

From: [Guinotte, John](#)
To: [Stephen Torbit](#)
Subject: Fwd: Aronsson doctoral thesis
Date: Wednesday, March 22, 2017 11:11:51 AM

----- Forwarded message -----

From: **Grizzle, Betty** <betty_grizzle@fws.gov>
Date: Wed, Mar 22, 2017 at 10:33 AM
Subject: Fwd: Aronsson doctoral thesis
To: John Guinotte <john_guinotte@fws.gov>

FYI

----- Forwarded message -----

From: **William Harrower** <harrower@shaw.ca>
Date: Thu, Mar 16, 2017 at 11:10 AM
Subject: RE: Aronsson doctoral thesis
To: "Grizzle, Betty" <betty_grizzle@fws.gov>

Betty,

It's nice we were helpful. It was super interesting to learn what you were doing.

I would fully expect wolverines to move any direction north or south. I don't think we had, or anyone else has described, a directional movement bias of wolverines out of their natal territory. Their movements are really quite large when they start looking for a territory (especially males) so they could really move anywhere. I think they settle in places of low density where they can assume part of another males/females home range (especially females), or they take an existing territory from another male. We had quite a number of young male, and sometimes older male mortalities in the spring. Some were killed by other wolverines. I think that was this something akin to territory swapping/turnover.

So, in answer to your question wolverines could certainly be moving from GNP to the Flathead. I have seen traps targeting wolverine in the Flathead (although I haven't been there for some years) and so there is certainly the possibility of open territories. However, as Rich said on the call. We get about 6 or so wolverine per year trapped in the Kootenay Region (including the Flathead) so trapping along the border is quite light. I would assume the movements are driven by natural processes not trapping, but that is just a guess.

Also, you should contact Justina Ray at Wildlife Conservation Society Canada in Toronto. I have included a web link below. Apart from being a fantastic biologist and keen on wolverines. Justina is the chair of the COSEWIC mammal committee. In Canada, our national level listing process works different than in the US. There is an independent advisory council (COSEWIC) that does the assessments and determines the need for listing, the classification of distinct populations (we call these Designatable Units or DUs), and outlines threats. They make recommendations regarding the science to government in an independent and largely transparent way. Justina would be able to give you the best answer as to why Canada decided to merge eastern and western populations. She also knows much more about eastern populations (Ontario east) than Rich or I.

As we said, Rich and I are largely working on British Columbia (provincial level) issues with wolverines, although I am trying to expand some work to include more northern areas. We'll see if our funding proposals are successful.

I hope that helps, let me know if it raises any other questions.

Bill

Justina Ray

<https://www.wcscanada.org/About-Us/Staff/ProjectId/631.aspx>

COSEWIC

<http://www.cosewic.gc.ca/default.asp?lang=En&n=A9DD45B7-1>

William (Bill) Harrower PhD RP Bio.

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From: Grizzle, Betty [mailto:betty_grizzle@fws.gov]
Sent: March 15, 2017 9:58 AM
To: harrower@biodiversity.ubc.ca
Subject: Re: Aronsson doctoral thesis

Yes, it was very helpful. I have also been talking via email with Mirjam Barrueto about wolverine populations in the Alberta region. She seems to think (but also says this is not confirmed by data) that wolverines are moving south to north, from Glacier National Park (GNP) into the Canadian Flathead region, because there are more unoccupied areas in this region (population density and size is lower) than in GNP. Do you have thoughts about that hypothesis? And the level of trapping along this border region?

One other question - Can you provide contact information for Christine Ray(sp?)? Not sure if you or Rich suggested I speak with her about the 2014 COSEWIC report, but an email or phone number would be helpful.

Thanks,
Betty

On Mon, Mar 13, 2017 at 8:56 PM, William Harrower <harrower@biodiversity.ubc.ca> wrote:

Thanks betty! I hope we helped a little. Please let me know if you have any other questions.

Good luck,

Bill

From: Grizzle, Betty [mailto:betty_grizzle@fws.gov]
Sent: March 10, 2017 10:05 AM
To: harrower@biodiversity.ubc.ca; Rich.Weir@gov.bc.ca
Subject: Aronsson doctoral thesis

Thanks for your time this morning. Please see attached - thesis from Sweden.

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