



Fitzgerald, Katherine <katherine_fitzgerald@fws.gov>

climate change and fishers

Aaron Facka <anfacka@yahoo.com>

Fri, May 17, 2013 at 2:39 PM

To: "Fitzgerald, Katherine" <katherine_fitzgerald@fws.gov>

Katherine,

Feel free to cite me however you see fit (if at all). Roger is sort of the godfather of all things fisher and so getting his perspective on them in general, and this topic specifically, would probably be a good idea.

Let me know how else I can help and good luck.

Aaron

From: Fitzgerald, Katherine [mailto:katherine_fitzgerald@fws.gov]

Sent: Friday, May 17, 2013 4:11 PM

To: Aaron Facka

Subject: Re: climate change and fishers

Thanks, very helpful. I don't think I have any other questions for you at the moment but I may come up with some more.

The hypothesis makes a lot of sense-- seems like it would be hard to test in the field though! I hope the animals and the data cooperate with you.

I'm not sure if or how I'll include this idea in my section since it's not published at all, but it seems like an important potential effect of climate change on fisher. Would it be OK with you if I cite your note as a personal communication?

I might also drop a line to your advisor since he has some observations of heat-stressed fishers.

Thanks again,

Katherine

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On Fri, May 17, 2013 at 12:51 PM, Aaron Facka <anfacka@yahoo.com> wrote:

Hey Katherine,

I think the reason that Scott suggested me, well maybe not only me, is that I've been one of the major advocates of the "too warm" hypothesis. Unfortunately, no one has formally put it down as a hypothesis or tested it. That is good for me, because its actually part of my dissertation (well I hope it is). I'm actually in the beginning stages of trying test the hypothesis with our data from Stirling.

So, I think generally, you have the hypothesis correct. Summer temperatures probably do pose a difficulty for fishers that likely affects their habitat choices and fitness (just my opinion at this point). It also important to note that is not just high temperatures that I hypothesize are important. Direct solar radiation, sunlight, probably also has a negative effect on fishers. These two factors are likely why fishers are reliant on high overhead canopy, tall trees (large DBH as a correlate), sometimes layers, and why those restrictions are slightly reduced as you move north.

I'd be happy to help you out with more aspects of this, very important, hypothesis (question). Also, Roger Powell, my advisor has some good personal observations of fishers running in warm temperatures and having become heat stressed. Really, the evidence for fishers and problems (not really problems – relatively low upper boundary on their thermo-neutral zone) has been there for a while, but no one has either put it all together or they just haven't worked on it.

Let me know what else I can help you with.

Aaron

From: Fitzgerald, Katherine [mailto:katherine_fitzgerald@fws.gov]
Sent: Friday, May 17, 2013 3:14 PM
To: Aaron Facka; Scott Yaeger
Subject: climate change and fishers

Hi Aaron,

I'm drafting up a climate change effects section for the fisher listing evaluation. Scott suggested that you might have some helpful input.

What I'm finding in the literature indicates that there will likely be climate change effects to fishers mediated through changes in their habitat. No problem with that (other than the uncertainty associated with feeding a modeled climate projection into a vegetation model).

There also seems to be a hypothesis floating around -- but not published anywhere that I've seen -- that too-warm temperatures may be a physiological stressor to fishers. If so there could also be direct (negative) effects of warmer summer temperatures. It's easy enough to find papers say that fisher select cool rest sites, but I haven't seen this hypothesis articulated anywhere.

Do you think that's a correct statement of a hypothesis that exists among fisher researchers? Do you know of anywhere a similar hypothesis might be written down in a form that could be cited? Do you have any speculations you'd care to share? Anything that you would be willing to be cited as saying (in personal communication)?

Thanks!

Katherine

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