



Hicks, Scott <scott_hicks@fws.gov>

FW: [EXTERNAL] RE: lynx DNA

1 message

Kennedy, Daniel (DNR) <KENNEDYD@michigan.gov>

Mon, Apr 1, 2019 at 1:19 PM

To: "Minzey, Terry (DNR)" <MINZEYT@michigan.gov>, "Siekierski, Sara" <sara_siekierski@fws.gov>, Gary Roloff <roloff@msu.edu>, "DePue, John (DNR)" <DePueJ1@michigan.gov>, Randi Meyerson <rmeyerson@dzs.org>, "Straka, Kelly (DNR)" <StrakaK1@michigan.gov>, Ann Duncan <aduncan@dzs.org>, "scott_hicks@fws.gov" <Scott_Hicks@fws.gov>, "Jack_Dingledine@fws.gov" <Jack_Dingledine@fws.gov>

FYI

From: Pilgrim, Kristine - FS <kpilgrim@usdagcc.onmicrosoft.com>**Sent:** Monday, April 1, 2019 12:51 PM**To:** Kennedy, Daniel (DNR) <KENNEDYD@michigan.gov>**Subject:** RE: [EXTERNAL] RE: lynx DNA

Hi Dan,

With respect to the DNA testing, our lynx reference database has samples from MN, ON, MT, WA and Maine. We are also able to identify lynx-bobcat hybrids through DNA. We will test the DNA from this female to first:

1. Confirm that genetically she is a lynx (vs. a lynx-bobcat hybrid)
2. See if she matches any samples in the database (particularly if she matches any of the genetic profiles we have from any of the MN lynx known through scat and hair samples); if she does match a genetic profile we have on file from that area, we can provide statistical numbers around the match. This is the most straightforward since it would inform that she came from the MN population and we know when she was last detected and where.
3. If she doesn't match anyone in our database, we can do what's called an assignment test which can test based on our reference database, what population she may have come from. In terms of identifying if she was captive, that depends on her lineage/breeding. Often, it's easier to tell if an animal was captive by the wear on their pads of their feet, any collar marks or microchip etc. For example, if she was caught from the wild as a kitten, then genetically she'll genetically assign to a wild population and genetically. But we have had cases where a captive animal has a genetic profile not consistent with wild reference populations. We'll know more once we test her DNA this week.

Take care and let me know if you have other questions.

Kristy

Kristy Pilgrim, Laboratory Supervisor

National Genomics Center for Wildlife and Fish Conservation

Forest Service

RMRS/Wildlife & Terrestrial Ecosystems

<http://www.fs.fed.us/research/genomics-center/>

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kristine.l.pilgrim@usda.gov

800 E. Beckwith

Missoula, MT 59801

From: Kennedy, Daniel (DNR) [<mailto:KENNEDYD@michigan.gov>]

Sent: Friday, March 29, 2019 12:54 PM

To: Pilgrim, Kristine - FS <kpilgrim@usdagcc.onmicrosoft.com>

Subject: RE: [EXTERNAL] RE: lynx DNA

Hi Kristy. I have a teleconference on Monday at 1pm EST with partners (USFWS, Detroit zoo, MSU) to discuss next steps for the lynx. I'm not familiar with what to expect from a DNA test. What information will we get? Will this help us identify where the lynx came from – with what accuracy? Could it tell us if it was a captive animal? In other words, how do you recommend we use the test results to inform future decisions - what we end up doing with the lynx?

Feel free to give me a call if you'd prefer to discuss via phone, my work cell #: 517-896-2602.

Thanks and have a great weekend!

Dan

From: Pilgrim, Kristine - FS <kpilgrim@usdagcc.onmicrosoft.com>

Sent: Wednesday, March 27, 2019 6:14 PM

To: Kennedy, Daniel (DNR) <KENNEDYD@michigan.gov>

Subject: RE: [EXTERNAL] RE: lynx DNA

Hi Dan,

We will process this sample this week and early next week; and should have results to you by the end of next week.

Cheers,

Kristy

Kristy Pilgrim, Laboratory Supervisor

National Genomics Center for Wildlife and Fish Conservation

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From: Kennedy, Daniel (DNR) [<mailto:KENNEDYD@michigan.gov>]

Sent: Wednesday, March 27, 2019 2:47 PM

To: Pilgrim, Kristine - FS <kpilgrim@usdagcc.onmicrosoft.com>

Subject: RE: [EXTERNAL] RE: lynx DNA

Hi Kristine,

My name is Dan Kennedy and I'm the endangered species coordinator for the Michigan DNR. I wanted to thank you for agreeing to test the DNA of the lynx that was captured in Michigan and currently residing at the Detroit zoo. Thanks!! We were wondering what kind of timeframe it would take to get the results? Days, weeks, months? We're wondering if the DNA test can help us decide where to release the lynx.

Thanks again!!

