored gray to dull yellow with the outer hairs broadly tipped in black. The throat, belly and innerleg fur is white to pale gray. Coloration

can vary from barely black, to light gray and occasionally a reddish cast occurs. Adult coyotes range in length from 40 to 54 inches and in weight between 18 and 30 pounds.

Habitat: Coyotes prefer to live in brushy country, along the edge of timber and in open farmland. Dens are usually located in unused fields and are often close to timber. They may be found in a bank, under a hollow tree or log, in a rock cavity or occasionally in a dug out area in a clump of brush.

Habits: The home range of a coyote may be as small as three to four miles when caring for young, or as large as 25 to 30 mines during the rest of the year. They like semi-open country and prefer to travel on ridges or old trails. Coyotes normally hunt singly or in pairs, but in late summer or early fall may hint with a family group. They are primarily nocturnal with peak activity periods within one or two hours of sunset and sunrise. Coyotes swim well and can run as fast as 45 miles per hour for short distances.

Reproduction: At least two-thirds of Iowa coyotes breed the first year of life. Pairing, mating and breeding activity begins in January with the peak occurring in late February thru March. Gestation is from 58 to 63 days with 2 to 15 young (usually 5 to 7) born in late April or May. Some pairs stay mated for a year while others mate for life. Pups are born blind and helpless. After five or six weeks of age they infrequently use den sites.

Food: Coyotes are carnivores, relying primarily upon rabbits and mice for two-thirds of their diet. Seasonal fruits and plants, such as plums and mulberries, are also eaten. They are opportunists, feeding on whatever is available during a particular time. Adults will occasionally feed on domestic livestock including lamb, calves and pigs. They often feed on dead livestock and are sometimes blamed for livestock kills made by dogs. Adult coyotes carry food in their stomachs and regurgitate partially digested food for pups up to eight weeks of age.

Sign: Coyotes tracks are sometimes confused with certain breeds of domestic dog tracks. Generally, they are more elongated and the toes are closer together than dogs. The hind portion of the heel pad of the front foot of a coyote is well lobed and spread horizontally in comparison to a dog's. Coyote scats are extremely varied in size and will overlap in size with red fox scat. The most conspicuous coyote sign denoting their presence is their howl.

Predators: Man is the most important predator of coyotes. Dogs and great-horned owls may take pups. White-tail deer have been known to kill coyotes with their feet.

Diseases: the most frequent diseases are distemper and tularemia. Rabies very rarely occurs in coyotes.

Parasites: The following parasites occur on or in coyotes: ticks, fleas, roundworms, tapeworms, flukes and mites. Occasionally mites cause coyotes to get mange, but mange does not cause as mush mortality in coyotes as it does in the red fox.

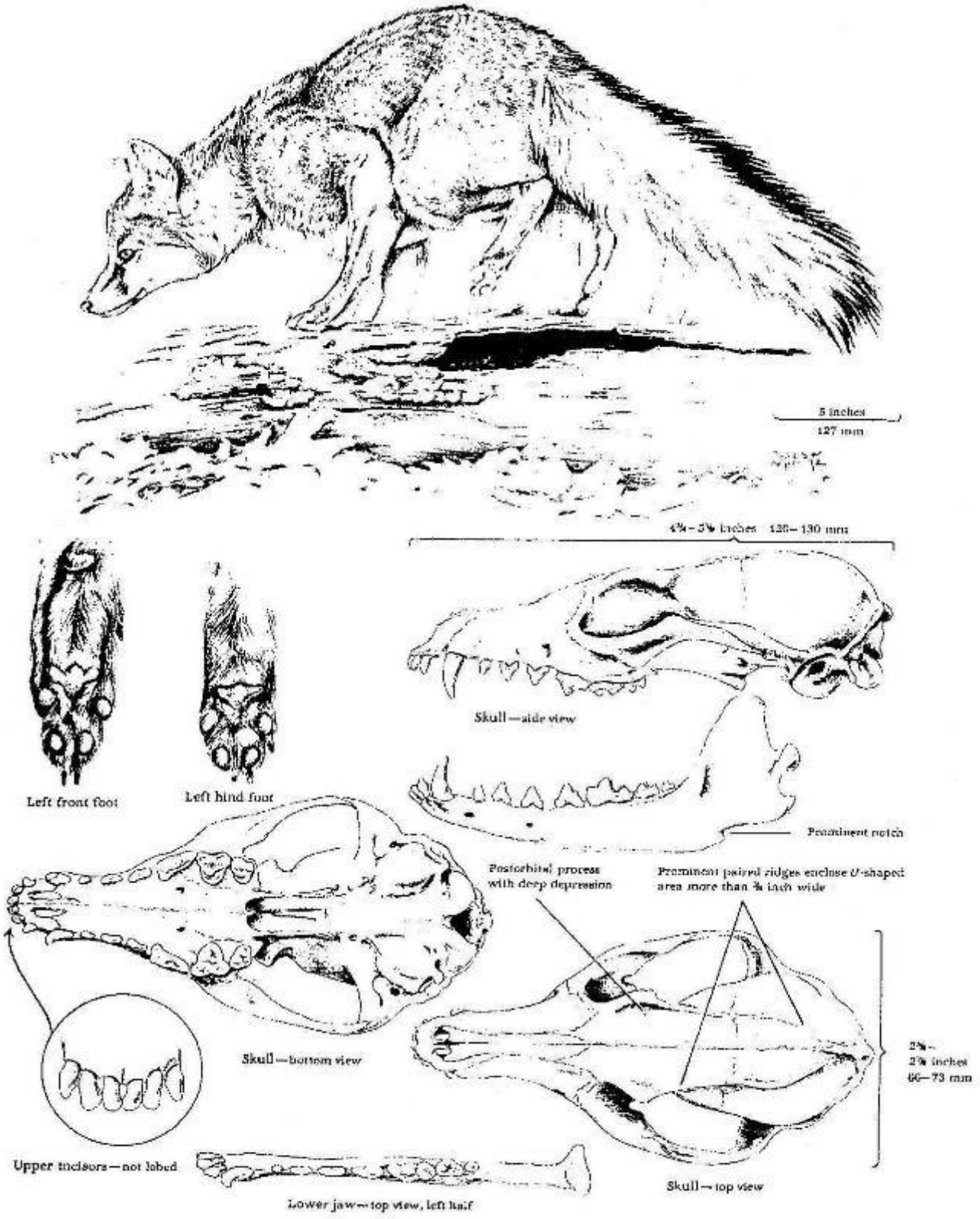
Importance: Coyote fur is both durable and attractive, and is often used in trimming for coats. Although coyotes kill some livestock and poultry, domestic dogs are responsible for many livestock kills. They are important predators and assist man by reducing rodent and rabbit populations. They may provide more man hours or recreational opportunity than other furbearers during late winter months.

Baits and lures: Commercial lures, fox urine, tainted meat baits and skunk carcasses are all affective attractants for coyotes.

Sets: Scent-post, flat, dirt-hole and urine post.

Gray Fox

Scientific Name - (Urocyon cinereoargenteus)



Description: The gray fox is slightly smaller than the red fox, weighing an average of six to ten pounds. Its fur has a coarser texture than the red fox and is colored by alternate bands of black and white guard hairs. There is reddish-brown

fur on the underparts of the body. The tail is gray with a ridge of coarse, black hair along the top and on the tip. The total length of the gray fox is 35 to 44 inches with the tail being about 14 inches long.

Habitat: The gray fox lives in wooded areas and fairly open brushland. It is essentially an animal of warm climates. Since Iowa is in the northern part of its range, it uses dens for warmth more than the red fox. The dens are located in hollow logs and trees, hollows under rock piles or occasionally in the ground. They are filled with grass, leaves or shredded bark.

Habits: The gray fox is primarily nocturnal, but it can be seen occasionally during the day. In contrast to the red fox, the gray fox may climb trees using the front feet to grasp the tree trunk and the hind feet to push upward. Gray foxes are very secretive and shy but when necessary are fierce fighters.

Reproduction: Gray foxes breed primarily in February with a gestation period average of 53 days. Three or four pups are born in April. Gray fox dens tend to be in areas of brushy cover and are much more difficult to locate than red fox dens. At birth the pups are blackish, blind and scantily furred. They open their eyes at about ten days and remain near the den until they are approximately three months old. The family breaks up in late summer. The young breed the first year following birth.

Food: Like the red fox, the gray fox's diet consists primarily of rodents and rabbits. They are opportunistic animals, feeding upon available prey, fruits and berries as they become plentiful.

Sign: The gray fox track is smaller and rounder than that of the red fox. Scats are similar to those of the red fox.

Predators: The most important predators of the gray fox are people and dogs. Coyotes may also be a factor.

Diseases: They are similar to the ones that affect the red fox, although mange does not appear to be as devastating to the gray fox as it is to the red fox.

Parasites: The following parasites are known to occur on gray foxes: mites, ticks, lice, fleas, and roundworms.

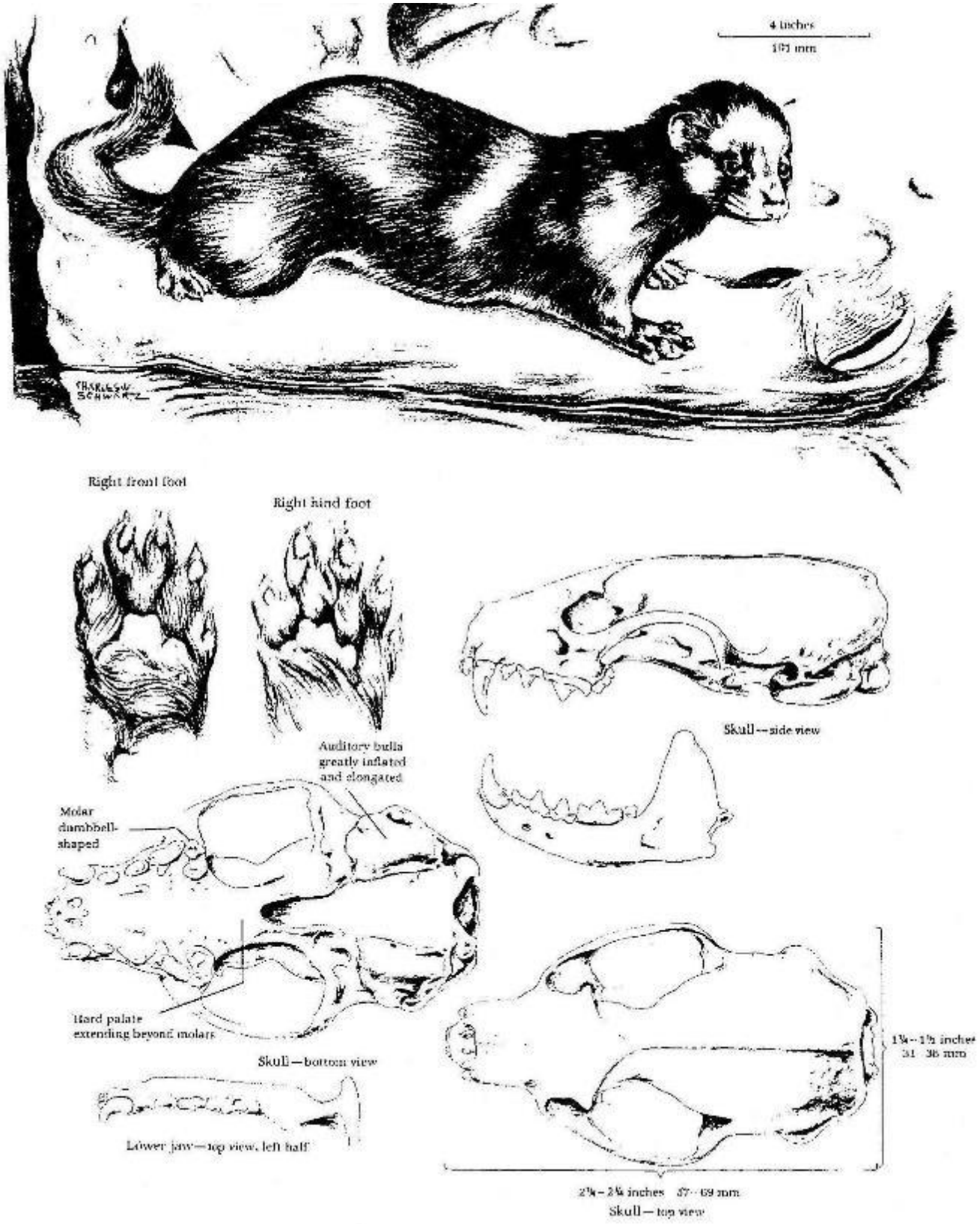
Importance: Most gray fox pelts are sold to coat manufacturers in Germany. The coats are not as silky as red fox coats but are very durable. Gray foxes are good predators of rodents and cause almost no livestock damage.

Baits and lures: Commercial lures, fox urine, tainted meat baits, rodents and skunk musk are all effective attractants for the gray fox.

Sets: Dirt hole, scent-post, flat set, trail set and urine post.

Mink

Scientific Name - (Mustela vison)



Description: The mink is a member of the mustelid family. It is a small, slender, weasel-like animal. The fur is short and not very dense. Mink have short legs and inconspicuous ears. The tail is bushy and is usually one-third to one-half the length of the body. Native Iowa mink are usually brown in color with a white patch of fur on the underside of the throat.

Other color phases do occur, but these are often individuals that have escaped from mink ranches. Males are generally larger than females of the same age. Males weigh in the range of one and one-half to three pounds, while females weigh in the range of one to two pounds. The total length of males is usually 23 to 28 inches, and total length of females is usually 18 to 22 inches. Mink have a very acute sense of small, but their eyesight and hearing are moderate at best.

Habitat: Mink are almost always found in conjunction with water because of the diversity of food that is available in aquatic environments. Good places to find mink are lake shores, marshes and stream banks that have trees or rocks to provide shelter. The type of habitat available for mink is usually the controlling factor of mink populations. Mink are not bound to the water as muskrats are. Some mink may be found a considerable distance from water if sufficient food and shelter are available.

Habits: Mink are very inquisitive animals. They will investigate nearly all holes, crevices and hollow logs that are along their lines of travel. Mink often follow shorelines and streambanks in search of food. They often leave large piles of feces around the entrance to their dens.

Reproduction: Mink breed in late February through early April. They undergo the physiological process of delayed implantation. The gestation period averages 51 days. Mink have one litter per year, with usually four to five young per litter. The young are known as kits and are usually born in May. One male may mate with several females, but it will usually stay with the last one to assist in caring for the young. Mink will use abandoned muskrat dens or burrows of some other mammal to live in. Most do not live longer than three or four years and can breed when one year old.

Food: Mink are carnivores. They prefer freshly killed food rather than carrion. Some of the major foods that mink eat are frogs, mice, fish, rabbits, birds, crayfish, squirrels and muskrats.

Sign: Mink tracks can often be found along shorelines. A good way to learn about mink is to follow tracks along a snow-covered creek in the middle of winter.

Predators: People, dogs, owls, foxes and coyotes are all predators of mink.

Diseases: Mink may be parasitized by roundworms, flukes, tapeworms, protozoa, mites, lice, fleas and flies.

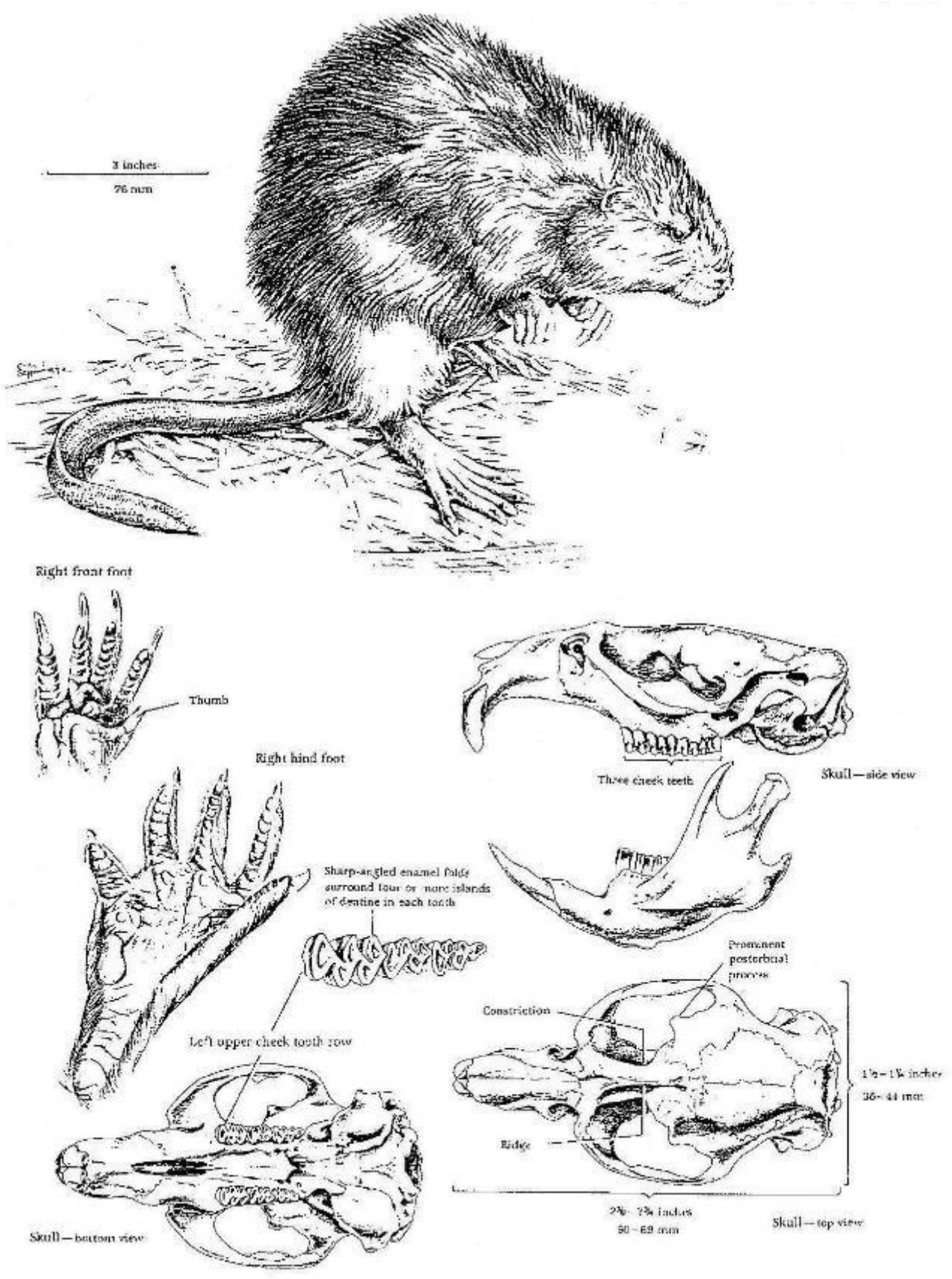
Importance: Mink have long been thought of as the leaders in the fur industry. Most mink garments are made from mink raised in captivity. Mink “ranching” became popular in the early 1900s when breeders were able to selectively breed for different colors of mink. Wild mink are important predators.

