

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
MISSOULA DIVISION

FLATHEAD-LOLO-BITTERROOT CV 23-101-M-DWM
CITIZEN TASK FORCE and WILDEARTH
GUARDIANS,
Plaintiffs,
vs.
STATE OF MONTANA, LESLEY
ROBINSON, and GREG GIANFORTE,
Defendants.

DEPOSITION OF DAVID J. MATTSON
Taken at:
Montana Fish, Wildlife and Parks
1400 South 19th Avenue
Bozeman, Montana
March 7, 2024
9:00 a.m.

1 I N D E X
2 Witness: Page:
3 DAVID J. MATTSON
4 Examination by Mr. Scolavino . . . 5
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8 E X H I B I T S
9 NO. PAGE DESCRIPTION
10 19 6 2/28/24 Subpoena
11 20 149 "Heart of the Grizzly Bear Nation"
12 21 158 9/22/23 Mattson declaration
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1 APPEARANCES OF COUNSEL:
2
3 FOR THE PLAINTIFFS (Via Zoom):
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9
10 FOR THE DEFENDANTS:
11 SARAH CLERGET
12 Chief Legal Counsel
13 ALEXANDER R. SCOLAVINO, III
14 Agency Legal Counsel
15 MONTANA FISH, WILDLIFE and PARKS
16 P.O. Box 200701
17 Helena, Montana 59620-0701
18
19 ALSO PRESENT:
20 Christina Bell, Paralegal, FWP
21 Quentin Kujala, FWP Representative
22 Mike Bader, FLB Citizen Task Force (Via Zoom)
23 Lizzy Pennock, WildEarth Guardians (Via Zoom)
24
25

1 DAVID J. MATTSON
2 THURSDAY, MARCH 7, 2024; BOZEMAN, MONTANA
3 - - -
4 BE IT REMEMBERED THAT, pursuant to Notice and
5 Subpoena, the Deposition of David J. Mattson was taken
6 at the time and place and with the appearances of
7 counsel hereinbefore noted before Candice L.
8 Nordhagen, Court Reporter - Notary Public for the
9 State of Montana.
10 It was further stipulated and agreed by and
11 between counsel for the respective parties that this
12 deposition was taken pursuant to the Federal Rules of
13 Civil Procedure.
14
15 The following proceedings were had:
16
17 DAVID J. MATTSON,
18 having been called as a witness by the
19 Defendants, being first duly sworn, was
20 examined and testified as follows:
21
22 MR. SCOLAVINO: So it is nine o'clock. We
23 are appearing at FWP's Region 3 headquarters at 1400
24 South 19th Ave. in Bozeman, Montana, conducting the
25 Deposition of Dr. David Mattson.

1 EXAMINATION
 2 BY MR. SCOLAVINO:
 3 **Q. I am pronouncing your name correctly?**
 4 A. Correct, yeah.
 5 **Q. Okay, perfect. So, Dr. Mattson, as I**
 6 **previously mentioned, my name is Alex Scolavino, and I**
 7 **represent the Defendants: The State of Montana,**
 8 **Lesley Robinson, and Governor Greg Gianforte.**
 9 **Could you, please, state your name and spell it**
 10 **for the court reporter?**
 11 A. David John Mattson; D-A-V-I-D J-O-H-N
 12 M-A-T-T-S-O-N.
 13 **Q. Okay. I'm going to just make a record of**
 14 **who else is in the room with us right now, and then**
 15 **I'll state on the record whether I'm correct. Is that**
 16 **okay?**
 17 A. Sure.
 18 **Q. So next to me is Quentin Kujala, Chief of**
 19 **Conservation Policy.**
 20 MR. KUJALA: Correct.
 21 **Q. (By Mr. Scolavino) He's also our client**
 22 **representative, just so you're aware, Mr. Mattson.**
 23 **Next to him is Crissy Bell, Montana Fish,**
 24 **Wildlife and Parks, paralegal.**
 25 **Across the way from me is Sarah Clerget, Chief**

1 **a deposition before or been deposed?**
 2 A. Yes.
 3 **Q. Okay. So you know how it works?**
 4 A. I need to be reacquainted.
 5 **Q. Okay.**
 6 A. It's been awhile. I have been on the
 7 stand as well, and I'm assuming that's a different
 8 kind of venue but similar.
 9 **Q. Okay. So I'll just briefly kind of**
 10 **summarize how it's going to work. I'm going to ask**
 11 **you a bunch of questions that relate to this case, and**
 12 **you'll have to answer them under oath. The court**
 13 **reporter is taking everything down and will prepare a**
 14 **written record of everything that is said, which we**
 15 **lawyers call a "transcript."**
 16 A. Um-hmm [affirmative].
 17 **Q. It is very important that you understand**
 18 **the questions and give accurate answers. If there's**
 19 **anything that you don't understand or anything that**
 20 **you don't know or aren't sure of, just let me know.**
 21 **Is that okay?**
 22 A. (Nodding head affirmatively.)
 23 **Q. Okay?**
 24 A. Which gives you the opportunity to restate
 25 or rephrase the question, clarify it?

1 **Legal Counsel for Montana, Fish, Wildlife and Parks.**
 2 **And we have the court reporter here as well.**
 3 **And then appearing on Zoom is Mr. Bechtold.**
 4 MR. SCOLAVINO: And I don't know who else
 5 is on here, Mr. Bechtold, if you don't mind just
 6 mentioning who else is on Zoom.
 7 MR. BECHTOLD: Appearing on Zoom are the
 8 client representatives for WildEarth Guardians, Lizzy
 9 Pennock; and for the task force, Mike Bader.
 10 **Q. (By Mr. Scolavino) Dr. Mattson, I'm going**
 11 **to show you a copy of what the court reporter will**
 12 **mark as Exhibit 19.**
 13 (Document marked Deposition
 14 Exhibit No. 19 for identification.)
 15 BY MR. SCOLAVINO:
 16 **Q. That's just the subpoena to testify at a**
 17 **deposition. Have you seen that before?**
 18 A. I have, yes.
 19 **Q. And is that a true and accurate copy of**
 20 **the notice you received to be here at this deposition**
 21 **today?**
 22 A. As near as I can recall.
 23 **Q. Okay.**
 24 A. I did not commit it to memory.
 25 **Q. And can you tell me, have you ever been to**

1 **Q. If you do not understand it, we can have**
 2 **the court reporter either restate the question or, if**
 3 **for any reason you're not understanding that question,**
 4 **I can try and rephrase the question.**
 5 A. Okay, good.
 6 **Q. So, Dr. Mattson, you understand that you**
 7 **are under oath, correct?**
 8 A. I do.
 9 **Q. And you know that means you are sworn to**
 10 **tell the truth, correct?**
 11 A. The whole truth and nothing but the truth.
 12 **Q. And even though we are in an informal**
 13 **setting here in this office, you understand that your**
 14 **answers have the same force and effect as if we were**
 15 **in a courtroom except the judge --**
 16 A. Except I don't have a judge looming over
 17 me, yeah.
 18 **Q. Yeah, that is true.**
 19 A. Although you guys are a close
 20 approximation, probably.
 21 MS. CLERGET: I would love a robe if
 22 somebody could give one to me.
 23 THE WITNESS: Well, if you were in
 24 England, you could get a wig.
 25 MS. CLERGET: There you go.

1 **Q. (By Mr. Scolavino) Is there anything that**
 2 **will prevent you from me giving your full attention?**
 3 A. Yes.
 4 **Q. What would that be?**
 5 A. I'm suffering from leukemia and under
 6 treatment. So, you know, that may affect my capacity,
 7 yeah.
 8 **Q. Okay. So if there's ever a moment where**
 9 **you think that you aren't providing your full**
 10 **attention, do you mind telling me so we can take a**
 11 **break?**
 12 A. No, not at all.
 13 **Q. Okay.**
 14 A. Yeah, I was planning on that. I brought
 15 snacks.
 16 **Q. Good.**
 17 MS. CLERGET: So did they.
 18 **Q. (By Mr. Scolavino) Yeah, lots of them.**
 19 A. I don't know that I need a sugar high.
 20 **Q. Are you taking any medications?**
 21 A. Yes.
 22 **Q. Okay. Will those medications cause any**
 23 **complications?**
 24 A. Potentially.
 25 **Q. Should we be aware of those medications**

1 **you want it shorter?**
 2 A. I think that should work, yeah.
 3 **Q. That's also to allow a break for the court**
 4 **reporter and for us to have a bathroom break and**
 5 **whatever you may need as well.**
 6 A. Okay.
 7 **Q. Were you going to say something?**
 8 A. Are you done with the prep?
 9 **Q. Just one last thing. So it is important**
 10 **that I finish the line of questions and then you**
 11 **answer, and then I will provide the same courtesy for**
 12 **you. So if you're answering a question, I will not**
 13 **start another question or try and rephrase the**
 14 **question.**
 15 A. Okay.
 16 **Q. So I would just ask that we both be**
 17 **cordial in allowing us to speak to each other.**
 18 A. With room for jocularity as appropriate.
 19 **Q. Yes.**
 20 A. Okay.
 21 **Q. So you were going to mention something?**
 22 A. So I'm fully aware of my obligations or at
 23 least I think I am fully aware of my obligations.
 24 What are your obligations?
 25 **Q. As far as obligations, again, I'm just**

1 **and what could occur?**
 2 A. I'm not going to fall on the floor and
 3 start quivering, but mental fog, for one.
 4 **Q. Okay. Again, I'll just reiterate, if**
 5 **there ever is a moment where you seem to be having**
 6 **mental fog or seem to be losing your attention, just**
 7 **let us know and we'll take a break.**
 8 A. I will do it.
 9 **Q. If you don't understand one of my**
 10 **questions, will you let me know?**
 11 A. Yes, absolutely.
 12 **Q. I'm going to assume that if you answer my**
 13 **question, that means that you understood the question.**
 14 **Is that a fair assumption?**
 15 A. You can assume that.
 16 **Q. Okay.**
 17 A. I mean, we're talking about human
 18 communication here, right?
 19 **Q. Yes.**
 20 A. And the vagaries of the human language and
 21 grammar.
 22 **Q. Okay.**
 23 A. But, yes, probably a fair approximation.
 24 **Q. Okay. I plan on taking a break once every**
 25 **hour. Is that going to be sufficient for you or do**

1 **here to represent the Defendants in this case. I'm**
 2 **trying to understand what you know.**
 3 A. Okay.
 4 **Q. And figure out what we don't know.**
 5 A. Okay.
 6 **Q. Is that okay?**
 7 A. That's fine. I mean, if that's how you
 8 want to represent it, that's fine.
 9 **Q. So, Dr. Mattson, can you please tell me**
 10 **what you did to prepare for today's deposition?**
 11 A. I looked at the Subpoena and got a gist
 12 from that. But, also, there was something that Tim
 13 forwarded and I'm trying to remember. It wasn't the
 14 Subpoena, but it might have been. That's why I was
 15 looking at it and trying to recall.
 16 But there was a list of documents and materials
 17 and topics that were identified as being of relevance.
 18 So I, with due regard for those, I looked at what was
 19 in my declaration and also looked at relevant research
 20 papers to be better acquainted than I already was with
 21 them. I printed out some that I thought might be
 22 relevant to points that I would be bringing up that
 23 are not probably in the record, as far as to my
 24 knowledge, anyway.
 25 **Q. Okay.**

1 A. And other than that, I corresponded
2 briefly with Tim. Actually, I had a phone call with
3 Tim yesterday afternoon where he briefed me on what I
4 should expect. So that is, in a nutshell, what I did
5 to prepare.

6 **Q. Okay. And, now, you mentioned that there
7 was a document, I guess, that Tim forwarded along to
8 you. Is that correct?**

9 A. It was something that you had sent to him
10 that he forwarded to me.

11 **Q. Okay.**

12 A. And I honestly can't remember what it was
13 titled. But it was in legalese and flagged certain
14 papers like the Haroldson, et al., 2002 paper; the
15 Kasworm 2022 monitoring report.

16 And I'm trying to remember what other
17 publications were flagged in there: Issues, topics,
18 being able to differentiate between the methods being
19 used by Cecily now versus in the past, sort of what
20 the Bjornlie method amounted to. Those are what I
21 remember in particular.

22 **Q. You mentioned there were some topics on
23 there. Was there any topics that you didn't touch
24 upon as far as, you know, Haroldson, Kasworm, Bjornlie
25 that were on there?**

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1 **Q. Was there a particular reason you looked
2 at those research papers?**

3 A. Because they were flagged in this material
4 that, apparently, had come from your office that Tim
5 had forwarded to me.

6 **Q. Okay.**

7 A. I don't recall that it was authored by
8 Tim.

9 **Q. Okay.**

10 A. It was something he forwarded.

11 **Q. Did you look at those documents, also, to
12 refresh your recollection for today?**

13 A. Yes.

14 **Q. And was there anything in those documents,
15 because I heard you mention, at some point earlier,
16 you mentioned that you wanted perhaps to include
17 information that was not in your declarations.**

18 **Was there anything in those papers that you
19 thought, after reviewing them today, that should have
20 been in your declaration?**

21 A. Possibly, but I'm not actually clear on
22 what the claims or issues are because I haven't kept
23 up with what transpired in front of Judge Molloy or
24 the Ninth Circuit.

25 **Q. Okay. You mentioned that you also had a**

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1 A. There could have been. I honestly don't
2 remember.

3 **Q. Okay. And, again, that was sent to you by
4 Tim, correct?**

5 A. Yes.

6 **Q. In preparation for this deposition?**

7 A. Yes.

8 **Q. And do you recall when he sent that to
9 you?**

10 A. No. I was in California enjoying myself
11 and don't have a clear recollection of when I got the
12 materials from Tim, but it was within the last two
13 weeks.

14 **Q. Okay, thank you. And then you mentioned
15 that you reviewed some research papers. Do you mind
16 telling me what research papers you reviewed, what
17 information?**

18 A. Costello, et al., 2016; Kasworm, et al.,
19 2022, 2021; Costello, et al. -- or Costello and,
20 whatever, the monitoring report for NCDE from 2018 to
21 get a better sense of what the method was they used
22 for establishing occupied area; and the Bjornlie paper
23 and Haroldson paper. I think that's all that comes to
24 mind offhand. There very well could have been others
25 that I looked at.

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1 **phone call with Tim. So without mentioning exactly
2 what you spoke about with Tim, was that phone call to
3 prepare you for today's deposition?**

4 A. Yes.

5 **Q. Did you look at any other documents in
6 preparation for this deposition?**

7 A. "Any other documents," well, they are ones
8 that I pulled out that I thought might be relevant
9 because it was apparent that weight of evidence,
10 burden of proof were going to be an uncertainty of
11 estimates, were probably relevant to certain aspects
12 of this, especially judging when bears were in dens
13 and out of dens.

14 So with that in mind, I pulled up some papers
15 that I had authored that addressed the whole
16 phenomenon of how you deal with risk and uncertainty,
17 and interface between science and policy, which I
18 thought may be relevant at some point.

19 **Q. And when did you pull that paper
20 specifically?**

21 A. Those papers?

22 **Q. Those papers.**

23 A. Books, chapters, papers yesterday.

24 **Q. Yesterday, okay. Do you mind just going
25 in some sort of detail and telling me what those**

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1 papers are about, if you could just go numerically
2 down the line?
 3 A. There's a book chapter that was a
 4 University of Chicago Press book on carnivore
 5 conservation that dealt with complexity in the policy
 6 environmental-ecological field data interface that
 7 emphasized the extent to which agency science is
 8 inevitably politicized because of all the structural
 9 incentives and disincentives within agencies, which
 10 seems relevant because there seems to be a lot of
 11 claims about certainty and uncertainty in this case,
 12 at least from what I've read.
13 Q. Okay.
 14 A. Which was the main gist of what I was
 15 looking at in that particular chapter. There was
 16 another chapter that I wrote with John Craighead back
 17 in -- it was published in 1995 in an Island Press book
 18 that delved into the same issues, to what extent
 19 uncertainty in science is used to politicize the whole
 20 science-policy interface.
21 Q. Okay.
 22 A. But the same basic themes: How you
 23 allocate burden of proof, how you deal with
 24 uncertainty, what questions are asked, what questions
 25 aren't asked in terms of science by whomever, but,

1 specifically, agency scientists.
 2 There was a paper that I publish in BioScience
 3 in 1995 that looked at the topic, dealt with the topic
 4 of ethical obligations for scientists working for
 5 federal/state agencies. And the focus there was on
 6 how agency scientists can be affected by the
 7 organizations they work for and contesting ethical
 8 obligations that, ultimately, when you look at the
 9 whole constellation of factors, can lead to a
 10 corruption of science and a problematization of that
 11 science-policy interface.
 12 There was - I have them in a folder with me -
 13 another book -- I guess the book chapter, I talked
 14 about already, about complexity. There was another
 15 one that I pulled and that was relevant. I'd have to
 16 look to see which it is. But it was along the same
 17 theme, you know, elaborating on it in different ways
 18 in each successive piece.
 19 And then there was also a report that I put
 20 together that reviewed and critiqued the science
 21 that's been done for the Northern Continental Divide
 22 Ecosystem for grizzly bear monitoring. In there, I
 23 addressed the problems with how Cecily has been going
 24 about estimating population growth and estimating
 25 population size. And there's a raft of problems,

1 which I thought might be relevant.
 2 Then there's a paper that I wrote that was
 3 published in Ursus back in 2005 that looked at the
 4 spatial demography of Cabinet-Yaak grizzly bears and
 5 looking at how sensitive the prognosis is for
 6 Cabinet-Yaak populations to changes in human lethality
 7 and human numbers. I also printed out -- again,
 8 because I thought that that might be relevant to some
 9 of the issues that are unfolding in this case.
 10 And I also printed out, looked at an objection,
 11 it was an objection I wrote to the Black Ram timber
 12 sale up in the Yaak portion of Cabinet-Yaak Ecosystem.
 13 In there, I address a lot of the problems with how
 14 Wayne Kasworm dealt with estimating population-size
 15 growth and dealt with uncertainty in those estimates.
 16 And the final -- and then there was also a piece
 17 I wrote on the efficacies of hunting grizzly bears,
 18 sport hunting grizzly bears, effects and efficacies.
 19 That also contained a section that addressed the
 20 systemic incentives and disincentives that affect
 21 state wildlife biologists, scientists, managers,
 22 anybody that works for an agency.
 23 I'd have to look at what I brought because I
 24 don't actually fully recollect all the papers I've
 25 printed out because there were a bunch that I was

1 looking through.
2 Q. Do you plan on referring to those
3 documents at all throughout today?
 4 A. I don't know.
5 Q. Okay.
 6 A. I brought them along just in case.
7 Q. I just want to let you know, if you do
8 look at them today, we will also need to be provided a
9 copy.
 10 A. Sure, that's what I brought them for.
11 Q. Okay. So thank you for mentioning all of
12 those. Do you mind telling me, were you --
 13 A. Oh, there was another paper -- sorry to
 14 interrupt you.
15 Q. Sure. No, go on.
 16 A. I'm doing what you told me not to do.
17 Q. No, let's go on, go on.
 18 A. A paper that I published in 2003 on foot
 19 loadings and track widths for grizzly bears in
 20 Yellowstone based on field data.
21 Q. Okay.
 22 A. Which was relevant to how vulnerable bears
 23 might be to, especially, leg-hold traps.
24 Q. And throughout all of those papers or
25 those articles, were you releasing those papers

1 individually, or were you working for a government
2 agency, or were you working as a consultant for
3 anything?
 4 A. For all of the policy-related papers, I
 5 was employed at the time by the U.S. Biological
 6 Survey, which became U.S. Biological Service for
 7 political reasons, or for the U.S. Geological Survey.
 8 Insofar as the report, looking at the efficacies
 9 of sport hunting and also problems with the methods
 10 used to estimate population growth and size for the
 11 NCDE, I did those completely on gratis on my own time
 12 under auspices of what I call "the Grizzly Bear
 13 Recovery Project," which is devoted to educating the
 14 engaged public, as well as attorneys and judges, and
 15 anybody who might have an interest in that kind of
 16 information.
17 Q. Okay.
 18 A. Insofar as the deposition goes, I
 19 honestly -- or not the deposition but the objection, I
 20 did that gratis as well. I was thanked profusely by
 21 the Yaak Valley Forest Council, but that was on my own
 22 dime as well. I would have to look at them all.
 23 There might be one where I got some remuneration from
 24 somebody other than entities that I mentioned.
25 Q. Okay.

1 something that you --
 2 A. Specific projects.
3 Q. Okay.
 4 A. Everything I did, I had to be able to put
 5 it in a bin, a project, which is in my research
 6 scientist record. Each and every project is named
 7 there.
8 Q. Was there a specific reason that USGS
9 wanted you to write those research papers at the time?
 10 A. "A specific reason" in the sense that I
 11 was given opportunity to exercise a lot of initiative
 12 because of my senior status and the trust that my
 13 supervisors had in me.
14 Q. And did you look over those documents on
15 your own or with anyone else?
 16 A. On my own.
17 Q. On your own, okay. And did you talk to
18 anyone else in preparation for this deposition besides
19 Tim?
 20 A. Yes, my wife.
21 Q. Do you mind telling me what you spoke to
22 your wife about?
 23 A. I said, "Well, this is a pain in the ass,"
 24 or something along those lines, "and I hope it doesn't
 25 last too long."

