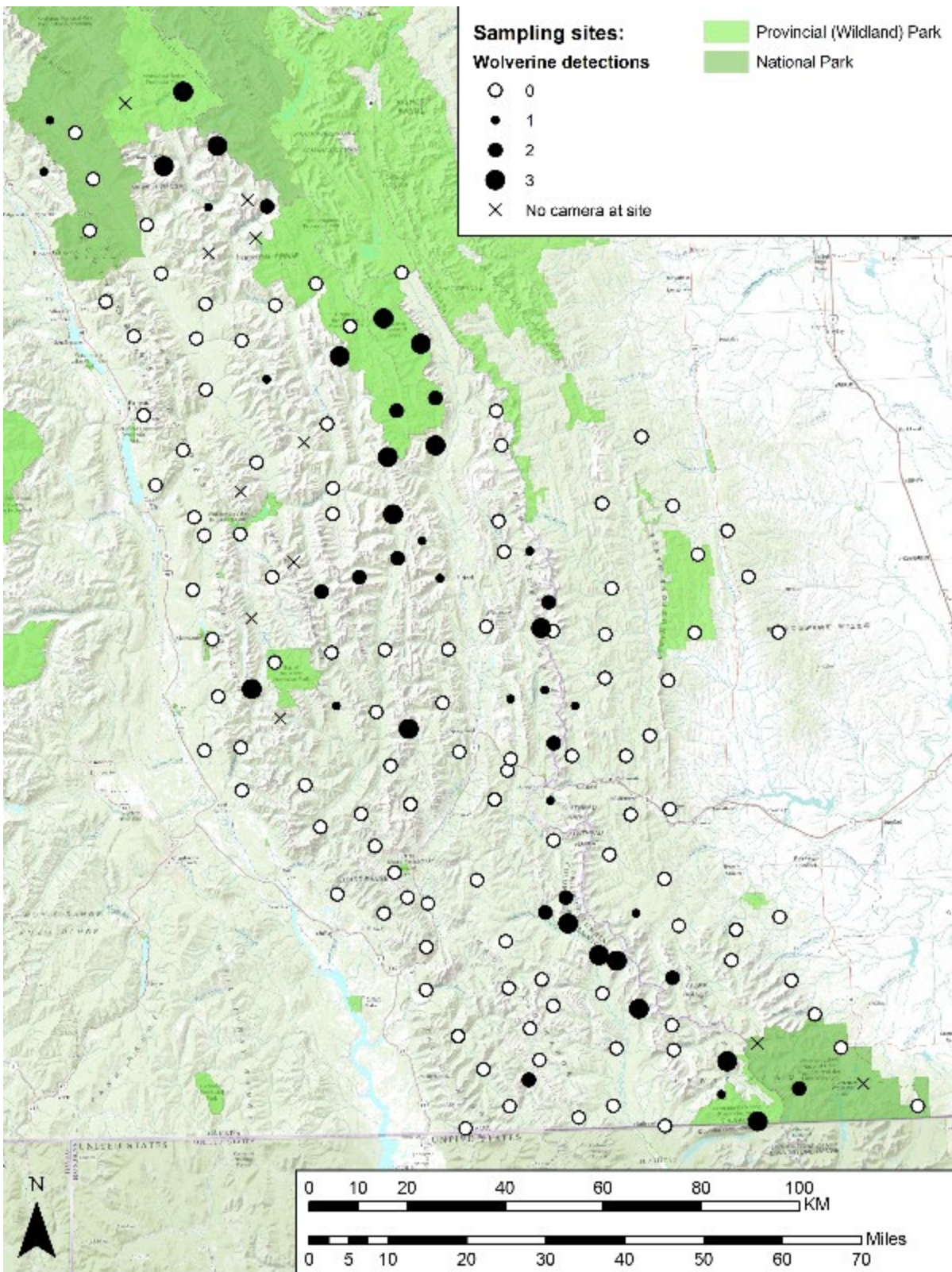


From: [Mirjam Barrueto](#)
To: betty_grizzle@fws.gov
Subject: Re: Wolverine genetics questions
Date: Monday, March 13, 2017 4:33:13 PM

...this is a map from our 2016 report (<http://www.wolverinewatch.org/current-projects/>) which you probably received. It illustrates where my guesses come from - the lack of wolverine occupancy in much of the region just north of the border. But we don't know yet how many individuals make up the sightings there, and we don't have accurate numbers on trapping intensity.