Baits and lures: Fresh fish, muskrat, mice, squirrel and mink carcasses are used as bait. Mink musk and fish oil are used as lure.

Sets: Pocket, blind and conibears in trails or covering holes and dens.

Muskrat

Scientific Name - (Ondatra zibethicus)



Description: The muskrat is another member of the rodent family. The muskrat looks similar to the common rat but is larger. Muskrats vary in total length from 16 to 25 inches. There are 16 subspecies of muskrats in North America with many different color variations. Muskrats in Iowa are typically light brown to dark brown. The fur is medium length and quite dense. The tail is naked, laterally compressed (similar to an ell's tail) to aid in swimming and approximately the same length as the body.

Habitat: Muskrats are found in conjunction with almost all permanent bodies of water in Iowa. Muskrats are well adapted to an aquatic lifestyle and are dependent upon it for protection from predators. Muskrats can be found in the highest concentration in marshes. Populations as high as 35 muskrats per acre have been recorded on cattail marshes in Iowa.

Habits: Muskrats have the annoying habit of making their dens in pond dams and dikes. This is probably the single largest damage complaint concerning muskrats. Muskrats prefer to build houses (also known as huts or lodges) out of vegetation if it is present in sufficient quantities and the water will not wash it away. If no suitable place to construct houses exists, muskrats will make dens in stream banks. Muskrats will often use slides, toilets and feeding places repeatedly. They are nocturnal but may be active during the day in the spring and fall. Muskrats tend to be less active during nights with a full moon. They are most active during rainy nights. Usually solitary they may live as part of a group in houses in the fall and winter.

Reproduction: Muskrats are very prolific. In Iowa females may have two or three litters per year. Each litter commonly has four to seven young. Breeding activity begins in March and peaks in May and June. Some individuals may breed through September. As with most wildlife, adults have fewer litters and fewer young per litter when the population is above the carrying capacity. Individuals, especially males become quite territorial during peak breeding times. The gestation period is about 30 days. The young become mature when approximately six months old. Only 10 to 20 percent of newborn muskrats live longer than one year with or without trapping. The young are often referred to as kits.

Food: Muskrats are primarily herbivores, feeding upon the most abundant vegetation. Smaller animals may also constitute a part of the muskrat's diet if the preferred vegetation is not readily available. Cornfields neighboring bodies of water are often used as feeding areas. Cattail, bulrush, arrowhead, waterlily, dry grasses, soybeans and corn are favorite muskrat foods.

Sign: the muskrat signs most easily identified are their droppings and "feed beds." Feed beds are floating mats of vegetation where muskrats feed. Signs where muskrats have been digging to get roots of plants or eating cattails may also be identified. Narrow mudslides and muskrat houses are common where muskrat populations are high.

Predators: People and mink are the major predators of muskrats, but raccoons, great-horned owls, coyotes, dogs and foxes also prey on them. Hawks, cats, weasels, snapping turtles and some large fish may prey upon muskrats and their young, but are only of minor importance in Iowa. Muskrat meat, when properly prepared, is very good.

Diseases: Tularemia, hemorrhagic fever, septicemia and coccidiosis are all known to occur in muskrats.

Parasites: Muskrats may be parasitized by mites, fleas, roundworms, flukes and tapeworms.

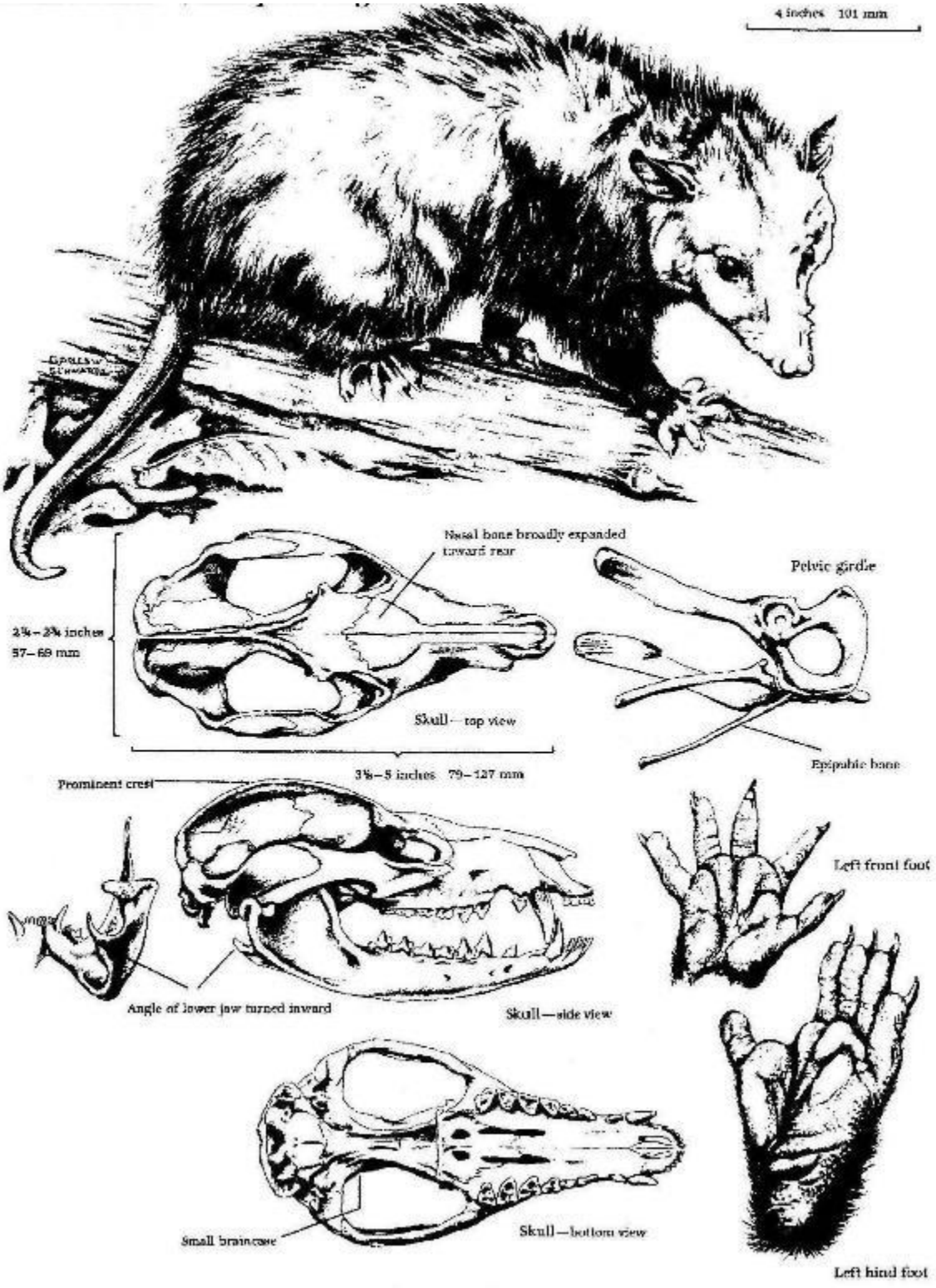
Importance: Muskrats are the most numerous furbearer in Iowa. Most muskrat pelts are sold to European countries where they are made into moderately priced coats. Muskrats musk is used extensively in trapping scents. Muskrats may cause damage to dikes and pond dams, but they are important prey for many predators.

Baits and lures: Apples, carrots, celery, corn and fish are good baits. Anise, spearmint, sweetflag, fish oil and beaver castor are good lures.

Sets: Pocket, slide, stool, feedbed, blind and conibears in trails or den entrances.

Opossum

Scientific Name - (Didelphis virginiana)



Description: Opossums are North America's only marsupial, or pouched mammals. An adult opossum is about the size of a large house cat and resembles a cream or gray colored rat with a pointed snout and a long, naked tail. The gray color is from the white guard hairs over black-tipped underfur. The ears are naked, black at the base and lighter at the tips. The female has a fur-lined pouch on the belly, similar to that of a kangaroo. The tail is prehensile, meaning it can be used to

grasp branches or other objects. Opossums range in weight from 4 to 12 pounds but average about 6. At the same age males may be twice the size and length as females.

Habitat: Opossums are interspersed throughout most Iowa habitats, although they may prefer brushy areas near streams. Den sites include cavities in rocks, brush piles, trash heaps, hollow trees, fallen logs and old buildings.

Habitats: Opossums are shy, secretive and primarily nocturnal. They tend to be somewhat nomadic and have no fixed home range. Opossums are not aggressive and, when pursued, often climb trees in an attempt to escape. A common means of defense is feigning death which is so characteristic that it is known as “playing opossum.” The animal rolls over on its side, becomes limp, shuts its eyes and lets its tongue hang out. The heartbeat is slowed. This reaction is a brief nervous shock, but the animal quickly recovers and escapes at the first opportunity. Although neither sex is particularly active when the temperature is below 20°F, females show a greater tendency than males to “hole up” during very cold weather. Their feet are adapted for climbing and the opposable toe on the hind foot assists in holding onto small branches. They have the ability to support themselves entirely by the tail if at least half of it grasps a branch.

Reproduction: Most breeding occurs in February or March, but a second peak in breeding activity occurs in late May through June after the first litters are weaned. A female may breed at either or both of these times. The average number of young is nine, but ranges from 5 to 13. Young are born blind and incompletely developed. Each is less than one-half inch long and weigh 1/175 ounce. The young climb up a fur pathway into the pouch and attach to a teat for about 60 days as they continue to develop. At 60 days of age the young are about the size of mice and the eyes are open. Young stay with the female for about 100 days. Breeding occurs the year following birth.

Food: Opossums are omnivores and will eat almost anything.

Sign: Opossum tracks are very distinctive, especially the wide angled “big toe” (opposable thumb) on the hind foot. Opossum droppings are not distinctive and vary according to the type of food eaten.

Predators: Predators of opossums include dogs, people, foxes, coyotes and great-horned owls.

Diseases: Tularemia and rabies can occur in this species although little is known about diseases infecting opossums.

Parasites: Parasites known to occur on or in opossums are mites, ticks, lice, fleas, roundworms, flukes and tapeworms.

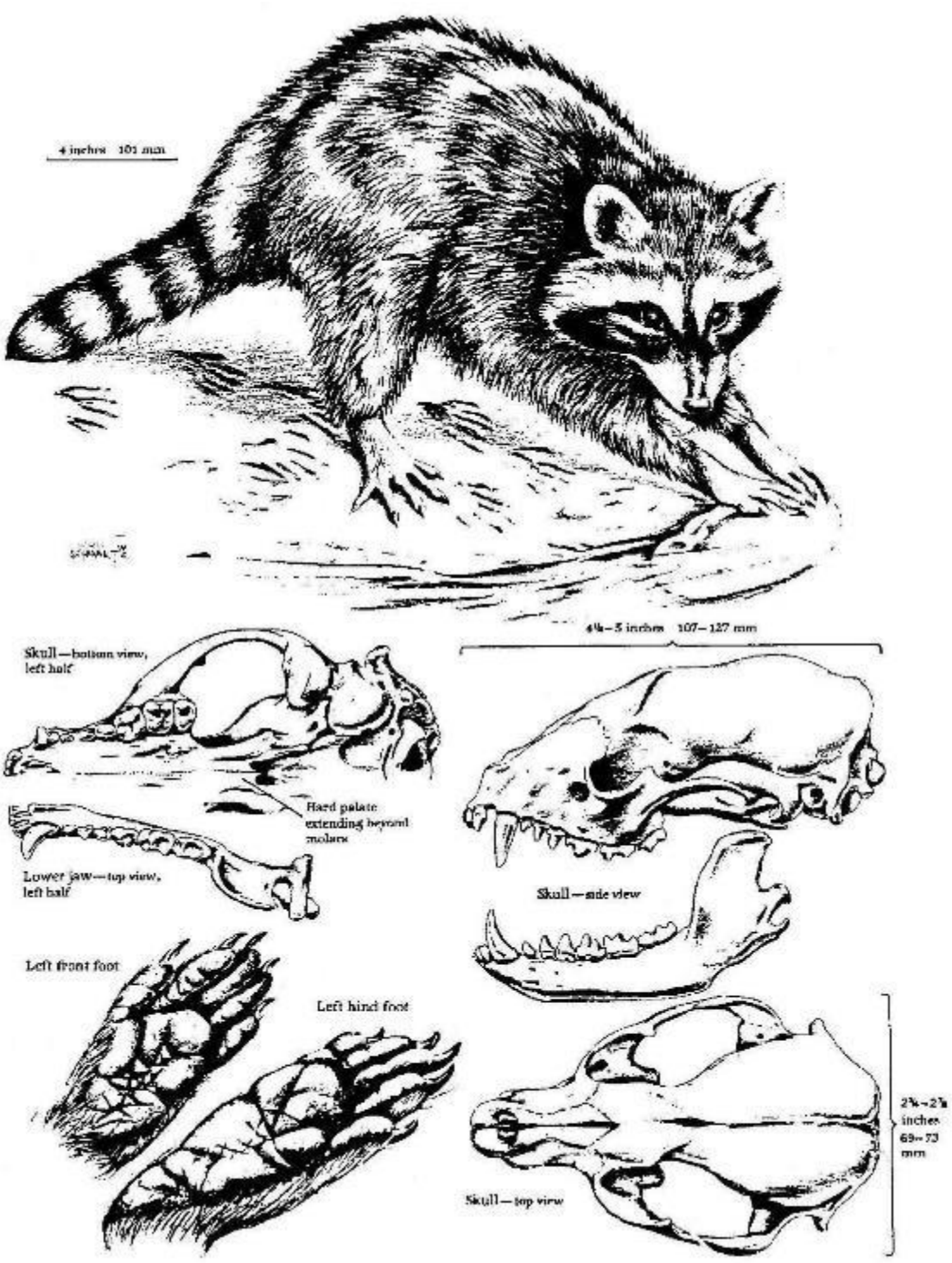
Importance: Opossums are very common furbearers. Their fur is used primarily as trim on coats; however some opossums are made into full length coats. Baked opossum is a traditional Southern dish and is quite good when prepared correctly.

Baits and lures: Almost any strong-smelling food lure or bait will attract opossums, including tainted meat, fruit or fish.

Sets: Pocket, dirt hole, blind, trail, cubby or box traps.

Raccoon

Scientific Name - (Procyon lotor)



Description: The raccoon is a stocky, medium-sized furbearer. The fur on the back is usually a grizzled black, washed with gray or yellow. The belly fur is lighter in color and of little importance to pelt quality. Pure “red,” black, albino and other individual colors do occur but are rare. All raccoons have distinctively darker hair around their eyes that forms what looks like a mask. Their tail is distinctive because it has alternating bands of light and dark fur. Raccoons have a broad head with a pointed muzzle. The feet are naked and possess five prominent toes. Adults have a total length in the range of 24-41 inches. They typically weigh from 8-20 pounds. The heaviest raccoon recorded (from Wisconsin) weighed over 59 pounds; however, it is very uncommon for a raccoon to weigh over 25 pounds.

Habitat: Raccoons appear throughout Iowa. They can be found just about anywhere that food, shelter and water are available. The largest density occurs near permanent bodies of water which offer a wide variety of food and den sites. Raccoons den in hollow trees, junk piles, abandoned buildings and abandoned burrows. Raccoons are often found in cities and towns. The home range of raccoons in Iowa is about 250 acres at any one time. Home ranges overlap extensively and may change as different foods become available or as they are exhausted.

Habits: Raccoons are generally nocturnal, but they may be seen out in the daytime, especially early in the spring or fall. Raccoons will try to gain as much weight as possible in the fall, storing up a fat reserve for the cold days of winter. For this reason, raccoons have a voracious appetite in the fall. Shifts in the raccoon's diet occur rapidly in the fall as different foods become available. Raccoons will often den up during extremely cold or severe weather and take a short winter sleep, but they do not hibernate.

Reproduction: Generally, 60 percent of the females breed when one year old, while 90 percent of females over one year old will breed. The number of yearling females that breed may fluctuate greatly depending on population density. Fewer yearlings will breed if the population is high. Males may breed when one year old, but rarely do so because older, more aggressive males out compete them for mates. Males are sexually active from late December through May or June. Most breeding activity takes place in February. Females have one litter per year. There are usually three to four young per litter. Gestation is typically 63 days. Most young are born in late April or during May. The young are weaned when eight to ten weeks old and may be seen out of the den at this time. Males do not help raise the young. The young may stay with the female as a loosely knit family until the following breeding season.

Food: the raccoon is a true omnivore. Some of the wide variety of foods consumed by the raccoon includes birds, eggs of all kinds, crayfish, insects, fish, frogs, mice, wild fruit, corn (particularly sweet corn in the milk stage) and nuts. Raccoons will eat the food that is most readily available to them but may become quite selective when food is abundant. In the spring and early summer over one-half of the raccoon's diet is animal matter. In contrast, in the late summer and fall, up to 78 percent of the raccoon's diet is plant matter. Examination of the raccoon droppings will reveal the raccoon's current diet.

Sign: Raccoon tracks are quite distinctive. Tracks may be found anywhere, but they are most easily seen and studied along muddy shoreline. Raccoon droppings (scats) are also distinctive and may be found near denning areas.

Predators: People are the major predators of raccoons. Nearly 90 percent of all raccoon mortalities are caused by humans. Fur harvesting accounts for roughly 70 percent, while roadkills account for about 15 percent. Between 1972 and 1987, fur harvesters took over 250,000 raccoons annually in Iowa with a record 390,000 harvested in 1986. Since 1986, harvest has declined substantially. Great-horned owls, coyotes, as well as dogs may all kill young raccoons.

Diseases: Canine and feline distemper, parvovirus, pseudorabies, tuberculosis and rabies are all known to occur in raccoons. The incidence of rabies in Iowa raccoons, however, is very small.

Parasites: Raccoons may be parasitized by ticks, lice, fleas, botfly larvae, roundworms, flukes and tapeworms. Recently the raccoon roundworm has received much attention (see Wildlife Diseases).