1 A. I mean, the Grizzly Bear Recovery Project
 2 is supported by grants from foundations.
3 Q. And a majority of those articles or
4 research papers were done during your time at U.S.
5 Biological Survey, which I assume is the same as USGS,
6 correct?
 7 A. No.
8 Q. They're two different entities?
 9 A. Well, do you want to know the entire
 10 history of Babbitt's brainchild? The U.S. Biological
 11 Survey was under the Department of Interior. It swept
 12 up all the sciences from U.S. Fish and Wildlife
 13 Service and National Park Service into one entity. I
 14 think BLM scientists got caught up in that as well.
 15 And, then, for political reasons, the name was
 16 changed to "Service" because "Survey" sounded too
 17 intrusive. And then the scientists who had formally
 18 been in the Survey got swept up into the U.S.
 19 Geological Service/Survey as a separate entity within
 20 that larger umbrella organization.
 21 So I would say that, most of the time I was
 22 writing, what I wrote probably was while as an
 23 employee of the U.S. Geological Survey.
24 Q. Was what you wrote a project that you were
25 working on while you were at USGS or was this

1 Q. Okay.
 2 A. But I didn't share any of the details.
3 Q. Okay.
 4 A. I would have been talking to my dog as
 5 well but, unfortunately, he died two months ago.
6 Q. Oh, I'm sorry. Hopefully, he lived a long
7 life.
 8 A. Oh, he did, 14 years, 14 plus.
9 Q. Did you talk to anyone with WildEarth
10 Guardians prior to this deposition or in preparation
11 for this deposition?
 12 A. Not in preparation for this deposition,
 13 no.
14 Q. Okay.
 15 A. I mean, prior to for how many years past?
 16 Months?
17 Q. If you can recall, you can tell me.
 18 A. I've had conversations with Adam Rissien
 19 over a period of a number of years about various
 20 matters, and I couldn't recall exactly what they were
 21 insofar as this case is concerned.
 22 He called me and said, "Would you be available,
 23 interested in writing a declaration?"
 24 And I said, "Possibly."
 25 And he gave me -- he basically gave me a

1 thumbnail description, which was not very helpful, and
 2 then said that Tim Bechtold would be getting ahold of
 3 me to provide whatever details were needed. That was
 4 about the upshot of my communications with them as it
 5 relates directly.
 6 **Q. Okay. And you said you spoke to Mr.**
 7 **Rissien previously. Were all of those conversations**
 8 **about grizzly bears or were they about any other**
 9 **species?**
 10 A. Grizzly bears, almost certainly.
 11 **Q. Were they about grizzly bears in a**
 12 **specific ecosystem?**
 13 A. Given that his interests focused -- well,
 14 they would have been for the GYE, the NCDE,
 15 Bitterroot -- I don't recall that we had any
 16 conversations about this, explicitly about the
 17 Cabinet-Yaak or Selkirks.
 18 **Q. And those communications spanned over how**
 19 **many years would you say?**
 20 A. Probably four years - five years. I don't
 21 actually know how long he's been in the position he's
 22 been in with WildEarth Guardians. It wouldn't have
 23 been probably to when he attained whatever position
 24 he's in.
 25 **Q. Did you meet Mr. Rissien in person or how**

1 British Columbia or Alberta?
 2 A. No; no, not with Adam.
 3 **Q. And did you speak with anyone else with**
 4 **WildEarth Guardians at any previous time besides**
 5 **Mr. Rissien?**
 6 A. I'm sure I did. I can't recall who.
 7 They've had enough staff turnover. I did a Zoom
 8 seminar for WildEarth Guardians members with -- is it
 9 John Horning who's the executive director - as well as
 10 Adam.
 11 But the only communications I had with John, I
 12 think -- okay. So, actually, WildEarth Guardians has
 13 taken an interest in reintroducing grizzly bears to
 14 the Southwest, and I wrote a report on the prospects
 15 of successfully reintroducing grizzly bears to the
 16 Southwest.
 17 And there's somebody with WildEarth Guardians
 18 who's regionally located in the Southwest who
 19 approached me about using that report for their
 20 purposes, and John was emailing with me about that as
 21 well, John Horning.
 22 And I'm trying to remember if Sarah McMillan --
 23 does that sound right? I have a horrible memory for
 24 names, proper names, any more. She was with WildEarth
 25 Guardians. I was talking to her at one point in time

1 did those communications begin?
 2 A. I've seen him on Zoom a couple of times.
 3 I probably crossed paths with him in person but I
 4 couldn't actually recall when or where.
 5 **Q. So do you mind telling me how those**
 6 **communications originally began? You mentioned you**
 7 **saw him on Zoom.**
 8 A. I honestly don't recall.
 9 **Q. Okay.**
 10 A. Other than I seem to be sort of a go-to
 11 person for people interested in matters related to
 12 grizzly bear ecology, demography, and relations
 13 between science and policy, so it's hard for me to
 14 keep track of who comes to me with what matters when.
 15 **Q. Why did Mr. Rissien reach out to you in**
 16 **regards to those ecosystems?**
 17 A. He wanted to be informed of my opinion
 18 regarding fairly specific technical matters.
 19 **Q. And were they all pertaining to Montana's**
 20 **efforts or other states' efforts as well?**
 21 A. It would have been inclusive, I'm
 22 assuming, of Wyoming, Montana, Idaho. Yeah, certainly
 23 when it came to the Bitterroot, it would have included
 24 Idaho.
 25 **Q. Any other provinces like, as an example,**

1 several years back, probably four or five years back.
 2 **Q. You mentioned a paper about reintroducing**
 3 **grizzly bears to the Southwest. Was that paper about**
 4 **reintroduction to grizzly bears in specific states**
 5 **other than Idaho, Wyoming, and Montana?**
 6 A. It was inclusive of Utah, New Mexico,
 7 Arizona, Colorado. And I went through a stepdown
 8 analysis, basically excluding anywhere in Utah from
 9 being a candidate. So those three states.
 10 **Q. Okay.**
 11 A. That is to say Colorado, New Mexico, and
 12 Arizona as the candidate states.
 13 **Q. Do you recall when that paper was**
 14 **published or written?**
 15 A. 2022 or early 2023. I think it was 2022,
 16 actually, late 2022.
 17 **Q. I'm going to jump back because I just**
 18 **thought of this. You mentioned that you wrote papers**
 19 **and articles that helped you prepare for today's**
 20 **deposition. Were those papers peer-reviewed and**
 21 **published?**
 22 A. All except the reports I've been producing
 23 and the objection that I submitted for Black Ram.
 24 **Q. Okay. And did you speak to anyone with**
 25 **Flathead-Lolo-Bitterroot Citizens Task Force at any**

**1 point prior to this deposition or in preparation for
2 this deposition?**

3 A. Mike Bader sent me an email saying:
4 "Great job on your declaration." And other than that,
5 I corresponded, reviewed a paper, a report that Mike
6 sent me on expansion of grizzly bears out from the
7 NCDE towards the Bitterroot Ecosystem, so it was in
8 the nature of a technical review.

9 And I have fairly routine email communications
10 with Mike. I have not talked with him very often on
11 the phone. But, yeah, I've known Mike from way back
12 from when he worked as a ranger in Yellowstone Park.

**13 Q. So your relationship with Mr. Bader spans
14 how many years, would you say?**

15 A. Going back to the mid 1980s.

**16 Q. And you've stayed in communication with
17 him ever since?**

18 A. No. I mean, there was a -- I mean, I knew
19 him casually back in the 1980s. And there might have
20 been some, a handful of communications with Mike. It
21 would have been in the late 2000s, 2008-2009. And I
22 don't recall pertaining to what other than grizzly
23 bears. I mean, if I gave it some thought, I might
24 recall a topic.

25 But the nature of the communications, as I

1 direct communication.

2 I mean, I know that Lizzy is, I guess, on. I'm
3 trying to remember if I -- I mean, I've met her, I'm
4 sure. Again, I have a really -- my memory is not
5 great any more for people's names. I'd recognize
6 faces pretty well. But I gave a talk, and I'm sure I
7 met her at least at a couple of talks that I gave,
8 that addressed grizzly bear ecology policy-management.

**9 Q. And do you mind telling me about the email
10 list that you're included on? Was that something that
11 you signed up for or were you invited to that?**

12 A. As I recall, I was invited. I honestly
13 don't remember how I got included, other than I think
14 that it was put together with a certain idea about who
15 might be interested, and my address, my email address
16 was on it. And I did not unsubscribe or unsign.

**17 Q. How many people would you say are on that
18 email list?**

19 A. More than a dozen, less than 50, I think,
20 something like that.

**21 Q. Okay. And what type of email
22 communications do they send you? What are the emails
23 about?**

24 A. About sort of here's something that's
25 going on that may be of interest, updates. It's,

1 recall, are almost always in the nature of Mike
2 reaching out to me about some technical question and
3 saying, "So what do you think of that? What's your
4 perspective on it?" Which I provide.

**5 Q. How do you provide your perspective on
6 that? Is that via another some form of declaration?
7 Is it in relation to lawsuits? Or is it just a "this
8 is my opinion"?**

9 A. That's my perspective opinion shared in
10 the form of an email. I'm trying to remember if Mike
11 has solicited me to write a comment or an objection on
12 any decision process, for any decision process
13 undertaken by the Forest Service, in particular. And
14 I don't recall that I did. I mean, I usually ended up
15 doing what I did for my own reasons. And usually if I
16 was to do something like that, I was working with a
17 lawyer who reached out to me.

**18 Q. Was there anyone else besides Mr. Bader
19 that you've spoken to that you're aware of, that
20 you're aware is associated with
21 Flathead-Lolo-Bitterroot Citizens Task Force?**

22 A. I mean, in terms of communications such as
23 they are, I'm on a group email that includes a lot of
24 the members, to my understanding, of the
25 Lolo-Bitterroot Citizens Task Force, but rarely any

1 primarily, a platform for sharing information, keeping
2 people abreast of issues that are unfolding.

**3 Q. So are scientists like yourself included
4 on that email list or are these, perhaps, just members
5 of the general public?**

6 A. There's a couple of scientists I know for
7 sure that are, Brian Horejsi and -- I don't know, this
8 is where my memory fails me. He's actually a good
9 friend who's retired and living in Canada and had half
10 his face torn off by a bear.

11 Q. We can try and come back to that.

12 A. Yeah, so those are the two that I know of.
13 The only reason I know that those people exist on this
14 email is when they might send something specifically
15 themselves and so their name pops up.

16 Q. Okay. And are they --

17 A. I think Lance Craighead is also on there,
18 but I wouldn't swear to that.

**19 Q. Okay. And are they communications from
20 Flathead-Lolo or are some members of Flathead-Lolo on
21 that email list?**

22 A. It's a group communication, so I don't
23 know that there's any formal representation of
24 affiliation.

25 Q. Are you, yourself, a member of WildEarth

1 **Guardians or Flathead-Lolo?**
 2 A. No.
 3 **Q. Are you a member of any nonprofit**
 4 **organization?**
 5 A. Other than Conservation Congress, which is
 6 our fiscal sponsor for the Grizzly Bear Recovery
 7 Project. And I actually might be a member of
 8 WildEarth Guardians because they wanted me to be on
 9 their membership list. But I didn't -- if I was on
 10 their membership, in their membership, it was because
 11 my wife joined us up together. I have very little
 12 cognizance of that, actually.
 13 **Q. Okay.**
 14 A. I mean, there are people that solicit me
 15 to belong to all sorts of things. I've never been a
 16 believer.
 17 **Q. And if you had to talk to someone or had**
 18 **questions about wolves or grizzly bears, who would you**
 19 **contact?**
 20 A. They're all dead. Who would I contact?
 21 Yeah, it would have been Chuck Jonkel, or John or
 22 Frank Craighead. Any more, there's not anybody that
 23 comes to mind.
 24 **Q. Those names that you mentioned, did they**
 25 **reside in the United States?**

1 A. Yes.
 2 **Q. Okay. None were outside of the United**
 3 **States?**
 4 A. No.
 5 **Q. Okay.**
 6 A. I mean, you're asking me who I would
 7 approach to get information about grizzly bears that I
 8 was not privy to. Was that the nature of the
 9 question? Because I know a lot of grizzly bear
 10 biologists. It's not that I seek them out, though,
 11 for information.
 12 **Q. Well, let's just say you knew information**
 13 **but you wanted to assure that information was correct.**
 14 **Who would you reach out to?**
 15 A. Oh, well, Clayton Lamb; Mark Haroldson;
 16 Bruce McLellan; Frank van Manen; before him, Chuck
 17 Schwartz. I'm privy to a lot of what Cecily Costello
 18 says so I don't feel I need to communicate with her
 19 much. Those are the people that come to mind.
 20 There's Gord Stenhouse up in Alberta, not so much Mark
 21 Boyce any more. Anyway, those are some names that
 22 come to mind.
 23 **Q. Are they all scientists or bear biologists**
 24 **to some extent?**
 25 A. They are.

1 **Q. Okay.**
 2 A. They're well-credentialed scientists, each
 3 and every one of them.
 4 **Q. Is there a specific reason that you would**
 5 **reach out to those individuals?**
 6 A. If I had a question about something that
 7 was opaque in what they had published, I probably
 8 would, but not with certainty because I usually go on
 9 the basis of the published record.
 10 **Q. And would it be safe to assume that you**
 11 **would reach out to them because you trust them?**
 12 A. No; no, not at all.
 13 **Q. Okay.**
 14 A. I mean, I trust them in the sense that I'm
 15 sure I would get their perspective on all sorts of
 16 things. As to whether I would consider them to have
 17 the final word on anything science related, no,
 18 absolutely not.
 19 **Q. Have you ever published a paper that spoke**
 20 **differently than what they opined as to?**
 21 A. Yes.
 22 **Q. Do you mind telling me what paper that may**
 23 **have been or papers that may have been?**
 24 A. So this is more in reference to papers
 25 that Richard Knight wrote, who was head of the Grizzly

1 Bear Study Team before Chuck Schwartz, as well as
 2 Chuck Schwartz himself; some papers by Frank van
 3 Manen.
 4 And the papers, specifically, were a critique of
 5 a method used for monitoring grizzly bears based on
 6 unduplicated females with cub-of-the-year in
 7 Yellowstone. That was published in 1997. There was a
 8 paper that critiqued how unknown, unreported mortality
 9 was estimated, or the lack of any sort of credible
 10 estimator for that in Free Yellowstone, specifically,
 11 in 1998 -- or not '98 -- 1998. And, subsequently, the
 12 Cherry, et al., method published in 2002 was trying to
 13 address the issues that I raised.
 14 There was a paper that I coauthored with Craig
 15 Pease reanalyzing demographic data for the Yellowstone
 16 population, which was published in Ecology in 1999; to
 17 some extent, the chapter I co-authored with John
 18 Craighead was a critique of sorts of the science that
 19 had been done by Richard Knight and the Grizzly Bear
 20 Study Team by that point in time.
 21 I think I might have included, actually, a paper
 22 that I published in -- I'm actually thinking about
 23 papers that I wrote. It's sort of addressing issues
 24 with how grizzly bears are researched or managed, a
 25 paper in Conservation Biology in 1996 with Craig

1 Pease, Gerry Wright, and Steve Herrero. And there was
 2 some element of critique in there. Those are all that
 3 come to mind. There might have been another that I
 4 may well recollect.
 5 **Q. You mentioned Cecily and that you're privy**
 6 **to a lot of her information. Would you ever reach out**
 7 **to her, though, if you had a question pertaining to**
 8 **her research?**
 9 A. Not at this point in time, no.
 10 **Q. Is there a specific reason why?**
 11 A. Because I am not on good terms with her
 12 personally because I think she sees me as a critic and
 13 an enemy and doesn't deal with those things very well,
 14 at least is my perception.
 15 **Q. So let me ask this: How long have you**
 16 **known Cecily?**
 17 A. Since she and Mark Haroldson were first
 18 dating back in -- however long ago that would have
 19 been; back then, yeah. My time horizons fade, so that
 20 was probably the mid-late 1980s. I crossed paths with
 21 her at a bear conference before that. I saw her at
 22 their wedding, Mark and Cecily's wedding. I crossed
 23 paths with her when she was sort of in limbo in
 24 Bozeman. But I really haven't interacted with her
 25 since she got the job working for Montana, Fish,

1 **it because of the science that she's actually --**
 2 A. The science that she's actually done.
 3 **Q. Okay.**
 4 A. Lots of issues with it.
 5 **Q. We'll get into that later.**
 6 A. Okay, good.
 7 **Q. Do you mind telling me how you came to**
 8 **write the declaration in this case?**
 9 **I know you mentioned earlier that either**
 10 **WildEarth or Flathead reached out to you, and then Tim**
 11 **subsequently reached out to you.**
 12 A. Not -- Lolo-Bitterroot --
 13 **Q. Task Force?**
 14 A. -- Task Force. It was Adam who, very
 15 briefly, made preliminary contact with me and asked if
 16 it would be okay if he referred me to Tim. And I
 17 said, "Sure."
 18 **Q. At that point in time, did Adam tell you**
 19 **what they were intending to do? Was there already a**
 20 **lawsuit filed?**
 21 A. As I recall, I knew very little about what
 22 was going on other than I was willing to engage,
 23 prospectively engage with the issue, but contingent on
 24 what I heard more fully from Tim.
 25 **Q. Okay.**

1 Wildlife and Parks.
 2 **Q. And, previously, would you reach out to**
 3 **her if you had a question about her research?**
 4 A. If I did, I would, but I didn't.
 5 **Q. Okay. So you've never reached out to her**
 6 **about her research.**
 7 A. No, not about that specifically.
 8 **Q. Can you tell me, in your words, what you**
 9 **think this case is about?**
 10 A. I think it's about the possible harm
 11 caused to grizzly bears at large, individual grizzly
 12 bears, perspective from the new trapping regulations
 13 promulgated in 2023 by the State of Montana that
 14 allows for an earlier onset of trapping.
 15 I think there's also the issue of the potential
 16 harm arising from the late termination of the trapping
 17 effort on wolves which has to do, then, with the
 18 exposure of bears to the potential harm perpetrated by
 19 trapping for wolves.
 20 **Q. I'm just going to jump back to Cecily**
 21 **really quickly. Do you think the science that Cecily**
 22 **is producing -- do you have any issues with the**
 23 **science that Cecily is producing?**
 24 A. Absolutely.
 25 **Q. Is it because of where she's working or is**

1 A. At that point, I hadn't read the
 2 regulations. After reading the regulations, I saw
 3 what the issues were.
 4 **Q. Can you recall whether the lawsuit was**
 5 **already filed at that time when Tim reached out to**
 6 **you?**
 7 A. Honestly, I couldn't. I mean, I think
 8 not, but I don't know for sure.
 9 **Q. So when Tim reached out to you, was he**
 10 **reaching out to you, asking you to file a declaration**
 11 **in this case?**
 12 A. Yes.
 13 **Q. And was there a specific reason you agreed**
 14 **to write a declaration in this case?**
 15 A. Because I thought that there were problems
 16 with the new regulations after I had read them that
 17 needed to be addressed and that that warranted
 18 litigation, given that there didn't seem to be any
 19 other options for addressing them.
 20 **Q. So previous to Tim reaching out to you,**
 21 **you were unaware of FWP's regulations pertaining to**
 22 **wolf trapping?**
 23 A. I was not keeping on top of it, no.
 24 **Q. Do you recall the last time you were aware**
 25 **of FWP's regulations for wolf trapping?**

1 A. Yeah, it was -- I was getting into the
 2 data on wolf take, when and where in Montana and
 3 Idaho, back when I was submitting comments on the 2017
 4 delisting rule for Yellowstone grizzly bears because
 5 an issue there was how credible would state management
 6 of grizzly bears be. And I looked to wolves as being
 7 instructive.

8 **Q. Was there a specific reason you looked at**
 9 **wolves as being instructive in 2017?**

10 A. Because they had been delisted by
 11 legislative fiat, and I was curious as to what had
 12 happened with wolf take: Where; with what, you know,
 13 what level attrition.

14 **Q. So that was the first time you became**
 15 **aware of FWP's regulations pertaining to wolf**
 16 **trapping?**

17 A. Specifically, yes. I mean, I had been
 18 aware of matters related to wolves going back well
 19 before that.

20 **Q. But not the regulations, right?**

21 A. Not the regulations.

22 **Q. So after the 2017 -- let me rephrase this.**
 23 **Was the 2017 grizzly bear delisting pertaining to a**
 24 **case or was it a U.S. Fish and Wildlife Service rule?**

25 A. It was a rule that I was commenting on.

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1 **Q. Okay. And was there any reason you lost**
 2 **ties or lost focus on FWP's regulations after 2017?**

3 A. I was busy dealing with other things.

4 **Q. What other things were you dealing with?**

5 A. I was dealing with my health, I was
 6 dealing with grizzly bear issues.

7 **Q. Okay.**

8 A. And my bandwidth did not include wolves in
 9 any detail, other than kind of a casual awareness.

10 MR. SCOLAVINO: I think we'll take a break
 11 here for five minutes.
 12 (A brief recess was taken.)
 13 MR. SCOLAVINO: Back on the record at
 14 10:08.
 15 BY MR. SCOLAVINO:

16 **Q. I'm just going to jump back to try and**
 17 **clarify a few things, Dr. Mattson. You mentioned that**
 18 **you did some presentations for WildEarth. Could you**
 19 **tell me what those presentations were for and why you**
 20 **were either asked to make those presentations or --**

21 A. So the only -- sorry.

22 **Q. No, that's fine. That was it, that's it.**

23 A. Now I'm moving ahead too quickly relative
 24 to the pace of your question, I guess. The only
 25 presentation in the form of a webinar, the only

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1 presentation that I recall explicitly giving for
 2 WildEarth Guardians was relatively recently and it was
 3 for members. It was a webinar.

4 Adam approached me and it was to -- the intent
 5 was to better inform members. There was a lot of
 6 questions, you know, a lot of Q and A. First of all,
 7 it was to provide ample opportunity for members to ask
 8 questions. But the focus was on what are -- what's
 9 been the trajectory of, first of all, extra patience,
 10 recovery, challenges, issues, better confronting
 11 grizzly bears now, and conservation and meaningful
 12 recovery.

13 There were also some other people on the panel
 14 that covered strategies for coexistence, and the
 15 promise and prospects of coexistence, which is --
 16 yeah, I think that's pretty much all we covered.

17 **Q. And were you paid for those presentations**
 18 **or was that something you did voluntarily?**

19 A. Um-hmm [affirmative].

20 **Q. Voluntarily?**

21 A. Later, the latter, voluntarily; not paid.

22 **Q. Okay. If I'm not mistaken, in your**
 23 **declaration, you mentioned that you made two**
 24 **presentations. One I believe, was at the Smithsonian?**

25 A. Um-hmm [affirmative].

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1 **Q. And there was another presentation.**

2 A. American Museum of Natural History, yeah.

3 **Q. Can you tell me about those two**
 4 **presentations?**

5 A. They were back in the 1990s. It would
 6 have been 1990s. I can't remember the exact year, but
 7 it was, basically, the same themes as described for
 8 the webinar, like: What did we have? What have we
 9 lost? Where are we now? But also basic ecology of
 10 grizzly bears: What do they eat? Where do they eat
 11 what they eat? And when? And what are the challenges
 12 facing them?

13 **Q. And did you make those two presentations**
 14 **as a U.S. Biological Science employee?**

15 A. Lolo-Bitterroot Ecosystem Task Force?

16 **Q. Yeah.**

17 A. Yes, I did. I was a government employee,
 18 Federal Government employee. And insofar as under
 19 what auspices I would have been giving those
 20 presentations, I might have still been working for the
 21 National Park Service, but if not the National Park
 22 Service, then the National Biological Survey/Service.

23 **Q. And were those two presentations just you**
 24 **or were there any other government scientists?**

25 A. Just me.

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1 **Q. Jumping back to before you mentioned that**
 2 **you were chatting with Tim about this lawsuit, and I**
 3 **wanted to know if you commented on the 2023 wolf**
 4 **regulations.**
 5 **So when you became aware of the lawsuit, did you**
 6 **comment on Montana Fish, Wildlife and Parks' 2023 wolf**
 7 **regulations?**
 8 A. The first written material I submitted was
 9 in the form of the declaration.
 10 **Q. Okay. And your declaration, is that**
 11 **something that you wrote and then Tim edited, or did**
 12 **you write it entirely? Did you review it and Tim kind**
 13 **of helped you write it? How did that work?**
 14 A. He sent kind of a template, a barebones of
 15 draft, and at which point, I completely rewrote it. I
 16 retained a few things, like I don't think I would ever
 17 have written on my own volition: "I am more than 18
 18 years of age and competent to make this Declaration."
 19 It never occurred to me. But thanks to Tim, I put it
 20 in there.
 21 **Q. Okay. And just --**
 22 A. And I don't -- excuse me. But as far as
 23 his editing, I don't recall. He might have had a
 24 comment or question on a couple aspects of
 25 declaration, but not extensive.

