WISCONSIN DEPARTMENT OF NATURAL RESOURCES
NOTICE OF FINAL GUIDANCE & CERTIFICATION

Pursuant to ch. 227, Wis. Stats., the Wisconsin Department of Natural Resources has finalized and hereby certifies the following guidance document.

DOCUMENT ID

WM-19-0009-C

DOCUMENT TITLE

Wisconsin DNR Cougar Response Plan

PROGRAM/BUREAU

Wildlife Management

STATUTORY AUTHORITY OR LEGAL CITATION

Wisconsin State Statutes Chapter 29 or Chapter 10 of the Administrative Code of the Department of Natural Resources

DATE SENT TO LEGISLATIVE REFERENCE BUREAU (FOR PUBLIC COMMENTS)

Sept. 30, 2019

DATE FINALIZED

Nov. 4, 2019

DNR CERTIFICATION

I have reviewed this guidance document or proposed guidance document and I certify that it complies with sections 227.10 and 227.11 of the Wisconsin Statutes. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is not explicitly required or explicitly permitted by a statute or a rule that has been lawfully promulgated. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is more restrictive than a standard, requirement, or threshold contained in the Wisconsin Statutes.

Signature

10/29/19

Date

Wisconsin DNR Cougar Response Guidelines

Approved by WLT: 04/17/2018

Table of Contents

Page

1. Scope & Objectives **1**

2. General Cougar Talking Points **1**

3. Cougars in Wisconsin **2**

4. Cougar Management Responsibilities **2**

5. Understanding Cougar Behavior **2**

6. Definitions of Cougar Response Levels **4**

- ***Response Level Critical*** – Cougar has attacked or injured a person. **4**

- ***Response Level 1*** – Cougar is behaving aggressively toward people and poses an immediate threat to human safety. **5**

  Response Level 2 – Cougar is not exhibiting aggressive or predatory behavior, but is in a location that poses a potential threat to human safety. **6**

- ***Response Level 3*** – Reported cougar depredation of livestock or pet.
  - Verified cougar depredation.
  - Could not be verified.
  - Verified non-cougar depredation. **7**

- ***Response Level 4*** – Reported visual or photographic evidence of cougar or cougar sign. **8**

7. Cougar Tissue Sample and Specimen Management **9**

8. Appendices

Appendix A: USDA-APHIS-Wildlife Services Districts and Contacts **10**

Appendix B: Collecting and Handling Genetic Samples **11**

Appendix C: Action Plan template for potentially recurring cougar sightings in a human-populated area. **16**

Appendix D: Cougar Sighting Response Flow Chart for Initial Staff Contact **17**

1. Scope and Objective

After years with no or only incidental reports of cougars in Wisconsin, the species was confirmed in Wisconsin 10 out of 11 years from 2008 – 2018, with multiple sightings in some years. The increasing number of confirmed cougar (*Puma concolor*; mountain lion, puma) sightings in Wisconsin has amplified the need for department policy that addresses public safety, livestock depredations, animal welfare, and issues related to public familiarity with and perception of cougars. This document is intended to provide agency staff (primarily WM, LE, and OC) guidance when responding to reports of cougars in the state.

The protocols cover a range of cougar-related issues, from possible cougar sightings to a confirmed cougar attack on a human. The objectives of these protocols are to:

a) Emphasize public safety related to all cougar – human interactions.
b) Establish a consistent and measured Departmental response to the variety of cougar interactions that occur in the state, integrating the responsibilities of staff from various bureaus (WM, LE, OC) and partnering agencies as appropriate.
c) Ensure the humane treatment of cougars or other animals involved.
d) Explicitly recognize public interest in cougar sightings by recommending communication strategies that increase public understanding of cougar ecology, cougar behavior, and the justification/rationale behind actions the Department may undertake in response to cougar sightings or cougar – human interactions.

2. General Cougar Talking Points

- The best outcome for any cougar sighting is for the cougar to find its way back to suitable habitat without incident.
- The nearest established breeding cougar population is in the Black Hills of western South Dakota. Most if not all cougars sighted in Wisconsin are likely young males dispersing from this or other western populations. Male cougars disperse much farther than females, and have been recorded traveling over 1,600 miles. They tend not to stay in one location for long. Fewer females disperse, and those that do tend not to travel far enough to reach Wisconsin.
- Human health and safety are our top priorities when responding to cougar sightings in Wisconsin.
- Cougars frequently coexist with humans in urban and suburban landscapes. The presence of a cougar in a populated area is therefore not necessarily a sign of acclimation, sickness, or injury.
- Natural prey for cougars include white-tailed deer, and they likely will focus on deer for food. However, if a cougar is in the area, keeping pets on leashes and inside at night are reasonable precautions.
- The public is encouraged to report additional sightings via our Large Mammal Observation Report Form, available online at dnr.wi.gov.
- Advise the public not to run if a cougar is encountered, as this may initiate a chase response. Maintain eye contact with the animal and act large and aggressive, raising your arms, yelling at the animal, and moving uphill if possible. Slowly extricate yourself from the situation as able.
- Cougar are classified as a protected species in Wisconsin and may only be killed in the act of killing, wounding, or biting domestic animals [NR 10.02(1)(b)] or in cases where human safety is at risk.