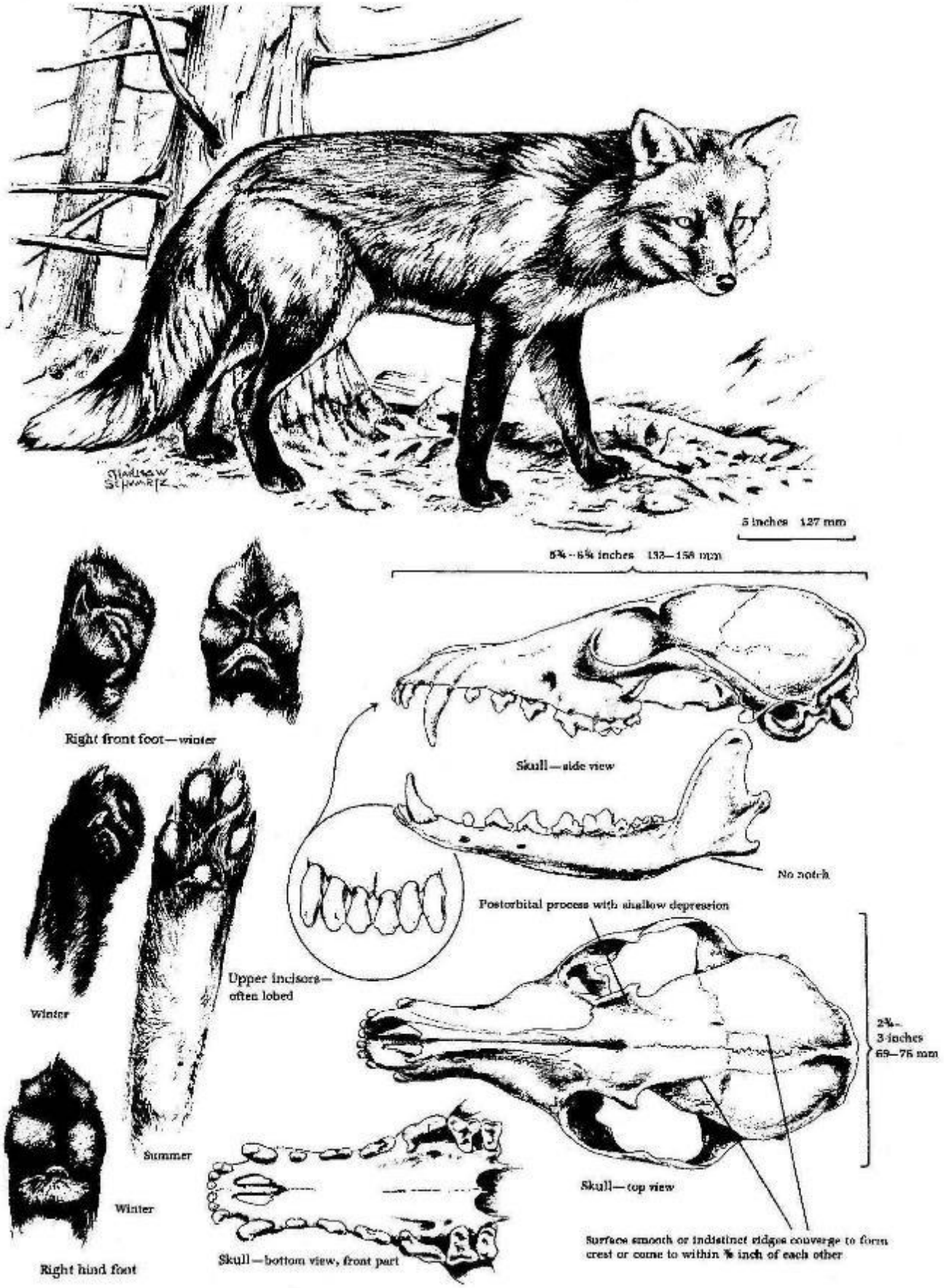
Importance: Raccoons are one of the most economically important furbearers in Iowa. Raccoon pelts are used to make many types of fur garments. The baculum is a novelty item and may be marketed as an "Arkansas toothpick:" or a swizzle stick. Many people consider raccoons to be a delicacy.

Baits and lures: Many baits and lures attract raccoons; apples, corn, fish, peanut butter and marshmallows are common baits. Honey, anise, apple juice and shellfish and fish oils are common lures.

Sets: Pocket, dirt hole, blind, trail, cubby and cage trap sets.

Red Fox

Scientific Name - (Vulpes vulpes)



Description: The red fox is a dog-like in appearance with an elongated, pointed muzzle; large pointed ears which are usually held erect and forward; moderately long legs; a long, heavily furred and bushy tail which is circular in cross-section, and long thick soft body fur. The pupil of the eye is vertically elliptical, a characteristic which distinguishes it from the coyote and other young animals. Typically, Iowa red foxes are colored with an orange-red coat, black legs, lighter colored underfur and usually a white tipped tail. Red foxes occur in many other color phases, including silver, cross and melanistic, but the red phase dominates. Adult foxes range from 36 to 46 inches in length and weigh between 8 and 15 pounds. A small percentage of Iowa red foxes have black tipped outer guard fur. These are referred to as a cross color phase of red foxes. Sampson faxes are poorly furred animals with no guard hairs.

Habitat: the red fox is extremely adaptable and thrives under a variety of conditions. It is considered more of a prairie animal than the gray fox and prefers to den in the farmlands interspersed with grasslands. Because Iowa's woodlands are quite small in nature, it will frequent them as well. Red foxes tend to avoid areas where coyote populations are established, but some can be found in areas between coyote home ranges. Prior to the mange outbreak in the early 1950s, foxes were most abundant in southern Iowa. Now they are more abundant in the northern two-thirds of the state. Foxes often renovate dens dug by badgers or woodchucks. Dens most likely will occur in more grassland situations.

Habits: Like more predators, red foxes are nocturnal, or active at night, and "lay up" during the day. Their day is often spent on a hillside or somewhere with good visibility to observe potential danger. Red foxes often hunt along the border of fields and woodlots or along fence rows where rodents are abundant.

Reproduction: At least 95 percent of male and female (vixen) foxes breed during the first year of life. Pairing, mating and breeding activity begins in late December, peaks in late January and continues to mid-February. Gestation is 53 days, and the average litter size is six. Most foxes are born in late March. Pups, or kits are grayish brown, blind and helpless when born. They open their eyes at eight or nine days and stay in or near the den until four or five weeks old. They are weaned at eight to ten weeks of age. Both male and female assist in rearing young.

Food: Red foxes are carnivores feeding primarily on rodents, rabbits and birds. They also consume numerous insects and fruits as they come in season. Like most predators they are opportunistic and feed upon whatever is available at a particular time.

Sign: Red fox tracks are usually more or less in a straight line, and the hind foot is narrower and more pointed than the large front foot. The heel pad is narrow and, particularly in winter, little of the heel pad will show through the thick hair which covers the foot. Red fox scats are variable and similar to those of other canids, although noticeably smaller than most coyote scats.

Predators: The most important predators on foxes are people, dogs and possibly coyotes. Fur harvesting accounts for over 85 percent of mortalities, while roadkills, farming practices and miscellaneous mortality make up the remainder.

Diseases: Mange can be a devastating disease in high populations. Red foxes are also susceptible to coccidiosis, distemper, parvovirus, pseudorabies and rabies, but none of these diseases have as much impact as mange.

Parasites: The following parasites occur on or in red foxes: mites (which are the cause of mange), ticks, lice, fleas, roundworms and tapeworms.

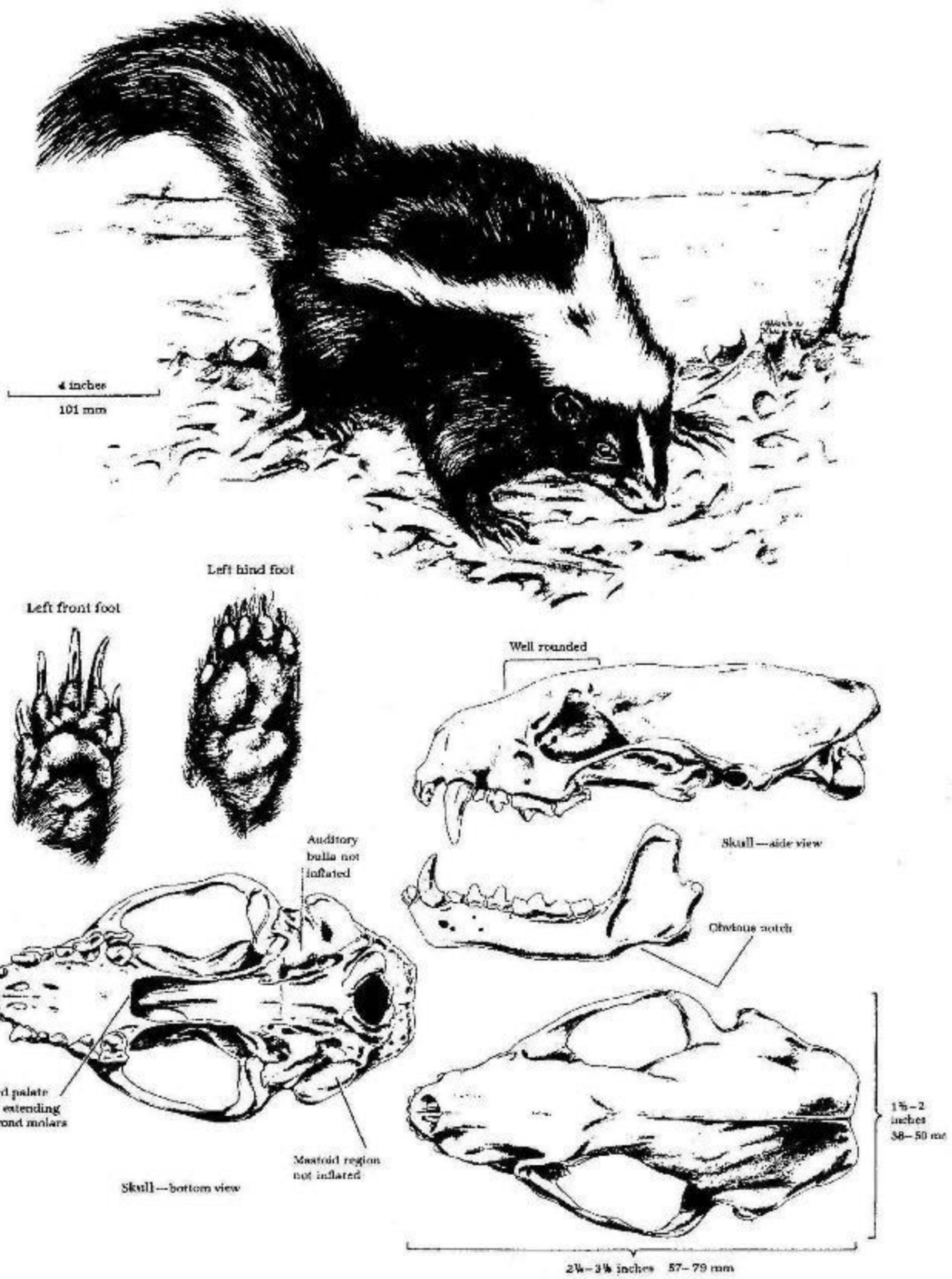
Importance: Red fox pelts are used to make many fur garments. Many different color mutations or phases of fox are raised in captivity. Red foxes are good rodent predators but have been displaced by coyotes in many areas.

Baits and lures: Commercial lures, fox urine, tainted meat baits and, in winter, skunk musk are all effective attractants for red fox.

Sets: Dirt hole, scent-post, flat set, trail set and urine post.

Striped Skunk

Scientific Name - (Mephitis mephitis)



Description: A member of the weasel family, the striped skunk is black with white on it head and two stripes that begin at the neck and extend back toward the hip region. The length of these stripes is quite variable, and a few skunks are

completely black. The large, bushy tail is mainly black but is mixed with white to varying degrees. Skunks are wide-backed with a relatively small head. Most striped skunks weigh from four to 10 pounds.

Habitat: Skunks are at home in a variety of habitats but prefer timber borders, brushy field corners, fence rows, rock piles, old building sites and open grassy fields. They customarily den in the ground, but occasionally rock piles, refuse dumps, stumps and buildings will be used as denning sites. They often utilize dens discarded by other animals. Skunks gather leaves and grass to build nests within the den site.

Habits: Striped skunks may leave their dens at any hour of the day but usually begin foraging in the late afternoon and are active most of the night. Because of these nocturnal habits, they locate prey by the sense of smell and hearing rather than sight. Skunks build up a good layer of body fat in the fall. Their winter activity depends upon the temperature. They may go into a winter sleep for many weeks or months if cold weather persists. Skunks are generally not sociable animals but they will den together for warmth. It has been suggested that such communal denning can be a factor in the spread of rabies. Striped skunks will spray a very pungent musk when disturbed. The musk may travel 10 feet or more depending on the wind.

Reproduction: Mating occurs in March and, after a gestation period of 63 days, an average of six young are born in May. At birth the young weigh about one-half ounce each. They are wrinkled and almost naked but possess the adult's characteristic black and white markings. Ears and eyes are closed. Claws are well developed and at 13 days young are fully haired. Eyes open at about three weeks, and young assume a weakly defensive pose at that time. Weaning is complete at two months of age, and at that time they are first able to spray.

Food: Skunks are omnivores and eat both plant and animal foods. Insects and insect larvae and earthworms are important food for skunks when in season. Skunks occasionally are nuisances for beehive owners, feeding on bees and honey with no apparent concern for being stung. They will eat birds and bird eggs and eat large numbers of small mammals as well as scavenge on the carrion of larger animals.

Sign: Tracks and the animal's distinctive smell are the surest signs of skunks.

Predators: With the exception of great-horned owls, few animals are foolish enough to try to kill skunks. People and farm dogs are also primary predators.

Diseases: Rabies is by far the most important disease of skunks, and they readily transmit it to other animals and humans if they bite them. Over 60 percent of the skunk population likely carries rabies. Some skunks may transmit rabies even though outwardly they appear very healthy. While they are susceptible to other diseases, the concerns for rabies often mask the others.

Parasites: Mites, lice, ticks, fleas, roundworms, flukes and tapeworms are parasites of this species.

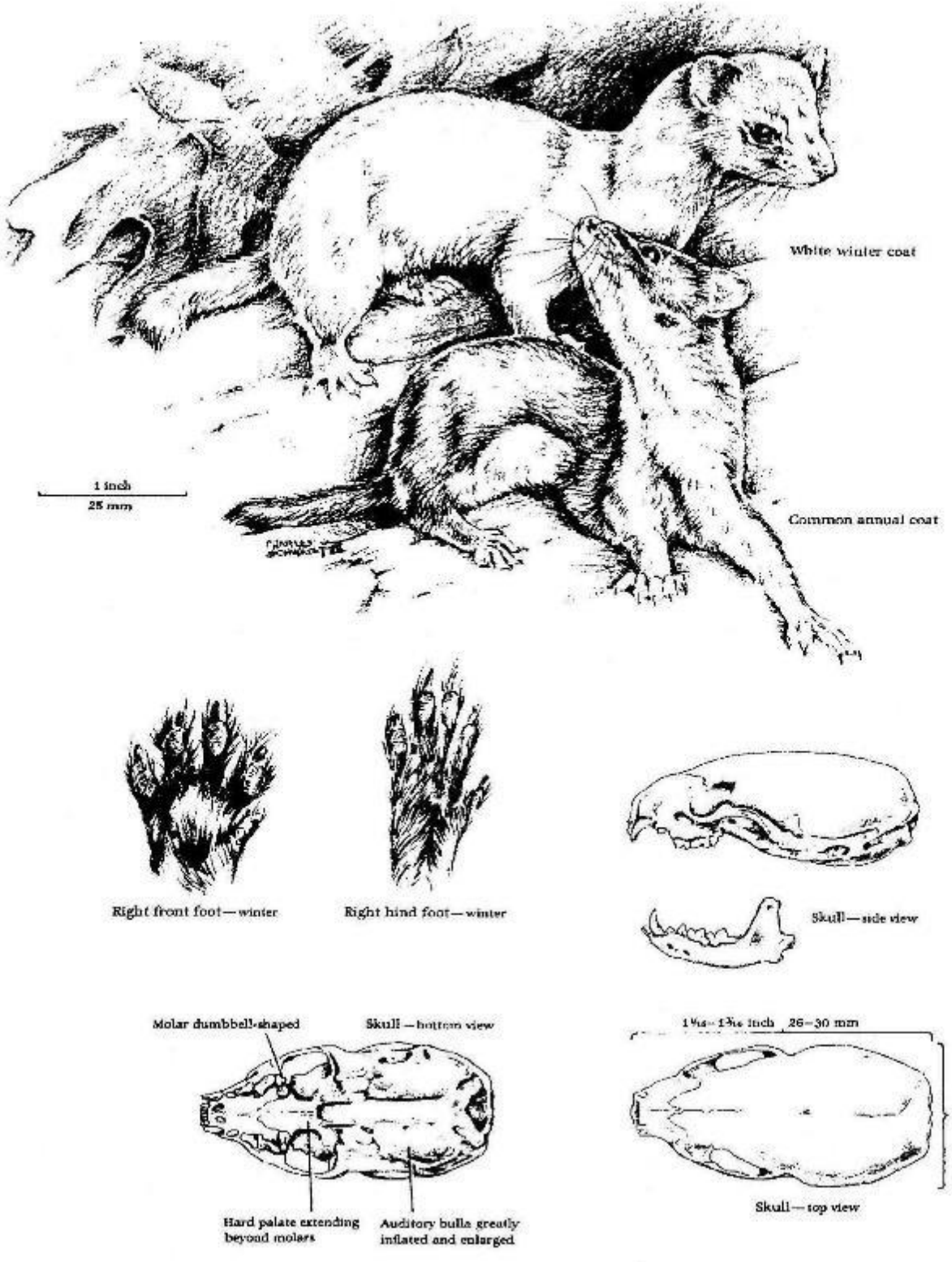
Importance: Skunk fur coats were very fashionable in the 1920s. Today there is not a very large market for skunk pelts. Usually only the black fur is used for making garments. Skunk scent is used in some trapping scents and has recently been used instead of mace in human repellents. Their appetite for insects, insect larvae, mice and other small mammals helps somewhat to counter the other offensive aspects of the species.

Baits and lures: Skunks are easily trapped and are attracted to most commercial fox and coyote lures, scents and baits. Fresh or tainted meat and fish or fish oil are also good attractants.