1 MR. SCOLAVINO: And, then, just for the
 2 record, Mr. Mattson, Dr. Mattson was looking at --
 3 your first declaration; is that correct?
 4 THE WITNESS: My only -- well, my first
 5 declaration, yes.
 6 **Q. (By Mr. Scolavino) Okay. And so you**
 7 **primarily wrote your declaration, and then Tim may**
 8 **have polished it up just a little bit?**
 9 A. Or had some questions.
 10 **Q. Okay.**
 11 A. I think the final verbiage was mine.
 12 **Q. You mentioned that you were deposed**
 13 **before. In those depositions, do you mind telling me**
 14 **which cases those were you were involved in?**
 15 A. It was as in the position of being a
 16 National Park Service employee/biologist/researcher,
 17 and it related to litigation over Fishing Bridge, the
 18 expansion of the compound at Fishing Bridge on
 19 Yellowstone Lake in Yellowstone Park.
 20 Tom France was the lawyer who deposed me and he
 21 didn't do a very good job, as I recall. That's the
 22 bulk of what I remember of that deposition.
 23 **Q. Was that the only previous deposition**
 24 **you've ever been involved in?**
 25 A. Yeah, in terms of a deposition as, you

1 know, sitting at a table somewhere other than a
 2 courtroom.
 3 **Q. In that case, were you being deposed or**
 4 **representing the defendants in that case, or how did**
 5 **that work?**
 6 A. I was representing the Defendants. I had
 7 a lawyer from the Park Service sitting next to me.
 8 **Q. Was that Mr. France, that lawyer?**
 9 A. No. Tom France was working for National
 10 Wildlife Federation, I think, even back then.
 11 **Q. And you said that that case pertained to**
 12 **Yellowstone Lake and putting in a bridge?**
 13 A. Expansion of the Fishing Bridge Campground
 14 on Yellowstone Lake.
 15 **Q. Okay. And then one last thing. So**
 16 **earlier, and then I remember seeing in your**
 17 **declaration reference to the Grizzly Bear Recovery**
 18 **Project.**
 19 A. Um-hmm [affirmative].
 20 **Q. Do you mind telling me about that?**
 21 A. I, basically, created the project on my
 22 own. Like I said, the mission vision is, basically,
 23 to better educate the engaged public, and all others
 24 who have an interest in grizzly bear issues, on the
 25 ecology of grizzly bears, demography, all aspects of,

1 you know, physiology, morphology, as well as policy
 2 management, challenges, threats.
 3 So its intent is education/information, in
 4 addition to putting out reports that summarize
 5 synopsise existing research, which is the primary
 6 purpose of the reports.
 7 I also have a couple websites, one which is
 8 called "Allgrizzly" are under auspices of the Grizzly
 9 Bear Recovery Project, and then Mostly Natural Grizzly
 10 Bears," which is focused on, well, primarily
 11 Yellowstone grizzly bears, but other grizzly bear
 12 populations.
 13 **Q. The name of that other website is**
 14 **"mostlynaturalgrizzlybears.com"?**
 15 A. Yes -- not "dot-com"; "dot-org."
 16 **Q. Dot-org, okay.**
 17 A. Yes.
 18 **Q. I just wanted to make sure that you**
 19 **weren't referencing something else. When did you**
 20 **create the Grizzly Bear Recovery Project?**
 21 A. It was a brainstorm of mine in, probably,
 22 2015-2016, something like that. Before that, I had
 23 been working with People and Carnivores, which was
 24 after my retirement, and it sort of overlapped with my
 25 ongoing appointment at Yale. People and Carnivores is

1 an organization focused on promoting coexistence
 2 between grizzly bears and people.
 3 And when I wrapped that up, when Seth Wilson
 4 went off to Slovenia or Slovakia, whichever it was,
 5 that's when I started the Grizzly Bear Recovery
 6 Project.
 7 **Q. Is there a website for the Grizzly Bear**
 8 **Recovery Project?**
 9 A. Not as such, although a lot of the content
 10 can be found on the two websites that I referenced,
 11 "Allgrizzly," one word, and "Mostly Natural
 12 Grizzlies."
 13 **Q. Is there a reason you created those two**
 14 **websites and didn't just create a website for the**
 15 **Grizzly Bear Recovery Project?**
 16 A. No, not particularly. I mean, just -- no,
 17 not specifically.
 18 **Q. Is there a reason why there's one that's**
 19 **Allgrizzly and then there's one that's Mostly Natural**
 20 **Grizzlies?**
 21 A. I was running out of room on the
 22 Allgrizzly website, so I had to come up with a
 23 different website to host all the information that I
 24 was posting.
 25 **Q. But the information is the same, correct?**

1 behaviors related to consumption of fruit from the
 2 Arctic on south and North America. So it's more
 3 focused on North America.
 4 There's another page on consumption of whitebark
 5 pine seeds, historically where bears might have eaten
 6 pine seeds, as well as currently where they do, loss
 7 of whitebark pine due to bark beetle outbreaks,
 8 blister rust. So you can kind of work your way on
 9 down through the primary food groups.
 10 And then there's another major part of the site
 11 that's focused on challenges, threats, issues, so like
 12 the effects of mountain biking on grizzly bears, for
 13 example; of people on foot, their impacts on grizzly
 14 bears.
 15 Anyway, there's a whole laundry list of stuff
 16 related to. But the intent is to summarize, pretty
 17 much, all the extant literature that pertains to each
 18 one of these topics on these different pages and
 19 different reports that you can download on those
 20 pages.
 21 **Q. And when did you create Allgrizzly's**
 22 **website and when did you create the Mostly Natural**
 23 **Grizzlies website?**
 24 A. Probably I started on Allgrizzly in 2014,
 25 '13, shortly after I retired. And then Mostly Natural

1 A. No; no, it's non-duplicative, for the most
 2 part. Allgrizzlies, so far, is focused on morphology,
 3 history, prehistory, stuff like that, whereas Mostly
 4 Natural Grizzlies focuses more on contemporary stuff.
 5 And summarizing contemporary food habits for grizzly
 6 bears is another focus.
 7 **Q. Does Allgrizzly encompass all grizzlies or**
 8 **is it tailored to a specific ecosystem or population?**
 9 A. All *Ursus arctos*.
 10 **Q. Okay.**
 11 A. Past, present, future, including ones
 12 residing in Eurasia.
 13 **Q. And then you mentioned the Mostly Natural**
 14 **Grizzlies. Earlier, you mentioned reference to the**
 15 **GYE, is that website tailored to GYE bears?**
 16 A. Not exclusively, no. I mean, there's an
 17 aspect of the site that addresses diet and behavior of
 18 grizzly bears. So there's pages that look at
 19 consumption of army cutworm moths, for example. That
 20 behavior is exhibited by bears up in the Glacier
 21 Ecosystem as well as GYE.
 22 Consumption of fruit, so the primary focus there
 23 was in Northwestern Montana, adjacent British
 24 Columbia, Alberta, anywhere that bears eat fruit. In
 25 fact, it sort of encompasses the variation in

1 Grizzlies probably was a couple years later, 2016-2017
 2 something like that.
 3 **Q. Is the Grizzly Bear Recovery Project in**
 4 **those two websites funded through you personally?**
 5 A. Most of my time is donated, but we also,
 6 my wife and I, get supported for our work by donations
 7 from funders.
 8 **Q. Do you guys do any sort of campaigning to**
 9 **raise donations or is that just via word of mouth?**
 10 A. So my wife puts out a newsletter
 11 periodically and she solicits donations from the
 12 readers of our newsletter. So we get small donations
 13 from people from all over the world, basically. And,
 14 otherwise, the donations we get, the funding we get
 15 from foundations is rarely because we're out beating
 16 the pavement, it's because they're coming to us
 17 saying, "Hey, we really like your work and we want to
 18 support it."
 19 **Q. Okay. Is that a nonprofit organization?**
 20 A. Um-hmm [affirmative].
 21 **Q. Okay. And how many members are in the**
 22 **Grizzly Bear Recovery Project or a part of?**
 23 A. So the Grizzly Bear Recovery Project does
 24 not have any membership.
 25 **Q. Okay.**

1 A. So my wife started this thing called
 2 "Grizzly Times," which is more in the vernacular, to
 3 inform people about sort of the same constellation of
 4 topics: So where we've been, where we are now, where
 5 we're headed, threats, how to address those threats,
 6 keeping people abreast of what's going on, new issues,
 7 new concerns.
 8 She produced, as part of that, a primer on how
 9 people can become constructively engaged with grizzly
 10 bear conservation efforts, sort of the different
 11 domains that people can operate in and how.
 12 So we don't have members, as such, for Grizzly
 13 Times. We have subscribers to our newsletter.
 14 **Q. How many subscribers are subscribed to**
 15 **your newsletter?**
 16 A. I think it's about 1600, something like
 17 that.
 18 **Q. Okay.**
 19 A. I haven't kept close track. She does.
 20 **Q. Do you know when that newsletter started?**
 21 A. It would have been back when we first
 22 started Grizzly Times, which would have been around
 23 2014-15, something like that.
 24 **Q. Okay.**
 25 A. Probably '15.

1 I chose not to pursue it because I didn't want to
 2 disrupt my family's life, having settled here in
 3 Bozeman.
 4 So I demurred, but continued on as a full-time
 5 employee and used that study plan as a basis for
 6 collecting data from '86 to '93, at which point I
 7 reembarked on my Ph.D. program at the University of
 8 Idaho with Jim Peek.
 9 And then I was a full-time employee still of the
 10 National Biological Survey/Service, U.S. Geological
 11 Survey with the Forest Rangeland Ecosystems Science
 12 Center but stationed at the University of Idaho.
 13 I got busy writing, took my class work, wrote a
 14 lot of papers, and so didn't get around to wrapping up
 15 my dissertation until 1999-2000. By that time, I had
 16 been recruited to go down to the Southwest Biological
 17 Science Center at Colorado Plateau Research Station in
 18 Flagstaff.
 19 The dissertation was on diets, behaviors,
 20 causes, and consequences of dietary differences for
 21 Yellowstone grizzly bears based on data I had
 22 collected and been involved in collecting back to 1979
 23 through '93. But, also, I had privy -- had access to
 24 data going back to '75 and up through 1996.
 25 **Q. It seems that you may have briefly touched**

1 **Q. Okay. We're going to jump topics here.**
 2 **Could you describe your postsecondary education for**
 3 **me?**
 4 A. "Postsecondary"; after high school, you
 5 mean?
 6 **Q. Well, yeah, after high school.**
 7 A. I got a bachelor's degree in forest
 8 resource management. I was enrolled between 1972 and
 9 got my degree in '79 because I couldn't stand being in
 10 classrooms very long. And, then, '79 was when I
 11 started working for the Grizzly Bear Study Team.
 12 And then Dick Knight, at the time, recruited me
 13 to do a master's project looking at wetland vegetation
 14 in Yellowstone Park, primarily because it was becoming
 15 clear that grizzly bears were focusing in on using
 16 wetlands, and he wanted a better understanding on the
 17 synecology of wetlands. So I started doing fieldwork
 18 on that in 1980.
 19 I finished writing my master's thesis in '84
 20 because I got co-opted by Dick Knight as a permanent
 21 employee in 1982 for employment with the Grizzly Bear
 22 Study Team. And then in '85, I think it would have
 23 been, '85-'86, I was set up to start a Ph.D. program
 24 with Steve Herrero up at the University of Calgary,
 25 including how to study, plan in hand and funding, and

1 **upon your work history or you may have went through it**
 2 **all. But can you just go through your work history**
 3 **since graduating from college?**
 4 A. "Since graduating"; graduating with my
 5 Ph.D.?
 6 **Q. With your bachelor's.**
 7 A. With my bachelor's.
 8 MS. CLERGET: Just if we haven't talked
 9 about it before.
 10 THE WITNESS: Well, so I was brought on as
 11 a permanent employee in 1982, I think it was, and
 12 charged with analyzing the grizzly bear habitat data,
 13 and then was in charge of, basically, field
 14 investigations where I was, all the time the bears
 15 were active, I was following them around in the field,
 16 along with the crews I supervised, collecting data,
 17 what they were doing, where they were doing it, as
 18 well as a bunch of side projects like looking at
 19 monitoring of studies focused on bear use of cutthroat
 20 trout and tributary streams to Yellowstone Lake;
 21 surveying bear use of carrion on winter ranges through
 22 use of transects, also transects in whitebark pine
 23 stands, so a number of side projects going on.
 24 I was monitoring biomass of different
 25 foods in the ecosystem and was getting into analyzing

1 demographic data, collaborating with a guy named
 2 "Craig Pease," who was at the University of Texas -
 3 Austin, who was a well-esteemed or well-recognized
 4 demographer.
 5 So Dick Knight, my supervisor at the time,
 6 allowed for sharing demographic data with Craig Pease.
 7 And that would have been in 1995 maybe -- no, not
 8 1995. It was 1992, 1991, something like that.
 9 And he discovered an error in the way that
 10 Lee Eberhart and Dick Knight had calculated vital
 11 rates for Yellowstone grizzly bears. So they inflated
 12 estimated population growth rate.
 13 I took that error to Dick and said in
 14 private, "Here, this is a problem. You probably need
 15 to fix that."
 16 And at that point, he prohibited me
 17 working with Craig Pease any more on the project.
 18 That error was also identified by Bruce
 19 McLellan and Fred Hovey in analysis data, so we
 20 weren't the only ones. And because it was out there
 21 in the public, Dick and Lee had to remedy their
 22 analysis of population growth rate and revise it down
 23 for Yellowstone grizzly bears. And they did in the
 24 context of an annual report and it flew under the
 25 radar screen.

1 I wrote a paper in Bioscience in 1990, 1990, a
 2 co-authored paper, and raised the issue of the threat
 3 of climate change, which was a very inconvenient kind
 4 of topic for Servheen to be considering in the 1993
 5 recovery plan, also the importance of road management.
 6 And at that time, there was unchecked,
 7 unbridled clearcutting in a lodgepole pine forest on
 8 the Targhee National Forest. Based on the tasks,
 9 adoption of the tasks and hypotheses that clearcutting
 10 lodgepole pine on relatively infertile sites benefited
 11 grizzly bears and that roads were not a problem, and
 12 so adopting that hypothesis as the basis for
 13 management action without any supporting evidence.
 14 At which point, Dick Knight and I wrote a
 15 white paper posing alternate competing hypotheses,
 16 which is better supported by the weight of evidence
 17 that clearcutting and roading lodgepole pine habitats
 18 in Targhee are detrimental to grizzly bears or they're
 19 beneficial, you know, which is supported by the weight
 20 of evidence. It was pretty clearcut as to where the
 21 weight of evidence fell out, which antagonized a bunch
 22 of forest supervisors.
 23 That led to being drug into a room like
 24 this with a whole table lined with forest supervisors
 25 where they attempted to intimidate me to not, to

1 And if you want the gory details, I can
 2 give you the gory details. But at this point in time,
 3 a revised grizzly bear recovery plan was being
 4 promulgated, was being produced, the 1993 revision. I
 5 hadn't been prohibited from talking to Craig Pease and
 6 I continued to talk to him just as a colleague.
 7 I was sharing my concerns about the
 8 recovery plan with him because I wasn't in a position
 9 to take on the issues head-on. And so Craig
 10 contributed comments, submitted comments during the
 11 formal comment period for the 1993 recovery plan.
 12 And shortly after that, I was privy to a
 13 conversation that I overheard, because we had an open
 14 office space, of the recovery coordinator at the time,
 15 Chris Servheen, calling my boss Dick, saying, "If you
 16 continue to let Dave Mattson communicate with Craig
 17 Pease, I'm going to pull all your funding."
 18 At that point, Dick came in and told me,
 19 "You will have no further communications with Craig
 20 Pease," at which point I did not have any future
 21 communications.
 22 But that was creating tension between Dick
 23 and myself because I was making life uncomfortable for
 24 him and I was making life uncomfortable for Chris
 25 Servheen because I was becoming more openly critical.

1 forthwith and henceforth, not to say anything about
 2 Forest Service management and how it affected bears.
 3 But that made Dick uncomfortable because it put him in
 4 the crosshairs as well.
 5 Then there was a meeting that was in a
 6 room full of Forest Service district rangers,
 7 supervisors, in 1993 where Rick Mace was there, as
 8 well as Bruce McLellan and myself, to summarize all
 9 the science related to impacts of roads on grizzly
 10 bears. All three of us were offering our unvarnished
 11 perspective. I really had to smile because Rick was
 12 out there as much as I was.
 13 You know Rick, I'm sure, yeah. But it was
 14 really getting under the skin of the forest
 15 supervisors, the biologists, district rangers because,
 16 again, it was incredibly inconvenient.
 17 And so Chris and Dick had a dinner that
 18 night and Chris laid down the law and said, "You need
 19 to get, you know, get on top of Mattson and crush
 20 him," as per what Dick said.
 21 And so I came into my office the next day
 22 and all my data had been erased -- my hard drive had
 23 been erased and all the data taken from my office, and
 24 travel prohibited, and mail read incoming/outgoing,
 25 which was -- Dick took me in the coffee room and said,

1 "You know, I'm going to destroy you," basically,
 2 because I had become such a problem for him.
 3 And after that, I proceeded to write a
 4 series of memos to Dick, and then laying out what had
 5 happened and saying, "Is this, in fact, what happened?
 6 Could you verify or confirm or deny what happened?"
 7 And this goes back, covered a pretty long
 8 history. And he was dumb enough to respond in
 9 writing. And then I rebutted with another series of
 10 memos, and then he responded with yet another series.
 11 I took that stack and set it on the desk of Bob Barbee
 12 and John Varley, who were two tiers up in the chain of
 13 supervisors, the head of natural resources in
 14 Yellowstone Park, and Bob Barbee was the
 15 superintendent.
 16 And Bob Barbee said, basically, "Make this
 17 problem go away. Give Mattson what he wants."
 18 So John Varley walked into my office,
 19 closed the door, and said, "What do you want?"
 20 Because from my perspective, Dick Knight
 21 was offering a good-news story about growth of the
 22 grizzly bear population, so they couldn't get rid of
 23 him, they had to save him.
 24 So I said, "I want a new location, a new
 25 supervisor, access to all the data, and to have my

1 Ph.D. program paid for," which led to me being
 2 relocated to University of Idaho, which is when I
 3 embarked on my Ph.D. program.
 4 And so that's where I sat for several
 5 years, working on my coursework, writing my papers,
 6 many papers. And at which point, then, it was
 7 reaching wrap-up stage, so then it was a matter of me
 8 being offered any number of positions in any number of
 9 locations, and I chose Flagstaff.
 10 So, I mean, do you want my full history
 11 post --
 12 **Q. I think you gave it to me.**
 13 A. Well, there's more, there's more. I had a
 14 position with the -- I mean, I've been going back to
 15 give seminars at the Yale School of Forestry and
 16 Environmental Studies going back to 1993-1994, so I
 17 had an informal relationship with Yale. That was
 18 formalized in 2006 as being a lecturer, visiting
 19 senior scientist, and that employment lasted until
 20 2014.
 21 I spent one year in residence, 2006-2007, then
 22 was invited to be a visiting scholar at MIT for the
 23 following year. I came back, was appointed research
 24 station leader for the Colorado Research Station. I
 25 didn't like that because I didn't like being an

1 administrator, but I was acting center director,
 2 research station leader subsequently as needed.
 3 But when I moved to Flagstaff, I started
 4 research projects from scratch as well, concurrent
 5 with my teaching obligations. That eventually
 6 included five different study areas: The north-south
 7 rim of the Grand Canyon; Flagstaff area; Capitol Reef;
 8 Zion National Parks; Nevada National Security Site.
 9 **Q. Okay. That kind of tangents me into**
 10 **another question. In your declaration, it said that**
 11 **you worked for the IGBST for ten years; is that**
 12 **correct?**
 13 A. Longer than that.
 14 **Q. Longer than that?**
 15 A. Yeah. I started in '79. I mean, I was at
 16 the University of Idaho as a graduate student but
 17 being paid by the Grizzly Bear Study Team from 1979
 18 through 1993. So that would be, what, 15 years.
 19 **Q. Okay. And, then, what did you do during**
 20 **your time for the IGBST?**
 21 A. I started out as a field technician, then
 22 was given responsibility in 1983 for all data
 23 analysis, publications related to habitat use,
 24 behaviors, diets of grizzly bears. I supervised the
 25 field crews that were following/tracking grizzly

1 bears, collecting the food habits, habitat-use data,
 2 all these other ancillary projects.
 3 From that point on, it was part of a project,
 4 1984-1985, where we deliberately provoked grizzly
 5 bears in the backcountry. I take credit for not
 6 designing that study, but Mark Haroldson and I
 7 basically ramrodded it. So, yeah, that was basically
 8 what I was doing, and writing a fair number of papers.
 9 **Q. Was there any reason you left IGBST?**
 10 A. I just went through that.
 11 **Q. Okay. In your declaration, it stated that**
 12 **you then, I guess, swapped over to mountain lions and**
 13 **led six mountain lion projects and worked on mountain**
 14 **lions pretty substantively.**
 15 **What did you do, particularly, with mountain**
 16 **lions?**
 17 A. I created the project from scratch, found
 18 money, so was a hundred percent responsible for
 19 funding the various projects. I worked with
 20 colleagues and collaborators to build out the projects
 21 in different areas, worked to establish relationships
 22 with the National Park Service, Arizona Game and Fish.
 23 I was involved in the capture of mountain lions
 24 and investigating -- by that time, we had GPS Argos
 25 satellites, which was great, which meant that,

1 basically, we knew in real time where the lions were.
 2 So we could go out, basically, within 24 hours to find
 3 out what they were doing.
 4 So I went out and, you know, personally
 5 investigated probably 600 kill sites. I also had
 6 people working for me doing that work. I had a couple
 7 of graduate students.
 8 **Q. Okay. And was there a reason you switched**
 9 **from grizzly bears to mountain lions?**
 10 A. Because there were limited opportunities
 11 for a Federal Government employee to study grizzly
 12 bears in the contiguous U.S. because that was largely
 13 the domain of biologists in state agencies: Montana,
 14 Idaho, Wyoming, and the Grizzly Bear Study Team.
 15 At that time, I didn't want anything more to do
 16 with the Grizzly Bear Study Team personally and going
 17 back to the Yellowstone Ecosystem because it had been
 18 such a grotesquely unpleasant experience with the
 19 politics of that ecosystem.
 20 So it was a blessed relief to work on a
 21 different species in a different area where it was
 22 less politicized, although you wouldn't think that
 23 about mountain lions. And, basically, I was offered
 24 any number of places I could have gone to work. And
 25 Flagstaff looked great for my family, so that's where

1 I went.
 2 And I scanned the horizon for opportunities, and
 3 it looked like there might be opportunities to work
 4 with mountain lions on national park jurisdictions,
 5 but it built out from there.
 6 **Q. Can you tell me your understanding of the**
 7 **definite roles between FWP and the commission?**
 8 A. The commission oversees the
 9 policies/procedures of the agency. It's populated by
 10 appointees that are appointed for various and sundry
 11 reasons. They have ultimate authority over what goes
 12 on in the agency. Fish, Wildlife and Parks, the
 13 agency employees, are tasked with implementing the
 14 policy, whatever has been adopted by the commission.
 15 **Q. Do you know who sets the wolf trapping**
 16 **season?**
 17 A. As I understand, I mean in terms of the
 18 formal setting process, it's the commission. But,
 19 usually, there's a conversation between people in FWP
 20 in the agency itself, permanent employees, and the
 21 commissioners where the commissioners, as I understand
 22 it, seek input usually, often, from their, you know,
 23 line staff.
 24 But, ultimately, it's up to the commission. And
 25 the commission also operates at the behest of, from my