3. Cougars in Wisconsin

Cougars are native to Wisconsin, but the species was extirpated by the early 1900s due to unregulated harvest and predator control efforts. Remnant populations in the western U.S. have been increasing in number and expanding their range over the past few decades due to legal protections and harvest controls. Currently, there are established breeding populations of cougars in western North Dakota, South Dakota, and Nebraska, with the nearest being ~600 miles from Wisconsin in the Black Hills of SD. Confirmed cougar sightings in Wisconsin during recent years likely represent young males dispersing from one or more of these areas. The majority of subadult male cougars disperse in their 2nd year, whereas only about half of females disperse away from their natal range. Males also tend to disperse greater distances than do females. Establishment of a breeding cougar population in Wisconsin will thus be limited by female immigrants, and this will become more likely if a breeding population is confirmed closer to Wisconsin (e.g., MN) to provide a source of females. Near-term cougar sightings in the state will therefore likely continue to represent dispersing males. These animals tend to remain transient as they look for females, and are unlikely to remain in one location for extended periods of time.

Cougars are classified as protected wild animals in Wisconsin (NR 10.02), and individuals therefore may not take, transport, or possess a cougar or cougar carcass unless expressly authorized by the Department. An exception is provided for private lands that allows the landowner, lessee or occupant of the land, or any other person with permission of the landowner, lessee or occupant may shoot and kill a cougar that is "in the act of killing, wounding, or biting a domestic animal" [NR 10.02(1)(b)].

4. Cougar Management Responsibilities

The Wisconsin DNR – Bureau of Wildlife Management (WM) has primary responsibility for the management of cougars in Wisconsin. The Wisconsin DNR has entered into a cooperative services agreement with USDA – Wildlife Services (WS) to assist with response to cougar sightings and complaints. Staff from the Wisconsin DNR - Bureau of Law Enforcement (LE) may also respond to cougar sightings when WM or WS staff are unable to respond and has primary responsibility when there is a potential threat to human safety. A coordinated response to cougar sightings will be especially important when a cougar is confirmed in a populated area.

On lands owned or managed by tribal entities within Indian Reservation boundaries, the appropriate Tribal entity has responsibility over all cougar response and management. The Wisconsin DNR Bureau of Wildlife Management has responsibility for cougar and cougar conflict management on non-tribal, privately-owned lands within reservation boundaries. When feasible, the DNR will consult with the appropriate tribal entity before conducting any management action on these lands.

5. Understanding Cougar Behavior

When a cougar sighting is confirmed, especially in or near a populated area, proper threat assessment requires that responders differentiate between normal and aggressive/predatory behavior. Except when the cougar's location alone suggests a potential threat to human safety (e.g., cougar remains near a school, daycare, playground, or similar, its movements are restricted by buildings or fences in an urban environment, or it is present in a high-use area such as a busy urban center), *the presence of a cougar should not by itself be interpreted as a threat to human safety*. It is important to note that cougars and humans live in close proximity in many suburban landscapes, and a cougar's mere presence in a human populated area is not abnormal or by itself cause for direct intervention. Cougars may appear comfortable in these environments, and their disinterest in nearby humans

should also not be interpreted as a sign of acclimation, sickness, or injury. The below represent general guidelines to allow responders to utilize behavioral cues to assess the immediate threat posed by a cougar.

Acceptable Behavior- cougar does not pose an immediate threat to human safety.	**Aggressive/predatory behavior- cougar poses an immediate threat to human safety.**
• Present in human-dominated landscape • Killing or feeding on natural prey • Watching people pass by • Moving during the day • Disinterest in people/vehicles nearby	• Following or approaching people • "Stalking" of pedestrians or bicyclists • Stomping feet • Twitching tail • Crouching in apparent attack pose • Staring "intently" at people

* Low risk. This cougar is startled and curious. It retreated when the hikers yelled.

* High risk. Note the intent stare, ear position, and stalking behavior.

*Low risk. Note the ear position. Cougar is curious, not threatening.

* High risk. Note the intent stare. Cougar was also twitching its tail and thumping its legs on the ground.

6. Definitions of Cougar Response Levels

A. ***Response Level Critical*** – Cougar has attacked or injured a person.

*****Manual Code #4115 defines response protocols for DNR staff in the event of a fatal or nonfatal cougar attack on a human being.

According to MC #4115, an "attack" in this context is defined as "*(a)n unprovoked incident involving physical contact by a large carnivore attacking a person.*"

Refer to MC #4115 for all protocols regarding cougar attacks, **EXCEPT:** Manual Code #4115 (p.4) directs the Incident Commander to consult with the District Wildlife Supervisor to determine the appropriate response for dealing with the offending animal. ***This document limits response to any cougar involved in an attack on a human being to euthanasia***.

According to MC #4115, the initial LE staff person on scene will act as the Incident Commander. The "Incident Commander, in consultation with the District Wildlife Supervisor, will assign DNR staff to their positions and direct the actions of the team members for the duration of the response and investigation of the attack incident." WS staff should also be notified so that their expertise and input may help in dealing with the offending animal.

The Incident Commander should further:

- Secure the scene (limit entry to professional staff, provide escort to first responders)
- Ensure staff presence on site while the cougar is present.
- Monitor behavior of the cougar for signs of injury or aggression.
- Ensure onlookers remain at a safe distance.