Sets: Dirt hole, scent-posts, cubbies and cage traps.

Weasels

Scientific Name - Least Weasel (Mustela nivalis
Short-tailed Weasel (Mustel erminea)
Long-tailed Weasel (Mustela frenta)



Description: Weasels are also members of the mustelid family. They are extremely small. An adult least weasel may weigh as little as one and one-half ounce! Weasels are long, slender animals with head, neck and body about the same diameter. They have very short legs. Their fur is short and very soft. Weasels may turn to an all-white pelage in the

winter in which case they are referred to as ermine. Generally long- and short-tailed weasels are 8-20 inches long including their tail. They usually weigh from 3-12 ounces depending on the species. The species of weasels found in Iowa are listed above in ascending order of size.

Habitat: Weasels live in a variety of habitats but prefer woodlands, thickets and brushy fence rows near available drinking water. Their home is a shallow burrow, often the former abode of a mole, ground squirrel or mouse. Weasels may also live in rock piles, under the roots of trees and, on occasion, in an old building where mice are plentiful. Within the burrow they construct a nest of rabbit or mouse fur, grass and sometimes feathers.

Habits: These mammals are very suspicious and inquisitive and are continually investigating their surroundings. They hunt both day and night but are more active at night. So persistent are weasels in their hunting activity that in a single night they may travel up to 3 ½ miles and yet remain very close to their den site. In spite of their small size, weasels may attack animals larger than themselves often inflicting fatal bites near the head region. Because of their agility and speed they can follow prey over all sorts of terrain and obstacles. During the winter their pelage often turns completely white, an excellent example of nature's protective camouflage or coloration.

Reproduction: Weasels also reproduce by delayed implantation. Mating occurs in August but young are not born until the following May. A single litter ranges from 1-12 young with an average between five and eight. At birth young are blind, toothless, wrinkled and practically naked. Fur and teeth appear at three weeks. Eyes open at five weeks of age and weaning begins. Young males do not mate the first summer, although females mate when three to four months old.

Food: Weasels eat animal food primarily, including mice, rats, voles, squirrels and rabbits. They will also eat birds, bird eggs, reptiles, amphibians, worms and insects. Weasels are voracious killers and often times will cache surplus food items for later use. Drinking water is essential.

Sign: Tracks of the weasel are fairly distinctive in the snow, and active burrows often have bones, feathers and other food remains nearby. Latrine sites are generally close to active weasel dens.

Predators: The most common predators are foxes, coyotes, cats, hawks, owls, snakes and people. Occasionally least weasels fall victim to short-tailed and long-tailed weasels.

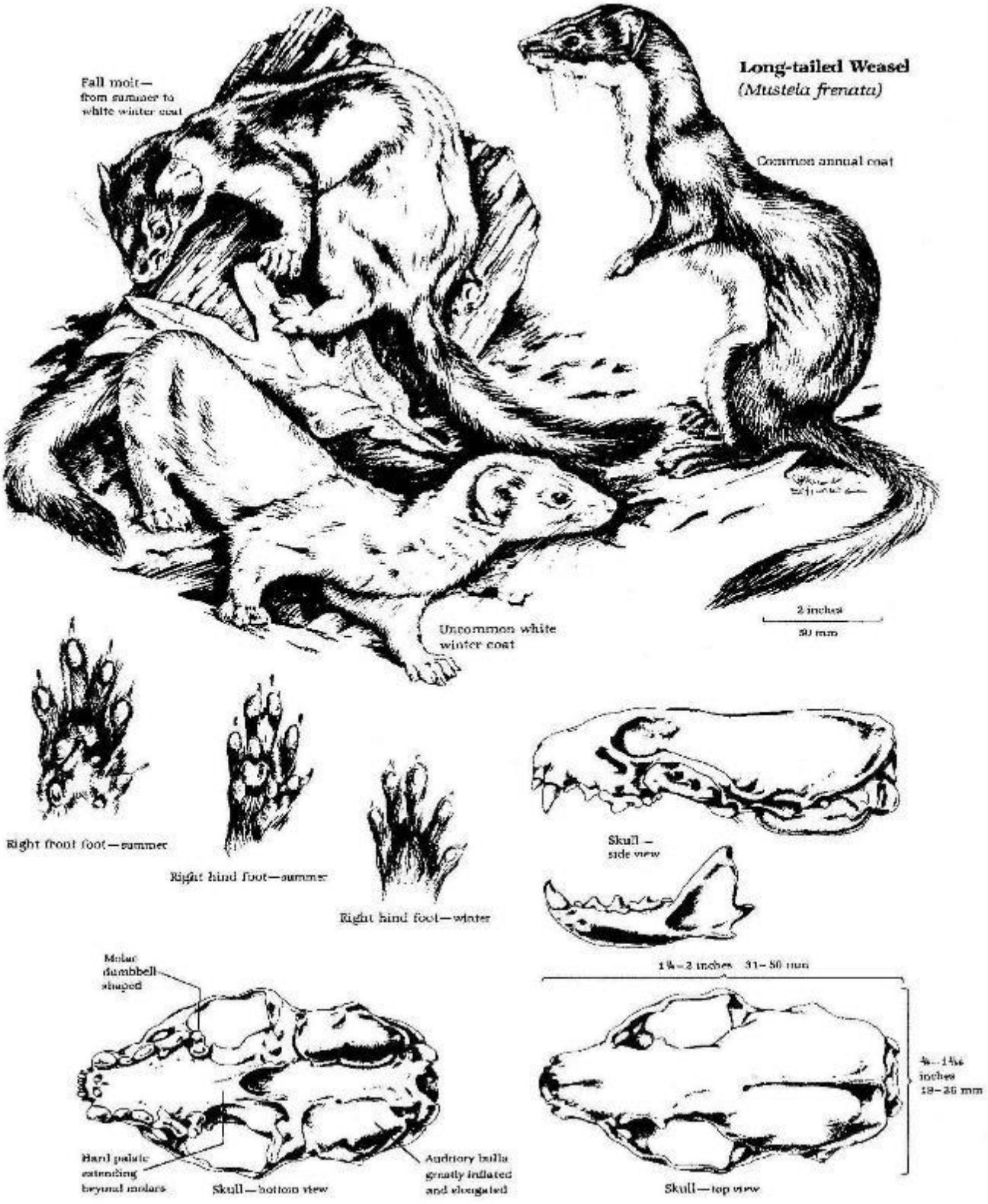
Parasites: Parasites include ticks, fleas, roundworms and flatworms.

Importance: The weasel trapping season closed in 1976 over concern about low populations. However, in 1988 the season reopened and most weasel populations appear to be doing very well. Weasel fur is soft and durable. Pelt values are currently low, but the white ermine fur has some appeal for trimming cloth and novelty. They should be appreciated for their uniqueness with the least weasel being our smallest carnivore. They are also important in that they feed on large numbers of mice, voles, and other small mammals. Recent research studies in Iowa indicate that they may also be a significant nest predator feeding on eggs in several ground nesting species, especially waterfowl.

Baits and lures: Fresh fish, mice or other birds or animal meat. Musk, fish oil and some commercial lures.

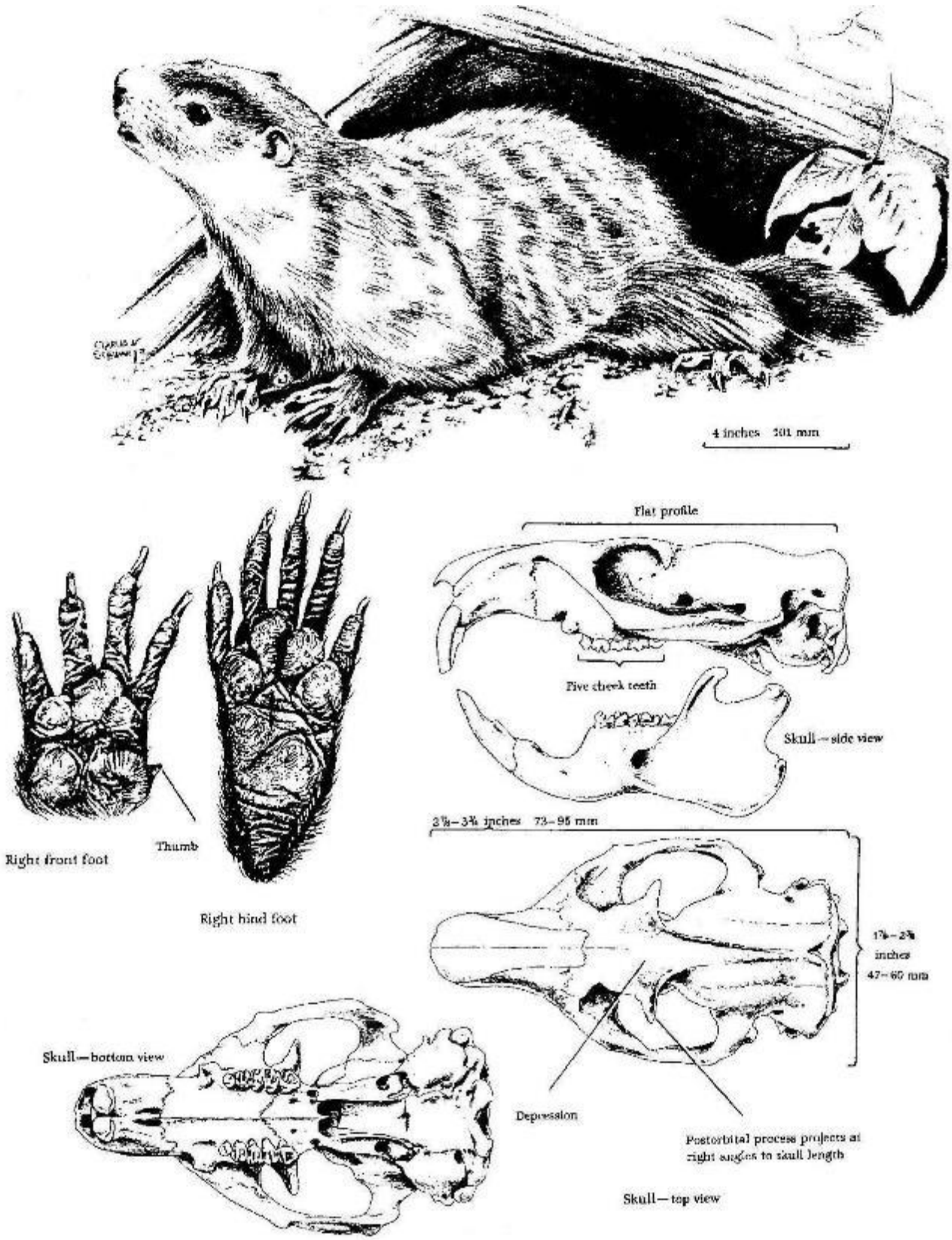
Sets: Pocket, blind, den and small cubby sets.

Special Note: Short-tailed Weasels are smaller featured than long-tailed weasels but are larger than least weasels. They are commonly called ermines particularly in their winter white pelage. Because of size variation between ages and sexes of weasels, the only sure way to identify the long-tailed and short-tailed weasels is by examination and comparison of their skulls. The distribution of the short-tailed weasel in Iowa includes only the northern one third of the state.


Long-tailed Weasel
(Mustela frenata)
Fall molt—
from summer to
white winter coat
Common annual coat
Uncommon white
winter coat
2 inches
50 mm
Right front foot—summer
Right hind foot—summer
Right hind foot—winter
Skull—
side view
1¼–2 inches 31–50 mm
Molar
dumbbell
shaped
Hard palate
extending
beyond molars
Skull—bottom view
Auditory bulla
greatly inflated
and elongated
Skull—top view
¾–1⅛
inches
19–26 mm

Woodchuck

Scientific Name - (Marmota monax)



Description: The woodchuck, also called groundhog, is a medium-sized, stout mammal with short, powerful legs and a medium-long, bushy and somewhat flattened tail. The broad head has large and conspicuously white or pale yellow

incisor teeth, a blunt nose, moderately sized eyes and small, rounded ears which can be closed at well to exclude dirt. There are four clawed toes and a small thumb with a flat nail on each front foot and five toes on each hind foot. Small internal cheek pouches are present. The body fur is long and coarse and of little pelt value. They weigh between 4 and 14 pounds and will lose one-third to one-half their autumn body weight during hibernation.

Habitat: Woodchucks prefer to live in the parts of timber habitat bordered by open land, or along fence rows and heavily vegetated gullies or streams. One woodchuck may have several burrows. Hibernating dens are located primarily in woodland areas while summer dens are in open grasslands or croplands.

Habits: Woodchucks feed and build up body fat during late summer. By late October most are curled up asleep in their underground nests. In this rapid state breathing is very slow and the body temperature is between 43°F and 57°F. Woodchucks emerge from hibernation in late February or early March. The animals may be active anytime of the day, but they are most active during the early morning and late afternoon. They spend considerable time basking in the sun, and when feeding they remain very alert by occasionally rising up to sniff the air and peer about. Woodchucks are solitary animals. Like the badger they continually pioneer burrows and dens for other animals to move into after they depart. Being a member of the squirrel family, they can readily climb trees.

Reproduction: The breeding season occurs in March following emergence from hibernation. A male woodchuck probably mates with several females. The gestation period is 32 days, and the average litter size is five. The young are naked, wrinkled, blind, and helpless at birth, weighing about one and on-half ounces. Woodchuck's eyes open at about four weeks. They begin coming out of dens and are weaned at about seven weeks. Family groups break up in midsummer. About 25 to 50 percent of the young are capable of breeding the first spring following birth.

Food: The woodchuck is almost a complete vegetarian eating less than one percent animal matter. The plant foods consist of leaves, flowers, grasses, clover, alfalfa and certain garden crops.

Sign: Considerable den digging and tracks with claws are fairly distinguishable.

Predators: Predators include people, foxes, coyotes, dogs, weasels, mink and some large hawks and owls.

Diseases: Tularemia is the best known disease recorded in woodchucks although they are likely susceptible to a variety of other diseases.

Parasites: Woodchuck parasites include ticks, fleas, adult flies, warbles and roundworms.

Importance: Seldom are woodchucks specifically trapped because of poor pelt quality and hibernation during the regular fall trapping period. They do provide some hunting opportunities during midsummer and early fall. When prepared properly, woodchuck meat is considered a delicacy.

Baits and lures: Plant material including fruits and vegetables can be used.

Sets: Box traps or traps set near den entrances.

Part 8: Furbearer Management in Iowa

The Department manages Iowa's furbearer resources for the benefit of the citizens of the state. The Department recognizes that furbearers have a variety of ecological, recreational, economic and aesthetic values. These values can be positive or negative. Since values are determined by people, not nature, the same animal can have a wide range of values depending on the time, place and person being affected by it.

The goal of management is to maintain a productive harmony between people and furbearer resources for present and future generations of Iowans. This goal is accomplished by maintaining habitats and controlling harvests so the harvestable surpluses can be utilized, consistent with habitat, disease, wildlife damage, and the desires and tolerances of people. In order to manage furbearers responsibly, the Department monitors furbearer populations and harvests, sets regulations, maintains habitats and enforces laws related to furbearers.

Seasons

In Iowa the Department sets seasons primarily based on their impacts on the furbearer populations. The Department attempts to set seasons that will allow the maximum amount of recreational opportunity, while still sustaining the resource year after year. No season which would be detrimental to the survival of a species is permitted. Once the biological requirement is met, further decisions are based on the concerns of people who use, value or are affected by the resources. Recreational opportunity, landowner concerns, fur primeness, damage problems, nonharvest values, disease problems and other factors all enter into these decisions. Opportunities for public input are provided.

Some fur harvesters are critical of the Department for not considering pelt values more when setting seasons. Because furbearers are so adaptable and because of certain landowner tolerances, seasons are set somewhat prior to and extend somewhat beyond the peak pelt primeness period.

Surveys

Annual harvest, harvest effort, population trend surveys, and fur buyer reports are conducted for all species of furbearers in Iowa. An annual spring spotlight survey is conducted throughout Iowa by wildlife and law enforcement staff to gauge population trends in furbearer species and whitetail deer. An annual bowhunter observation survey is conducted throughout Iowa in the fall to gauge population trends for wild turkeys, whitetail deer, and furbearers. Input from fur harvesters and Department personnel provide important insights to furbearer population trends.

Habitat

Although furbearers are often not the highest priority in many habitat management programs, the fact remains that forbearing animals are primary beneficiaries of many of these practices. This is particularly true of wetland areas, which are prime habitat for muskrat, mink, beaver, raccoons, river otters, foxes and other animals. Furbearers often do so well on these areas that conflicts, such as high nest predation, occur with other species.

Forest management practices also influence furbearer populations. Some species favor dense, brushy early successional stages of forest and others favor less dense mature stands. Although it is difficult to say which habitat benefits furbearers the most, timbered river and stream valley corridors are probably the most important habitats for furbearers. Protecting and creating stream and river valley greenbelts will benefit many fur species. Planting trees and shrubs, protecting den trees, building and erecting artificial "nesting" boxes for raccoon, and water level manipulation for aquatic furbearers can greatly improve habitat.

Enforcement

Iowa's Conservation Officers enforce the laws and regulations related to furbearers in all counties of the state. Of course, they have many more duties in addition to the furbearer regulations, but they are always interested in and concerned about situations where violations are occurring. It is also important for fur harvesters to police their own

ranks and to help enforcement officers by reporting violations. People who take fur illegally are stealing from the honest citizens of the state. The Turn In Poachers (T.I.P.) program has been and should continue to be enthusiastically supported by all fur harvesters.

Conservation and Furbearer Management

Furbearer regulations are established for the entire state or for large regions of the state, depending upon the species. Conditions vary from region to region. It is wise for fur harvesters to practice conservation, leaving a few animals to reproduce on their areas. This sounds simple, but it can become complicated when a number of fur harvesters are competing for the same resources in the same area. This means that any one fur harvester can take only a portion of the excess.

Fortunately for most furbearers, harvesting tends to be self-limiting. The time and effort required to take furbearers exceeds the benefits long before furbearer populations are reduced to critical levels. However, for a few species which are not so resilient, regulations have to be correspondingly more restrictive. A good example of this is the river otter. When their populations are suitable for harvest, regulations are more complex so viable otter populations can be sustained.

Part 9: Canada geese

Canada geese are an important member of Iowa's native wildlife community. As a migratory bird, Canada geese are protected by the Migratory Bird Treaty Act. The Department cooperates with the U.S. Fish and Wildlife Service (FWS) to manage Canada geese within Iowa. Due to their migratory nature, Canada geese from several different jurisdictions may be present in Iowa. Geese present during the spring and summer are geese that nest in Iowa. During the fall and winter, geese that nest in other jurisdictions arrive in Iowa and intermix with the resident geese, some of which migrate south due to winter weather.