1 perspective, of what other parties would like who show
 2 up to testify who have personal communications with
 3 the various commissioners.
 4 **Q. When you say "other parties," what do you**
 5 **mean?**
 6 A. Anybody with whom they have a personal
 7 relationship or are willing to listen.
 8 **Q. Do they also listen to constituents,**
 9 **meaning somebody that they may not have had a personal**
 10 **relationship with?**
 11 A. With varying degrees of receptivity, from
 12 what I've seen.
 13 **Q. Personally, that you've seen?**
 14 A. Yes.
 15 **Q. Do you mind elaborating on those personal**
 16 **instances?**
 17 A. Over video, watching the commissioners in
 18 responding to testimony from various entities,
 19 different people.
 20 **Q. So when was the last time you watched a**
 21 **commission meeting?**
 22 A. It was when they were deliberating over
 23 allowing the use of hounds in pursuit of black bears.
 24 **Q. Do you recall what year that was?**
 25 A. Not that long ago; it was just a couple

1 years back.
 2 **Q. Was there any other previous instances**
 3 **that you've have had with -- that you've noticed the**
 4 **commission?**
 5 A. Yeah, but not that I remember as clearly
 6 as that because it's a bit more recent in time.
 7 **Q. You mentioned "climate change" earlier.**
 8 **What would you call an appropriate frequency for the**
 9 **commission to review the wolf hunting and trapping**
 10 **season?**
 11 A. An appropriate frequency for them to
 12 review the trapping regulations?
 13 **Q. Yes.**
 14 A. From my perspective or from their
 15 perspective?
 16 **Q. From your perspective.**
 17 A. I think as frequently as warranted by the
 18 unfolding events on the ground.
 19 **Q. And by "unfolding events on the ground,"**
 20 **is there something in particular that you would want**
 21 **the commission to convene on?**
 22 A. To review what is known and what is not
 23 known about grizzly bear distribution, ecology,
 24 population growth to better inform, then, their
 25 judgments regarding risk to grizzly bears as it

1 relates to the regulations.
 2 And that would be in response to new
 3 critiques/concerns being raised about all of those
 4 methods as well as, obviously, any incidental take,
 5 any review of information that's new or has not been
 6 fully deliberated upon that might bear on the risks of
 7 trapping to bears.
 8 Anytime there's new information of any sort that
 9 relates generally, specifically to the topic of
 10 trapping in areas occupied by grizzly bears, I think
 11 it would be appropriate for the commission to review
 12 that.
 13 **Q. If you were to put a number on that, how**
 14 **many times a year? Would it be once a year?**
 15 A. As appropriate, as needed, given the new
 16 information that's coming to light being offered to
 17 them by any number of people in their constituency.
 18 **Q. Okay.**
 19 A. Not just from staff of Fish, Wildlife and
 20 Parks.
 21 **Q. Do you know when the first wolf trapping**
 22 **season was?**
 23 A. I only know, based on the data that I've
 24 been able to dig up online, the wolf trapping report.
 25 The first wolf trapping report or wolf harvest report

1 things. First of all, the requirement on trappers was
 2 that they check traps once every 48 hours, which is
 3 concerning, because if you're only checking traps once
 4 every 48 hours, it increases the odds that there will
 5 be distress and trauma inflicted on any bear that is
 6 inadvertently captured.
 7 It was the dimensions and pressure requirements
 8 for the pans on the traps, the snares, the weight
 9 required to break loose the snares and traps, the
 10 pounds of pull. There was the fact that this floating
 11 date, there were a couple of things, so that the
 12 floating date in occupied habitat could begin as early
 13 as the first Monday after Thanksgiving, which would
 14 be, roughly, November 27th, but pushed back if there
 15 were radiocollared grizzly bears still out of dens.
 16 It wasn't clear how many would be a critical amount
 17 out of dens yet.
 18 And there was no -- nothing was addressed in
 19 terms of what that sample would offer of bears that
 20 were trapped, how reliable the information would be
 21 that you might get from trapped bears and their dates
 22 of denning, dates of den entry and exit.
 23 There was the difference in how regulations were
 24 promulgated for areas outside, occupied formally,
 25 designated occupied habitat and elsewhere within the

1 that I came across was 2012 when the department
 2 started reporting take of wolves by hunters and
 3 trappers. So I've looked at all the data that had
 4 been reported by the department since 2012.
 5 **Q. And what are some recent actions that the**
 6 **commission has taken regarding wolf trapping?**
 7 A. Recent actions?
 8 **Q. Correct.**
 9 A. I don't know what the most recent are. I
 10 know of some recent ones. When I look at the website,
 11 there's a notification there that says because of a
 12 court injunction, trapping was delayed till January
 13 1st and ending March 15th.
 14 I'm assuming that that later preexisting date
 15 was because of the Ninth Circuit ruling that allowed
 16 for the extension through March 15th, which is the
 17 normal end of the season.
 18 Other than that - and I would assume that that
 19 was by virtue of instruction from the commission that
 20 that notification was put on the website, but I don't
 21 know that for a fact - it's the adoption of the 2023
 22 regulations in 2023.
 23 **Q. Was there anything in those regulations**
 24 **that caught your eye pertaining to wolf trapping?**
 25 A. There were a number of things, a number of

1 area encompassed by grizzly bears may be present,
 2 where there was a hard set to the season beginning.
 3 So there were concerns about the progressively
 4 earlier season for trapping, which had been pushed
 5 back to, from what I could see from the wolf harvest
 6 reports, from December -- anyway, it had been pushed
 7 back to December 1st already.
 8 And the fact that the trapping season extended
 9 until March 15th, and in my personal experience, those
 10 are problematic dates, especially the March 15th date,
 11 in terms of bears being out and about in areas where
 12 were there would be traps set. So those are all
 13 issues that got my attention and were of concern.
 14 **Q. Okay.**
 15 A. So it didn't take long after Tim brought
 16 my attention to these trapping regulations, I
 17 downloaded them, read them, that I saw, yeah, there
 18 was ample cause for concern.
 19 **Q. What are some recent actions that the**
 20 **legislature has taken regarding wolf trapping and,**
 21 **specifically, the Montana legislature?**
 22 A. I'm not familiar with recent actions by
 23 the legislators, other than they've been promulgating
 24 a lot of new legislation that covers wildlife
 25 management.

1 **Q. Are you aware of any actions that FWP has**
 2 **taken regarding wolf trapping and snaring?**
 3 A. There's an education certification course
 4 that everybody has to go through. If they've been
 5 trapping anytime during the previous two-three years
 6 and have been previously certified, they can continue
 7 to. So it looks like the department is making an
 8 effort to try to improve the skills of the trappers to
 9 minimize by-catch and harm.
 10 **Q. And do you know when that action was**
 11 **taken?**
 12 A. The certification education?
 13 **Q. Yes.**
 14 A. As early as 2012.
 15 **Q. Okay.**
 16 A. I mean, as I recall, there were like 1500
 17 people that were certified licensed to trap.
 18 **Q. Did you get that data off FWP's website?**
 19 A. (Nodding head affirmatively.)
 20 **Q. Okay.**
 21 A. Yep. For your benefit, "yes."
 22 **Q. Was that data something that you looked at**
 23 **recently in regards to this lawsuit or were aware**
 24 **about before this lawsuit?**
 25 A. I started looking at it recently in regard

1 to this lawsuit.
 2 **Q. Are you familiar with Montana Code**
 3 **Annotated 87-1-901?**
 4 A. I have a hard time remembering my kids'
 5 birth dates. No, not by number; no.
 6 My wife gives me grief about forgetting her
 7 birthday, but anyway.
 8 MS. CLERGET: I have the same problem.
 9 MR. SCOLAVINO: I think we'll take another
 10 break here for five minutes and then we'll come back.
 11 (A brief recess was taken.)
 12 MR. SCOLAVINO: We're back on the record.
 13 It is 11:13.
 14 BY MR. SCOLAVINO:
 15 **Q. I just wanted to touch upon, just go back**
 16 **to some previous stuff that we may have covered. So I**
 17 **asked you a question about some recent actions the**
 18 **commission has taken regarding the wolf season. I**
 19 **just want to assure I have everything down. You**
 20 **mentioned 48-hour trap-check requirements?**
 21 A. Um-hmm [affirmative].
 22 **Q. The dimensions in the pans of the traps?**
 23 A. The pressure set for the pans on the
 24 traps, as well as the dimensions of the jaw traps,
 25 leg-hold traps.

1 **Q. You also mentioned the floating date and,**
 2 **specifically, November 27th being the earliest date,**
 3 **and some pause about the criteria going into shutting**
 4 **down the season, if I'm not correct.**
 5 A. Well, pause it just because it's not
 6 altogether clear other than to be monitoring bears
 7 that are collared going into their dens, keeping track
 8 of their den-entry dates.
 9 But, honestly, I'm not clear as to whether it's
 10 like all of them need to be in the dens before some
 11 review of the regulation or the opening date is
 12 undertaken, or whether a certain percentage. That's
 13 what I wasn't clear about.
 14 **Q. And then you also mentioned the area**
 15 **outside of the estimated occupied range, which we**
 16 **could coin as the "may-be-present area"?**
 17 A. Um-hmm [affirmative].
 18 **Q. And then the trapping season extending to**
 19 **March 15th?**
 20 A. And the fact that in the may-be-present
 21 area, there's a hard beginning date of the first
 22 Monday after Thanksgiving.
 23 **Q. Okay. Was there anything else, though? I**
 24 **just wanted to make sure I --**
 25 A. Yeah, those were the main issues that

1 concerned me, as well as on the traps, the required
 2 pressure for a breakaway.
 3 **Q. Oh, yes.**
 4 A. Between 500 and 1,000 pounds, depending on
 5 a trap set.
 6 **Q. Okay. And that was it, correct?**
 7 A. Um-hmm [affirmative].
 8 **Q. And then I just wanted to ask you about**
 9 **whether you're aware of the differences between**
 10 **previous regulations. So are you aware of the**
 11 **differences between the 2022 and the 2023 regulations?**
 12 A. 2022, not clear, just based on what I
 13 could see of the wolf harvest reports in terms of the
 14 exact dates. The last time there was any dates
 15 reported in the wolf harvest reports that I saw, at
 16 least on the material posted online, was something
 17 like 2013-2014, '13.
 18 It was a fairly conservative early start date,
 19 as I recall. I'm trying to remember. That's what I
 20 -- the impression I was left with. And then there had
 21 been a creep. I'm not sure when the pushback of the
 22 date was, when that was established, because it wasn't
 23 in the wolf harvest reports.
 24 **Q. So is it safe for me to assume that you**
 25 **wouldn't be aware of the differences, let's just say,**

1 **between 2021 and 2022, and 2020 and 2021?**
 2 A. In terms of the dates?
 3 **Q. Well, just anything about the regulations.**
 4 A. Yes, that would be a fair assumption.
 5 **Q. Okay.**
 6 A. Other than it already seemed to be a
 7 problematically early date prior to 2023 regulations.
 8 **Q. Okay.**
 9 A. Because that had become clear. And again,
 10 I don't have an exact recollection of a year when
 11 there was a pushback of the beginning date.
 12 **Q. Okay.**
 13 A. And it's also not clear to me whether
 14 there was a distinction between trap dates in occupied
 15 grizzly bear habitat versus outside of occupied
 16 grizzly bear habitat at any previous time.
 17 **Q. We're going to jump topics here and I'm**
 18 **going to start to just ask you some questions about**
 19 **grizzly bears now. Can you tell me about the**
 20 **distribution of grizzly bears in Montana?**
 21 A. Tell you about?
 22 **Q. Yes.**
 23 A. So I'm not sure what you mean by "about
 24 the distribution of grizzly bears." Like what is the
 25 extent of and how is it defined?

1 or investigate the documentation, or go out and visit
 2 the site to certify -- you know, determine whether, in
 3 fact, this looked like to be grizzly bear sign
 4 evidence. Also there's telemetry locations, GPS
 5 locations that feed into that, as well as conflict
 6 reports. Conflict reports are pretty reliable.
 7 **Q. Has the population in the GYE and the NCDE**
 8 **increased?**
 9 A. By all indications, they have increased,
 10 yeah. It depends on by how much and with what bounds
 11 of uncertainty.
 12 **Q. Do you know how much it's increased by or**
 13 **in your professional opinion?**
 14 A. In my professional opinion, I can tell you
 15 what Rick Mace and what Cecily Costello came up with.
 16 Rick Mace came up with 3.2 percent for data covering
 17 2004-2008, and then Costello came up with 3.2 percent
 18 -- or, no. It was 3.2 percent, and then she came up
 19 with a 2.3 percent growth rate, subsuming all of
 20 Rick's data in the data she used which spanned up to
 21 2014, because the most recent estimate of population
 22 growth rate was reported in 2016 for data ending 2014.
 23 The bounds of uncertainty, though, if you
 24 project out those growth rates, the lower conference
 25 limit, the upper conference limit for both of them, if

1 **Q. Yes.**
 2 A. I couldn't give you the exact square
 3 kilometers, but it certainly extends well beyond
 4 what's been described as the primary conservation area
 5 and Demographic Monitoring Area in the NCDE, as well
 6 as the GYE.
 7 So I know in the GYE, there's been probably a
 8 three- to fourfold increase, threefold increase,
 9 depending on when you, when you start looking at
 10 distribution data in the GYE.
 11 There's not much change in the distribution of
 12 the Cabinet-Yaak population, although there's been a
 13 creep in the distribution of the NCDE population as
 14 defined, as occupied towards the Yaak portion of the
 15 ecosystem.
 16 And in the Bitterroot, there's been -- and in
 17 areas in between the Bitterroot and the NCDE and GYE,
 18 there have been numerous verified, reliable reports of
 19 grizzly bears based on different sign, different
 20 evidence.
 21 **Q. When you say "verified reports," who is**
 22 **verifying those?**
 23 A. Montana Fish, Wildlife and Parks. And for
 24 the most part, where there are people such as Jamie
 25 Jonkel or, before him, Tim Manley that would go out,

1 you project out Rick's estimate, despite the fact that
 2 you have a 3.2 median or a central tendency to the
 3 estimate, you could currently have anywhere from 300
 4 bears to over 2,000, because that's how bounds of
 5 uncertainty expand as you project forward in time.
 6 If you look at Cecily's estimate, which is
 7 revised down substantially from Rick's estimate, you
 8 have bounds of uncertainty that are similarly wide if
 9 you project them out. Interestingly, that's not
 10 what's reported. What's reported is just a rote
 11 projection, sort of a central tendency projection,
 12 going out 2.3 percent from the base year of 2004,
 13 which was when Kate reported her estimate for the NCDE
 14 of 765 bears.
 15 So it's all referenced back to 765 bears, plus
 16 or minus. And it's virtually never the case that the
 17 uncertainty intervals are utilized in reporting any of
 18 this information to managers or anybody else.
 19 And the problem with the data and the estimates
 20 is that the population growth rate estimate has not
 21 been revised since 2016 for data ending in 2014. So
 22 you, when you look at the average age of the data that
 23 were used to come up with the current estimate of 2.3
 24 percent, it's currently between 15 and 16 years old.
 25 There's been no updating, no inclusion of data

1 from the last 20 years in any kind of estimate of
 2 population growth rate. It's all been on the basis of
 3 projecting out population growth from the baseline of
 4 2004 using estimates that were used, made from data
 5 that are stale, to say the least.
 6 So in terms of the veracity of doing that, there
 7 is no justification, really. I mean, there's no good
 8 justification in terms of any kind of credible
 9 scientific practices.
 10 The other thing is, too, that Cecily used
 11 RISKMAN to come up with some projections, which is a
 12 software package that you can load in your vital
 13 rates, treat uncertainty in all sorts of different
 14 ways. And I closely scrutinized how she treated
 15 uncertainty in her projections, simulations, and it
 16 was lowballing the effects of uncertainty at every
 17 step along the way.
 18 So when I took her vital rates and -- so there's
 19 a problem of projecting out from the past into the
 20 future based on data that are obsolete, uninformative
 21 in terms of current on-the-ground conditions, but
 22 also a haphazard, ill-informed treatment of
 23 uncertainty in all those estimates by whatever means
 24 or methods.
 25 But interestingly enough, if you look at --

1 would suggest by the weight of evidence that
 2 population growth rate has been near zero percent
 3 recently, than 2.3 percent or 3.2 percent, the other
 4 problem with population monitoring, the big problem
 5 that I've seen in terms of how population monitoring
 6 has been treated.
 7 I mean, the other thing that weighs in, in terms
 8 of how to judge Rick's 3.2 percent versus Cecily's 2.3
 9 percent is if you look at when Rick collected all
 10 those data, reported mortality was at low ebb. So his
 11 data encompassed a pretty auspicious time in terms of
 12 what was going on with bears.
 13 You had increasing mortality subsequent to the
 14 data that Rick used that probably account for why the
 15 population trajectory estimate for Cecily's work came
 16 down a bit, which was conciliant with having a bump in
 17 reporting mortality. And reported mortality has
 18 continued to trend upward, so that would suggest that
 19 we're not in a particularly auspicious time.
 20 But going back to where I left off, what's also
 21 problematic is that this projection, which is not
 22 defensible by any credible scientific standards that
 23 I'm aware of, it's for the entire population, without
 24 respects to whether it's for the PCA, the Demographic
 25 Monitoring Area, or the population in toto.

1 there is a requirement in the monitoring protocols
 2 that the death rates/survival rates of adult females
 3 be revised using a six-year moving window of data.
 4 The death rates of adult females have increased from
 5 about 4.6 percent; for the data that Cecily used,
 6 about 7 percent.
 7 So that's a 43 percent increase in death rates
 8 of adult females since 2014, according to Cecily's own
 9 estimates. That increase in female, adult female
 10 mortality rates has not been fed back into the revised
 11 estimate as yet of population growth rate. Although,
 12 as I understand it, she's working on a revised
 13 estimate for population growth rate.
 14 But if you looked at what happened, just by
 15 including a few more years of data to what Rick was
 16 using that Cecily then used, and you've got a downward
 17 revision of population growth trajectory from 3.2 to
 18 2.3 percent. It would suggest that, in fact, the
 19 population growth rate has been declining, if you
 20 project the second derivative, especially, essentially
 21 of what's happening with growth rate out into the
 22 future.
 23 If you look at 7 percent more death rate for
 24 females as being, basically, at the limit of what's
 25 considered to be a threshold of sustainability, it

1 So if you look at the distribution of the NCDE,
 2 there's currently more than 30 percent of the
 3 distribution outside the Demographic Monitoring Area.
 4 So if you're looking at what is the size of the
 5 population within the Demographic Monitoring Area,
 6 it's certainly less than whatever the total is you've
 7 calculated for the entire population because there's
 8 no geospatial balance set to that.
 9 So at every step along the way, there's this
 10 intent to inflate what's been going on with the
 11 grizzly bear population size trend. You can look
 12 systematically at all the decisions that have been
 13 made.
 14 MS. CLERGET: I'm just going to tell you
 15 that you've got to slow down or you're going to kill
 16 Candi.
 17 THE WITNESS: Oh, I'm sorry. I'm sorry.
 18 **Q. (By Mr. Scolavino) Who is Rick?**
 19 A. Rick Mace. He was in charge of grizzly
 20 bear research prior to Cecily stepping into his shoes.
 21 **Q. So Rick, his study or data was pulled off**
 22 **of the NCDE?**
 23 A. NCDE.
 24 **Q. Okay.**
 25 A. This is all in reference to the NCDE.

1 **Q. Okay.**
 2 A. I can get you the GYE, but that's the
 3 NCDE.
 4 **Q. And even though Cecily's data was revised,**
 5 **you still have questions about her conclusion?**
 6 A. The estimate, the estimate of population
 7 growth rate that is currently being used to project
 8 out population size was based on data up through 2014,
 9 which is ten years old. And those data were already
 10 old because you're backcasting, you're folding in data
 11 from 2004.
 12 So when you look at the age of the data and,
 13 actually, I looked explicitly at the breakdown of the
 14 years that contributed to the dataset, the average age
 15 of the data used, be it for projecting out the current
 16 size of the population, is 15 to 16 years old. And
 17 there's none of the data that went into this 2.3
 18 percent estimate that's younger than 10 years old.
 19 So there's two different things going on here.
 20 There's a projecting out of population size based on
 21 an estimate made on old, stale data. But
 22 concurrently, and at that time, the estimated
 23 mortality rate of females was about 4.6 percent.
 24 And it was determined through Cecily's exercises
 25 with RISKMAN, which is this software, that 7 percent

1 mortality rate for females was sustainable. So,
 2 originally, 2014, we were looking at 4.6 percent.
 3 Baseline, you know, what was considered tolerable
 4 sustainable was 7 percent, so a comfortable balance,
 5 seemingly.
 6 There's a provision in the monitoring strategy
 7 for the NCDE that the female death rates, survival
 8 rates, which are the inverse of each other, be updated
 9 on the basis of a six-year moving window of data.
 10 Ever since that's been done, death rates for
 11 females have been between 6 to 7 percent per annum,
 12 and that's not accounting for uncertainty of the
 13 estimate, which is another problem. But even taking
 14 that central tendency estimate of 6 to 7 percent, that
 15 is right at what would be considered barely
 16 sustainable.
 17 So it's more consistent with concluding that the
 18 population growth rate is near zero percent than 2.3
 19 percent because of that 43-plus percent increase in
 20 death rates for adult females. And all these
 21 estimates of population growth rate are piggybacked on
 22 what's going on with adult females.
 23 **Q. And so is there something that you're**
 24 **aware of that is causing the adult females to die more**
 25 **rapidly?**

1 A. By all the indications, if you look at the
 2 data, the number of bears that have been recorded to
 3 have died, that's been an increasing trend, especially
 4 in recent years, if you're looking at a three-year
 5 moving average, which is the more credible way to do
 6 that.
 7 I mean, also, just to insert, to amplify a
 8 certain point, managing on the basis of estimated
 9 survival rates and population growth rate, invariably,
 10 you're managing looking in the rear-view mirror
 11 because you have to have enough data to come up with a
 12 reliable estimate. And, invariably, then you have to
 13 draw on data that are old, or at least retrospective,
 14 which doesn't tell you what's going on right now.
 15 So an additional problem with monitoring in the
 16 NCDE is, unlike in the GYE, there's no realtime
 17 provision for monitoring trend or status of the
 18 population because there's not a similar program in
 19 the NCDE as there is in the GYE of tracking numbers of
 20 unduplicated females with cub-of-the-year, which gives
 21 you that realtime data that then you can fold into
 22 your estimates of what's going on or understanding
 23 what's going on with the population.
 24 So there's no realtime check. It's all based on
 25 old data being indefensively projected forward in

1 time.
 2 **Q. But is there something in particular that**
 3 **is causing those females to die, an increase from 4.6**
 4 **percent to 7, 6 to 7?**
 5 A. It depends on which side of the ecosystem
 6 you're on. There's a whole different constellation of
 7 mortality causes on the west side of the ecosystem
 8 versus the east side of the ecosystem.
 9 On the east side of the ecosystem, it's much
 10 more driven by encounters with big game hunters and
 11 ag-related conflicts, so conflicts over attractants in
 12 the form of crops, livestock, boneyards.
 13 On the west side, there's a higher incidence,
 14 has been always, continues to be a higher incidence of
 15 bears being killed by black bear hunters, a mistaken
 16 ID. There's also many more deaths from conflicts over
 17 garbage attractants that are associated with high
 18 densities of people in the Flathead Valley. And
 19 documented poaching occurs at a higher rate on the
 20 west side.
 21 And that's the imponderable. So there's also
 22 this category of unknown human caused or just unknown
 23 cause. Those are the two categories that are the
 24 buggers, like how do you reliably track the numbers of
 25 bears dying because of malicious killing, poaching, or

1 in a suggestive way in that category of human caused
 2 but unknown? You find remains that suggests that the
 3 bear died from a human cause, but you don't have an
 4 investigation that can pin it to some malfeasance or
 5 maliciousness.