Dan

Dan Kennedy

Endangered Species Coordinator

Michigan DNR, Wildlife Division

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Office: 517-284-6194

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From: Pilgrim, Kristine - FS <kpilgrim@usdagcc.onmicrosoft.com>

Sent: Tuesday, March 19, 2019 11:51 AM

To: Zelenak, Jim <jim_zelenak@fws.gov>; Straka, Kelly (DNR) <StrakaK1@michigan.gov>

Cc: Kennedy, Daniel (DNR) <KENNEDYD@michigan.gov>; Hicks, Scott <scott_hicks@fws.gov>;
Jodi_Bush@fws.gov; Lori Nordstrom/R6/FWS/DOI <lori_nordstrom@fws.gov>; Catton, Susan J -FS
<scatton@fs.fed.us>; Bowman, Jeff (MNRF) <jeff.bowman@ontario.ca>; Ron Moen <rmoen@d.umn.edu>

Subject: RE: [EXTERNAL] RE: lynx DNA

Dear Kelly,

Attached is our chain of custody and DNA handling/storage recommendations; feel free to call or e-mail me if you have other specific questions about sampling. We can test the DNA and see if it matches any of the known individuals from the MN population for you.

Sincerely,

Kristy

Kristy Pilgrim, Laboratory Supervisor

National Genomics Center for Wildlife and Fish Conservation

Forest Service**RMRS/Wildlife & Terrestrial Ecosystems**

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From: Zelenak, Jim [mailto:jim_zelenak@fws.gov]

Sent: Monday, March 18, 2019 4:26 PM

To: StrakaK1@michigan.gov

Cc: Kennedy, Daniel (DNR) <KENNEDYD@michigan.gov>; Hicks, Scott <scott_hicks@fws.gov>; Jodi_Bush@fws.gov;
Lori Nordstrom/R6/FWS/DOI <lori_nordstrom@fws.gov>; Catton, Susan J -FS <scatton@fs.fed.us>; Pilgrim, Kristine -
FS <kpilgrim@usdagcc.onmicrosoft.com>; Bowman, Jeff (MNRF) <jeff.bowman@ontario.ca>; Ron Moen
<rmoen@d.umn.edu>

Subject: Re: [EXTERNAL] RE: lynx DNA

Thanks Scott, Dan and Kelly,

DNA would be used to see if the origin of this lynx can be narrowed down. Minnesota and the Superior National Forest have an extensive DNA database that was recently used to generate a population estimate for a portion of the Arrowhead area. They worked with the National Genomics Center for Wildlife and Fish Conservation (U.S. Forest Service, Missoula, Montana, USA), which also has worked with researchers in Montana and Colorado and thus has an even more extensive lynx genetics database.

I've copied Susan Catton with the Superior National Forest and Kristy Pilgrim with the Genomics Lab - they may be able to answer questions about what DNA samples to collect, handling, and transfer to the Genomics Lab. I'm not sure about payment, but I suspect the lab could store the sample(s) until I could figure out how to find some FWS money to pay for the analysis. Jeff Bowman (also copied here) and his students at Trent University in Ontario also have done a lot of lynx genetics work and likely have a database with which we could compare DNA from this Michigan animal.

We don't often get DNA samples from lynx outside the resident populations in the Lower 48, and it would be interesting to see if we can find out where this transient may have originated. This is the time of year when we expect last year's kittens to be venturing out on their own to establish territories while mom gets ready for another breeding effort; however, the long ear tufts and fairly well-developed facial ruff on this individual does not suggest kitten to me. Ron Moen (also copied here) may have a different and better-informed take.

Anyway, I think we should be able to find a way to get samples from this animal analyzed if we you can collect the samples and send them to the Genomics lab.

- Kristy - could you provide handling and shipping details to Kelly?

Hope this helps, and I look forward to hearing where this animal ends up going next and any genetic results as they become available.

Jim

On Mon, Mar 18, 2019 at 2:53 PM Straka, Kelly (DNR) <StrakaK1@michigan.gov> wrote:

Hi all!

Quick question-would the DNA be examined to confirm species, or does FWS keep a database of genetic data on lynx? We can certainly collect whole blood during the immobilization/physical exam as needed, let me know.

Thanks,

Kelly

From: Kennedy, Daniel (DNR) <KENNEDYD@michigan.gov>
Sent: Monday, March 18, 2019 4:44 PM
To: Hicks, Scott <scott_hicks@fws.gov>; Jim Zelenak <jim_zelenak@fws.gov>
Cc: Straka, Kelly (DNR) <StrakaK1@michigan.gov>
Subject: RE: lynx DNA

Thanks for initiating the discussion Scott. I've added Dr. Straka to this conversation, she's our wildlife veterinarian – please include her on this discussion thread from here on out.

Dan

From: Hicks, Scott <scott_hicks@fws.gov>
Sent: Monday, March 18, 2019 4:34 PM
To: Jim Zelenak <jim_zelenak@fws.gov>
Cc: Kennedy, Daniel (DNR) <KENNEDYD@michigan.gov>
Subject: lynx DNA

Jim,

I spoke to Dan briefly about your idea of collecting a DNA sample. He's definitely open to the idea, but asked about logistics, of what to collect, who could process, who would pay, how soon could they get results...? (Dan others to add to that list?).

Any leads/thoughts on those questions?

Thanks
Scott

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Jim Zelenak, Biologist

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jim_zelenak@fws.gov

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