A proactive approach using measures to manage Canada geese within the area, most of which do not require a special permit, are recommended over any actions that would require permission from the Department and reporting to the FWS. Basic steps of reviewing current problems, developing solutions, and evaluating outcomes are all important to include. A one-size-fits-all approach does not work with geese. The most successful long-term approach relies on proactive measures to reduce the attractiveness of certain landscapes while providing education to reduce human-goose conflict.

Canada Goose Biology and Natural History

Several different populations and sub-populations of Canada geese can be found in Iowa during different times of the year. In Iowa, typically discussion with goose conflict is focused on temperate breeding Canada geese, the population of geese that nest in Iowa. Iowa's population of Canada geese was extirpated (locally extinct) from 1907 to 1964. The Iowa Conservation Commission, a precursor to the Iowa DNR, began an effort to restore Iowa's Canada goose population in the early 1960s. This effort was very successful and resulted in a widespread distribution of nesting geese by 1994. At a statewide scale, Iowa's Canada goose population has been relatively stable since the early 2000s and is within the population objectives determined by the Department.

Temperate breeding Canada geese have high adult survival and reproductive rates. They typically begin nesting at three years of age. Female geese normally return to the area where they learned to fly. Nests typically have a clutch of four to seven eggs, but this can vary from one egg to more than a dozen. Embryos do not begin to develop until incubation begins. The female goose begins to incubate after all of the eggs are laid which leads to all of the goslings hatching at about the same time. Depositing all of the eggs in the nest can take longer than a week to occur and incubation time for Canada geese is approximately 28 days. Geese that do not have goslings may make a summer migration out of Iowa (i.e. molt migration), to favorable habitat as far north as Hudson Bay, Canada. Successful nesters and their offspring have strong ties to their natal areas and typically remain near their nest sites until winter weather forces them to leave.

Timing Matters

- **February-May:** Adult goose pairs select pond and nesting sites. These are "local" nesting geese. Nesting and 28 days of incubation occurs. Non-nesting adults move about in loose flocks.
- **May-July:** Goslings hatch and families group together. Protected water sites with close food sources see increased goose numbers. Non-nesting geese may stay in the area or "molt migrate" farther north.
- **July-September:** Goslings gain flight and flocks start moving larger distances to food opportunities.
- **October-January:** Geese migrate into the area from farther north and migrations further south continue depending on food availability, weather, hunting pressure, and access to open water. Goose numbers in the state are at their highest. As weather improves, geese migrate back north.

Geese Act Differently at Different Times of the Year

Goose behavior varies throughout the year to meet the needs of their life cycle and the season. Geese form large flocks during the fall and winter, which typically disperse into pairs and smaller flocks during the spring. Nesting geese seek a safe site that is relatively close to water. Once goslings hatch in mid to late spring the family is flightless until mid to late summer. During this time, geese congregate in small- to moderate-sized flocks in landscapes where short grass is adjacent to open water. These family groups gradually aggregate into the larger flocks observed during the fall and winter. During the growing season, Canada geese are primarily grazers that forage on the new growth of grasses, sedges, and forbs. During fall and winter they feed extensively on waste grains in harvested crop fields. Geese prefer

foraging sites that have good visibility so predators can be easily detected. Geese have strong ties to where they learned to fly and where they have previously nested, generally returning to these areas every year.

Today's Urban Areas Match Goose Habitat Needs

Habitat is the foundation of wildlife populations and activity. Providing attractive habitat creates an opportunity for wildlife use. Goose use of urban areas is an excellent example of a mobile and adaptive wildlife species that has learned to utilize a novel opportunity. Prior to the 1990s goose use of urban areas was relatively uncommon. As goose populations increased and urban development increasingly incorporated waterbodies and short turf grass, geese learned to utilize these areas because they contained all of the things they needed to thrive. The first step in a holistic approach to managing geese in urban environments is the recognition that providing attractive habitat will result in goose use.

There are two common habitats that are particularly attractive to geese in urban environments and agricultural settings: low-disturbance waterbodies and expanses of short vegetation. Low-disturbance waterbodies are places of safety for geese. Geese are naturally attracted to water as a safe place where they can rest. Short vegetation, such as manicured turf grass or a recently planted bean field, is attractive because it provides both safety, due to excellent visibility, and forage. Therefore, the combination of both water and short vegetation is highly attractive to geese. Incorporating landscape features or human activity to make these habitats less attractive to geese will go a long way to reduce human-goose conflict.

Canada geese are very adaptable and have learned to exploit many contemporary habitats that were not historically associated with Canada geese, such as urban areas, artificial open water, and human modified landscapes. Modern-day urban development incorporates small-to moderate-sized waterbodies for both stormwater management and landscape aesthetics; often these waterbodies have extensive areas of short grass immediately adjacent. The combination of open water and short grass is highly attractive to Canada geese. This can lead to conflict between people and geese resulting from fecal deposition, overgrazing, and aggressive behavior that occasionally occurs once geese become habituated to people.

Hunting is the Traditional Method of Control

Hunting is the primary method for managing goose populations. The Department sets hunting seasons within the frameworks established by the FWS and the Mississippi Flyway. Approximately 90% of Iowa's Canada goose harvest consists of temperate-breeding Canada geese, the majority of which originate in Iowa. The Department structures Iowa's goose hunting seasons to encourage harvest of Canada geese in urban settings including increased bag limits and additional seasons in and around metro areas. Recent research found that Canada geese in the Des Moines metropolitan area are susceptible to hunting where it is allowed within city limits as well as in the surrounding areas. Further research and efforts to increase recreational harvest of geese in urban areas is currently underway.

Methods for Addressing Negative Human-Goose Interactions

In this section we discuss a variety of techniques used to address goose use at specific sites and methods of reducing negative human-goose interactions. Any strategy to deter geese will need to incorporate multiple techniques to have the best result.

Hunting Opportunities

Regulated hunting is the primary management action to control goose populations at statewide and regional scales. Any hunting will be during established seasons and follow all state and federal regulations. Allowing hunting in locations of conflict or agricultural damages will help directly remove those specific geese as well as discouraging use by other geese coming into the area. Encourage the landowner to allow hunting during the earliest possible hunting seasons in order to target local birds.

The use of hunting in urban environments is constrained by safety and legal requirements. But, there may be opportunities to incorporate hunting and these opportunities should be utilized. Hunting in areas with human-goose conflict is very beneficial because it directly reduces the survival of the individuals causing conflict and it is the most

extreme form of hazing, thereby resulting in the largest change in behavior. Valuable from that aspect, hunting can also enhance any other hazing techniques used to make areas seem less appealing to geese.

As long as all state and federal hunting regulations are followed, creative hunting techniques can be implemented to focus harvest on urban birds. This will act as an extreme form of hazing and can be very successful at deterring birds from specific locations. Also, this can target specific nuisance birds.

Elimination of Food Handouts

One of the most powerful attractants for wildlife is food. Feeding not only attracts geese to undesirable areas but it changes how geese perceive humans: instead of a predator to be avoided, humans are perceived as a potential source of food handouts. This activity falsely appears as beneficial for geese. However, most food items given to geese by people (e.g. bread, crackers, or popcorn) are inappropriate for their digestive system and not good for their overall health. Furthermore, concentrating birds in high densities has the potential to lead to disease concerns.

By associating people with food, geese will increasingly approach people even when unwanted. Conversely, people may approach geese during times of the year when the birds are more territorial or protective of nests or young, leading to aggressive behavior and subsequent negative interactions. Food handouts should be eliminated.

Habitat Modifications

Geese prefer open spaces where they can see long distances in order to detect predators. In many cases they walk from the water to adjacent open areas to graze. Large expanses of mowed grass or row crop, particularly when near water, attract geese due to the combination of forage and the ability to see long distances.

Landscapes can be designed or modified to reduce the attractiveness of the habitat that they provide. There are many ways to make habitat less attractive to Canada geese without reducing the aesthetic or designed use of the area. Common practices include: un-mowed vegetative buffers, native prairie strips or butterfly gardens, native shrub rows, landscaping design, ornament placement, and rip-rap shorelines.

Vegetative buffers adjacent to waterbodies such as strips of native prairie and wildflowers may reduce the visibility for geese and therefore reduce the attractiveness of a certain area. Areas that are mowed or farmed up to the edge of the water could instead incorporate a tall vegetation buffer. This practice has the added benefit of increased ecological function such as increased water storage, erosion control, nutrient runoff reduction, pollinator habitat, and reduced mowing. Another potential vegetative solution is the use of native shrubs to form a barrier through which geese cannot easily see or walk through. This will limit the ability of geese to access an area. Other habitat features, such as large diameter rip-rap along the water's edge, can reduce the ability of geese to walk up on banks. Building on that concept, retaining walls or landscaped steps create an obstacle to geese. These ledges could be built on the shoreline or incorporated into nearby landscaping. There are a number of ways to alter the look and habitat of an area that can reduce the attractiveness of the site to geese.

Water features such as islands and aerators are very attractive to geese at different times of the year. Islands are desirable for geese as a safe nesting location and often result in multiple successful nests. This results in large numbers of goslings which will likely cause increasing numbers of geese for years to come. Aeration systems create open water during periods when waterbodies would otherwise freeze over. This allows geese to continue using a waterbody when other waterbodies are frozen, thereby increasing the site's attractiveness and value to geese all year. If possible, aeration systems should be turned off and geese hazed to allow the waterbody to freeze, even if only for a temporary period during cold weather. Remove any existing tub nesting structures from any waterbodies.

This is an example of a landscaping layout at a public area that was designed to maximize recreation while deterring geese. Note the layout of beach and swimming features, native flowering plants, rip-rap shoreline, and shrub rows.

Prime urban goose habitat. This site would require alternative goose prevention strategies annually to deter geese because the habitat would continually draw the birds into the area.

Exclusion Techniques

Access between a water feature and feeding sites should be reduced. Geese prefer to graze the fresh growth of grass and young forbs, therefore nearly all mowed areas provide feeding sites. The closer and easier it is to get from a waterbody to any lawn or agricultural area, the more likely it is to be selected as a spring and summer site for geese. Their summer molt process and strong familial ties tend to keep geese localized in these sites: if geese nest near an area with water, they will likely stay in the area all summer with their goslings. If a waterbody is inaccessible then it will not be used.

While habitat alterations such as native vegetative buffers, native shrub plantings, and rip-rap are higher priority and more effective in the long term, exclusion techniques such as fencing at certain sites because they can be utilized temporarily.

Fencing can be effective to keep geese out.

Aversive Conditioning: Scare Tactics and Hazing

Canada geese are a prey species and should therefore be wary of predators such as humans. However, it is common in urban environments that geese become habituated to humans. Aversive conditioning, or hazing the animals through scare tactics and sensory discomfort to create an uncomfortable atmosphere for geese, will decrease goose use, human-goose interactions, and conflict. Simulating predator behavior and hunting, loud noises, and aggravating lighting can all help make a spot less friendly for geese.

Hazing activities are easy to incorporate with all other action steps and should be conducted often so there is not a time when the geese are allowed to feel comfortable. Utilize multiple techniques and note that geese will often associate the look of someone (i.e. clothes, hats, jackets, etc.) with the hazing. Use that visual connection to your advantage to make humans seem less friendly overall and scarecrows an option in the future. As long as geese are not harmed and are not nesting, then hazing is legal without any special permitting. Below are recommended hazing techniques:

- Pyrotechnics and other bird scare noise devices can be alarming to geese and mimic gunshots or other fear generating conditions (such as predatory birds).
- The use of controlled dogs is highly effective at deterring geese from an area.
- Use of dogs can make future use of dog silhouettes or coyote decoys effective. Use of these decoys without any prior use with live canines has mixed results.
- Shining strong lasers at the geese in the evening can be used to keep birds from roosting on certain waterbodies.
- Objects that move, make noise, and reflect light such as large pinwheels, inflatable waving arm men, and mylar tape will make the area less comfortable for geese.
- Combine as many forms of hazing as possible for best results.

Trained dogs can be very effective at deterring geese from an area.

Repellents

Repellents applied to lawns or turf areas can make the grass less palatable to the geese. Goose repellents use a grape extract, methyl anthranilate, which irritates certain receptors and mucous membranes in the geese. The reduction in the food source may encourage the geese to utilize alternative feeding sites. All labels on repellent should be followed and re-application after any weather event or long sun exposure will be needed to maintain effectiveness. This is a short term solution that can be costly, but it can be useful in certain circumstances especially when combined with other efforts. Target problem areas where additional techniques will be implemented. This may be an appropriate technique to incorporate with new seedings, new tall plant buffers, or new waterbodies.

Permitted Actions: Nest Manipulation and Euthanasia

Actions requiring hands-on work with the geese are strictly regulated by the FWS. These actions include nest manipulations such as egg oiling or nest removal, goose round-up and euthanasia, or goose translocations. The Department maintains a permit with the FWS to perform up to a specified number of these actions which are guided by the Iowa DNR Canada Goose Management Plan and Injurious Goose Policy and Procedures (Appendix G).

In cases where proactive and preventative measures have been implemented and significant human-goose conflict or threats to human health and safety persist then municipalities, businesses, or NWCOs hired to do goose work may request the Department allow lethal activities to reduce local goose populations. The requesting entity is required to inform stakeholders and accept public comment. Permitted actions include nest manipulation and lethal removal. Translocations will not be permitted in Iowa. Nest manipulation causes the nest to be unsuccessful thereby no goslings are produced. Adult geese are likely to disperse from the area after the nesting season. Lethal removal involves the capture and euthanasia of geese. All state and federal guidelines shall be followed.

Canada goose on a rooftop nest in Urbandale, IA. This goose was marked and tracked as part of a nest manipulation study.

Any permitted actions will only be implemented with Department approval in conjunction with a Goose Management Plan. After approval, an NWCO may only conduct permitted actions under the direct supervision of a Department Wildlife Biologist until the permittee demonstrates understanding of goose biology, incubation timing, ability to determine egg development stages, and proper handling techniques. When the NWCO meets expectations and demonstrates proficiency then they can conduct permitted actions without direct supervision in accordance with the Goose Management Plan for the site and will be assigned a Special Canada Goose Control Permit in following with IAC 571 114.

Any permitted actions must be reported to the FWS through the Department's Special Canada Goose Permit. All goose work must be recorded and provided to the Department by December 31st of the year it occurs including location, description of work carried out, and final disposition. See Appendix G for required forms and additional information on goose control activities. The Department will provide information and training to NWCOs requesting permitted action approval.

Steps Involving Canada Goose Permitted Actions

- Evaluate the extent of the goose conflict and identify achievable goals
- Develop a plan with the landowner to address the issues
- Utilize hunting, elimination of food handouts, habitat manipulation, exclusion, aversive conditioning, and repellents to their fullest effect
- Contact Department Wildlife Biologist to develop a Canada Goose Management Plan and to discuss additional options including lethal removal if initial attempts are not achieving goals
- Work with landowner to notify applicable stakeholders, local municipality, and accept public comment
- Carry out approved actions under DNR supervision with proper timing and handling
- Record all activities each time actions are carried out
- Adhere to disposal laws and record final disposition
- Report all removal activities to Department Depredation Biologist
- Continue all previous action steps in accordance with the Canada Goose Management Plan
- Monitor the situation

Part 10: Wildlife Diseases

Wildlife control activities will routinely involve hands on work with animals. You should be aware of diseases and parasites carried by wild animals and should take common sense precautions. Since doctors may not routinely look for some types of diseases which may be contracted from wildlife, it is the NWCO's responsibility to inform the doctor of their outdoor activities if a puzzling disease should develop. The National Wildlife Health Center has developed a wallet medical information card for wildlife professionals to carry available at https://www.usgs.gov/media/files/medical-wallet-card-wildlife-professionals and can be viewed in Appendix H.

A few simple, common sense precautions will greatly reduce the risks of contracting diseases or parasites from wild animals:

- Wear plastic or rubber gloves when skinning or handling furbearers or scats
- Avoid eating, drinking, or smoking while handling animals and wash hands thoroughly after
- Avoid unnecessary handling of animals that are behaving abnormally or that are obviously sick
- Do not drink directly from streams or lakes
- Cook all wild game thoroughly
- Inform your doctor of your wildlife-related activities if a puzzling illness should develop.

Rabies

In Iowa and the Midwest, striped skunks and bats serve as the primary wildlife vectors of rabies virus. In other parts of the country, foxes or raccoons may are primary vectors. While infections in other species are infrequent, any mammal can be infected with this virus.

Rabies is a virus which attacks the nervous system and is usually transmitted in the saliva of an infected animal when it bites a noninfected animal. In addition to bites, the virus can enter through a cut or scratch while skinning an infected animal or by coming into contact with its eyes, nose, or mouth.

Rabies occurs in various forms in wildlife. In the "furious" form, the animal becomes irritable and aggressive, loses its fear and may attack other animals. In the "dumb" form, the animal becomes lethargic and may suffer various forms of paralysis. In some instances, skunks show no outward sign of rabies, but they still have the ability to expose humans and other animals if they bite them. Some studies indicate that more than 60 percent of the skunk population may carry rabies.

If you are bitten by any wild animal, wash the bitten area thoroughly with soap and water and contact a physician immediately. If possible, the animal involved should be captured or killed **without damage to the head**. If the animal must be killed, keep it refrigerated at 35 to 40 degrees (not frozen) until it can be given to experts for examination. Fur harvesters should avoid shooting skunks in the head (since most rabies viruses are in the brain) and should wear rubber gloves while skinning. Fur harvesters who handle a lot of carnivores may want to consult with their doctor about getting the pre-exposure prophylactic vaccine series. Regardless, if bitten by an animal, **consultation with a doctor is necessary**, and saving the animal or its head for diagnostic examination will help in determining the appropriate treatment.

Tularemia

Tularemia is a bacterial disease of mammals found primarily in rabbits, beavers, and muskrats in Iowa. The disease often results in white necrotic (dead) spots in the liver of infected animals. The disease can be transmitted to humans through cuts or scratches while skinning infected animals, from drinking contaminated water during water-borne outbreaks, from flea, tick or insect bites, or, rarely, from eating undercooked meat.

Lyme Disease

This vector-borne disease is caused by a spirochete bacteria that can be transmitted by blacklegged ticks (aka deer ticks) when they feed. It is characterized by circular skin lesions with possible headaches, nausea, or fever. In severe cases, arthritis in one or more joints and heart problems can develop. Most exposures from this very small tick occur from May through October. Check regularly for ticks and remove them promptly. Look especially for the 'moving freckles' ticks, as these are often nymph (juvenile) ticks, which can also carry Lyme disease.