6 So, plausibly, that category, rather than being
 7 standalone, can be treated sort of as the range of
 8 options, as also prospectively including poaching,
 9 malicious killing.

10 **Q. I'm trying to phrase this question and I**
 11 **don't know if I'm going to phrase this right. What**
 12 **would you need or what do you think would make the**
 13 **data current? What year span?**

14 **You're saying it's old data from 2004. What**
 15 **would make it current in your eyes?**

16 A. Cecily doing what I understand she is
 17 doing, which is updating the estimate of population
 18 growth rate using data collected during more recent
 19 years. The problem is that you're still backcasting.
 20 You're still looking in the rear-view mirror because
 21 to come up with a population of estimated -- an
 22 estimate of population growth rate, you have to use
 23 data that goes back multiple years.

24 So I'm not sure how much data she's going to be
 25 folding in to come up with this revised estimate, but

1 A. All the grizzly brown bears in the world,
 2 although they're not grizzly bears in Eurasia, are
 3 Ursus Arctos. The taxonomy of Ursus arctos is really
 4 a bugaboo. To understand what might be somewhat
 5 unique about grizzly bears in Montana, actually
 6 inclusive of everything south of some southerly
 7 latitude in B.C. and Alberta, is that they belong to a
 8 different genetic lineage. It's called "clade 4,"
 9 which has a unique history and biogeography.

10 Clade 4 grizzly bears arrived probably 70,000
 11 years ago in Beringia. They, by all indications, were
 12 in at mid latitudes prior to the coalescence of the
 13 continental ice sheets, and then they were
 14 subsequently isolated by the ice sheets. All clade 4
 15 bears everywhere else in the world went extinct.

16 So we're still talking about the same species,
 17 just a different clade, which is a finer-grained
 18 differentiation, except there's one small relic of
 19 clade 4 bears in Hokkaido in Japan. So bears at mid
 20 latitudes in North America, inclusive of all the bears
 21 that were down to Mexico, were of this clade 4. And
 22 of that clade, we've lost probably, if you include
 23 what we have in Canada, probably 90 percent of the
 24 former numbers in distribution of that clade.

25 In the U.S., we probably have 4 percent of the

1 ideally, you would truncate it to as few years as
 2 possible to give as much of a realtime estimate as
 3 possible.

4 The problem is that the bounds of uncertainty on
 5 your estimates increase, which means, then, if you're
 6 projecting out, then you have the same phenomenon of
 7 the exploding confidence intervals in terms of
 8 estimated numbers of bears.

9 So that's a tradeoff. But I would argue that's
 10 the desirable tradeoff, to use more recent data and
 11 have estimates that are more uncertain, rather than
 12 using data that go back to the point of being
 13 irrelevant to understand what is currently going on.

14 **Q. Okay.**

15 A. But we don't have that estimate in hand
 16 yet.

17 **Q. Okay.**

18 A. Another -- anyway, there's multiple
 19 problems here, but I won't get into all of them unless
 20 you ask me.

21 **Q. Do grizzly bears in Montana differ from**
 22 **those elsewhere in the world?**

23 A. In what regards are you wondering?

24 **Q. Just species wise, are they the same**
 25 **species?**

1 former numbers in distribution of that clade that we
 2 once had in the contiguous U.S. So in terms of
 3 evolutionary history and genetic lineage, all the
 4 bears at mid latitudes in the U.S. are at clade 4.

5 **Q. What about habits between bears? So bears**
 6 **in the GYE and the NCDE, do they have similar habits,**
 7 **the same habits?**

8 A. As in are you asking whether they have a
 9 similar or different diet?

10 **Q. Diet, denning.**

11 A. Foraging behaviors --

12 **Q. Yes.**

13 A. -- denning? It's been really well, pretty
 14 well demonstrated. I mean, in terms of fundamental
 15 behaviors, behavioral proclivities, we have no reason
 16 to think that grizzly bears in the Arctic differ from
 17 grizzly bears in the GYE or grizzly bears anywhere in
 18 between. It's what is thrown into relief by their
 19 environment in terms of their behavioral tendencies:
 20 What they choose to do, when they choose to do it, and
 21 where.

22 So the fundamentals are the same. There's no
 23 reason to believe they differ. If you look at
 24 digestive ecology, you look at morphology, you look
 25 at, you know, dentition, you look at any aspect, it's

1 basically, if there's any variation, it predictably is
 2 because of variation in body size, period. And that's
 3 a function of diet.

4 So insofar as what we have in the GYE versus the
 5 NCDE, it depends on what time period you're talking
 6 about. There's good evidence to suggest, from the
 7 work that Keith Aune did along the East Front, that
 8 bears along the East Front ate a lot of whitebark pine
 9 seeds when whitebark pine were still extant. Chuck
 10 Jonkel found good evidence that bears ate whitebark
 11 pine seeds in the Whitefish range back in the 1960s.
 12 We co-authored a paper on that.

13 So at one time, diets of bears along the East
 14 Front were probably remarkably similar to diets of
 15 bears in the GYE, in the sense of consuming a lot of
 16 whitebark pine seeds and also eating a lot of meat.
 17 So bears along the East Front have always eaten more
 18 meat than bears elsewhere in the NCDE.

19 I mean, Keith Aune showed that with his work,
 20 but also Rick Mace did some isotopic analysis of bear
 21 hairs, bear tissues that showed this grading of meat
 22 consumption as you went from the far northwest corner
 23 of the state east and south. So by the time you get
 24 to the Blackfoot, you have a lot of meat consumption.
 25 By the time you get to the East Front, you have a lot

1 fruit. And, of course, you have to factor in that
 2 there's been a lot of variability attributed to just
 3 individuals. Different bears make different choices
 4 in terms of what they consume, outside of the modality
 5 of eating probably what's most abundant and what's
 6 most nutritious.

7 Also, there's some major distinctions in terms
 8 of sex/age classes of bears. Just about every
 9 ecosystem, males eat more meat than females. And that
 10 also is the case in southeastern B.C., northwestern
 11 Montana. Where bears get meat differs. In
 12 northwestern Montana, a lot of it is from scavenging
 13 kills made by hunters: Remains of deer, for the most
 14 part; moose, also. There's more moose consumed by
 15 bears in southeastern B.C.

16 When you get down to Yellowstone, you get to the
 17 East Front, there's more elk, but livestock are the
 18 main source of meat. You get down to the GYE, elk
 19 have always been a prominent source of meat; bison, to
 20 a certain extent.

21 You look at trends over time, increasingly,
 22 bears in the GYE are eating more meat from livestock.
 23 That increase in consumption has been by virtue of the
 24 loss of whitebark pine seeds. I mean, you know,
 25 there's a strong temporal correlation. Bears are

1 of meat consumption.

2 So there's a remarkable similarity in terms of
 3 diets and presumed behaviors. I mean, if you look at
 4 Keith Aune's report for the East Front study, you look
 5 at habitat use, I mean, yeah, the habitat types were
 6 different, but the basic orientations were much the
 7 same.

8 As you go further northwest, you have an
 9 increase in fruit and foliage in the bear diets. So
 10 you reach sort of a peak in terms of consumption of
 11 fruit and foliage. When you get to the Cabinet-Yaak
 12 population far northwest corner, Glacier area -
 13 northwest corner, the NCDE outside of Glacier, north
 14 of Highway 2, basically, into southeast B.C., you get
 15 over into Alberta, you have -- hedysarum roots are a
 16 major component of the diet, buffalo berry is a major
 17 component of the diet.

18 So there was also a lot of root digging on the
 19 East Front. Biscuit root was prominent, is still as
 20 far as I know. Nobody has really looked at it
 21 recently, you know, in detail, food habits on the East
 22 Front. But they ate a lot of biscuit root,
 23 apparently. The same as in Yellowstone.

24 So there's a lot of similarities, some
 25 differences. Grizzly bears in Yellowstone didn't eat

1 eating increasing amounts of army cutworms moths in
 2 the GYE, probably also compensatory.

3 We're learning more about bear consumption of
 4 army cutworm moths in Glacier. We don't know that
 5 much about their consumption of army cutworm moths as
 6 we go further down through the NCDE, although the
 7 Craigheads, or at least John Craighead documented it
 8 in the Scapegoat, and Keith's documented it in the --
 9 further north. I forget the exact place.

10 So there's a lot of variability. There's some
 11 general themes, general trends, but more fruit to the
 12 north and west, adults eating more meat. And evidence
 13 from Yellowstone suggests that the advent of wolves
 14 has introduced a whole new dynamic in terms of bear
 15 diets, especially for males.

16 Q. What about just den entry and emergence?
 17 A difference?

18 A. There's a lot of evidence that den entry
 19 and emergence dates correlate strongly with climate.
 20 So the further south you get and/or as you get into
 21 areas that are a bit warmer and a shorter duration
 22 snowpack, you will have later den-entry dates, earlier
 23 den-exit dates.

24 In southeastern B.C., for example, which is
 25 called by some an "inland rain forest," they get huge

1 amounts of snow that accumulate early, last late. So
 2 you have a fundamentally different denning phenology
 3 there which is more prolonged.
 4 You get down to the Cabinet-Yaak, which is
 5 warmer, less snowpack, still wet, you have later
 6 den-entry dates, earlier den-exit dates.
 7 In the GYE, you similarly, as you're getting
 8 into a different environment, you have earlier
 9 den-exit dates, later den-entry dates compared to in
 10 southeastern B.C.
 11 **Q. So is it safe to assume that latitude**
 12 **affects den-entry dates, then?**
 13 A. Latitude, strongly modified by local
 14 climate.
 15 **Q. Okay.**
 16 A. And that is evident by just going from
 17 southeastern B.C. to the Cabinet-Yaak.
 18 **Q. Okay. Does elevation affect that at all?**
 19 A. Yes.
 20 **Q. Okay.**
 21 A. Although southeastern B.C. is at a
 22 comparable elevation, for the most part, except for
 23 the highest peaks. But where you look at the
 24 distribution of dens, it's not that dissimilar to the
 25 Cabinet-Yaak.

1 **Q. You previously mentioned grizzly bears**
 2 **changing their diets because of wolves on the**
 3 **landscape. Do you mind talking to me about or**
 4 **discussing grizzly bears and wolf kills, how prominent**
 5 **it is?**
 6 A. From everything I understand, and a lot of
 7 this work has been done by Kerry Gunther and Doug
 8 Smith in Yellowstone in the contiguous U.S., there was
 9 also some previous work looking at usurpation of
 10 cougar kills on the north fork of the Flathead, but a
 11 similar phenomenon.
 12 There's also work along those lines from
 13 Yellowstone. So it's one predator killing an animal,
 14 and then a bear moving in and usurping that carcass,
 15 is the basic general phenomenon. And that's been
 16 well-documented. Going back to the 1980s, I think
 17 that's when the north fork work was done.
 18 But it's been much more evident in the GYE since
 19 the arrival of wolves. It's suggestive that there are
 20 males that are following wolves around, potentially
 21 well into the winter, usurping wolf kills. I mean,
 22 there's a lot of evidence from different studies,
 23 basically, globally, looking at *Ursus arctos*, to
 24 suggest if you have an augmented food supply, bears
 25 will stay out of their dens. And that's been evident

1 where bears are deliberately fed in the Balkans area,
 2 into Romania, that there's delayed den entry when
 3 there's food available. So that's the basic
 4 phenomenon.
 5 There's also lots of evidence from Sweden, in
 6 particular, of this intra-specific interaction between
 7 grizzly bears and wolves: Wolves making kills; brown
 8 bears, grizzly bears usurping those kills and
 9 affecting wolf behavior.
 10 But the idea, it's been shown that grizzly
 11 bears, especially in Norway, or Sweden and Norway,
 12 there will be bears that specialize in following
 13 wolves to usurp their kills, which makes total sense.
 14 **Q. That's in Sweden?**
 15 A. Sweden.
 16 **Q. Has that been documented here as well?**
 17 A. In northern Yellowstone Park, yes,
 18 predominantly.
 19 **Q. Okay.**
 20 A. Actually, in Yellowstone Park at large,
 21 but in Yellowstone, yes.
 22 **Q. This is a clarification question: Do all**
 23 **grizzly bears follow wolves or is it certain grizzly**
 24 **bears that create this specialty over time?**
 25 A. Do all grizzlies -- are all grizzly bears

1 right-footed or left-footed? That's kind of an inane
 2 question. There are, by all indications, there are
 3 some bears that specialize in following wolves, just
 4 like there are some grizzly bears that specialize in
 5 predating on livestock, or predating on bull elk and
 6 bull moose, or that specialize in digging roots, or
 7 that specialize in grazing in certain -- in avalanche
 8 chutes as opposed to scavenging for spring carrion.
 9 There's a lot of variation amongst individuals,
 10 but it is a pronounced pattern of bears, of there
 11 being a significant number of bears specializing in
 12 eating meat, which attenuates their activity period.
 13 **Q. Does it occur more prominently during**
 14 **certain periods of time?**
 15 A. To my understanding, from what's been
 16 documented in Yellowstone with wolves and cougars, as
 17 well as cougars in the north fork, it's been more
 18 evident in the winter. But it's not clear to me
 19 whether that's because of the monitoring program
 20 regimen that they're detecting it more in the winter,
 21 but it seems to be a year-round phenomenon in
 22 Yellowstone.
 23 **Q. Okay. I know you mentioned "males"**
 24 **earlier, but do females also -- have there been**
 25 **documented cases of females doing this and females**

1 with cubs doing this?
 2 A. Rare for females with cubs to run the risk
 3 of appropriating a wolf kill. The evidence seems to
 4 be pretty conclusive about that. In Scandinavia, it
 5 seems like females will specialize in appropriating
 6 wolf kills along with males.
 7 There hasn't been any updated publications or
 8 reports that have folded in recent information about
 9 grizzly bears following wolves in Yellowstone since
 10 Doug Smith and Kerry Gunther published the results
 11 back a number of years now. So I'm not sure what's
 12 going on now other than a lot of anecdotal
 13 observations, as well as my own personal observations,
 14 of bears appropriating wolf kills in Yellowstone
 15 during the spring.
16 Q. Does pack size affect whether a bear will
17 usurp -- is that correct?
 18 A. Usurp [pronouncing].
19 Q. -- usurp a kill, a wolf kill, the wolf
20 pack size?
 21 A. Not clear. I'm not sure that I've seen
 22 any information to suggest that would be a factor one
 23 way or another.
24 Q. When these grizzly bears usurp these
25 kills, are they actually claiming the kill and the

1 A. That was part of the comprehensive review
 2 that Chris Servheen and Dick Knight put together based
 3 on a compilation of data from throughout the northern
 4 hemisphere prior to the reintroduction of wolves in
 5 the GYE.
 6 So there was already pretty clear evidence that
 7 there was this dynamic in places where we had both
 8 brown bears, grizzly bears; and wolves. And those
 9 data span 1950s, as I recall, up through the time that
 10 that report was published.
 11 In terms of specific to Yellowstone,
 12 anecdotally, it was evident that this was a phenomenon
 13 shortly after wolves were dropped on the ground. But
 14 in terms of something published, it wasn't until that
 15 paper by Kerry and Doug in, I forget when it was, the
 16 early 2000s.
17 Q. Okay.
 18 A. And then more recently, the Scandinavian
 19 research program got off the ground and it's been
 20 gangbusters. And it's produced some pretty compelling
 21 evidence of inter-dependency, inter-relations between
 22 wolves and grizzly bears, brown bears affecting
 23 wolves, tracking bears, usurping their kills.
24 Q. Okay. Have you, yourself, ever witnessed
25 a grizzly bear with an injury?

1 wolves will never push them out, or is there a
2 possibility that the wolves are pushing them out?
 3 A. "Possibility" as in a 1 percent, 2
 4 percent, 5 percent, 10 percent possibility. There's a
 5 possibility that wolves will push the bears out; that
 6 it's not always the case that grizzly bears will
 7 terminally possess the carcass.
 8 I mean, in addition to what I've been
 9 describing, there was a compilation put together by
 10 Chris Servheen and Dick Knight for this analysis
 11 projecting what might happen with reintroduction of
 12 wolves into Yellowstone that dates back to whenever
 13 that was happening, 19 -- early 1990s.
 14 And they reviewed all the records of bear-wolf
 15 interactions from around the world, including Eurasia
 16 and Canada. And based on that compilation, brown
 17 bears, grizzly bears, were the winners of a
 18 competition for a carcass most of the time.
19 Q. Okay. And earlier, you mentioned the
20 1980s, so it's --
 21 A. That was in relation to cougar, cougar
 22 predation, usurpation of carcasses by bears. So it
 23 was more specific to cougars on the north fork.
24 Q. When did grizzly bears usurping wolf kills
25 come to light? Was there a specific time period?

1 A. Yes, absolutely.
2 Q. How many?
 3 A. Probably a half-dozen.
4 Q. And that's spanning your entire career?
5 How many years would that span?
 6 A. Yeah, I mean, aside from the bears that
 7 were dead where I saw their remains, you know, on the
 8 ground, yeah, that would have been primarily during
 9 the time that I was working in the park.
10 Q. Okay. What type of injury did those bears
11 have?
 12 A. All kinds of injuries: A lot of injuries
 13 to the head, to the shoulders, to the legs, to the
 14 hindquarters. I mean, it depended on the bear, and
 15 some were pretty serious.
16 Q. Were any of those injuries what you could
17 correlate to being a trap-like injury?
 18 A. In terms of research trapping or are you
 19 talking about recreational trapping?
20 Q. I think it would be difficult to
21 determine, but you tell me.
 22 A. Definitely, injuries from research
 23 trapping from having canines broken on barrel traps,
 24 to foot injury, and one foot injury I know of from a
 25 snare set. I've certainly seen injuries to cougars

1 from snare sets.
 2 **Q. When you say "snare set," is that a foot**
 3 **snare?**
 4 A. Foot snare, yeah.
 5 **Q. How many bears have you seen with a**
 6 **foot-snare injury?**
 7 A. One.
 8 **Q. Where was that bear located?**
 9 A. In Yellowstone.
 10 **Q. Do you remember when that was?**
 11 A. It would have been somewhere during the
 12 time that I was working for the Grizzly Bear Study
 13 Team.
 14 **Q. Okay. And was there anything that**
 15 **indicated to you that it was an injury from a foot**
 16 **snare?**
 17 A. By knowing that the bear had been in a
 18 foot snare.
 19 **Q. Oh, Okay.**
 20 A. And was released from a foot snare.
 21 **Q. So the injury occurred from the foot**
 22 **snare?**
 23 A. Yes.
 24 **Q. And there's no way that you could**
 25 **determine that that injury occurred before it was**

1 for?
 2 A. No, other than it had a collar with a
 3 strap that would weather, and the collar would
 4 automatically drop off. And that would be after about
 5 three years at the maximum.
 6 **Q. Do you recall if that occurred naturally**
 7 **or if the bear was deceased before then?**
 8 A. If we lost a collar, you have different
 9 ways of treating that analyses because you don't know
 10 whether it was because it died, or just dropped the
 11 collar, or what the circumstances were.
 12 **Q. Okay.**
 13 A. Unless you retrieve the collar.
 14 **Q. Did you, yourself, retrieve that collar?**
 15 A. I don't think I retrieved that collar. I
 16 retrieved a lot of other collars.
 17 **Q. Was that foot snare -- or "leg-hold**
 18 **snare," I believe it's called, correct?**
 19 A. Foot snare.
 20 **Q. Foot snare. Was that foot snare put out**
 21 **for research purposes?**
 22 A. Yes.
 23 **Q. Okay.**
 24 A. And it was closely monitored.
 25 **Q. How old was that bear at the time, do you**

1 trapped in the foot snare?
 2 A. There's no way that I could determine that
 3 my leukemia preceded the time it was detected. So,
 4 you know, asking for that kind of counterfactual is
 5 kind of a stretch.
 6 **Q. Okay. Do you have any photos documenting**
 7 **that injury?**
 8 A. No.
 9 **Q. Okay.**
 10 A. No.
 11 **Q. And was that grizzly bear euthanized?**
 12 A. No.
 13 **Q. Did it exhibit any struggle when it left**
 14 **your possession or your site?**
 15 A. Yes.
 16 **Q. What type of struggle did it exhibit?**
 17 A. As in lame, limping, difficulty moving,
 18 there was evidence of impaired foraging afterwards
 19 based on radio monitoring.
 20 **Q. Okay. So I'm assuming you radiocollared**
 21 **it, then?**
 22 A. Yes.
 23 **Q. And how long did that bear live for?**
 24 A. I don't recall for how long.
 25 **Q. Do you recall how long it was collared**

1 recall?
 2 A. I don't recall other than I think it was
 3 an adult.
 4 **Q. Was it a male?**
 5 A. No.
 6 **Q. It was a female?**
 7 A. I think, I'm pretty sure it was, yeah.
 8 **Q. Have you ever witnessed a grizzly bear**
 9 **with an injury in a foothold trap?**
 10 A. No, I haven't.
 11 **Q. Okay. Have you ever witnessed a grizzly**
 12 **bear with an injury from a body-gripping trap?**
 13 A. No, nor have I witnessed two semis
 14 colliding on the highway or an airplane falling out of
 15 the sky. So these are, intrinsically, low probability
 16 but potentially high-impact incidents, which is a
 17 difficult one to assess in terms of probabilities,
 18 likelihoods.
 19 And in terms of personal knowledge, even though
 20 I haven't had personally observed things, my sphere of
 21 personal-lived experience is not infinite.
 22 **Q. Okay. How many -- I'm going to rephrase**
 23 **this question. At what point does the bear lose the**
 24 **ability to forage if they lose their claws?**
 25 **How many claws would they have to lose?**

1 A. How many claws? There's no absolute
 2 answer for that. I mean, so much of this is based on
 3 probability and likelihood. You know, some
 4 likelihoods and probabilities are intrinsically
 5 difficult to judge with any precision, especially for
 6 that kind of stuff where it's a low incidence but
 7 potentially high-impact kind of phenomenon.
 8 It's a classic problem/issue with risk analysis.
 9 You know, how do you estimate these sort of
 10 probabilities, other than you know by virtue of
 11 configuring circumstances that something like that is
 12 that going to happen if you have enough of the right
 13 configuring circumstances on the land.
 14 **Q. I'm going to jump back to that**
 15 **foothold-snare bear. You mentioned that you collared**
 16 **it. Did you monitor that bear after it left the trap,**
 17 **personally observe it?**
 18 A. As in watch it walk away?
 19 **Q. Well, after it walked away. So let's just**
 20 **say two months later and you went out in the field,**
 21 **were there any instances where you went out in the**
 22 **field and you personally observed it again?**
 23 A. I observed it. It was not that often that
 24 I came face-to-face with a grizzly bear. There were
 25 instances where I could watch them forage, but most of

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1 what I examined were the signs of their feeding
 2 activity after they had left.
 3 So back then, they were using VHF, so we did
 4 aerial overflights at the 7- to, basically, 14-day
 5 intervals. So you would go in and then you would
 6 visit these sites, so that would be the nature of the
 7 evidence.
 8 As to associating evidence specific to that bear
 9 with those kinds of site investigations, I don't
 10 recall.
 11 MS. CLERGET: Do you want a lunch break?
 12 MR. SCOLAVINO: Yeah, we can do a lunch
 13 break.
 14 THE WITNESS: All right. Sounds good.
 15 (The lunch recess was taken.)
 16 BY MR. SCOLAVINO:
 17 **Q. Okay.**
 18 A. You were asking about membership in
 19 organizations. And I recollected, the problem is my
 20 wife signs me up as a couple for these different
 21 organizations, but the Northern Plains Resource
 22 Council and the Yellowstone River Bend Council, I
 23 think it is.
 24 **Q. Okay.**
 25 A. Yeah, I'm on the books.