Best,
Mirjam



Mirjam Barrueto, M.Sc.
Wildlife Biologist
Canmore, AB
P: 403 679 8057

www.wolverinewatch.org

On Monday, March 13, 2017 4:27 PM, Mirjam Barrueto <m.barrueto@yahoo.com> wrote:

Good, he is the main person to talk to.

We are still waiting to receive back genetic results to answer these exact questions. We should receive them any day now, but it will likely take some months to go through the data and get these answers as best as we can. I (**privately**) suspect that at the border, the movement is more South to North, than North to South, as population density/population size in the Canadian Flathead is much lower than that of GNP (even without final numbers, we know at how many/few sites we actually detected wolverines). I would expect there to be at least some trapping of GNP-originating individuals in the Canadian Flathead (which I don't think we can confirm as I don't think we have any tissue samples from any of the recently trapped individuals, but I could be wrong on that). Or, even if no US wolverines are trapped, there just are more unoccupied areas north of the border than within GNP, so dispersing US wolverines would be expected to at least try to move in there. But this is all "informed guessing" or **speculation**, and we will do our best to provide answers.

When do you have to submit your findings?

Mirjam Barrueto, M.Sc.
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On Monday, March 13, 2017 4:13 PM, "Grizzle, Betty" <betty_grizzle@fws.gov> wrote:

Thanks Mirjam for your reply. I did speak with Tony Clevenger last week, so I appreciate you forwarding my original message.

I do have a few remaining questions for you since you indicate that you are involved in studying connectivity between GNP and southern Canada.

What do your studies show related to movement of wolverine populations in this area? Are they moving in both directions (south and north)? Are both males and females moving? Do your studies indicate whether trapping along the border (in Canada) might be preventing or disrupting movement of wolverines into GNP?

Thanks again for your time,
Betty

On Mon, Mar 13, 2017 at 2:20 PM, Mirjam Barrueto <m.barrueto@yahoo.com> wrote:

Hi Betty

Excuse the very slow reply. When I received it I forwarded your email to my colleagues (Mike Sawaya and Tony Clevenger), who would know more about wolverine genetics. I have not actually done any genetic work, beyond utilizing genetic markers to identify individuals.

I guess this email might come a bit late now, and I don't think I'd be able to give you much information beyond what you would already know from other people. Our research (and my involvement in it) is mostly limited to the local wolverine populations, and connectivity between southern Canadian populations and the US Glacier NP wolverines. If you have any questions with regards to that, and you have not already been able to contact Dr Tony Clevenger (apclevenger@gmail.com), who is the principal investigator on all research that I'm involved with, please let me know.

Best,
Mirjam

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On Monday, February 6, 2017 10:40 AM, Mirjam Barrueto <m.barrueto@yahoo.com> wrote:

Hi guys

Did you get this email, too? Not sure what to reply. You may be better suited.
Cheers,
Mirjam

[Sent from Yahoo Mail on Android](#)

On Mon, 6 Feb 2017 at 10:20, Grizzle, Betty
<betty_grizzle@fws.gov> wrote:

Hello Mirjam - Dr. Audrey Magoun provided your name and email address as someone who is studying the genetics of wolverine. I am a biologist in the Carlsbad (California) Office of the U.S. Fish and Wildlife Service and am currently working on the status review for the wolverine for our agency's listing determination. I have been reviewing

many documents/publications and have had conversations with several wolverine researchers to better understand this species and its behavior, physiology, habitat requirements, and other characteristics (e.g., genetics).

If you have some time this week, I have a few questions; for example, are there published genetic studies evaluating the taxonomic relationship of North American and Eurasian wolverines?

Thank you for your time. My contact information is listed below.

Betty

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Betty J. Grizzle, D.Env.
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