Response Guidelines

1. If the offending animal is still on site, or its location is known, the Incident Commander and District Wildlife Supervisor will confer to determine which of the following euthanasia methods is appropriate:

   a. Dispatching with firearm(s).
   b. Live capture, removal of the offending animal from the scene, and euthanasia following protocol established by WDNR policy (consult with WM Veterinarian or Wildlife Health Section Chief).

   The safety of the public and all responding personnel will be paramount when evaluating the situation. The Incident Commander and District Wildlife Supervisor, in consultation with USDA-Wildlife Services and the WM Veterinarian, will further consider imminent threats posed by the animal, the likelihood of the animal escaping, public exposure to the scene, on-site conditions and humane treatment of the offending animal when considering which option (a or b) is appropriate.

2. If the offending animal is no longer on site, all attempts will be made to locate, capture, and dispatch it. Methods for locating the animal may include:

   a. Tracking of animal.
   b. Setting of baited live (culvert or cage) traps.

c. Establishment of public notification system whereby public is provided phone number of Incident Commander to report subsequent sightings.
d. Use of trailing dogs (leashed or unleashed, depending on whether the cougar is on private or public land and other variables as considered by the Incident Commander in consultation with WS and WM staff).

B. ***Response Level 1*** – As determined by DNR staff based upon the totality of the circumstances, a cougar is behaving aggressively toward people and poses an immediate threat to human safety. Assessment of risk should include whether or not observed aggressive behavior was elicited by responders' actions, or other aspects of the situation, as opposed to unprovoked aggressive or predatory behavior directed toward a human being.

This document limits WM response to any cougar that behaves aggressively toward people to euthanasia.

The initial DNR responder/contact will notify WS staff, the District Wildlife Supervisor, and local LE staff.

The initial DNR responder/contact should:

- Ensure staff presence on site while the cougar is present.
- Monitor behavior of the cougar for signs of injury or aggression.
- Ensure onlookers remain at a safe distance.

In addition, staff should consider developing an Incident Response Plan, using the format provided in Appendix C, to summarize the event and provide contact information for all relevant personnel.

Response Guidelines

1. If the offending animal is still on site, or its location is known, the District Wildlife Supervisor will confer with appropriate staff and initial responders to determine which of the following euthanasia methods is appropriate:

   a. Dispatching with firearm(s).
   b. Live capture, removal of the offending animal from the scene, and euthanasia following protocol established by WDNR policy (consult with WM Veterinarian or Wildlife Health Section Chief).

   The safety of the public and all responding personnel will be paramount when evaluating the situation. The Incident Commander and District Wildlife Supervisor, in consultation with USDA-Wildlife Services and the WM Veterinarian, will further consider imminent threats posed by the animal, the likelihood of the animal escaping, public exposure to the scene, on-site conditions and humane treatment of the offending animal when considering which option (a or b) is appropriate.

2. If the offending animal is no longer on site, all attempts will be made to locate, capture, and dispatch it. Methods for locating animal may include:

   a. Tracking of animal.
   b. Setting of baited live (culvert or similar) traps.
   c. Establishment of public notification system whereby public is provided phone number of the Incident Commander to report subsequent sightings.

d. Use of trailing dogs (leashed or unleashed, depending on whether the cougar is on private or public land and other variables as considered by the Incident Commander in consultation with WS and WM staff).

C. ***Response Level 2*** – As determined by DNR staff, a cougar is not exhibiting aggressive or predatory behavior, but remains in a location that poses a potential threat to human safety.

Examples: Cougar present near a school, daycare center, playground, populated urban area, or similar, and responders view the situation as a potential threat to human safety based upon the totality of the circumstances.

The initial DNR responder/contact should:

- Ensure continued staff presence on site while the cougar is present.
- Monitor behavior of the cougar for signs of injury or aggression.
- Ensure onlookers remain at a safe distance.

In addition, staff should consider developing an Incident Response Plan, using the format provided in Appendix C, to summarize the event and provide contact information for all relevant personnel.

Response Guidelines

1. The District Wildlife Supervisor will consult with LE and WS staff to determine which of the following responses is appropriate:

   a. Dispatching with firearm(s).
   b. Live capture, removal of the offending animal from the scene followed by either translocation or euthanasia.

   The safety of the public and all responding personnel will be paramount when evaluating the situation. The Incident Commander and District Wildlife Supervisor, in consultation with USDA-Wildlife Services and the WM Veterinarian, will further consider imminent threats posed by the animal, the likelihood of the animal escaping, public exposure to the scene, on-site conditions and humane treatment of the offending animal when considering which option (a or b) is appropriate.