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1 **Q. Okay. Awesome, thank you for --**
 2 A. Recollecting --
 3 **Q. -- getting back, yeah.**
 4 A. -- this important information.
 5 **Q. So I just want to discuss some things that**
 6 **we were chatting about before we took our lunch break.**
 7 **We were talking about growth rate.**
 8 **I wanted to know what you think the growth rate**
 9 **is because I heard you talk about Cecily's and Rick's**
 10 **percentages. What do you think the growth rate is?**
 11 A. The best available information to my mind
 12 and looking at weight of evidence, I would say it's
 13 closer to zero percent.
 14 **Q. So you think it's zero percent.**
 15 A. Probably not -- less than 2.3, 2.3 percent
 16 for sure; probably closer to zero percent.
 17 **Q. Okay.**
 18 A. Based on the second derivative of what was
 19 happening to growth rates between Rick's estimate,
 20 Cecily's estimate, and then factoring in that the
 21 RISKMAN projections suggested that 7 percent adult
 22 female mortality was sort of the maximum tolerable,
 23 and the NCDE population has been that for the last
 24 four years that Cecily's updated that estimate. It
 25 was 6 percent one year, but a 3-year, 7 percent using

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1 a 6-year moving average.
 2 **Q. Okay. Is there any specific data that you**
 3 **are relying on to come to that assumption or**
 4 **conclusion?**
 5 A. The data that's available in Cecily's 2016
 6 report, the monitoring report subsequent to that,
 7 Rick's 2012 report, and the monitoring reports that he
 8 put out.
 9 **Q. Do you run your own data off of that, or**
 10 **are you finding uncertainties in their data to base**
 11 **your own conclusions? How do you come to that**
 12 **conclusion?**
 13 A. I take the values that they offer, and
 14 then I do a very simple projection, for one. In the
 15 case of the RISKMAN software, I took the reported
 16 vital rates from the 2016 report and input them and
 17 ran through different scenarios of how you could treat
 18 the uncertainty that she reported. And then based on
 19 that, I went through the same calculations she went
 20 through. So nothing too terribly dramatic but,
 21 basically, working with existing data information.
 22 **Q. When you say you think the population**
 23 **growth rate is somewhere below 2.3 percent but closer**
 24 **to zero percent, is that based off of a 95 percent**
 25 **confidence interval?**

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1 A. Oh, if I was saying 95 percent confidence
 2 interval projecting out the uncertainty based on the
 3 previous estimates of growth rate, it could be
 4 anywhere from negative, you know, a large negative
 5 figure to a very large positive figure.
 6 **Q. Okay.**
 7 A. But the problem is that there's
 8 under-accounting of uncertainty as reported by Cecily.
 9 So I would argue that she has no basis for offering an
 10 informed perspective on the uncertainty around the
 11 estimates she's been putting out there. And there's
 12 little basis, in fact, no defensible basis for the
 13 current population estimate she's been reporting.
 14 **Q. When you say "no basis," could you just**
 15 **elaborate just so I understand?**
 16 A. No scientific, no credible scientific
 17 standards could be invoked to justify taking a
 18 population growth rate that relies on data that are,
 19 on average, 15 to 16 years old; haven't been updated
 20 for the last 10 years; and projecting it out ad
 21 nauseam, pegging it to a 2004 estimate of population
 22 size.
 23 **Q. Okay.**
 24 A. That doesn't even pass muster as
 25 speculation.

1 **Q. We also talked about the distribution, and**
 2 **we tangented off to the population in Montana. I**
 3 **wanted to know: How many bears do you think are on**
 4 **the ground in Montana?**
 5 A. I don't have a clue. I mean, I don't have
 6 an estimate that I could say, "This is how many I
 7 think." I think there's bounds. You know, if we look
 8 back to when the grizzly bears were listed in '75, the
 9 population estimate was anywhere from 450 to 650, and
 10 that was a ballpark guess, sort a back-up-the-envelope
 11 guess.
 12 The only reliable estimate, I think, is the one
 13 Kate Kendall published in 2000-when-ever, it was 2006,
 14 but based on 2004 data of 765, and there was a pretty
 15 significant uncertainty envelope around that estimate.
 16 That's the last time, I think, we had any good
 17 understanding of how many bears are on the ground in
 18 the NCDE for sure.
 19 And then subsequently, Kate did her work based
 20 on DNA hair snagging, or hair snagging and DNA, and in
 21 the Cabinet-Yaak to come up with an estimate for those
 22 populations, which comported with what had been
 23 currently estimated by Wayne Kasworm. But that's like
 24 maybe 65 all told, including the Cabinets-Yaaks, and
 25 including augmentation bears.

1 There's good reason to believe we have more
 2 bears than 765, but I don't think we have any credible
 3 basis for saying just exactly how many there are on
 4 the ground.
 5 **Q. So you think that the population is**
 6 **somehow close to that 765 number, though?**
 7 A. I would say it's more than 765 but less,
 8 significantly less than 1,000 in the NCDE.
 9 **Q. Okay. And you've talked about, I believe**
 10 **it was, Kate Kendall's data?**
 11 A. Yes.
 12 **Q. Who is she and where does she work?**
 13 A. She worked for the U.S. Geological Survey,
 14 the base -- the same agency I worked for before that,
 15 but for the National Park Service. She got subsumed
 16 for the same reasons I got subsumed in U.S. Geological
 17 Survey. I think she might have been hijacked by the
 18 National Biological Survey/Service when I was.
 19 She undertook a pretty ambitious program to
 20 estimate total population size for grizzly bears in
 21 the NCDE. She started with Glacier National Park. It
 22 was based on hair snagging that used hair corrals to
 23 trap hair, basically snag hair. And then she found
 24 that she could be remarkably efficient just using rub
 25 trees, picking hair off of rub trees, and then running

1 it through an analysis to come up with a DNA profile
 2 or individual bears. And then she did a
 3 mark-recapture analysis to come up with her total
 4 estimate of population.
 5 So it was comprehensive and rigorous, which
 6 doesn't characterize anything that's been done even in
 7 Yellowstone.
 8 **Q. Do you know what population estimates**
 9 **Cecily assesses in the NCDE?**
 10 A. I think her central tendency estimate,
 11 which is sort of the straight line, is, last I saw,
 12 1,165, which is inane.
 13 **Q. Okay.**
 14 A. It's absurd that you could report a
 15 population estimate with that kind of precision. And
 16 I'm trying to recall if she even reported what the
 17 uncertainty around that estimate might be. She might
 18 have, but I didn't notice it. In any case, if you
 19 project out the uncertainty envelope, it's absurdly
 20 small from how she's dealt with RISKMAN.
 21 **Q. Okay.**
 22 A. Absurdly, indefensibly small.
 23 **Q. So if you think there are fewer bears than**
 24 **what Cecily estimates, would that equate to it being**
 25 **less likely that there are bears out on the landscape?**

1 A. "Out on the landscape," you mean outside
 2 occupied habitat?
 3 **Q. Just anywhere. If there's fewer bears in**
 4 **the population, there should be fewer bears on the**
 5 **landscape; is that correct?**
 6 A. If you look at it in terms of area
 7 potentially occupied, occupied may be present, and you
 8 have maybe a couple hundred bears more than you had in
 9 2004, then the bears are going to be spread out or at
 10 least redistributed.
 11 So you might have more bears in areas where you
 12 didn't have them before, fewer bears in other areas
 13 where you had more bears before. And I think there's
 14 reason to believe that because of some pretty
 15 substantial habitat changes in the core of the
 16 ecosystem, you've had a redistribution of that several
 17 hundred more bears on the landscape more towards the
 18 periphery.
 19 **Q. But couldn't it, also, couldn't also less**
 20 **bears mean that there's more core habitat that they**
 21 **can occupy?**
 22 A. No, not if carrying capacity in the core
 23 of the ecosystem has declined. It depends on what you
 24 mean by "occupy." As transients or taking up
 25 permanent residence? Not necessarily.

1 are dying at a higher rate than they can be
 2 replenished locally. So there's a dependence on
 3 dispersal out from Glacier National Park as well as
 4 areas just immediately south of Highway 2.
 5 **Q. Okay.**
 6 A. I mean, the other relevant piece here to
 7 this larger picture is that you look at areas where
 8 bears are dependent on berries like huckleberry,
 9 shepherdia, serviceberry, and you look at how those
 10 species, the productivity of those species varies with
 11 disturbance on landscape, wildfire.
 12 And there's a fair amount of research that shows
 13 where you get peak productivity after a wildfire. And
 14 you look at the amount of area in the core of the
 15 ecosystem in the Bob Marshall, in particular, but also
 16 the Great Bear Wilderness that's been burned since
 17 2004, it's a huge, huge amount.
 18 And you look at -- and there's no doubt that
 19 once you go through and burn a landscape, you
 20 eliminate the berry-producing shrubs. It takes a
 21 little time for the shrubs to come back and then to
 22 reach maximum productivity.
 23 And we have not caught up with where we were in
 24 2004 in terms of the productivity in habitat, just
 25 based on looking at the acreage burned and the lag to

1 If you're talking about dispersal of bears,
 2 there's this phenomenon of negative density-dependent
 3 or inverse density-dependent dispersal. So you can
 4 have a redistributed population lesser carrying
 5 capacity as a hypothetical, and you can still have
 6 accelerated dispersal of bears. It's been documented
 7 for black bears. It's also been documented in Alberta
 8 in the Scandinavian bear studies.
 9 **Q. Is there any data that you're relying on**
 10 **to indicate that their core habitat is not sufficient**
 11 **and they are dispersing now?**
 12 A. I don't know that I would use the term
 13 "sufficient." We're talking about potential changes
 14 in carrying capacity and also looking at source-sink
 15 population structure as indicated by estimates of
 16 population density that were reported in 2016 by
 17 Cecily.
 18 And then you look at the number of bears
 19 reported to have died in these different parts of the
 20 NCDE relative to the number of bears that were
 21 estimated to be there, and this is -- and using
 22 different scenarios to account for unreported,
 23 unrecorded mortality, it's highly likely.
 24 I would say weight of evidence suggests that
 25 there's a source-sink population structure where bears

1 where you regain productivity. We also lost pretty
 2 much all the whitebark pine that was there.
 3 So we've lost a significant amount of food in
 4 the core of the ecosystem, which would suggest that
 5 we've lost some carrying capacity at the same time
 6 that we probably have a sink, source-sink dynamic
 7 unfolding laid on top of that.
 8 Another interesting piece of evidence to look at
 9 is when bears really started to disperse out onto the
 10 plains at an accelerated rate on the East Front. And
 11 that correlated pretty well with that increase in
 12 frequency of large wildfires in that area, hard on the
 13 heels of losing whitebark pine.
 14 So, you know, there's no mystery as to why they
 15 would have accelerated their dispersal along these
 16 riparian corridors out on the plains, driven by those
 17 kinds of core dynamics. Another piece of evidence,
 18 too, goes back to the Blackfoot Challenge, which is
 19 just on the immediate south of the ecosystem, where
 20 there's been a pretty comprehensive coexistence
 21 program, a conflict abatement program that's been
 22 highly successful.
 23 They had a dramatic, dramatic increase peaked,
 24 and then they instituted all of these preventative
 25 measures, including carcass removal, fallen trees,

1 electric fencing. And there was a huge, a big
 2 wildfire just to the north in the Scapegoat, just
 3 immediately to the north. And despite having all
 4 these preventive measures in place, there was this
 5 dramatic spike in conflicts the year after that, which
 6 would, again, be consistent with the redistribution of
 7 bears towards the periphery.
 8 And interestingly enough, in terms of areas on
 9 the periphery of the ecosystem, the Blackfoot is one
 10 area that one could credit as being a source
 11 population area. You look at where we're seeing these
 12 may-be-present bears, you can just sort of project a
 13 number of them out from the Blackfoot drainage which,
 14 again, is consistent with this being a source area, or
 15 at least there being enough bears to where there's
 16 going to be some dispersing a significant distance on
 17 the landscape.
18 Q. And so you're basing the dispersal on
19 solely the wildfires; is that correct?
 20 A. No.
21 Q. So what other data are you basing it off
22 of?
 23 A. The dispersal is a derivative of the fact
 24 that there are more bears in an ever-larger area
 25 reckoned against the fact, the probable fact that

1 A. There's a U.S. Forest Service database
 2 that compiles acreage burned every year and also
 3 perimeters. You can download that data, you can
 4 superimpose it on a map. There's data that were
 5 collected by Bob Keene, and another guy that I don't
 6 remember his name, documenting the demise of whitebark
 7 pine.
 8 So there's very compelling evidence of changes
 9 in habitat over a substantial area of the ecosystem.
 10 And you can look at temporal correlations between
 11 those changes and where we see bears showing up and
 12 when, and the pace at which they're showing up in
 13 terms of ever more peripheral areas, which belie any
 14 kind of explanation other than dispersal. And it
 15 could be negative or density-independent or inverse
 16 density-independent dispersal likely, because that's
 17 been a demonstrated phenomenon.
 18 Unfortunately, Cecily has not published any
 19 papers addressing that issue directly. Nobody that I
 20 know of in that ecosystem has inquired into those
 21 dynamics. So what we're left with is a vacuum of
 22 information. And you can adopt different competing
 23 hypotheses and see which are best supported in weight
 24 of the available evidence.
 25 And these hypotheses that there has been no

1 there are not as many bears as is being estimated by
 2 Cecily for reasons that I've articulated, and also
 3 because of sort of the predictable way that bears
 4 disperse on the landscape and the potential drivers
 5 behind that, which there's no reason to believe that
 6 they wouldn't be afoot in terms of triggering this
 7 kind of dispersal.
 8 And the other evidence is that there's bears in
 9 a lot of areas where there weren't before. And so what
 10 would be driving that? You know, to a certain extent,
 11 it's a hypothetical.
 12 But on the other hand, you look at the weight of
 13 evidence: What is the most plausible explanation?
 14 And what I've just articulated, I think is the most
 15 plausible explanation.
 16 The alternative explanations would be what? I
 17 don't know, because there's not much credible evidence
 18 to support alternative plausible or alternative
 19 explanations.
20 Q. So what evidence is there to support - and
21 when I say "evidence" - what papers, research papers,
22 have been published that demonstrate that dispersal
23 and then lack of food, etc.?
 24 A. Papers that demonstrate that?
25 Q. Yes.

1 habitat change, that there's been an increase in the
 2 population as per Cecily's estimate, that is
 3 indefensible. The weight of evidence does not support
 4 that conclusion relative to the scenario that I've
 5 just described.
6 Q. But if no one else has ever done any
7 research on that, how are we supposed to discredit
8 Cecily's when she's the only one that has done that?
 9 A. Because you can look at the available
 10 evidence, what she's purported; weigh that evidence,
 11 critique it; see whether it passes muster; look at
 12 alternative competing hypotheses, which she has not
 13 done.
 14 So I would say her work does not pass muster.
 15 In fact, she has not published anything -- at best,
 16 you can invoke that progress report from 2016 plus the
 17 subsequent monitoring reports. You're left with
 18 looking at the evidence she presents, the data she
 19 presents, looking beneath the veil of what she's
 20 presented in the absence of any real critical scrutiny
 21 to then try to articulate: What's going on here?
 22 What are the plausible competing hypotheses?
 23 This is not unlike the situation with the Forest
 24 Service that I described earlier, where they were
 25 adopting, tacitly adopting the hypothesis that

1 clearcutting lodgepole pine benefited bears and that
 2 roads had no impact.
 3 So you could say because the Forest Service
 4 issued these decisions saying that was the case, that
 5 that's the only credible basis for reaching any
 6 judgements about were there negative effects arising
 7 from clearcutting a lodgepole pine forest and building
 8 roads.
 9 But when you marshal available evidence with a
 10 critical eye, alternative competing hypotheses, it's
 11 pretty clear where the weight of evidence falls out.
 12 So this is a scenario not unlike that.
 13 **Q. And if you felt so strongly about Cecily's**
 14 **evidence or hypotheses being incorrect, why wouldn't**
 15 **you publish your own paper stating to the alternative?**
 16 A. I've got it and I can give it to you.
 17 It's a report that marshals the evidence, let's people
 18 reach their own conclusions based on the evidence
 19 that's reported, much like somebody might reach their
 20 own conclusions looking at the evidence that Cecily
 21 reported in 2016 and subsequent.
 22 **Q. And is that report just your own science?**
 23 **Is that report just solely you as the publisher?**
 24 A. It's me as the publisher, but it draws on
 25 a compilation of all the reported available

1 intrinsically a low probability even, but given
 2 certain configurations of circumstances, something
 3 that's almost certainly going to happen.
 4 Like slippage of the San Andreas fault, we know
 5 damn well it's going to happen, that something like
 6 that is going to happen. We don't know with what
 7 frequency, what magnitude, severity, but we can see
 8 with a hundred percent certainty that it will happen
 9 because there is evidence supporting the conclusion
 10 that you will have cumulative probability over a
 11 certain amount of time that it will indeed happen.
 12 **Q. Do you know when the last time a wolf was**
 13 **trapped in a recreational wolf trap in Montana?**
 14 A. I know of several that were trapped in
 15 2021 in a recreational coyote trap.
 16 **Q. But when was the last time one was trapped**
 17 **in a recreational wolf trap?**
 18 A. I don't know because they don't --
 19 probably all have not been -- they probably have not
 20 all been reported.
 21 **Q. When was the last reported instance?**
 22 A. Not -- to my knowledge, I don't know.
 23 **Q. Okay. Earlier, we talked about denning,**
 24 **and that denning bears, when they denned depended on**
 25 **weather and latitude. Where were you getting --**

1 peer-reviewed or other science that bears on trying to
 2 reconstruct or construct or come to an understanding
 3 of what is likely happening in the NCDE, as opposed to
 4 blindly reaching a conclusion that comports with
 5 status quo arrangements, which is basically what we're
 6 dealing with.
 7 **Q. But doesn't Cecily's report do the same:**
 8 **Pull upon peer-reviewed, published articles?**
 9 **And it is actually authored by three**
 10 **individuals, if I'm not mistaken; is that correct?**
 11 A. That was by Lori Roberts, Rick Mason, but
 12 that does not debar the point I just made.
 13 **Q. But going back, earlier you talked about**
 14 **wolf traps and you mentioned that you witnessed one**
 15 **grizzly bear in a foothold snare.**
 16 A. Um-hmm [affirmative].
 17 **Q. I just want to assure that you have never**
 18 **witnessed a grizzly bear in a recreational wolf trap.**
 19 **Is that correct?**
 20 A. That is correct, I have never personally
 21 observed that. But it's unlikely that I would have
 22 observed it because there hasn't been wolf trapping
 23 going on that long.
 24 It's, again, as per what I tried to articulate,
 25 the problem, the conundrum of risk analysis is it's

1 A. Climate, climate and latitude, also
 2 weather are superimposed.
 3 **Q. Where are you getting that data from that**
 4 **supports that inference? What reports?**
 5 A. Johnson, et al., 2018. And I don't think
 6 I have all of them here. Haroldson made reference to
 7 that in his paper. Gonzalez-Bernardo, 2020; Fowler --
 8 MR. SCOLAVINO: Just for the record, Dr.
 9 Mattson is reading off of his first declaration.
 10 A. -- Fowler, et al., 2019; Delgado, et al.,
 11 2018; Bojarski -- Bojarska, 2019. So I think there's
 12 some that didn't show up on what I printed out, but
 13 there's others.
 14 **Q. Earlier, we also -- well, you mentioned**
 15 **"Jamie Jonkel." And my question is: In relation to**
 16 **denning and in relation to climate change, wouldn't**
 17 **Jamie Jonkel be monitoring those changes on the**
 18 **landscape based upon those climate changes?**
 19 A. Is that a double negative? Would he not?
 20 Is he monitoring that?
 21 **Q. Yeah. Is he monitoring that?**
 22 A. I don't know if he is.
 23 **Q. Do you think he is?**
 24 A. I don't know what to think. I haven't
 25 talked to Jamie about that in probably -- I haven't

1 talked to Jamie for years so I don't know what he's
 2 doing.
 3 **Q. Would you assume if there was a change on**
 4 **the landscape, he would recognize that?**
 5 A. I don't know. I mean, I don't know what
 6 he's doing, where he's doing it, how close he's paying
 7 attention to that kind of stuff. I mean, like all of
 8 us, we live experiencing the weather, so I'm assuming
 9 he's experiencing weather like we are.
 10 **Q. You mentioned the winter bears earlier.**
 11 **How prevalent are winter bears?**
 12 A. Percentage? And when you say "winter,"
 13 what are you defining "winter" as?
 14 **Q. Well, you said "winter bears," so you**
 15 **define it for me.**
 16 A. I said out during the winter as in
 17 December, January, February, into mid March.
 18 So how prevalent? Insofar as the data goes, if
 19 you look at Yellowstone data, roughly, 10 percent of
 20 the females would be out prior or at the time of
 21 November 27th. Roughly, 38 percent of the males would
 22 be out prior to March 15th. And that's for
 23 Yellowstone.
 24 In the Cabinet-Yaak, 35 percent of all bears
 25 would be out still on March 29th based on the data.