Other Viral Diseases

Pseudorabies, parvovirus, and distemper are diseases carried by furbearers that can infect various hound breeds, other pets, and livestock. Appropriate vaccinations for hounds and pets will reduce most of these concerns. Generally, diseases that infect livestock occur from contaminated feed and forage. Good husbandry practices will reduce these potential problems.

Leptospirosis

Urine, urine-contaminated water, and mud can be the source of infection for leptospirosis, caused by another spirochete bacterium. Infection may be subclinical, cause flu-like symptoms, or even produce life-threatening illness. Leptospires may enter the body by contamination of mucous membranes such as the eyes and mouth, through cuts and skin abrasions, and by ingestion. They affect the liver and kidneys and, in several cases, cause jaundice (yellowing of the eyes, skin and other tissue) and kidney failure. In mild cases, there may be headache, chills, fever, muscle ache and vomiting. Leptospires can infect a multitude of furbearers and other animals and humans.

Rocky Mountain Spotted Fever (RMSF)

RMSF, or just spotted fever, is a tick-borne disease caused by a rickettsial organism which is a type of bacteria. RMSF is characterized by the sudden onset of fever lasting 2-3 weeks, deep muscle pain, severe headache, chills and listlessness. A rash may develop on the hands, arms, legs and then move to involve the rest of the body. Dog ticks and wood ticks are usually involved in transmission of RMSF. Furbearers can be infested by variable numbers and species of ticks. Contrary to its name, RMSF is usually found in the eastern half of the US.

Mange

Red foxes and coyotes are the furbearers most commonly afflicted with a parasitic mite infestation which causes a condition known as mange. The most common type of mange is sarcoptic mange. It is caused by microscopic mites which burrow into or under the skin and deposit their eggs. Affected areas can become intensely itches, causing hair loss and underlying skin to become thickened, scabbed, and secondarily infected with bacteria. Mange is spread from animal to animal by contact. In Iowa it may become epidemic when red foxes are abundant and result in widespread die-offs. Mange is nearly always fatal to red foxes, sometimes fatal to coyotes, but is seldom contracted by gray foxes. Fur harvesters should take care in handling animals which have mange, since it is possible for humans to experience mild infections of the mites which cause a red, itching rash.

Trichinosis

Trichinosis is caused by a nematode (roundworm) parasite which produces the disease in humans and many other domestic and wild animals. Nearly all mammals are susceptible to infestation of this parasite, which encysts in the muscle of the host and is then transmitted by eating raw or undercooked meat. Infestations are often most severe in the well oxygenated, active muscle such as the diaphragm or eye muscles.

If wild animals such as raccoons, opossums, beavers, muskrats and other furbearers are to be eaten, the meat should be properly prepared to destroy the encysted parasites. Cooking wild game to an internal temperature of 160 degrees F can be protective. Freezing or curing alone may not be effective strategies.

Giardiasis

Giardiasis is a disease caused by a protozoan parasite, *Giardia lamblia*, carried by many species including beaver. Beaver do not appear to be severely affected by the organism, but in some states parasites excreted by infected beaver appear to have contaminated water sources and caused outbreaks of the disease in humans. Giardia is known to be present in some Iowa water impoundments and is presumed to be caused by beaver. A variety of mammals, birds, reptiles, amphibians and fishes are also known to harbor this organism. Sometimes this disease is also referred to as beaver fever. Drinking water from safe sources will prevent giardiasis.

Baylisascariasis

Raccoons are host to a roundworm, Baylisascaris procyonis, which can shed microscopic eggs in their feces. These eggs are not infective for about 30 days. They then can become airborne as dust and inhaled or can be accidentally ingested. People, especially children, coming into contact with areas where raccoons have lived or concentrated such as in barns, chimneys and attics, or people who have pet raccoons, are most susceptible to infection. The eggs hatch after ingestion, and the microscopic larval worms can migrate into the nervous system (spinal cord, brain) or into the eye. Symptoms are nervous system disorders. Severe infections have very rarely resulted in death. Skunks and animals affected by this parasite may appear to be rabid due to larval migration into the brain.

Echinococcosis (Hydatid Disease)

Echinococcosis or hydatid disease is an infection with the larval (cystic) stage of tapeworms belonging to the genus *Echinococcus*. Cysts most commonly develop in the liver, but can also be found in the lungs, kidney, spleen, nervous tissue, or bone. One variety of the echinococcus tapeworm is largely restricted to wild animal hosts including fox and rodents. It is a highly invasive and destructive form of disease that causes solid, tumor-like masses.

People become infected by ingesting the echinococcus eggs because of uncleanliness or by eating contaminated food, water and soil. Dogs can also act as a host and their feces can contaminate food in gardens and elsewhere.

Surgery is recommended treatment but medications are currently being developed. Prevention can be aided by not allowing dogs to feed on dead foxes, rodents, or other carriers. Good personal hygiene when handling or skinning all furbearers and disinfecting the work area is essential to reducing infections.

Other Parasites

A number of parasites, primarily tapeworms, can be contracted from wild animals if good hygiene is not practiced. Microscopic eggs of these tapeworms may be found in the feces of foxes, coyotes, cats, or dogs. Human infections result from contamination of hands and accidental ingestion of eggs from feces contaminated objects, food and water.

Part 11: Appendices

Appendix A: Terms of Permit

To be signed by the Permittee and Department Representative upon successful application as a Nuisance Wildlife Control Operator. Retain signed copy of Terms of Permit for duration of NWCO practice.

Iowa Department of Natural Resources

Nuisance Wildlife Control Operator

Terms of Permit:

1. Permittee is a private contractor, not an employee or an agent of the Iowa Department of Natural Resources (Department) nor may they portray themselves as such. Department logos may not be used by the permittee.
2. Permittee may take, possess, and transport species protected by the Iowa Code in accordance with the terms/conditions/limitations of this permit and Iowa Administrative Code 571 114.
3. The permittee must possess a valid NWCO permit and a valid fur-harvester license and have paid the habitat stamp fee. Partners or assistants must also possess a valid fur-harvester license and have paid the habitat stamp fee. Permittees and helpers solely conducting Canada goose control activities with an SCGCP do not need to have a valid fur harvester license nor to have paid the habitat fee.
4. The permit shall be issued on an annual basis and shall expire on January 10th of each year and is not transferable.
5. All traps must be tagged with the permittee's name and address.
6. All traps must be checked, and any captured animals/birds removed, at least once every 24 hours. Permittees, who rent, lend, or otherwise transfer traps to clients under authority of this permit are responsible for the client's compliance with this requirement.
7. It will be the responsibility of the permittee to obtain proper authorization from political subdivisions when necessary to carry out nuisance wildlife control work in those respective communities, and to obtain the necessary and proper municipal, state, and federal permits when and where required.
8. Permittee may not take, possess, or transport whitetail deer, wild turkey, protected migratory birds, or threatened or endangered species without special authorization from the Department and accompanying state and/or federal permits when/where required.
9. Permittee must describe to the client the estimated costs and types of control that will be used to alleviate damage and obtain the landowner's or tenant's permission before initiating control efforts.
10. Injured animals or birds may be taken to one of the Department's licensed wildlife rehabilitators. When injured animals are encountered, the local conservation officer or biologist may be contacted for advice.
11. Animals which are euthanized or found dead will be promptly and properly disposed of by the permittee. The carcasses of all dead animals must be disposed of within 24 hours of their discovery. Methods of proper disposal include:
    a. Taking the carcass to an approved landfill that will accept it.
    b. Taking the carcass to or having it picked up by a renderer.
    c. Taking the carcass to an approved incinerator site.
    d. Burying the carcass outside the city limits. Above ground disposal of the carcasses is not permitted.

    Expenses/costs related to euthanizing an animal or disposal of carcasses is the responsibility of the permittee.

12. Animals may not be kept in possession of the permittee for more than 24 hours. During that time, animals/birds taken during control operations should be released, taken to a wildlife rehabilitator, or euthanized. No live animals may be taken from the state. Animals, birds, and/or their parts may not be retained for any purpose, and shall not

be sold or given to other individuals. (This will exclude fur-bearing animals taken during the open season in rural settings when the permittee has the understanding and approval of the landowner to do so.) Animals may not be used for display or programs, kept in captivity, or used for training dogs.

13. Animals which are relocated must be released in a suitable habitat at least ten miles from the original capture site. Animals are not to be liberated in an area close to human dwellings which would result in a transfer of, rather than a solution to, the nuisance problem. Animals shall **not** be released inside the city limits of any city nor at a Wildlife Management Area without prior permission.
14. A record shall be kept by the permit holder indicating the following information:
    a. Location of call
    b. Numbers and species of animals/birds removed
    c. Date of action
    d. Disposition of these animals/birds

    These records shall be updated within 24 hours of the event and shall be open to inspection by the Department at any time. This information shall be documented in an annual report, covering the calendar year, which shall be filed with the Department no later than January 31st of each year. Failure to file an annual report by January 31st shall be cause for permit revocation/cancellation.

    An NWCO permit may be renewed by the Department when all reporting requirements for the previous year have been met. An administration fee of $20.00 will be assessed at the time of renewal.

15. The permittee or their designee shall be in possession of this permit while engaged in nuisance wildlife control activities and shall show the permit to any Department representative or landowner requesting to see it.
16. All wildlife handled under the terms of this permit shall be treated as humanely as possible.
17. The use of firearms to destroy an animal or bird is prohibited inside any city limits without prior permission according to local ordinance. The use of firearms elsewhere shall be subject to all state restrictions.
18. The use of poison is prohibited for the taking of any game bird or animal. (Except as outlined in Iowa Administrative Code 571 114 (481A)).
19. Methods of euthanizing animals must be approved by the Department and include:
    a. Gunshot
    b. Inhalants, including: anesthetics such as ether, halothane, methoxyflurane, isoflurane, nitrous oxide, or carbon monoxide, or carbon dioxide
    c. Non-inhalant pharmaceutical agents (injectables) excluding: strychnine, nicotine, magnesium sulfate, potassium chloride, chloroform, and cyanide products

    All applicable laws must be followed governing the acquisition, use, and storage of any of the chemicals or agents used to conduct euthanasia. Proper euthanasia methods must be used, and appropriate disposal of the animal carcasses is required.

20. Any violation of the terms/limitations/conditions of this permit as outlined above, or violations under 481A.130, accrual of habitual offender points as outlined in 481A.134, or court action outlined in 483A.21, will result in the revocation or suspension of this permit.

I understand and agree with the terms/limitations/conditions of this permit

Permittee Signature	Date
Issuing Department Representative	Date

Appendix B: IAC 571 114 Nuisance Wildlife Control Program

571—114.1(456A) Nuisance wildlife control program. No provision of this chapter shall restrict a landowner from lawfully removing nuisance wildlife pursuant to Iowa Code section 481A.87.

571—114.2(456A) Definitions.

"Annual activity report" means an annual report submitted on a form provided by the department of natural resources.

"Biologist" means a natural resource biologist employed by the wildlife bureau of the department.

"Guidebook" means the nuisance wildlife control operator's manual provided by the department, updated November 2024.

"Helper" means a person who possesses a fur harvester license, has paid the habitat fee, and is listed, by name, on the permit as authorized to perform nuisance wildlife control operator duties under the direction of the permittee.

"Nuisance wildlife" means wild, native animals or birds under the jurisdiction of the department that are causing damage to property, creating a nuisance, or presenting a health hazard.

"Nuisance wildlife control operator" or *"NWCO"* means a person who operates as a business and charges a fee to remove nuisance wildlife.

"Permit" means an annual permit issued by the department under the authority of Iowa Code section 455A.5(6)*"e"* for the purpose of capturing and removing nuisance wildlife.

"Permittee" means an NWCO who possesses a valid nuisance wildlife control operator's permit issued by the department.

"Special Canada goose control permit" or *"SCGCP"* means a permit to engage in the Canada goose population control activities specified by the department.

"Translocate" means to transport and release an animal at a site other than the site at which it was captured.

571—114.3(456A) Nuisance wildlife control operator's permit. An NWCO permit may be issued to an NWCO who complies with all requirements established within this chapter. This is an annual permit and may be renewed by January 10 of the following year and is not transferable. The department shall not renew a permit without first receiving a completed annual activity report for the previous year.

571—114.4(456A) Application requirements. All applicants must be at least 18 years of age and possess a valid driver's license.

571—114.5(456A) Nuisance wildlife control operator's guidebook. All applicants will receive an NWCO guidebook at the time they submit a completed permit application form. The permittee shall refer to the guidebook as an operating manual for nuisance wildlife control activity. All requirements and procedures listed in the guidebook must be followed. The NWCO guidebook is hereby adopted by reference and shall be a part of this chapter as if set forth herein.

571—114.6(456A) Nuisance wildlife control operator's test and interview. An applicant must successfully pass a written test with a minimum test score of 80 percent before an NWCO permit will be issued. If the applicant fails the written test, the applicant must wait 45 days before retaking the test. If the applicant fails the written test a second time, the applicant must wait 180 days before reapplying. A $25 testing fee will be assessed when the applicant successfully completes the test. In addition, the applicant must successfully complete an oral, in-person interview with a representative of the department to determine the applicant's knowledge of wildlife and wildlife capture techniques, and to determine if the applicant has the ability to provide effective services to the public.

571—114.7(456A) Records and record-keeping requirements. All permittees shall keep an up-to-date daily record of their nuisance wildlife control activities and keep it on file at the business location specified in the permit. Each record must contain the client's name, address, telephone number, date of service, service provider's name, species of animal, number of animals removed, control methods used, and disposition of the animals. Permittees holding an SCGCP must also document the locations of all Canada goose nests destroyed, the numbers of Canada goose eggs destroyed, and the numbers of Canada geese killed at each project site. The permittee shall provide these records for inspection by a department representative at any reasonable time.

571—114.8(456A) Annual activity report. The permittee shall submit an annual activity report on forms provided by the department no later than January 31 of the following year. The department shall not renew a permit until a complete and accurate annual activity report has been received for the preceding year.

571—114.9(456A) Permit renewal. An NWCO permit may be renewed by the department when all reporting requirements for the previous year have been met. An administrative fee of $20 will be assessed at the time of permit renewal.

571—114.10(456A) Helper. A helper shall operate under the same conditions as the permittee. The permittee shall be responsible for all actions of the helpers listed on the permit. Compliance violations committed by a helper may be cause for the department to revoke the NWCO permit.

571—114.11(456A) Capture methods and trap tagging. The permittee and designated helpers shall observe all Iowa fur trapping and fur possession regulations as provided by Iowa law, the Iowa Administrative Code, and the NWCO guidebook. If traditional capture methods fail, the permittee may use chemicals, smoking devices, mechanical ferrets, wire, tools, instruments, or water to remove nuisance animals in accordance with the procedures contained in the guidebook. No person, except a person acting under an NWCO permit, shall capture or take, or attempt to capture or take, with any trap, snare, or net, any game bird.

571—114.12(456A) Endangered and threatened wildlife species. The permittee is not authorized to capture or possess any wildlife species listed as endangered or threatened. A permittee may only capture or possess a federally protected species to the extent that the permittee is authorized to engage in specific Canada goose population control activities by the terms of a valid SCGCP. This prohibition includes, but is not limited to, the capture or possession of bobcats, spotted skunks, hawks, owls, eagles, migratory birds, waterfowl, and songbirds. When a nuisance wildlife problem involves an endangered or threatened species, the local state conservation officer must be contacted, and the officer will determine how the situation should be handled.

571—114.13(456A) Special Canada goose control permits. A person applying for a special Canada goose control permit to use lethal methods to control Canada goose populations or to trap and translocate Canada geese must be a currently certified NWCO and must abide by the following rules:

114.13(1) *Lethal control practices.* Permittees wishing to use lethal methods, such as nest destruction, egg oiling, egg addling, or killing geese, must comply with the following procedures:

a. Permittees must obtain written permission from the biologist responsible for the county in which the lethal control practice is proposed for every site where a lethal control practice is proposed before implementing any such practice. The biologist will determine if lethal control practices are necessary and will specify the number of nests, eggs, or adult geese that can be destroyed at each site.

b. The permittee must follow the procedures in the NWCO guidebook for implementing lethal control practices and disposing of dead birds, eggs, and nests. Failure to follow such procedures will result in immediate revocation of the permit.

c. Permittees must satisfactorily complete at least two lethal control projects under the direct supervision of a biologist before being granted an SCGCP for lethal control practices. Upon the permittee's satisfactory completion of two lethal control projects, the biologist can issue the NWCO an SCGCP to perform lethal control activities without direct supervision by department personnel. The NWCO must carry this permit whenever engaged in lethal Canada goose control activities and exhibit it upon request by department personnel. Any persons assisting with the lethal control practices must be listed on the SCGCP. The permittee is responsible for the conduct of all persons listed on the SCGCP who are helping conduct lethal control operations.

d. All Canada goose work must be reported as specified in the NWCO guidebook by December 31 of the year for which the SCGCP is valid. The department will not renew a permit until a complete and accurate annual activity report has been received for the preceding year.

114.13(2) *Trapping and translocation operations.* Permittees wishing to trap and translocate Canada geese must comply with the following procedures:

a. Permittees must obtain written permission from the biologist responsible for the county in which the trap and

translocation operation is proposed for every site where such operation is proposed before implementing any such operation. The biologist will determine if a trap and translocation operation is necessary and will specify the number of geese that can be translocated from each site. The biologist will also specify release sites for the captured geese. Release sites must be approved by the biologist before any geese are captured.

b. The permittee must follow the procedures in the NWCO guidebook for implementing trap and translocation operations. Failure to follow such procedures will result in immediate revocation of the permit.

c. Before the permittee engages in a trap and translocation operation, the permittee's trapping and transport equipment must be inspected and approved by a biologist.

d. Permittees must satisfactorily complete at least four trap and translocation projects under the direct supervision of a biologist before being granted an SCGCP for trap and translocation operations. Upon satisfactory completion of four trap and translocation projects, the biologist can issue the NWCO an SCGCP to perform trap and translocation operations without direct supervision by department personnel. The NWCO must carry this permit whenever engaged in trap and translocation operations and exhibit it upon request by department personnel. Any persons assisting with the trap and translocation operations must be listed on the SCGCP. The permittee is responsible for the conduct of all persons listed on the SCGCP who are helping with trap and translocation operations.

e. Permittees must inform the biologist of the number of birds captured and translocated within 48 hours of the completion of each operation. Permittees must document the number of Canada geese trapped and released for each capture and release site and the number of geese that died during each trap and translocation operation. Any banded geese that are captured and translocated must be reported as specified in the NWCO guidebook within 48 hours of completion of the project.

f. Permittees must provide the department a written report of all trap and translocation operations by December 31 of the year for which the SCGCP is valid. Failure to provide this report by December 31 will result in the permittee's not being reauthorized to trap and translocate geese the following year.