   Should live capture and translocation be deemed viable and selected as the preferred option:

   i. WS staff should be notified of the intent to live capture and remove the animal from the scene. WS staff will be the primary staff involved in developing and implementing an on-site plan. For translocation, a chemical immobilization strategy will be a necessary component. The District Wildlife Supervisor should further consult with the WM Veterinarian regarding the chemical immobilization strategy. Specific WM staff certified in chemical immobilization may be identified to provide site assistance or to develop and implement a strategy to live capture and translocate the animal.
   ii. Once immobilized, the cougar shall be uniquely identified with pre-assigned, approved AMDUCA ear tags or other pre-approved, permanently identifiable markings and shall be transferred as expediently as possible to an appropriate, preapproved transport container. At least one staff member certified by the Department Wildlife Veterinarian must remain with the animal throughout transport.

iii. An anesthesia monitoring plan will be followed in close consultation with the wildlife veterinarian for the entirety of the translocation.

iv. The District Wildlife Supervisor should immediately communicate with WM field staff to identify an appropriate release site, in suitable habitat and on DNR managed property (large WMA in area with low human population density, heavily forested, >5 miles from municipalities, behind locked gate).

v. Upon arrival at the property, local staff should have a key to the locked gate to allow the transport vehicle to enter. The gate should be locked immediately after the transport vehicle passes.

vi. Once at the release site, the transport container or animal should be placed in an area that will allow it to maintain an appropriate temperature and minimize injury upon waking. Staff should remain on site until the cougar has regained mobility and left the site.

2. WM and OC staff should coordinate immediate release of information via social media post or other. If chemical immobilization was a part of the response, the WM Veterinarian must be included in development of all media releases. Release should include information on the sighting and description of events that led to the decision to euthanize or translocate the animal, and provide the general (county) location of release if the animal was translocated. WM should identify primary contact (Large Carnivore Specialist or local WM staff) for subsequent public or media contacts.

D. ***Response Level 3*** – Cougar is suspected in depredation of livestock or pets.

USDA – Wildlife Services trained personnel should be contacted immediately and will be the first responder to investigate, collect evidence, and determine if depredation occurred and the species responsible. USDA- Wildlife Services staff will share field observations and reports with the WM Large Carnivore Specialist, Wildlife Damage Specialist, and local WM and DNR-LE staff.

1. Probable or confirmed cougar depredation.
   a. Any cougar confirmed in the depredation of pets or livestock should be euthanized. Following confirmation by USDA – Wildlife Services staff, attempts will be made to capture and euthanize the cougar responsible. USDA – Wildlife Services and WM staff will work together to develop a plan for capture and euthanasia of the animal.
   b. WM staff will work with OC staff to develop a communications strategy to notify the public of the cougar depredation event.
   c. For verified livestock depredations the county wildlife damage specialist will be notified and the livestock owner will be offered damage reimbursement through the Wildlife Damage Abatement and Claims Program.

2. Unconfirmed cougar depredation.
   a. USDA- Wildlife Services, WM, and DNR-LE staff will work together to monitor events and to inform and educate the livestock owner on observation techniques and how to protect any additional evidence that may arise.
   b. Although unconfirmed, there may be significant local or regional interest in the reported cougar depredation. Both local and Central Office WM spokespersons will be identified. WM and OC staff will confer to determine if a media release is warranted and appropriate. If so, media releases will inform readers of the general location of the depredation and encourage citizens to be vigilant and to report observations through the Large Mammal Observation Form.

3. Verified non-cougar depredation.
   a. USDA- Wildlife Services, WM, and DNR-LE staff will educate the livestock owner on field sign or evidence that implicates another species.
   b. Although a cougar was determined not to have been involved in the depredation event, there may be significant local or regional interest in the reported cougar depredation. Both local and CO WM spokespersons will be identified. WM and OC staff will confer to determine if a media release is warranted and appropriate. If so, media releases will inform readers of the general location of the report and provide an overview of evidence used to determine the species responsible.

E. ***Response Level 4*** – Reported visual or photographic evidence of cougar or cougar sign.

Response Guidelines

1. *Indeterminate or confirmed non-cougar.* Many reports are classified as indeterminate as they are accompanied by no verifiable evidence; e.g. "I saw a cougar crossing the road….," whereas others can be confirmed as non-cougar sightings based on evidence provided. If an indeterminate sighting is reported directly to staff, or the staff member is not able to determine with certainty that the animal reported is not a cougar based on the evidence provided, the observer should be encouraged to fill out and submit the Large Mammal Observation Form (http://dnr.wi.gov/topic/WildlifeHabitat/MammalObsForm.asp).

2. *Unconfirmed based on initial evidence submitted.* If a report is determined to be unconfirmed based on the initial evidence submitted, local WM staff may be asked to perform a site visit to verify the location and try to determine if the animal was a cougar. If a size estimate would help identify the animal in a submitted photo, place an object of known size in the same location and take a photo from the same perspective as the submitted photo. Obtain GPS coordinates of the site and search area for tracks and genetic samples. Staff should also encourage observers and neighbors to be vigilant and to report subsequent observations via the Large Mammal Observation Form. Information regarding cougar ecology and behavior and guidelines for how to behave in the presence of cougars should be shared with locals and interested news media.