1 These are cumulative probability curves. A lesser
 2 percent, 5 percent of all bears would be out in the
 3 spring after March 15th.
 4 So there's two different configurations of
 5 exposure, and the percentages range, depending on the
 6 sex, from 10 to 38 percent, depending on fall to
 7 spring, to 35 to 5 percent Cabinet-Yaak. And that's,
 8 again, cumulative probability curves for the
 9 Cabinet-Yaak. Those data go back to 1983, so they're
 10 not very realtime.
 11 For Yellowstone, those data were collected, I
 12 think, primarily between 1975 and 2000, which is
 13 definitely a retrospective. And even then, they were
 14 detecting a trend in terms of male bear exit dates
 15 that correlated with spring temperatures.
 16 **MR. SCOLAVINO:** Just for the record, Dr.
 17 Mattson was reading off of his first declaration
 18 again.
 19 **THE WITNESS:** So those, again, are
 20 cumulative probability curves, and there's not
 21 uncertainty intervals attached to them so it could
 22 have been significantly fewer or less in terms of
 23 realtime.
 24 **Q. (By Mr. Scolavino) okay.**
 25 A. It's a sample of total entry and exit

1 dates for the population.
 2 **Q. And you're basing it off of just that,**
 3 **correct, just those studies? Is there anything else**
 4 **that you're basing it off of, bears being out in those**
 5 **winter months?**
 6 A. No, there's more. There have been news
 7 reports of bears being out that I've come across that
 8 seem credible, reports on National Park Service
 9 website for Yellowstone Park about bears being out,
 10 active in the winter. I've seen a bear out after
 11 Christmas in Yellowstone feeding on a carcass on the
 12 northern range. So there's personal observations,
 13 news reports that are credible.
 14 **Q. And when did you witness that grizzly bear**
 15 **out in Yellowstone?**
 16 A. I saw it within the last, probably, eight
 17 years.
 18 **Q. Those news articles, are those referenced**
 19 **in your declaration?**
 20 A. I think a handful of them are. Again, I
 21 don't think I printed out all the pages here, but
 22 there was one here that's Heinz, dated December 8th,
 23 2022, and there were a couple of others. I don't
 24 think that they printed out on the copy that I have.
 25 I have a Smith, et al., 2023; Kearse, 2019; Sherer,

1 2021; Heinz, 2022. And that's not based on a
 2 comprehensive scrutiny of news articles.
 3 **Q. So just for clarification, are there any**
 4 **articles that you are referencing that are not**
 5 **included in that declaration?**
 6 A. In terms of providing evidence that we
 7 have bears out and at risk in the fall and the spring
 8 during the prospective season of trapping for wolves
 9 in the bears may-be-present zone, these are the two
 10 primary ones I relied on.
 11 **Q. Okay. What do you know about Montana's**
 12 **estimated occupied range of grizzly bear map?**
 13 A. I have rudimentary knowledge of the
 14 methods behind it, the current as well as the past.
 15 **Q. And what rudimentary knowledge do you have**
 16 **about the methods?**
 17 A. Currently, they're taking 3 x 3 kilometer
 18 cells, and registering against those cells any
 19 credible evidence of grizzly bears being present
 20 during the previous 15 years. So they're using, in
 21 the NCDE, a 15-year moving average and, in the
 22 Cabinet-Yaak, a moving 20-year average, accumulating
 23 those observations that include conflicts, reliable
 24 sightings, tracks, scats, GPS locations, VHF
 25 locations, and scoring those cells according to

1 whether there has been presence within those 3 x 3
 2 kilometer cells, which are designed to approximate the
 3 daily foraging radius of grizzly bears in the
 4 Yellowstone, just north of the Continental Divide and
 5 CYE.
 6 So they're using anywhere from a 12- to
 7 15-kilometer radius for a daily foraging radius use,
 8 which was the rationale with coming up with that 3 x 3
 9 kilometers square area.
 10 As to why they chose a daily foraging radius, I
 11 don't know. That seems a little arbitrary to me.
 12 When they're trying to establish occupancy, it's not
 13 on a daily basis, it's on an annual basis.
 14 So the way it was, so just in terms of the cell
 15 size aspects of it, previously in the NCDE, they were
 16 using a 7 x 7 kilometer square area, which correlates
 17 roughly with the size of an adult female home range,
 18 annual range, which seems more logical in terms of
 19 establishing occupancy, residency, however you want to
 20 define that.
 21 So I'm puzzled by the logic to shrink the cell
 22 size. And regardless of the cell size, there was use
 23 of this technique that's called "ordinary kriging,"
 24 which is a way of interpolating based on the
 25 semivariogram, the basically spatial autocorrelation

1 of occupancy of the different cells to create sort of
 2 a somewhat-smooth surface.
 3 So you're going to kind of get a finer grain
 4 distribution, but also, obviously, a more contracted
 5 distribution using current methods. So the ordinary
 6 kriging was used with the 7 x 7 kilometer cell size
 7 before that. So that's occupied range.
 8 As to the justification for saying that when you
 9 look at a cell and the adjacent cells, and score that
 10 compilation of cells between zero and nine so you've
 11 got eight plus one, and saying that the cutoff is one,
 12 greater than one versus less than one, I'm not sure of
 13 the logic behind that.
 14 And I'm not sure of the logic behind the
 15 definition of "occupancy" as opposed to "may be
 16 present," especially when you're looking at a lot of
 17 the may-be-present locations well beyond any distance
 18 that most bears would travel sprinting, during a given
 19 year, back and forth.
 20 So it begs the question of: What defines
 21 "occupancy"? I mean, it's hard to give credit to the
 22 idea that you've got bears that are 60 to 90 miles
 23 away making an excursion out, and then racing back to
 24 what's been defined in a somewhat arbitrary way as
 25 "occupied."

1 I mean, it would suggest more likely that if
 2 you're looking at where -- how do you define "occupy"?
 3 As in "being present"? As in "making a living
 4 year-round"?
 5 I mean, how many bears do that in a 3 x 3
 6 kilometer cell? Not any that I know of, unless they
 7 live one day and then die.
 8 **Q. Do you know who formulated the 3 x 3
 9 kilometer method and the kriging method?**
 10 A. Dan Bjornlie. He's with Wyoming Game and
 11 Fish with the Interagency Grizzly Bear Study Team.
 12 **Q. Do you agree with the Bjornlie method?**
 13 A. "Agree"? It's a method. I'm mystified by
 14 a lot of the decisions that were made in terms of
 15 delineations and coming up with the size of the cell
 16 for reckoning whether bears are present or not;
 17 occupy, you know, whether it's occupied or not.
 18 He did say that it was probably a conservative
 19 estimate of occupancy. But, again, that still begs
 20 the question of the definition of "occupancy" and sort
 21 of the justification for that definition.
 22 So do I agree? I'm mystified. I find some of
 23 the distinctions, the definitions, delineations not
 24 particularly defensible. Again, I would have thought
 25 that a larger cell size would make more sense and that

1 a more liberal definition of "occupancy" would make
 2 more sense.
 3 But it gets back to the mysteries of the
 4 lifecycle of the grizzly bear. You know, what does
 5 "occupancy" mean to them and what does "occupancy"
 6 mean in terms of the time in residence, the time
 7 during which they would be exposed and vulnerable to some
 8 sort of hazard?
 9 **Q. So what does "occupancy" mean to you?**
 10 A. "Occupancy" means that a bear was there,
 11 and if you're looking at a time-specific hazard or
 12 risk, exposed to that risk, or that benefit if you're
 13 looking at whatever that benefit might be there.
 14 So if you're being very generous, I would say
 15 "occupied" is everywhere where we've documented,
 16 reliably documented, that grizzly bears were present
 17 during some reasonable backcast time period, and most
 18 places in between, because bears don't get from Point
 19 A to Point B by sprouting wings and flying. They are
 20 walking on their feet and so they're transversing that
 21 ground. And I would argue that that's tantamount to
 22 occupancy.
 23 **Q. And how long would a bear have to stay
 24 there for it to be coined as "occupied habitat"? Just
 25 one observation?**

1 A. By my definition, it would be if a bear
 2 was observed there, it occupied that space at that
 3 point in time. I mean, if you're talking about
 4 "occupied" as some sort of demographic process like we
 5 have demonstrated that a bear reproduced, survived for
 6 some credible period of time, that an adult female
 7 reproduced and survived long enough to replace
 8 herself, that would be one definition of "occupancy"
 9 that would be more rounded in demography as opposed to
 10 just simple use of space.
 11 If we use that as a definition, we would have
 12 quite a small area of occupied habitat. If you were
 13 going to adopt the definition of needing to provide
 14 enough resources to be safe enough to where a female
 15 could live there and reproduce and replace herself so
 16 you had some kind of sustainable situation, that would
 17 be a pretty small area.
 18 **Q. So if there was a verified observation and**
 19 **then there was no other verified observation for**
 20 **another three years, should it still be considered**
 21 **occupied at that point?**
 22 A. It would depend on the likelihood of
 23 detection, and that would depend on who's out looking
 24 for it, on what basis, with what credibility, and what
 25 skill.

1 So it's not just about a bear being present,
 2 it's about the likelihood of being detected. And
 3 that's about people doing what they do or don't do.
 4 Bears can be remarkably cryptic. I mean, I've
 5 discovered that in tracking bears around Yellowstone
 6 where bears were present by our radiotelemetry well
 7 before there was any knowledge of bears on the ground
 8 amongst locals or at least common knowledge.
 9 So you can have evidence of bears that are not
 10 very visible, not leaving much sign especially for
 11 people that aren't skilled in interpreting bear sign
 12 or even curious enough to bring it to the attention of
 13 somebody who is.
 14 The other confounding factor is, and it's there
 15 in print in the monitoring reports that Cecily puts
 16 out, that trapping and collaring is focused within the
 17 Demographic Monitoring Area. So if there's a bias
 18 towards putting radiocollars on bears toward the core
 19 of the ecosystem and a bias against collaring bears
 20 that are outside on the periphery, so you're unlikely
 21 to be detecting bear occupancy/bear habitat use beyond
 22 the Demographic Monitoring Area just because there's a
 23 bias towards putting radiocollars on bears towards the
 24 core.
 25 **Q. But isn't it possible that some of those**

1 **bears that are collared in the Demographic Monitoring**
 2 **Area can then move outside of it --**
 3 A. For sure.
 4 **Q. -- at least the outer confines?**
 5 A. For sure. And they have, to my knowledge.
 6 **Q. So is there still a bias at that point?**
 7 A. Yes, absolutely, because it's not just a
 8 matter of whether preexisting bears that have been
 9 collared in a given location, given their likely
 10 movements, have moved outside of the Demographic
 11 Monitoring Area. It's whether you are tracking that
 12 front proportionally to get a similar density of
 13 sampling based on radiomarking, radiocollaring.
 14 Absent that, you can't say whether a bear has
 15 established or not established a home range or is in
 16 some sort of multiyear residency within a given area.
 17 So you're chronically biasing your sample towards
 18 areas that are already occupied, as opposed to being
 19 recently occupied, by grizzly bears.
 20 **Q. When you're referencing the term "bias,"**
 21 **are you also taking into account other observations**
 22 **from the public?**
 23 A. Which gets back to the point I was making,
 24 like you've got a radiocollared bear, you're going to
 25 be collecting data for as long as that collar is on.

1 So given that you have a collared bear, the
 2 probability of getting some documentation of
 3 space-and-time use is high.
 4 If you've got a bear out there free-ranging,
 5 uncollared, as to what kind of documentation you have
 6 depends, in a vary vagarious way, on how many people
 7 are out there likely to detect that bear, their skill
 8 at detecting bears and interpreting bear sign.
 9 So the uncertainties compound comparatively when
 10 you're looking at data other than what you collect
 11 from radiocollars. And conflicts are not a good
 12 reckoning, either, because that depends on bears
 13 engaging in certain types of behaviors that lead them
 14 to be recognized, acknowledged, documented on the part
 15 of the people that are on the receiving end of the
 16 conflict.
 17 **Q. So if a bystander that has limited**
 18 **knowledge of grizzly bears but brings a photo to**
 19 **someone that may have knowledge, would you consider**
 20 **that a verified report at that point?**
 21 A. More likely than not if it was credibly
 22 timestamped, geolocated, and if the person that looked
 23 at it was skilled.
 24 **Q. When you say "skilled," are you --**
 25 A. Somebody like Jamie Jonkel or Ken or Eric

1 Wyman.
 2 **Q. Earlier, we also just talked about wolf**
 3 **kills and bears usurping wolf kills. You mentioned**
 4 **that they also usurp lion kills.**
 5 A. Correct.
 6 **Q. What would be different about a wolf kill**
 7 **versus a lion kill and a bear usurping that?**
 8 A. A lion kill would be more cryptic. They
 9 tend to bury/sequester their kills so that they're
 10 less detected. So you have to have a similar kind of
 11 phenomenon where bears are tracking cougars. So it's
 12 probably less likely that a bear would find a cougar
 13 kill than they would find a wolf kill.
 14 That's the most immediate difference that comes
 15 to mind. But, otherwise, it's meat on the ground and
 16 the hard work has been done by another animal. And so
 17 if you could appropriate the food, bears are going to
 18 do it.
 19 **Q. Do they usurp any other predator kills?**
 20 **I'm just thinking like coyotes, a pack of coyotes, or**
 21 **anything like that.**
 22 A. The problem is coyotes kill smaller
 23 animals. They are rarely going to kill a bigger
 24 animal. The problem with small prey is that they're
 25 consumed in a pretty short period of time by the

1 males, they can be remarkably fluid and highly
 2 dynamic. It depends on food resources, it depends on
 3 access to mates. So it's not like it's a static,
 4 fixed area even, you know, absent wolves.
 5 **Q. Okay.**
 6 A. So there's good reason to think that their
 7 home ranges will be very adaptive, more so than female
 8 home ranges.
 9 **Q. Okay. Are you aware of Montana's**
 10 **estimated occupied range of grizzly bears map for**
 11 **2022?**
 12 A. Yes, I am. Actually, I'm aware of what
 13 the Fish and Wildlife Service produced in their
 14 species list map, which is the may-be-present map.
 15 **Q. That also has our estimated occupied range**
 16 **map on there?**
 17 A. Yes.
 18 **Q. Okay. Do you agree with that map for**
 19 **2022?**
 20 A. Agree with what aspect of it? I mean, it
 21 was a map, it was a piece of paper. There were
 22 polygons on it so I could register the information
 23 that was there.
 24 In terms of do I agree with the methods? Do I
 25 agree with the definitions? No, I don't.

1 animal that killed it, and/or scavenged by other
 2 animals that might find that prey item before a
 3 grizzly bear would find them.
 4 **Q. Okay.**
 5 A. So when we did our work with exploitation
 6 of carrion in Yellowstone Park, we found a really
 7 strong correlation between size of the carcass and
 8 probability that a grizzly bear would have used it.
 9 So by the time you get up to the size of an elk,
 10 there's a high probability that a grizzly bear will
 11 find that carcass regardless of whether they've been
 12 closely tracking a wolf. Now, the advantage of
 13 following wolves by first principles is that even when
 14 a wolf is killing a deer, which is a smaller carcass,
 15 if the bear is there monitoring the wolf behavior,
 16 they'll be able to exploit that carcass.
 17 **Q. When these bears are following wolves, are**
 18 **they only following them within their home range?**
 19 A. Within the wolves' home range or the
 20 bears' home range?
 21 **Q. The bears' home range. Or do they just**
 22 **continuously follow them around?**
 23 A. I don't know. I haven't seen any results
 24 of radio-tracking to say that they do or they don't.
 25 But what I know about especially home ranges of adult

1 **Q. So even though --**
 2 A. So for the reasons that I just
 3 articulated, because I think that 3 x 3 kilometer
 4 cells are hard to justify in terms of their size. I
 5 think the delineation after the kriging of where the
 6 boundary was between occupied and unoccupied was
 7 somewhat arbitrary, that there's no coherence between
 8 the definition of "occupied" within the boundaries
 9 where you have denser data versus watersheds where you
 10 have less data but lower probabilities of detecting
 11 bears.
 12 Just by, you know, the Oxford English
 13 Dictionary, "occupancy" would suggest that those areas
 14 are occupied every bit as much as the areas that's
 15 within, quote-unquote, occupied, the areas that are
 16 within the watersheds delineated to accommodate the
 17 presence of sign may be present.
 18 **Q. Do you know what kilometer-by-kilometer**
 19 **grid was used for 2022?**
 20 A. I suspect -- I don't know for sure, but
 21 2022 was when Cecily reported -- it would have been
 22 2022 that she, I think, first applied the 3 x 3
 23 kilometer cell. Before that, it was 7 x 7 kilometer,
 24 based on what I remember of the monitoring reports.
 25 **Q. Is there anything that you would change,**

1 particularly, about that method?
2 A. Well, first of all, I'd use a 7 x 7
3 kilometer cell, grid cell. And I might try universal
4 kriging as opposed to standard or simple or normal
5 kriging, whatever the distinctions are, because it
6 allows for sort of a decay in the probability of
7 including cells as you go further out from the focal
8 cell of interest.
9 I would seriously consider other cut points for
10 what was occupied or not occupied, and I would make
11 allowance for the logical premise that if you have a
12 bear here and the nearest source is there, that there
13 must be something going on to connect that area with
14 this area, as opposed to the bears sprouting wings.
15 I would also reckon my definition of "occupancy"
16 against the considerations at stake. So are we
17 looking at occupancy as a way of reckoning exposure to
18 risk, exposure to hazards? Then I would say occupancy
19 is inclusive of all of these peripheral locations and
20 much of the area in between those peripheral
21 documented locations and where we have the denser
22 registration of bears being present.
23 Q. Okay. You just mentioned that the Feds
24 had a species list map; is that correct?
25 A. Right.

1 convenience, political expediency, I mean, because
2 they rely on the states as cooperating partners and
3 they don't want to violate the State's prerogatives or
4 expectations. It's primarily for political reasons,
5 would be my guess.
6 Q. Okay. Are you aware of Montana's grizzly
7 bear assessment?
8 A. Grizzly bear assessment?
9 Q. So the assessment that is used to
10 determine the floating start date.
11 A. The floating start date, as I understand
12 it, is based on when radiocollared bears have been
13 documented to enter their dens. And that would apply
14 to occupied, the so-called "occupied area."
15 Q. Okay.
16 A. And I'm not clear from what I read as to
17 whether there's a certain percent cutoff or whether
18 it's after a hundred percent of the bears have been
19 documented to be in their dens or whether there's
20 something less than that, other than to my
21 understanding, the commission would deliberate over
22 that choice in light of updated information. That's
23 my understanding.
24 Q. Is there anything else that goes into that
25 floating start date or determining when that should

1 Q. And the species list map is what was
2 previously coined as the "may-be-present map,"
3 correct?
4 A. Correct.
5 Q. Is there a reason that the Federal
6 Government has both of those boundaries on a map?
7 A. Because they were faced with a conundrum
8 of what do we do with documented instances of bears
9 being present, and what do we do about measures to
10 protect those bears under the ESA?
11 So it was really a way of stabilizing
12 expectations for management agencies regarding where
13 there would need to be Section 7 consultation.
14 Q. So just for clarification, the
15 may-be-present map or species list map is used for
16 Section 7 consultation purposes?
17 A. To my understanding, right.
18 Q. Is it used for anything else?
19 A. That is the primary rationale that I saw
20 written on the legend of the map posted on the Fish
21 and Wildlife Service website.
22 Q. And if the service didn't agree with their
23 estimated occupied range, why would they list it on
24 their website?
25 A. I don't know why they would, except out of

1 begin?
2 A. It sounds pretty fuzzy to me as in other
3 considerations/deliberations, but not that I saw that
4 was out there in black-and-white print described.
5 MS. CLERGET: Do you want to take five
6 minutes now?
7 MR. SCOLAVINO: Yes. We'll take another
8 five minutes.
9 THE WITNESS: Sounds like a plan to me.
10 (A brief recess was taken.)
11 MR. SCOLAVINO: We're back on the record
12 and it is 2:13.
13 BY MR. SCOLAVINO:
14 Q. Just a few things, Dr. Mattson. So you
15 mentioned a report earlier that you said you had.
16 A. I do.
17 Q. What is the name of that report?
18 A. Do you want it? I've got all the papers
19 that I've referenced in here -- (gesturing.)
20 Q. I don't need it right now but I will want
21 it later, but if you have to look at it to recall.
22 A. Well, given my memory, I think I will look
23 at it. It is called:
24 "Heart of the Grizzly Bear Nation, An
25 Evaluation of the Status of Northern Continental

1 Divide Grizzly Bears."
 2 **Q. Do you mind taking that out just so she**
 3 **mark it as exhibit?**
 4 A. Sure.
 5 MR. SCOLAVINO: We'll mark that, just for
 6 the record, as Exhibit 20.
 7 (Document marked Deposition
 8 Exhibit No. 20 for identification.)
 9 THE WITNESS: So I produced that in 2019
 10 based on data inclusive of 2018.
 11 BY MR. SCOLAVINO:
 12 **Q. Based on data inclusive of?**
 13 A. 2018.
 14 **Q. 2018, okay. And was that report included**
 15 **in your declaration?**
 16 A. No, I'm pretty sure not.
 17 **Q. Was there any reason why you didn't**
 18 **include that in there?**
 19 A. Because I wasn't addressing issues related
 20 to demography, as such, of the NCDE population. I was
 21 just addressing exposure of bears, potential exposure
 22 of bears to traps and the spatial extent of that
 23 exposure.
 24 **Q. So what, exactly, is that report based**
 25 **upon, then, or what does it discuss?**

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1 A. So the Table of Contents include: Deep
 2 History, Diets, Habitat Dynamics, Habitat Monitoring,
 3 Population Dynamics, Spatial Demography,
 4 Fragmentation, The Future, and then a summary of the
 5 critique. And it's 63 pages long.
 6 **Q. Is that report for the NCDE?**
 7 A. Yes, strictly for the NCDE.
 8 **Q. Okay. You said that the data was**
 9 **inclusive of data from 2018. Where did that data come**
 10 **from?**
 11 A. So it was all of the monitoring reports
 12 dating back to when Rick Mace started producing them
 13 up through the 2019 monitoring report that reported
 14 2018 data that Cecily put out, as well as the 2016
 15 report that she co-authored with Rick and Lori, and
 16 then Kate's publication, Rick's 2012 publication on
 17 demography, but also, basically, all the peer-reviewed
 18 literature and other relevant data that would be
 19 considered reliable and available pertaining to the
 20 NCDE.
 21 **Q. And all of those reports are referenced in**
 22 **that report itself?**
 23 A. Yeah, there's a comprehensive list of
 24 references and citations in here.
 25 **Q. Okay.**

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1 A. Actually, it's longer than that. It's
 2 pages 57 through, actually, 80 are all references.
 3 **Q. Okay. And do you have any experience**
 4 **where the Federal Government has differed from the**
 5 **states pertaining to grizzly bears?**
 6 A. "Federal Government" meaning the grizzly
 7 bear recovery coordinators versus people in the
 8 department versus commissioners? And is that
 9 regarding matters of policy? Is it regarding private
 10 conversations or private exchanges or all public
 11 exchanges?
 12 **Q. So let's start with like the U.S. Fish and**
 13 **Wildlife Service, and matters pertaining to the**
 14 **commission and Montana Fish, Wildlife & Parks. Has**
 15 **there ever been an incident, in your experience, that**
 16 **you noticed the Feds differ from the states?**
 17 A. There was a lot of contentious
 18 conversation behind the scenes between people from the
 19 Fish and Wildlife Service, people from the Forest
 20 Service, people from the State regarding management,
 21 regarding monitoring, regarding methods. It was so
 22 commonplace that I would be hard-pressed to describe
 23 all of those incidents, or even sort of the focus,
 24 other than in generic terms that I just described.
 25 But the general pattern was to -- and only

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1 rarely would you see countervailing narratives in the
 2 media based on interviews of differing perspectives,
 3 opinions, demands between the Federal and the State
 4 Government.
 5 But, usually, all that was worked out behind the
 6 scenes for - I think I could say this without
 7 prejudice and fairly accurately - for political
 8 reasons, to create a united front against sort of
 9 consolidating the basis for defending policy positions
 10 against litigation. And that was the primary purpose
 11 as near as I could tell.
 12 **Q. I believe I mentioned in the question**
 13 **"differences," and then you've referenced**
 14 **"differences" in your answer; is that correct?**
 15 A. Yes.
 16 **Q. Was there any time that the Federal**
 17 **Government deferred to the State for expertise or**
 18 **recommendations?**
 19 A. There probably were. I couldn't say,
 20 specifically, which instances but, yeah. I mean, it
 21 was an exchange, but oftentimes contentious. And
 22 sometimes the Fish and Wildlife Service, their
 23 perspective prevailed, and sometimes the State's
 24 position prevailed, and it was often for political
 25 reasons.