114.13(3) *General provisions.*

a. The SCGCP is valid for one year and must be reauthorized by a biologist each year when the NWCO permit is renewed.

b. Any plumage, eggs, eggshells, nests, or dead birds encountered by the permittee when performing activities permitted under this rule may not be sold, offered for sale, bartered or shipped or possessed for the purposes of being sold, offered for sale, bartered or shipped.

c. Any properties on which lethal control or trap and transport operations are conducted must be open at all reasonable times, including during actual operations, to any biologist, conservation officer, U.S. Fish and Wildlife Service special agent, or U.S. Department of Agricultural Wildlife Services agent wishing to inspect the activity or the results of the activity.

d. Nothing in the permit should be construed to authorize the killing of any migratory bird or the destruction of the nests or eggs of any migratory bird other than resident Canada geese.

571—114.14(481A) Pigeons.

114.14(1) Pigeons causing a health or safety hazard may be taken by trapping, or any current Environmental Protection Agency (EPA)- and Iowa-registered pesticide repellent, or toxic perches. Strychnine-based products cannot be used. The person or organization engaging in such a program will provide for proper removal and disposal of all pigeons taken by such means.

114.14(2) If a specific problem involving the use of a toxic substance or a procedure designed to destroy problem pigeons proves not to be species-specific, the director, conservation officer or biologist will issue an immediate order to stop the particular method being employed or the substance being used.

571—114.15(456A) Disposition of captured nuisance wildlife. Nuisance wildlife, with the exception of endangered or threatened species, may be relocated or euthanized. The permittee shall comply with the euthanization and release methods described in the NWCO guidebook. Sick or injured wildlife must be handled as described in the NWCO guidebook. The carcass of a dead nuisance animal must be disposed of in a legal manner and within 24 hours of the animal's death.

571—114.16(456A) General conditions for permits. Records and facilities shall be available for inspection by officers of the department during reasonable hours. All records and reports must be kept current and shall reflect a true and

accurate account of the permittee's activities. The department's law enforcement bureau shall be notified in writing within 30 days if the permittee ceases operation as a nuisance wildlife control operator. Permittees and helpers must obtain and possess valid fur harvester licenses and have paid the habitat fees, except that permittees and helpers solely conducting Canada goose control activities with an SCGCP do not need to have a valid fur harvester license nor to have paid the habitat fee. Permittees must renew their NWCO permits by January 31 of each year.

571—114.17(456A) Permit refusal. The department may suspend, revoke, refuse to issue, or refuse to renew a nuisance wildlife control operator's permit if the department finds that the permittee, a helper, or an employee of the permittee is not in compliance with this chapter. In addition, any violation of Iowa Code chapter 481A, 481B, 482, 483A, 484A, 484B, or 716 shall be cause for the department to suspend, revoke, refuse to issue, or refuse to renew a permit.

571—114.18(456A) Penalties. A person or organization that violates a provision of this chapter is guilty of a simple misdemeanor.

These rules are intended to implement Iowa Code sections 456A.24(8), 481A.38, 481A.39 and 481A.48.

Appendix C: IAC 571 77.2 Endangered, threatened and special concern animals.

571—77.2(481B) Endangered, threatened, and special concern animals. The natural resource commission, in consultation with scientists with specialized knowledge and experience, has determined the following animal species to be endangered, threatened or of special concern in Iowa:

77.2(1) Endangered animal species:

Mammals

Common Name	Scientific Name
Indiana Bat	Myotis sodalis
Plains Pocket Mouse	Perognathus flavescens
Red-backed Vole	Clethrionomys gapperi
Spotted Skunk	Spilogale putorius

Birds

Common Name	Scientific Name
Red-shouldered Hawk	Buteo lineatus
Northern Harrier	Circus cyaneus
Piping Plover	Charadrius melodus
Common Barn Owl	Tyto alba
Least Tern	Sterna antillarum
King Rail	Rallus elegans
Short-eared Owl	Asio flammeus

Fish

Common Name	Scientific Name
Lake Sturgeon	Acipenser fulvescens
Pallid Sturgeon	Scaphirhynchus albus
Pugnose Shiner	Notropis anogenus
Weed Shiner	Notropis texanus
Pearl Dace	Semotilus margarita
Freckled Madtom	Noturus nocturnus
Bluntnose Darter	Etheostoma chlorosomum
Least Darter	Etheostoma microperca

Reptiles

Common Name	Scientific Name
Yellow Mud Turtle	Kinosternon flavescens
Wood Turtle	Clemmys insculpta
Great Plains Skink	Eumeces obsoletus
Copperbelly Water Snake	Nerodia erythrogaster neglecta
Western Hognose Snake	Heterodon nasicus
Copperhead	Agkistrodon contortrix
Prairie Rattlesnake	Crotalus viridis
Massasauga Rattlesnake	Sistrurus catenatus

Amphibians

Common Name	Scientific Name
Blue-spotted Salamander	Ambystoma laterale
Crawfish Frog	Rana areolata

Butterflies

Common Name	Scientific Name
Dakota Skipper	Hesperia dacotae
Ringlet	Coenonympha tullia

Land Snails

Common Name	Scientific Name
Iowa Pleistocene Snail	Discus macclintocki
Minnesota Pleistocene Ambersnail	Novisuccinea new species A
Iowa Pleistocene Ambersnail	Novisuccinea new species B
Frigid Ambersnail	Catinella gelida
Briarton Pleistocene Vertigo	Vertigo briarensis
Bluff Vertigo	Vertigo meramecensis
Iowa Pleistocene Vertigo	Vertigo new species

Fresh Water Mussels

Common Name	Scientific Name
Spectacle Case	Cumberlandia monodonta
Slippershell	Alasmidonta viridis
Buckhorn	Tritogonia verrucosa
Ozark Pigtoe	Fusconaia ozarkensis
Bullhead	Plethobasus cyphyus
Ohio River Pigtoe	Pleurobema sintoxia
Slough Sandshell	Lampsilis teres teres
Yellow Sandshell	Lampsilis teres anodontoides
Higgin’s-eye Pearly Mussel	Lampsilis higginsi

77.2(2) Threatened animal species:

Mammals

Common Name	Scientific Name
Least Shrew	Cryptotis parva
Southern Bog Lemming	Synaptomys cooperi

Birds

Common Name	Scientific Name
Long-eared Owl	Asio otus
Henslow’s Sparrow	Ammodramus henslowii

Fish

Common Name	Scientific Name
Chestnut Lamprey	Ichthyomyzon castaneus

Common Name	Scientific Name
American Brook Lamprey	Lampetra appendix
Grass Pickerel	Esox americanus
Blacknose Shiner	Notropis heterolepis
Topeka Shiner	Notropis topeka
Western Sand Darter	Ammocrypta clara
Black Redhorse	Moxostoma duquesnei
Burbot	Lota lota
Orangethroat Darter	Etheostoma spectabile

Reptiles

Common Name	Scientific Name
Slender Glass Lizard	Ophisaurus attenuatus
Common Musk Turtle	Sternotherus odoratus
Blanding's Turtle	Emydoidea blandingii
Ornate Box Turtle	Terrapene ornata
Diamondback Water Snake	Nerodia rhombifera
Western Worm Snake	Carphophis amoenus vermis
Speckled Kingsnake	Lampropeltis getulus

Amphibians

Common Name	Scientific Name
Mudpuppy	Necturus maculosus
Central Newt	Notophthalmus viridescens

Butterflies

Common Name	Scientific Name
Powesheik Skipperling	Oarisma powesheik
Byssus Skipper	Problema byssus
Mulberry Wing	Poanes massasoit
Silvery Blue	Glaucopsyche lygdamus
Baltimore	Euphydryas phaeton

Snails

Common Name	Scientific Name
Midwest Pleistocene Vertigo	Vertigo hubrichti
Occult Vertigo	Vertigo occulta

Fresh Water Mussels

Common Name	Scientific Name
Cylinder	Anodontoides ferussacianus
Strange Floater	Strophitus undulatus
Creek Heelsplitter	Lasmigona compressa
Purple Pimpleback	Cyclonaias tuberculata
Butterfly	Ellipsaria lineolata
Ellipse	Venustaconcha ellipsiformis

77.2(3) Special concern animal species:

Mammals

Common Name	Scientific Name
Southern Flying Squirrel	Glaucomys volans

Birds

Common Name	Scientific Name
Forster's Tern	Sterna forsteri
Black Tern	Chlidonias niger
Peregrine Falcon	Falco peregrinus
Bald Eagle	Haliaeetus leucocephalus

Fish

Common Name	Scientific Name
Pugnose Minnow	Notropis emiliae
Pirate Perch	Aphredoderus sayanus

Reptiles

Common Name	Scientific Name
Smooth Green Snake	Opheodrys vernalis
Bullsnake	Pituophis catenifer sayi

Butterflies

Common Name	Scientific Name
Dreamy Duskywing	Erynnis icelus
Sleepy Duskywing	Erynnis brizo
Columbine Duskywing	Erynnis lucilius
Wild Indigo Duskywing	Erynnis baptisiae
Ottoe Skipper	Hesperia ottoe
Leonardus Skipper	Hesperia l. leonardus
Pawnee Skipper	Hesperia leonardus pawnee
Beardgrass Skipper	Atrytone arogos
Zabulon Skipper	Poanes zabulon
Broad-winged Skipper	Poanes viator
Sedge Skipper	Euphyes dion
Two-spotted Skipper	Euphyes bimacula
Dusted Skipper	Atrytonopsis hianna
Salt-and-pepper Skipper	Amblyscirtes hegon
Pipevine Swallowtail	Battus philenor
Zebra Swallowtail	Eurytides marcellus
Olympia White	Euchloe olympia
Purplish Copper	Lycaena helloides
Acadian Hairstreak	Satyrium acadicum
Edward's Hairstreak	Satyrium edwardsii
Hickory Hairstreak	Satyrium caryaevorum

Common Name	Scientific Name
Striped Hairstreak	Satyrium liparops
Swamp Metalmark	Calephelis mutica
Regal Fritillary	Speyeria idalia
Baltimore	Euphydryas phaeton ozarkae

Appendix D: IAC 571 76 Unprotected Nongame

571—76.1 (481A) Species. Certain species of nongame shall not be protected.

76.1(1) *Birds.* The European starling and the house sparrow shall not be protected.

76.1(2) *Reptiles.*

a. Garter snake.

b. Timber rattlesnake except in Allamakee, Appanoose, Clayton, Delaware, Des Moines, Dubuque, Fayette, Henry, Jackson, Jones, Lee, Madison, Van Buren, and Winneshiek Counties but not including an area of 50 yards around houses actively occupied by human beings in those counties.

This rule is intended to implement Iowa Code sections 481A.38, 481A.39, and 481A.42.

Appendix E: IAC 571 110 Trapping Limitations

571—110.1(481A) Public roadside limitations - snares, body-gripping, and conibear type traps. No person shall set or maintain any snare, body-gripping, or conibear type trap within any public road right-of-way within 200 yards of buildings inhabited by human beings unless a resident of the dwelling adjacent to the public road right-of-way has given permission or unless the body-gripping or conibear type trap is completely underwater or at least one-half of the loop of a snare is underwater. Nothing in this rule shall be construed as limiting the use of foothold traps or box-type live traps in public road rights-of-way. No person shall place or leave any trap, stake, or nonindigenous set making material upon any public road right-of-way except during a period of time that begins two weeks before the trapping season opens and ends on the last day of the season.
[**ARC 7922B**, IAB 7/1/09, effective 8/5/09]

571—110.2(481A) Snares.

110.2(1) *Placement.* No person shall set or maintain any snare in any public road right-of-way so that the snare when fully extended can touch any fence. Snares may not be attached to a drag.

110.2(2) *Loop size.* No snare when set will have a loop larger than 8 inches in horizontal measurement except for snares set with at least one-half of the loop underwater or snares set on private land other than roadsides within 30 yards of a pond, lake, drainage ditch, creek, stream or river shall not have a loop larger than 11 inches in horizontal measurement.

110.2(3) *Deer locks.* All snares must have a functional deer lock that will not allow the snare loop to close smaller than 2½ inches in diameter.

110.2(4) *Mechanical snares.* It shall be illegal to set any mechanically powered snare designed to capture an animal by the neck or body unless such snares are placed completely underwater.

571—110.3(481A) Body-gripping and conibear type traps. No person shall set or maintain any body-gripping or conibear type trap on any public road right-of-way within 5 feet of any fence.

571—110.4(481A) Foothold and leghold traps. No person shall set or maintain on land any foothold or leghold trap with metal-serrated jaws, metal-toothed jaws or a spread inside the set jaws of greater than 7 inches.

571—110.5(481A) Removal of animals from traps and snares. All animals or animal carcasses caught in any type of trap or snare, except those which are placed entirely underwater and designed to drown the animal immediately, must be removed from the trap or snare by the trap or snare user immediately upon discovery and within 24 hours of the time the animal is caught.

571—110.6(481A) Trap tag requirements. All traps and snares, whether set or not, possessed by a person who can reasonably be presumed to be trapping shall have a metal tag attached plainly labeled with the user's name and address.

571—110.7(481A) Colony traps. All colony traps must be set entirely under water.

These rules are intended to implement Iowa Code sections 481A.38 and 481A.92.

Appendix F: Additional Resources

For further information or assistance with nuisance wildlife control or other wildlife issues or questions, please contact the Iowa Department of Natural Resources. Contact information for the local Conservation Officer, Depredation Staff, Furbearer Research Staff can be found in the Iowa Hunting Regulations or online at www.iowadnr.gov. Additional information, professional networking, special permit assistance, techniques, health information, and identification tools are available through a number of organizations and websites. See a list of some of those resources

State of Iowa Contact Information and Resources

DNR Law Enforcement Contact Information
https://www.iowadnr.gov/Portals/idnr/uploads/Law%20Enforcement/dnrlemap.pdf

DNR Depredation Biologist Contact Information
https://www.iowadnr.gov/Hunting/Landowner-Assistance/Wildlife-Damage-Management

Furbearer Education, Management, and Research Information
https://www.iowadnr.gov/Hunting/Trapping-Fur-Harvesting

Iowa DNR NWCO Resources
https://www.iowadnr.gov/Hunting/Landowner-Assistance

Wildlife Rehabilitator and Scientific Collection Information
https://www.iowadnr.gov/Conservation/Scientific-Collectors-Permits

Iowa Veterinary Medical Association
https://www.iowavma.org/content.asp?contentid=206

Central Office - Iowa DNR
6200 Park Ave Ste 200
Des Moines IA 50321
515-725-8200
Fax: 515-725-8201
www.iowadnr.gov

Other Resources/Organizations

Internet Center for Wildlife Damage Management
https://icwdm.org/

Iowa Trappers Association
https://www.iowatrappers.com/

U.S. Department of Agriculture - Animal and Plant Health Inspection Service (APHIS): Wildlife Services
https://www.aphis.usda.gov/contact/wildlife

Animal Rescue League of Iowa, Inc.
https://www.arl-iowa.org/

National Wildlife Control Operators Association
https://www.nwcoa.com/

The Wildlife Society
National Chapter: https://wildlife.org/

The Wildlife Society
Iowa Chapter: https://iowatws.wildapricot.org/

Iowa State University Extension and Outreach
https://naturalresources.extension.iastate.edu/

National Wildlife Health Center
https://www.usgs.gov/centers/nwhc

POLICY AND PROCEDURES

FOR ADDRESSING

INJURIOUS GOOSE ACTIVTIES

Revised January 2023 by:

Orrin Jones, Waterfowl Research Biologist
Andy Kellner, Wildlife Depredation Biologist

Revised March 2014 by:

Orrin Jones, Waterfowl Research Biologist
Alan Hancock, Wildlife Research Technician
Bill Bunger, Wildlife Depredation Biologist
Maury Muhm, Wildlife Depredation Technician
Mark Gulick, NW Wildlife District Supervisor

Original document prepared March 1 2000
and edited October 1, 2002 by:

Guy Zenner, Waterfowl Research Biologist, Editor
Ken Herring, Executive Officer, Wildlife Bureau
Neil Heiser, NW Wildlife District Supervisor
Ron Howing, Wildlife Management Biologist
Tom Neal, Wildlife Management Biologist
Doug Harr, Wildlife Management Biologist
Greg Hanson, Wildlife Management Biologist
Doug Janke, Wildlife Management Biologist
Alan Hancock, Wildlife Research Technician
Don Cummings, Executive Officer, Wildlife Bureau

Iowa DNR Wildlife Bureau

Policy for Addressing Injurious Goose Activities

The Iowa Department of Natural Resources (Department) management goal for Canada geese is a stable population that provides recreational, ecological, and aesthetic benefits, while minimizing human-goose conflict. Conflict between geese and humans may occur in a wide range of situations. Some of this conflict may be unavoidable, however there are situations where goose behavior causes or is likely to cause damage or harm. The Department refers to these situations as "injurious goose activities." Any solutions proposed to control injurious goose activities must be consistent with the Department's management goal. Department staff will promptly assist with complaints of injurious Canada goose activities primarily by providing guidance that may include population management through regulated hunting, habitat management, aversive conditioning, education, and lethal control outside of hunting seasons.

Strategies and procedures used to control injurious goose activities in Iowa are constrained by policies and regulations established by the U.S. Fish and Wildlife Service (Service) for the management of migratory birds in the U.S. They may further be constrained by management plans developed for Canada goose populations by the 14 state, three provincial and two federal conservation agencies that comprise the Mississippi Flyway Council (MFC).

It is permissible to harass Canada geese without a federal or state permit, provided the geese are not nesting and that the harassment does not result in birds being harmed or handled by a person. Any activity involving the capturing, handling, or harming of migratory birds requires both federal and state authorization. Actions that result in harming migratory birds or their nests could be subject to legal action by the federal government and all permitted activities are tracked by the Department and reported to the Service.