3. *Probable or confirmed.* If the status of a report is determined to be probable or confirmed, direct action may be taken. Specific actions will depend upon the location of the sighting and behavior of the cougar (below). Large Carnivore program staff should upload sightings to the cougar web page as soon as is feasible.

   a. *Rural Private Land, or Public Land 5+ miles from municipalities.*
      i. Alert local WM, LE, and OC staff, Secretary's Director (SD), and Field Integration Leader (FIL) so they are aware of the sighting.
      ii. Local WM staff should monitor the area to collect hair, blood, or scat samples for genetic analysis, if the time that has lapsed since the sighting and weather conditions suggest such material may still be present.
      iii. WM and OC staff should coordinate release of information via social media post or other. As sightings increase in frequency, or a cougar takes up residence such that local observations become more frequent, it may become less important to notify the media or public following each probable or confirmed cougar sighting in rural areas. WM field and Large Carnivore program staff will decide if a media/social media release is warranted. Release should include basic information regarding cougar ecology and behavior, provide guidelines for how to behave in the presence of

cougars, and encourage reporting of subsequent sightings via the Large Mammal Observation Form.

b. *Public Land <5 miles from municipalities.*
   i. Follow a(i – ii), above. In addition:
   ii. WM and OC staff should coordinate immediate release of information via social media post or other. Release should include basic information regarding cougar ecology and behavior, provide guidelines for how to behave in the presence of cougars, and encourage reporting of subsequent sightings via the Large Mammal Observation Form. WM should identify spokespersons (Large Carnivore Specialist or local WM staff) for news media.

c. *Within or adjacent to a municipality.*
   i. Follow a(i - ii) and b(ii) above. In addition:
   ii. Contact local law enforcement agency.
   iii. If cougar is still on site, WM and/or LE staff should:
      - Remain on site while cougar is present.
      - Monitor behavior of the cougar for signs of injury or aggression that may escalate response to *Response Level 1 or 2*.
      - Ensure onlookers remain at a safe distance.
      - Identify a means for the cougar to move from the area and ensure this escape route remains open.
      - Remove food sources (e.g., depredated deer carcass) from area, if located on or near site.

7. Cougar Tissue Sample and Specimen Management

A. Dead Cougar Found- Confirmed cougar

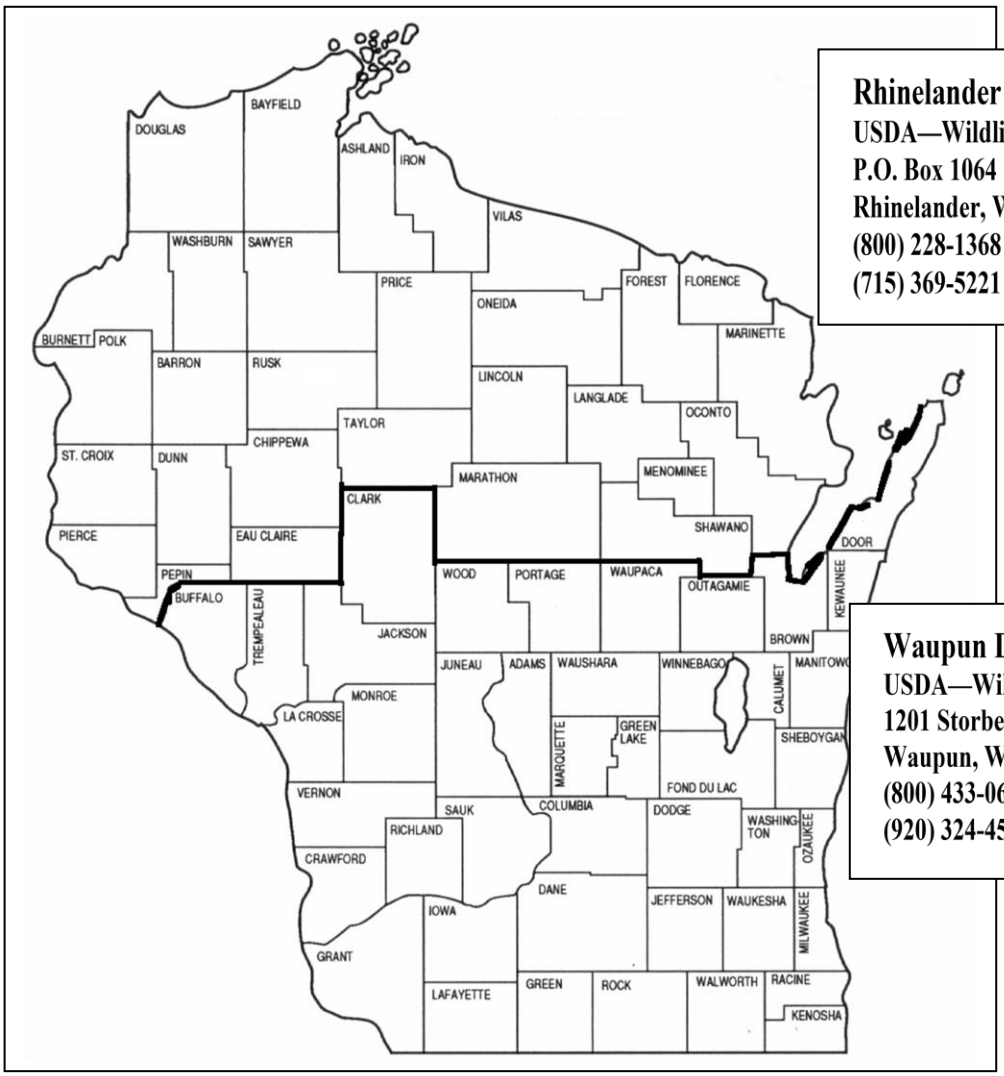
Any cougar found dead in the wild should be immediately reported to the WDNR Large Carnivore Specialist. Unless there is obvious sign of captive origin and a cougar carcass is legally claimed by a private party, all cougars found dead should be submitted to WM Wildlife Health Section staff for necropsy. Necropsy submission should follow the standard Wildlife Health Protocol by coordinating with the Wildlife Health Lab Manager prior to carcass transport to the lab.

It is preferable that specimens of cougars of wild origin should eventually go to scientific collections such as the University Wisconsin- Zoology collection in Madison, or similar university or museum collections in Wisconsin. Depending on necropsy specimens, submissions and disease status, after the necropsy cougar specimens of captive origin may be made available as education specimens for government offices, nature centers, or other similar institutions. Specimens that cannot be definitively determined to be of captive or wild origin will be assumed to be wild animals. Specimens should not go to private collections, unless it is a captive-raised animal and the owner can demonstrate it as a legally-owned animal.

B. *Genetic Sample – Cougar Suspected.*

Genetic samples can include hair, scat, urine, tissue and blood. All Bureau of Wildlife Management Areas will be provided with a genetic sampling kit that includes all equipment needed to collect samples. Refer to Appendix B for sample collection protocols.

Appendix A. USDA –WS Districts and Contact Information



Rhinelander District:
USDA—Wildlife Services
P.O. Box 1064
Rhinelander, WI 54501-1064
(800) 228-1368 (from within WI only)
(715) 369-5221

Waupun District:
USDA—Wildlife Services
1201 Storbeck Drive
Waupun, WI 53963-9692
(800) 433-0663 (from within WI only)
(920) 324-4514

Appendix B. Field Protocol for Collecting, Preserving and Shipping DNA Samples for Genetic Analysis

**The entire publication used to develop this protocol can be found online at:*
https://www.fs.fed.us/research/genomics-center/resources/.

When stored correctly DNA can be extracted from tissues that are relatively old. However, samples must be handled and stored properly. When improperly stored there are several dynamics that can harm DNA. First, naturally occurring enzymes found in animal cells will begin to degrade the DNA hindering future analysis. Most of these harmful enzymes require an aqueous environment to function optimally. Therefore, the goal of tissue storage is to inhibit these enzymes, often by drying or freezing the sample.
Second, DNA in cells can degrade due to environmental factors (such as freeze/thaw cycles, UV light or excessive heat) that can physically degrade, damage, or sheer the DNA. Fortunately, there are ways to store all types of samples that can prevent chemical and physical degradation. The following procedures outline ways to collect and store DNA to allow for optimal data to be generated from the sample. These procedures reflect the importance of **sterile procedures, labeling**, and **preservation** of the sample.

Collecting Data and Labeling Samples

The following data should be recorded for all samples:

1) Sample identification using sample type (e.g. scat, hair, urine) and a sequential number.
   For example: Scat #1, scat #2, urine #1, etc.
2) Collection location (be as specific as possible; a GPS reading is best).
3) Collection date.
4) Any comments on the condition of samples, etc.

All samples will be shipped to the DNR Wildlife Health (WH) Lab as soon as possible after collection. Contact the WH Lab Manager before shipping to make sure someone will be available to further process the samples on arrival. See the packaging/shipping section of this document for detailed instructions.

Collecting Samples (Hair, Scat, Urine, Blood)

For HAIR and SCAT samples, moisture is the enemy when it comes to DNA! **Do not** put these samples in a refrigerator or freezer.

Prior to going into the field to collect samples, check the color of the silica desiccant. If the color of the desiccant has turned from the original color of orange, do not use it. Desiccant that has turned color is water saturated and is no longer working to preserve the sample.

Hair Samples Collection:

When collecting hair, the target tissue is often not the hair shaft, but the root cell attached to the base of the hair (the follicle). The root cell can often be seen by the naked eye, and appears as the white bulb at the end of many guard or thick hairs. However, when collecting samples from the field, collect all hairs available even if you can't see follicles. Handle these samples gently. If there is more than one object with hair attached, treat each as a separate sample and collect into separate containers. Use new gloves and re-clean the forceps between each sample so as to not transfer DNA from one sample to the next.

To collect hair samples:

1. Use only supplies provided in the genetic sampling kit.
2. Put on the provided nitrile gloves.
3. If using the forceps to collect the hair sample, clean them with an alcohol wipe and allow to dry before collecting the hair sample.
4. Label a provided 50 ml polyethylene vial containing the silica desiccant with:
    a. Sample id: include sample type and number (hair #1, etc.)
    b. Date collected.
5. Place the hair sample gently into the vial.
6. Store samples in the vial with desiccant at room temperature out of direct sunlight until shipped.
7. Ship to the WH Lab as soon as possible. See instructions in the shipping section of this document.

An alternate, but less ideal procedure if no silica desiccant is available: collect the hair sample into the provided coin envelopes. Label as described above. These need to be placed into silica desiccant as soon as possible, so overnight ship to the WH Lab as described in the shipping section of this document.

Scat Sample Collection:

Scat can be a useful source of DNA, but it's critical to dry the scat out to prevent degradation and mold/bacterial growth. Collect relatively fresh scat. If there is more than one scat pile, treat each as a separate sample and collect into separate containers. Use new gloves between each sample so as to not transfer DNA from one sample to the next.