Procedures for Addressing Injurious Goose Activities

It is the intent of the Department to promptly respond to requests for assistance in minimizing human-goose conflict. The responsibility for inspecting properties for goose activity and notifying Department staff lies with the landowner, manager or tenant. In most cases an on-site inspection will be made to determine if the conflict is injurious and if so, developing actions for the site. Except in special situations (see Part II. Special Situations), the person legally responsible for the land on which the damage is occurring will be responsible for implementing and maintaining abatement or exclusion practices. On lands owned or controlled by multiple parties, such as homeowners associations or planned unit developments, a consensus of the members must be reached prior to actions occurring. Local governments (municipal, township and county) have primary responsibility for implementing practices on land they administer (parks, roads, property within city limits).

I. **Standard Actions**

The following actions can be used in most situations to minimize injurious Canada goose activities.

1. **Increase the recreational harvest of Canada geese.** Landowners should permit hunters to harvest geese on their property, especially early in the season when local geese are most available, and encourage hunting on neighboring properties. In cases where local ordinances prohibit hunting, local governments should consider changing local ordinances or assist affected landowners in implementing other actions to control injurious goose activities within their jurisdiction.
2. **Manage vegetation to make the area less appealing to geese.** Alter landscape maintenance practices or crop rotations to reduce the attractiveness of the site to geese. Create less attractive habitats or develop vegetative barriers or buffers along rivers or wetlands, to inhibit goose access to adjacent land.
3. **Implement aversive conditioning to discourage goose use.** Use scare devices (eg propane cannons, scarecrows, dogs, mylar tape, balloons, lasers, and pyrotechnics) or aversive agents (e.g. repellents) to discourage goose use. When available, the Department may supply equipment to help control injurious goose activities.
4. **Exclude flightless geese from entering the property.** Construct temporary or permanent fences to reduce access to areas where the geese are unwanted.

II. Special Situations

A. Properties Adjacent to State-Owned Wildlife Areas or Lakes

On private lands adjacent to state-managed wildlife areas or lakes where the property owner or tenant has already attempted to increase goose harvest and manage vegetation to reduce injurious goose activities (Actions 1 and 2, Part I), the Department will offer the following additional assistance to control injurious goose

activities:

1. Scare devices such as propane cannons, Mylar tape, and plans for scarecrows will be supplied by the Department to be used and maintained by the property owner or manager.
2. The Department will consider acquiring, through fee title or easement, all or portions of the property rights on acres chronically impacted by geese and manage this land to minimize future damage in the area.
3. Management of state-owned wildlife areas will be adjusted to help reduce goose use of private lands where appropriate state-managed uplands are available and goose management does not seriously compromise the primary management objectives for the area.
4. Where agricultural crops are being damaged by geese, the Department will provide materials and labor to erect temporary fences between state-managed wildlife areas and private lands to reduce the accessibility of private land to flightless geese for up to 3 years. The landowner will be required to check and maintain the fence the first 3 years, and install and maintain the fence thereafter if a temporary fence is desired.
5. In accordance with fencing common law, the Department will construct its half of a permanent fence (the right hand half of the fence when faced from the property) capable of excluding flightless geese on the boundary between the state-owned land and the affected private property, provided the adjacent landowner agrees to construct the other half of the fence in a similar manner. The landowner must also agree to maintain his/her half of the fence. A fence agreement will be prepared by the Department, signed by both parties, and recorded with the landowner's property deed before construction begins. Where environmental conditions significantly increase the difficulty or cost of constructing or maintaining a fence, the portion of the fence to be constructed by one party may be more or less than half the length of the boundary to compensate for this additional cost.
6. Where environmental conditions make it difficult or impossible to construct or maintain a boundary fence, such as along the shore of a meandered lake, a fencing agreement may be used to establish and record a permanent convenience fence. The agreement, which will be recorded as an attachment to the property deed, should state that the line on which the fence is established is not the boundary between the two properties, that the fencing materials are the property of the Department on that portion that is the state's half, and that the landowner agrees to maintain the fence.
7. In cases where there is an existing barbed-wire boundary fence between state-managed wildlife areas and private lands, the Department will provide materials and labor to make the fence a more effective barrier to flightless geese. The adjacent landowner or manager will be responsible for checking and maintaining his/her half of the fence after installation.

B. Properties in Areas Not Open to Canada Goose Hunting (closed areas) by Department Rule.

On private lands in areas not open to Canada goose hunting by Department rule, the Department will offer the following assistance in addition to the previously described actions:

1. Scare devices such as propane cannons, mylar tape, balloons and scarecrows will be supplied and maintained by the Department. Landowners or tenants will be required to inspect their property, locate specific goose damage, inform Department staff of such damage, and assist in operating and maintaining scare devices.
2. Where agricultural crops are being damaged by geese, the Department will provide materials and labor to install and maintain temporary fences, even when the property is not adjacent to state-managed land. The landowner or tenant will monitor the temporary fences to ensure they are functioning and will advise Department staff when and where repairs are necessary.
3. The Department will provide materials and labor for construction of permanent boundary fences adjacent to state-managed wildlife areas that will exclude flightless geese from agricultural crop land. Where environmental conditions make it difficult or impossible to construct or maintain a boundary fence, such as along the shore of a meandered lake, a fencing agreement may be used to establish and record a permanent convenience fence. The agreement, which will be signed and recorded as an attachment to the property deed before construction begins, should state that the line on which the fence is established is not the boundary between the two properties and that the fencing materials are the property of the Department. In this situation, fence maintenance and inspection are negotiable.

C. Areas Within Municipalities

Within municipalities, Department staff will provide advice to individual landowners, organizations or agencies on appropriate techniques to minimize the impacts of injurious goose activities. In addition to the techniques described under Part I, the following practices can also be used to control goose populations and activities in these areas.

1. Municipalities should adopt ordinances prohibiting waterfowl feeding, installing and maintaining goose nesting structures, or engaging in any activities that encourage geese to use areas where goose activities conflict with people or geese create a hazard.
2. Department staff will assist municipalities in formulating guidelines for developing and maintaining landscapes that are unattractive to geese.
3. Municipal authorities should modify ordinances or regulations, where appropriate, to permit hunters to harvest Canada geese during regular hunting seasons in areas where chronic injurious goose activities occur or where geese pose a hazard. Increasing the goose harvest in and around the municipality, when combined with standard abatement practices, can help minimize the impacts of injurious goose activities and reduce numbers of complaints.
4. When all other means of controlling Canada goose conflict and associated injurious goose activities have proven ineffective or unfeasible, or it is determined that the geese pose a significant threat to human health or safety, the Director can authorize lethal control methods outside of the regular hunting season in accordance with the USFWS permit held by the Department. Any lethal control operations must be in accordance with a Goose Management Plan written by Department Wildlife Depredation staff in consultation with the local Department Wildlife Biologist, signed by the Department and the managing entity, approved by the Department Director, approved by the municipality in which it will take place, and be presented to the public for comment. All euthanasia will follow American Veterinary Medical Association standards.
    a. Initial lethal methods will be limited to nest manipulations unless the threat to human health and safety requires more expedient reduction actions. Nest manipulations may only be carried out by Department staff, appropriately trained Nuisance Wildlife Control Operators, or other government agencies with appropriate credentials and training.
        i. Nest removal is the preferred action in cases of aggressive geese in inopportune locations or in cases where the nests can be left undisturbed for 14 days of incubation and it is desirable for the adult geese to leave the site for the summer months.
        ii. Egg oiling may be appropriate in cases where the presence of adults during the summer can be tolerated, or is desired, but reducing recruitment to the population is necessary.
    b. Situations that require an immediate reduction in goose populations due to human safety and health, may necessitate removal and euthanasia of flightless geese.
        i. The governing body must submit a written request to the Department at least four months in advance of any proposed action unless immediate action is deemed necessary for human health and safety.
            1. The request must include goose population estimates, details of conflict and injurious goose activities, list of threats to human health and safety, economic impacts, and clearly state proposed actions and anticipated outcomes.
        ii. Implementation of approved lethal control must be closely coordinated with Department Wildlife Depredation staff and Conservation Officer(s). Department staff will assist with technical advice in accordance with the active Goose Management Plan.
        iii. All costs of lethal removals will be borne by the requesting entity.
        iv. Lethal removal of geese will only be carried out by agents approved by the Department with the appropriate level of training, required federal permits, and the proper equipment for the operation.
        v. When possible, geese may be transported to a meat locker and the meat distributed to charities, public institutions, or families in need for consumption.
        vi. Geese not being processed for consumption must be disposed of by burying (Paragraph 567 IAC 100.4(2)”b”) or incinerating (Rule 567 IAC 100.4(455B)) in accordance with Iowa Code. Landfilling is an approved method of burial.

D. Airports and areas within the Vicinity

On airport and adjacent properties, Department staff will provide advice to individual landowners, organizations or agencies on appropriate techniques to minimize the impacts of injurious goose activities. In addition to the techniques described under Part I, the following practices can also be used to control goose populations and activities in these areas. **An area adjacent to the airport boundary should be considered for these practices.**

1. Airport management administrators, in cooperation with adjoining landowners should adopt rules prohibiting waterfowl feeding, installing and maintaining goose nesting structures, or engaging in any activities that encourage geese to use areas in the vicinity of airport property.
2. Department staff will assist airport management personnel in formulating guidelines for developing and maintaining landscapes that are unattractive to geese.
3. Airport management should work with city administrators to modify ordinances or regulations, where appropriate, to permit hunters to harvest Canada geese during regular seasons in areas where chronic injurious goose activities occur or where geese pose a hazard. Increasing the goose harvest in and around the airport, when combined with standard abatement practices, can help minimize the impacts of injurious goose activities and reduce numbers.
4. In cases where the Canada goose population at an airport and within the adjacent area poses a significant threat to human health or safety, and standard control techniques, including increased harvest during established hunting seasons, have proven unsuccessful or unfeasible, the Director can authorize lethal methods to reduce the goose population within and adjacent to airport boundaries. Lethal methods may include nest manipulation, roundup culling events during the flightless period, and direct removals in conjunction with aversive conditioning.
    a. The airport proposing the population reduction must determine, in consultation with the Department or agents approved by the Department with the appropriate level of training, required federal permits, and the proper equipment, an appropriate level for the airport's goose population.
    b. Ongoing nest manipulations should be considered within the area of the airport to reduce local recruitment and buildup of Canada goose populations.
        i. Nest manipulations may only be carried out by Department staff, appropriately trained Nuisance Wildlife Control Operators, or other government agencies with appropriate credentials, permits, and training.
        ii. Nest removal is the preferred action in cases of aggressive geese in inopportune locations or in cases where the nests can be left undisturbed for 14 days of incubation and it is desirable for the adult geese to leave the site for the summer months.
        iii. Egg oiling may be appropriate in cases where nests can remain intact for a prolonged period and the presence of adults during the summer can be tolerated or is desired but reducing recruitment to the population is necessary.
    c. In situations that require immediate action, the Director may approve lethal removal of geese from the airport property or within the adjacent area.
        i. Lethal removal of geese will only be carried out by agents approved by the Department with the appropriate level of training, required federal permits, and the proper equipment for the operation.
        ii. When possible, adult geese will be transported to a locker and the meat distributed to charities or public institutions for human consumption. This processing will be at the expense of the requesting party.
        iii. Birds not being processed for food must be disposed of by burying (Paragraph 567 IAC 100.4(2)"b") or incinerating (Rule 567 IAC 100.4(455B)) in accordance with Iowa code. Landfilling is an approved method of burial.

Resident Canada Geese Nest Manipulation Application and Report Form

NWCO Name: _____ **NWCO Permit #:** _____

SCGCP#: _____ (SCGCP # is received after NWCO satisfactorily demonstrates proficiency with goose work.)

Municipality, organization, or individual requesting assistance:
(Include name, title, address, and phone number of the principal contact person.)

_____

_____

_____

Location: (Provide location name / address and county; additional location information encouraged)

_____

_____

_____

Number of nesting pairs: _____

Assessment of damage: (Provide detailed information justifying the request)

_____

_____

_____

Abatement techniques that were tried to alleviate problem:

_____

_____

_____

For DNR use only **APPROVAL** ☐ Yes ☐ No

Approved dates for action: _____ Is supervision required? ☐ Yes ☐ No

No. nests that can be destroy: _____ Disposal of eggs: _____

Depredation Biologist Signature: _____ Date: _____

NWCO COMPLETION REPORT

Date completed: _____

Number destroyed: Nests _____ **Eggs** _____ **Final Disposition:** _____

NWCO Signature: _____ **Date:** _____

For DNR use only **Nest manipulation project was completed:** ☐ Satisfactorily ☐ Unsatisfactorily

Signature: _____ Date: _____

Resident Canada Geese Lethal Removal Application and Report Form

NWCO Name: _____ **NWCO Permit #:** _____

SCGCP#: _____ (SCGCP # is received after NWCO satisfactorily demonstrates proficiency with goose work.)

Municipality, organization, or individual requesting assistance:
(Include name, title, address, and phone number of the principal contact person.)

_____

_____

_____

Location: (Provide location name / address and county; additional location information encouraged)

_____

_____

_____

Number of geese involved: Adults: _____ **Juveniles:** _____

Assessment of damage: (Provide detailed information justifying the request)

_____

_____

_____

Abatement techniques that were tried to alleviate problem:

_____

_____

_____

For DNR use only **APPROVAL** ☐ Yes ☐ No

Approved dates for action: _____ Is supervision required? ☐ Yes ☐ No

Number of geese to be removed: _____ Final Disposition: _____

Depredation Biologist Signature: _____ Date: _____

NWCO COMPLETION REPORT

Date completed: _____

Number removed: Adults _____ **Juveniles:** _____ **Final Disposition:** _____

NWCO Signature: _____ **Date:** _____

For DNR use only **Nest manipulation project was completed:** ☐ Satisfactorily ☐ Unsatisfactorily

Signature: _____ Date: _____

Iowa Department of Natural Resources

List of Persons Assisting NWCO with Goose Work

Name **Address**

Banded Geese Encountered

Band Number	Encounter Type: Observation, Removal, Deceased Bird

Band Number	Encounter Type: Observation, Removal, Deceased Bird

Egg/Nest Destruction Data Sheet

NWCO Permit #: _____

Location: _____ Year: _____

Nest #	First visit			Second visit			Last visit
	Date of visit	# of eggs	Incubation Stage*	Date to revisit	# of eggs**	Incubation Stage*	Date to revisit

*Refer to Egg Float Chart to determine if eggs are being incubated or how long they have been incubated.

**If there are more eggs in the nest on the second visit it is a good indication that the nest was not being incubated during the first visit and therefore will require one more visit to terminate.

Iowa Department of Natural Resources

Resident Canada Goose Control Permit - Annual Activity Report

NWCO Name: _____ Address: _____

NWCO Permit #: _____ SCGCP#: _____ For Calendar Year: _____

Complainant	Location* (Include County)	Nest Destruction		Lethal Removal		Final Disposition
		# Nests	# Eggs	# Adults	# Juv.	(Buried, Landfill, Incinerated)

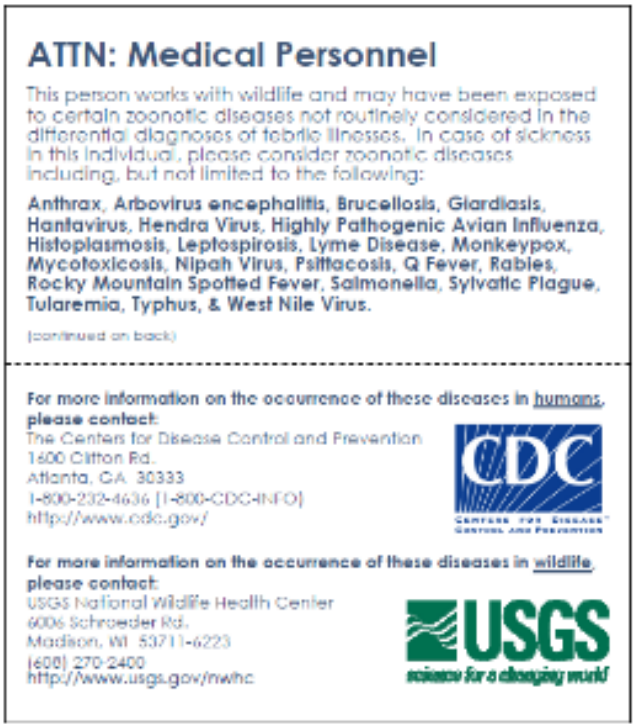
*Use more than one line if necessary to adequately describe the location. Attach additional pages if needed.

Special Canada goose control permit reports due upon completion each year.

Retain copy for NWCO records and provide copy to Department Depredation Biologist

Appendix H: Medical Wallet Card for Wildlife Professionals

https://www.usgs.gov/media/files/medical-wallet-card-wildlife-professionals



ATTN: Medical Personnel

This person works with wildlife and may have been exposed to certain zoonotic diseases not routinely considered in the differential diagnoses of febrile illnesses. In case of sickness in this individual, please consider zoonotic diseases including, but not limited to the following:

Anthrax, Arbovirus encephalitis, Brucellosis, Giardiasis, Hantavirus, Hendra Virus, Highly Pathogenic Avian Influenza, Histoplasmosis, Leptospirosis, Lyme Disease, Monkeypox, Mycotoxicosis, Nipah Virus, Psittacosis, Q Fever, Rabies, Rocky Mountain Spotted Fever, Salmonella, Sylvatic Plague, Tularemia, Typhus, & West Nile Virus.

(continued on back)

For more information on the occurrence of these diseases in humans, please contact:

The Centers for Disease Control and Prevention
1600 Clifton Rd.
Atlanta, GA 30333
1-800-232-4636 (1-800-CDC-INFO)
http://www.cdc.gov/

CDC

For more information on the occurrence of these diseases in wildlife, please contact:

USGS National Wildlife Health Center
6006 Schroeder Rd.
Madison, WI 53711-6223
(608) 270-2400
http://www.usgs.gov/nwhc

USGS science for a changing world

Appendix I: NWCO Annual Activity Report
Iowa Department of Natural Resources
6200 Park Ave Ste 200
Des Moines IA 50321

NUISANCE ANIMAL LOG

Year: _____

Permitee: _____ Address: _____ City: _____ State: _____

DATE	COMPLAINANT (Name & Address)	ADDRESS	CITY	TRAPPING DATES START	TRAPPING DATES FINISH	#	SPECIES INVOLVED	DISPOSITION (Euthanized, released, etc.)

Reports are due by January 31st each year. You may submit this report electronically by emailing your completed report and documents to Webmaster@dnr.iowa.gov, logging in at www.GoOutdoorsIowa.com and uploading your report and documents to your customer account, or mail to: Iowa DNR, Attn: Karmin Klingenberg, 6200 Park Ave Ste 200, Des Moines IA 50321.