To collect scat samples:

1. Use only supplies provided in the genetic sampling kit.
2. Put on the provided nitrile gloves
3. Place the scat sample in a vial or specimen cup containing the silica desiccant.
4. Label the container with the sample id (e.g. scat #1)
5. Check the silica desiccant every few hours until shipped to the WH Lab. If the color of the desiccant has turned from the original color, change the silica desiccant under sterile conditions. Desiccant that has turned color is water saturated and is no longer working to preserve the sample. This is very common for scat samples which often have a lot of moisture. Make sure scat is surrounded by desiccant to effectively dry it. It is ok if the desiccant beads stick to the scat.
6. Ship to the WH Lab as soon as possible. See instructions in the shipping section of this document.

Urine Sample Collection:
Urine can also be a source of DNA. This sample is usually collected in the snow during winter. Try to maximize urine and minimize extra "white" snow collected which can dilute the sample. If there is more than one area of "yellow snow" treat each as a separate sample and collect into separate empty containers. Use new gloves between each sample so as to not transfer DNA from one sample to the next.

To collect urine samples:

1. Use only supplies provided in the genetic sampling kit.
2. Put on the provided nitrile gloves.
3. Scoop yellow snow into an empty 50ml vial (no desiccant)
4. Label the vial with the sample id (e.g. urine #1)
5. Store urine in refrigerator or freezer until shipped.
6. Ship with ice packs to the WH Lab as soon as possible. See instructions in the shipping section of this document.

Blood Sample Collection:
Fresh or dried blood can be collected for DNA.

To collect fresh, liquid blood:

1. Use only the supplies provided in the genetic sampling kit.
2. Put on the provided nitrile gloves.
3. Dip the narrow end of a provided Nobuto strip into the liquid blood until the entire narrow end is saturated.
4. Allow the Nobuto strip to dry completely.
5. Place the dried Nobuto strip into a provided coin envelope.
6. Store at room temperature until shipped to the WH Lab.
7. Ship to the WH Lab as soon as possible. See instructions in the shipping section of this document.

To collect dried blood on a substrate:

1. Use only the supplies provided in the genetic sampling kit.
2. Put on the provided nitrile gloves.
3. Place the dried blood and substrate (leaf, twig, etc. into a provided ziplock bag).
4. Store at room temperature until shipped to the WH Lab.
5. Ship to the WH Lab as soon as possible. See instructions in the shipping section of this document.

Entering a WH Database Submission

For the collected samples, enter a necropsy submission into the Wildlife Health (WH) Database. Use a necropsy submission type to submit the samples using the guidance below.

- Submitter information tab: will prefill with your name
- Collection location tab:
  - Collection location: Enter an address or descriptor for the general location that will cover all samples collected during one trip: e.g. Round Lake.
  - Enter township, range, section to the level that will cover all samples collected.

- Enter GPS if only one sample is collected or a central point that will cover all samples.
- For multiple samples, the specific locations for each sample will be entered in the history field as described below under "history tab".

➢ Specimen information tab:
- Species: Enter cougar as species: if the DNA comes back as a different species, we will update the record.
- Submitted for necropsy counts:
  - "total submitted": enter 1 (enter "1" even if multiple samples are collected)
  - "#unknown": enter 1

➢ History tab:
- List each sample collected with sample type, sample id as described above (e.g. scat #1) and any other data that needs to be associated with the sample. For example:
  - scat #1, next to fallen tree (or specific GPS location, if taken)
  - scat #2, on deck (or specific GPS location, if taken)
  - hair #1, tree stump next to Willow Creek (or specific GPS location, if taken)
- Attach any photos taken

<u>Packaging and Shipping Samples to the Wildlife Health Lab</u>

➢ Packaging
- To meet shipping regulations for exempt animal specimens you must use the ThermoSafe insulated shippers (Stryofoam shipper with outer cardboard box) provided by WH for shipping other specimens to WH. If you do not have any of these available at your office contact the WH Lab Manager (608-221-5375). You may also use a hard, plastic cooler. All shipping coolers and materials will be returned to you.
- Hair and scat samples should be shipped without ice packs. Urine samples should be shipped with ice packs. If you have both types of samples, separate them in the shipper with paper towels or newspaper.
- Put each sample container in a ziplock bag.
- Fill the rest of the shipper with paper to keep samples from bouncing around.
- Place a copy of the WH Database Submission form on top of the Styrofoam shipper lid but inside the outer cardboard box (or on top of the samples if using a plastic cooler).
- Seal the outer cardboard box or plastic cooler with packaging tape.
- Write "Exempt Animal Specimen" on the top.

➢ Shipping
- Notify the WH Lab Manager that you have samples to be shipped to assure that someone will be available to further process the samples when they arrive.
- Ship overnight to the DNR Wildlife Health Lab: 2801 Progress Rd., Madison, WI 53716

<u>Field Sampling Kit Contents</u>

Note: If you need additional replacement supplies, contact the WH Lab Manager.

- Nitrile gloves, large x 5
- Forceps, sterile x 1
- Alcohol wipes x 5
- Polyethylene vials, 50ml, with silica desiccant (for scat or hair samples) x 2
- Polyethylene vials, 50m, without silica desiccant (for urine samples) x 2
- Specimen cups, with silica desiccant (for large scat samples) x 1
- Sharpie, ultra-fine point x 1
- Coin envelopes x 3
- Nobuto strips x 3
- Ziplock bags x 2

Appendix C: Action plan development template for potentially recurring cougar sightings in a human populated area.

INCIDENT OBJECTIVES	1. Incident Name	2. Date Prepared	3. Time Prepared

4. Operational Period from - to

5. Brief description of previous cougar encounters in the area and justification for this Incident Action Plan.

6. Recommended management options for dealing with the cougar (summarized from *Cougar Response Guidelines for DNR Staff*):

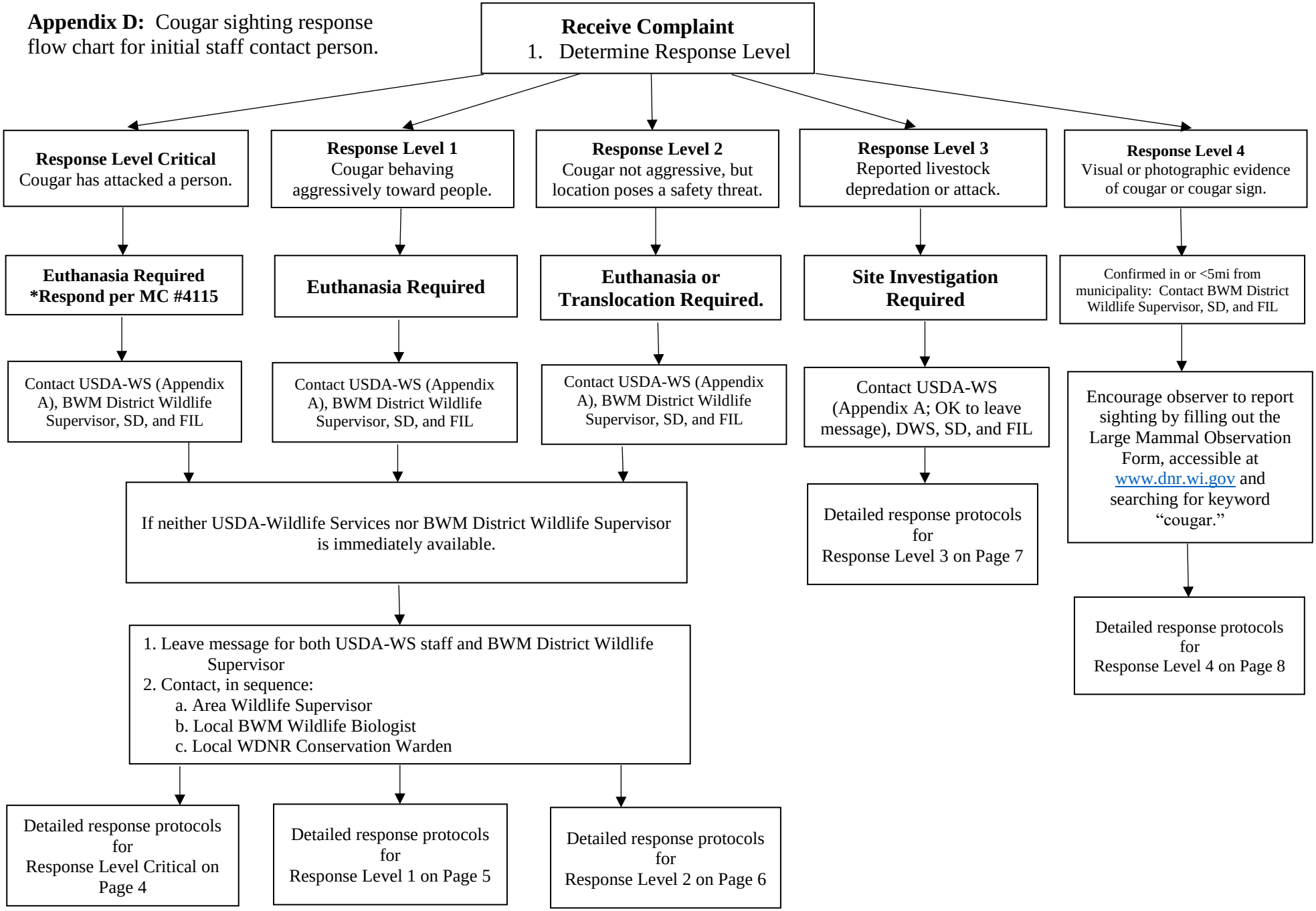
7. Contact information for relevant DNR staff:

WM District Wildlife Supervisor:
WM Local Wildlife Biologist(s):
WM Large Carnivore Specialist:
WM Veterinarian:
LE Local Conservation Warden(s):
LE Area Warden Supervisor:
OC Communications Specialist:

8. ATTACHMENTS (X IF ATTACHED)

[ ] Organization List - ICS 203	[ ] Medical Plan - ICS 206	[ ] _____
[ ] Division Assignment Lists - ICS 204	[ ] Incident Maps	[ ] _____
[ ] Communications Plan - ICS 205	[ ] Traffic Plan	[ ] _____

9. Prepared By	10. Approved By

ICS 202 NFES 1326

Appendix D: Cougar sighting response flow chart for initial staff contact person.