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1 **Q. Did any of those situations occur when you**
 2 **were working as a Federal Government employee?**
 3 A. Yes.
 4 **Q. Okay.**
 5 A. Yes. I mean, that I was privy to
 6 conversations going on behind closed doors.
 7 **Q. Where the Federal Government was deferring**
 8 **to the State for expertise?**
 9 A. Where there were major disagreements. And
 10 there were occasions when the State deferred to the
 11 Fish and Wildlife Service, and occasions when Fish and
 12 Wildlife Service deferred to the states, Forest
 13 Service deferred to the states, the Fish and Wildlife
 14 Service deferred to the Forest Service. So there were
 15 a lot of deferments, as well assertions, on
 16 everybody's part.
 17 **Q. Okay. Those all occurred while you were**
 18 **working as a federal employee during the '80s to '90s,**
 19 **right?**
 20 A. Correct, although there was conversations
 21 that took place in public that I was privy to by
 22 virtue of video, basically, video recordings at the
 23 Interagency Grizzly Bear Committee meetings. Now, the
 24 trend that I've seen over time is that those more
 25 public contentious discussions or differences have

1 been increasingly sequestered behind closed doors.
 2 So you are less and less privy as a member of
 3 the public to what's going on, whereas there was a
 4 time when, actually, these IGBC meetings were a forum
 5 where you could hear different perspectives being
 6 aired and some of that give-and-take.
 7 **Q. Okay. Do you think bears are more likely**
 8 **to be detected in open environments like those in**
 9 **central Montana?**
 10 A. Well, if you're talking about central
 11 Montana, you're talking about the riparian corridors
 12 in central Montana, definitely, because that's where
 13 all the people are concentrated and that's where the
 14 bears tend to concentrate.
 15 If you're talking about south central Montana
 16 more towards the Sapphires, Long Johns [verbatim], the
 17 bears tend to be distributing themselves in the higher
 18 elevations, the less-roaded areas. So I would just,
 19 by first principles, think that they're much less
 20 likely to be detected to the south and to the
 21 southwest compared to when you're getting out onto the
 22 plains.
 23 **Q. Yeah, okay. My question was in reference**
 24 **to the plains.**
 25 A. Okay.

1 **Q. So just to clarify, if there was a grizzly**
 2 **bear out in the plains, it would be more likely to**
 3 **detect that bear?**
 4 A. Yes.
 5 **Q. Is it likely that there are more bears or**
 6 **higher densities of bears in the estimated occupied**
 7 **range versus the may-be-present map?**
 8 A. Odds are that there is a higher density of
 9 bears within the occupied delineation.
 10 **Q. Okay.**
 11 A. If you were to average it, yeah.
 12 **Q. And in your first declaration, so I'm**
 13 **going to actually jump back to our previous discussion**
 14 **which was the may-be-present map, in your first**
 15 **declaration, you have a figure, Figure 1 in there.**
 16 **And if you have to refer to your declaration --**
 17 A. I think, yeah, I can visualize it.
 18 **Q. It's a map. Can you describe that map to**
 19 **me?**
 20 A. It has a superimposition of the occupied
 21 distribution as per the species list map from the U.S.
 22 Fish and Wildlife Service, plus all of the 12-digit
 23 watersheds and adjacent watersheds that correlate with
 24 the documentation of grizzly bear sign of whatever
 25 sort, whether it's by radiotelemetry or conflicts, on

1 down the laundry list of evidence that's used, plus
 2 the area that the 2023 trapping regulations apply,
 3 which was the brownish-colored area.
 4 **Q. Can you tell me who made that map?**
 5 A. The map of the occupied range?
 6 **Q. That figure, I'm sorry, Figure 1. Who**
 7 **made Figure 1?**
 8 A. I did.
 9 **Q. Why did you make that map?**
 10 A. The logic goes like this: That if you're
 11 trying to get a handle on risk, risk consists of
 12 exposure to hazards, and then you have the acuity of
 13 hazards. So exposure is logically reckoned in space
 14 and time, so you've got these two different
 15 dimensions.
 16 So that was an attempt to try to reckon with or
 17 visualize, represent the spatial extent of exposure or
 18 potential exposure of grizzly bears to the risk posed
 19 by trapping for wolves. And then you put that
 20 together with the available data regarding den
 21 entry/exit dates for relevant ecosystems, and that
 22 gives you some sense of the temporal exposure.
 23 And I double-checked that, that map against the
 24 distribution of locations of trapped wolves from the
 25 harvest reports for wolves. And there's a substantial

1 overlap, although I didn't include an estimate of that
 2 overlap between where wolves were trapped and where
 3 bears, by my reckoning, may be present.
 4 **Q. Okay.**
 5 A. Which would substantiate the idea that
 6 that's a pretty good reckoning of exposure of bears to
 7 the hazards associated with trapping.
 8 **Q. You mentioned denning entry dates and exit**
 9 **dates. How are those accounted for on that map?**
 10 A. They are not accounted for on that map.
 11 **Q. Okay. I may have misunderstood. That's**
 12 **my fault.**
 13 A. No, that's just a spatial reckoning of
 14 exposure. And then you have to sort of logically
 15 interpolate what the temporal exposure might be by
 16 looking at the bracketing data for the GYE and
 17 Cabinet-Yaak Ecosystems for den entry/den exit.
 18 **Q. When did you make Figure 1?**
 19 A. When I was putting together the
 20 declaration, which was during the week or so that I
 21 worked on it prior to it being submitted, which I
 22 don't know even know what the date is on that. So
 23 that -- when was that submitted? It doesn't say.
 24 But anyway, whenever, during the week or so
 25 before when it was submitted.

1 **Q. -- is the may be present.**
 2 A. Correct, yeah.
 3 **Q. Okay. When you say "high risk," what do**
 4 **you mean by that?**
 5 A. That it's comparatively higher risk than
 6 areas that are intermediate risk. I mean, all these
 7 risks are subjective because there's nobody that can
 8 attach a probability to it because the data aren't
 9 there to do it.
 10 To come up with any reckoning of probability,
 11 you need to have a sample size to get some kind of
 12 reliable estimate of a hundred. So the best you can
 13 do is bracket the risk exposure in sort of broad
 14 categorical terms like that.
 15 **Q. So you couldn't assign a percentage to**
 16 **either risk?**
 17 A. No, no.
 18 **Q. Okay.**
 19 A. Other than, as I said before, it's the
 20 conundrum of risk analysis. You have exposure and the
 21 probability given a certain amount of exposure,
 22 combined with the magnitude of the consequence, to
 23 come up with risk. And so that's really probably more
 24 of a reckoning of exposure than anything else because
 25 there's probably less information in terms of what's

1 MR. SCOLAVINO: Okay. Can we mark that as
 2 Exhibit 21.
 3 (Document marked Deposition
 4 Exhibit No. 21 for identification.)
 5 THE WITNESS: So that one's the complete
 6 copy.
 7 BY MR. SCOLAVINO:
 8 **Q. Dr. Mattson, so on there, there's a**
 9 **mention of "high risk" and "intermediate risk."**
 10 A. Right.
 11 **Q. Can you just describe those areas to me**
 12 **again?**
 13 A. So high risk, I'm just adopting the
 14 definition of "occupied habitat" versus "may be
 15 present," so characterizing areas where you have some
 16 reckoning as it being occupied by the U.S. Fish and
 17 Wildlife Service definition as being high
 18 risk/intermediate risk because it's less certain how
 19 many bears might be there, what the level of exposure
 20 might be compared to the high-risk area.
 21 **Q. So I just want to make sure I'm**
 22 **understanding it, but the high risk, darker-shaded red**
 23 **is the estimated occupied range, while the**
 24 **intermediate risk, which is the red color --**
 25 A. Is may be present.

1 going on with bears in the may-be-present area
 2 compared to the occupied area.
 3 So, for example, trying to estimate den entry
 4 and exit dates in the may-be-present area, there are
 5 many, many fewer proportionately, I would argue,
 6 almost certainly fewer radiomarked bears as a portion
 7 of the total bears out there compared to in the core.
 8 So you're going to -- or the occupied, what's
 9 called "occupied," so you're going to be overassessing
 10 temporal risk in the high-risk area sort of
 11 paradoxically as opposed to in the intermediate risk
 12 area because you have fewer reliable data telling you
 13 what's going on with bears there.
 14 **Q. You mentioned "exposures." So if I am**
 15 **understanding you correct, there's a high risk of**
 16 **exposure in that area, correct?**
 17 A. By that crude reckoning, higher risk,
 18 yeah, as opposed to lesser risk in the peripheral
 19 area, but that's just a way of bracketing and sort of
 20 categorizing the information that is there in the
 21 distribution map relative to the area covered by the
 22 trapping regulations.
 23 So at some level, it's just adopting the
 24 definitions that the Fish and Wildlife Service
 25 adopted, without me ascribing some absolute

1 probability because I could have gone into more detail
 2 about the undersampling of bears in the may-be-present
 3 area in terms of what their temporal exposure might
 4 be.
 5 **Q. Okay.**
 6 A. Or even their absolute numbers.
 7 **Q. We discussed a little bit earlier Figure 2**
 8 **or, actually, you mentioned it. And that was**
 9 **Haroldson, et al., and Kasworm, et al.**
 10 A. Um-hmm [affirmative].
 11 **Q. So can you just tell me about those two**
 12 **figures or those two charts in Figure 2?**
 13 A. They're extracted directly from what is
 14 presented in the first case from the Haroldson, et
 15 al., publication. They presented cumulative bears in
 16 dens and out of dens, differentiating males from
 17 females, which I did in my rendering of the data that
 18 explicitly came from that paper.
 19 In the case of the Kasworm paper, I transformed
 20 the data that he presented as a bar graph by week of
 21 dates of entry, dates of exit. So you still had that
 22 cumulative percentage of bears that had been
 23 radiomarked that were in dens or out of dens.
 24 So the important thing to recognize with both of
 25 those figures is that applies only to data from

1 radiomarked bears and that percentage as a percent of
 2 the population is adopting, on the face of it,
 3 estimates of population size, typically, around 10
 4 percent of the total independent bears, which are the
 5 ones that are monitored to determine dates of entry
 6 and dates of exit.
 7 And so what is not represented there is the
 8 statistical uncertainty that arises from sampling,
 9 just the problem of sampling variability. You can go
 10 out and you can radiomark the same number of bears
 11 over and over and over and get a certain range of
 12 results.
 13 And those bounds are not shown there, so in
 14 addition to just those deterministic estimates of
 15 percentage out/percentage in for periods of time that
 16 go back, well, back to '83, inclusive, for
 17 Cabinet-Yaak and that were dated as well for
 18 Haroldson, et al., I think they first -- we first
 19 started collecting den-entry dates in 1975, and that
 20 is up through 2000, I think, that his data goes,
 21 Mark's.
 22 So the bounds of it, certainly, are going to be
 23 plus or minus 9 percent - 10 percent, probably, just
 24 as a ballpark estimate.
 25 **Q. Okay.**

1 A. And that's part of the problem, too, with
 2 estimating den entry dates from a radiomarked sample
 3 in the NCDE. Reaching conclusions about whether all
 4 bears are in their dens or not is that on average, the
 5 number of bears that have been marked in the NCDE,
 6 independent bears, is most recently about 70 bears
 7 that were monitored during a given year, as high as 90
 8 bears when Rick was still doing his work somewhere in
 9 the '80s.
 10 And you look at just the variability uncertainty
 11 attributable to sampling error, you can say plus or
 12 minus 7 to 9 percent. So you can say that 10 percent
 13 of the bears, 10 percent of your collared bears were
 14 in their dens, but the uncertainty would suggest it
 15 could be anywhere from, you know, there could be as
 16 many as 20 percent that were still out just because
 17 you're not tracking all the bears.
 18 And the other thing, as I was describing, is if
 19 you're undersampling bears with collars outside of
 20 occupied range or the Demographic Monitoring Area,
 21 then you're going to have even -- your data is going
 22 to be even less reliable for those bears that are in
 23 that peripheral area. You'll even know less about
 24 them.
 25 **Q. Okay. When does the trapping season begin**

1 **on these charts, or "bar graphs," I should say? Is**
 2 **that correct?**
 3 A. You could call them "cumulative
 4 distribution curves."
 5 **Q. Okay. When does the trapping season begin**
 6 **and end on these curves?**
 7 A. Trapping season in terms of when people
 8 are out trapping bears and putting radiocollars on
 9 them?
 10 **Q. My apologies, wolf trapping.**
 11 A. Yeah, the wolf trapping season --
 12 **Q. Yes.**
 13 A. -- yeah, that's bracketed by that trapping
 14 season, that's November 27th through March 15th, is
 15 what I've delineated.
 16 **Q. And so these two curves --**
 17 A. I think that's right. Julian date, 3/25,
 18 which would be -- yeah, what do I say here -- I should
 19 have put calendar dates because I'm not even sure what
 20 Julian dates convert to. I should have put that down
 21 there.
 22 I think, as I recall, so the deal, too, is that
 23 most of the bears that are monitored for den entry and
 24 den exit were monitored during -- or were collared
 25 during previous years. Most of the collars stay on

1 about three years.
 2 **Q. Okay.**
 3 A. So you have a cumulative sample of trapped
 4 bears.
 5 **Q. So in the figure, there's a sentence that**
 6 **says:**
 7 **"The period during which wolves and**
 8 **fur-bearers can be trapped is delimited by solid**
 9 **horizontal lines in both graphs."**
 10 A. Right.
 11 **Q. "In most areas from the first Monday after**
 12 **Thanksgiving until March 15th."**
 13 A. Right. So that would be November 27th,
 14 yeah.
 15 **Q. So do these curves or graphs account for**
 16 **the floating start date?**
 17 A. No, they don't.
 18 **Q. Okay. So the percentage could be lower,**
 19 **correct?**
 20 A. It could be lower, yeah; if you were to
 21 attenuate or abbreviate the trapping season, yeah.
 22 This would be more relevant to bears outside of what's
 23 delineated as occupied habitat.
 24 **Q. Okay. These also don't account for any**
 25 **emergency closure that the commission may institute,**

1 correct?
 2 A. No, it doesn't.
 3 **Q. And you touched upon the two studies,**
 4 **Haroldson, et al., and Kasworm, et al. Do you mind**
 5 **telling me about the Haroldson, et al., study and what**
 6 **years that data encompasses?**
 7 A. Well, I think -- so it was published in
 8 2002. I know that data were collected on den entry
 9 dates - well, actually it would have been '75 because
 10 that's when the first collars were put out - probably
 11 beginning '76, '76 through, I'm assuming, at least
 12 2000. I can't remember, I don't remember the exact
 13 end date for Mark's data.
 14 But as I said earlier, I think the sample sizes
 15 were, the total number of den entry dates, 120-plus
 16 den exit dates were comparable to that, which is a
 17 small proportion of the total times that all the bears
 18 in the population were entering and exiting dens, so
 19 there's a -- you know, that's a small sample size,
 20 really. So you have to wonder about the uncertainty
 21 around any of these estimates.
 22 But as I said, too, what Mark found was that
 23 there was a trend towards males exiting dens earlier
 24 that correlated with March temperatures, I think it
 25 was. So he was already picking up a signal that could

1 be attributable to changes in climate and weather.
 2 So then I go back to these studies that I
 3 referenced earlier that more conclusively document the
 4 effect of change of climate, you know, changes in
 5 climate with latitude change of the climate over time
 6 on den entry dates and exit dates.
 7 And there is absolutely no doubt, you could read
 8 the IPCC reports, that we are in a period of ever
 9 warmer climates. So you can look at the data from
 10 NOAA for our region, and the weather has been warming
 11 since, especially, the 1980s. So again, these are a
 12 snapshot of what was going on in the past when we had
 13 a colder climate compared to what we have now.
 14 Insofar as the Kasworm study goes, because they
 15 have such a small sample size, he had to cast back to
 16 when they first started gathering data on den
 17 entry/den exit dates. I think that would have been
 18 1989 up through whenever, 2020, probably.
 19 So that, again, is fairly stale-dated
 20 information relative to what's been going on with
 21 climate change that's conclusively.
 22 **Q. In those studies, those were, if I'm not**
 23 **mistaken, you mentioned earlier, those were only**
 24 **radiocollared bears, correct?**
 25 A. Correct.

1 **Q. And they didn't use any other sort of**
 2 **system to verify whether those bears were out. It was**
 3 **only via VHF radio transmission.**
 4 A. Or GPS.
 5 **Q. Or GPS.**
 6 A. Yes.
 7 **Q. Okay.**
 8 A. And they had some visual observations of
 9 bears that might have been active, loafing outside of
 10 the dens. There were aerial observations during
 11 aerial overflights, which was the way you could gather
 12 VHF telemetry locations.
 13 **Q. Okay.**
 14 A. Likewise, den exits, you could have visual
 15 observations of bears loafing outside of dens.
 16 **Q. So you've mentioned that there is some**
 17 **uncertainty in regards to these figures, correct?**
 18 A. Yes. In terms of making inferences to the
 19 population from the sample, correct.
 20 **Q. Okay.**
 21 A. So it really begs the question, then:
 22 What do you want to do with that uncertainty when
 23 you're dealing with an endangered and threatened
 24 species? Do you want to employ the precautionary
 25 principle which is where you want to minimize what's

1 called "Type 2 error" as opposed to "Type 1 error"?
 2 So would you rather conclude that more bears are
 3 out when your data suggests there are fewer, or that
 4 there's fewer bears out when your data suggests there
 5 are more?
 6 And so it's, I think, pretty well-accepted that
 7 the precautionary principle applies to rare and
 8 endangered species under the ESA. So if there's doubt
 9 as to which way to deal with uncertainty, it's to
 10 avoid making a conclusion that's likely to lead to
 11 harm to the species, rather than the opposite,
 12 assuming all is well when it isn't all well.
13 Q. In your opinion, what would be a
14 scientifically sound sample size?
 15 A. It's not just sample size, it's bias. So
 16 it's not just the number of bears you marked, it's the
 17 distribution of those bears, whether they're random
 18 with respect to the population. And it's clear that
 19 there's not a uniform distribution of bear captures in
 20 the NCDE. And, certainly, there's an undersampling of
 21 bears on the periphery.
 22 So I think I would look at not only sample size,
 23 but reduction in bias, so paying more attention to, in
 24 fact, getting a well-distributed sample of
 25 radiocollared bears that is inclusive of bears outside

1 the DMA. So it changed the priority from strictly
 2 trapping bears inside the Demographic Monitoring Area
 3 to trapping bears wherever they may occur. So that
 4 would be one approach I would take.
 5 And then be very clear, very clear on how you're
 6 dealing with uncertainty arising from bias, sample
 7 size, and justifying how you're dealing with
 8 uncertainty, uncertainty in terms of exposure risk and
 9 the precautionary principle. So I think all of those
 10 tasks need to be attended to.
 11 In terms of what's an adequate sample size? If
 12 you've attended to all those things, you probably
 13 don't need to sample the bears. I mean, the thing
 14 that you could do is just not expose bears to hazards,
 15 known hazards, probable hazards. That way, it's less
 16 incumbent upon you to have these kinds of precise
 17 data, accurate data, to judge risk.
 18 So you can either deal with the hazards, or you
 19 can deal with the data and put an ever more burden on
 20 the data collection and the data collectors, so I
 21 think that's sort of a two-pronged approach.
22 Q. And I assume you would say the same thing
23 for these two research papers, for Haroldson and
24 Kasworm?
 25 A. The same thing as in --

1 Q. Well, because these two studies go over
2 den entry and den exit dates, correct?
 3 A. Correct, based on a fairly small sample
 4 cumulatively of bears in the ecosystem over time so
 5 there's no explicit representation of uncertainty,
 6 although there's sampling of uncertainty or bias, for
 7 that matter. And they're both there, but there was no
 8 reckoning of how that bias or that sampling
 9 uncertainty played out.
 10 So what I did is just took the cumulative
 11 curves, cumulative distribution probability curves,
 12 without trying to account for all of that uncertainty.
 13 So whatever those figures are that I put on these
 14 figures would be much larger than this, than the 35
 15 percent, 5 percent, 10 percent, 38 percent.
16 Q. But they could be lower, though?
 17 A. Which brings me back to: How do you deal
 18 with uncertainty relative to the precautionary
 19 principle?
 20 And so it's equally likely they could be much
 21 higher. So are you willing to just assume all is well
 22 in the absence of dispositive information, or are you
 23 going to be precautionary on how you approach managing
 24 risk for bears?
25 Q. So I'm going to ask a question. So it

1 could be lower and it could be higher, correct?
 2 A. It could be lower, it could be higher.
 3 That's the nature of sampling uncertainty. But on the
 4 other hand, what I can say with greater certainty is
 5 that there's a bias towards collaring bears towards
 6 the core of the NCDE.
 7 So there's less information about what's going
 8 on with bears and den entry/den exit dates outside of
 9 that so-called "occupied" -- not just occupied, but
 10 Demographic Monitoring Area, which is a subset of the
 11 occupied range as defined by the Fish and Wildlife
 12 Service.
13 Q. Do you know if these bears that were
14 trapped and collared or studied here were only within
15 the DMA as well?
 16 A. This goes back to even before the DMA was
 17 delineated, at least in GYE, so there was no DMA. The
 18 distribution is expanded in the GYE. So by
 19 definition, all of these bears were trapped within the
 20 area that we now call the "DMA."
 21 The problem is that the distribution of bears in
 22 GYE as well as NCDE has been highly dynamic, and it
 23 begs the question, "What's driving those dynamics?"
 24 which gets me back to putative cause and effect.
25 Q. So I guess what I'm trying to get at is:

1 **You're saying that the sample size in the NCDE,**
 2 **there's bias or there's uncertainty to it.**
 3 A. And bias.
 4 **Q. Both. But that would also be applicable**
 5 **here because it's the same circumstances. They're in**
 6 **the DMA, these here. They're only radiocollared**
 7 **bears. Is that correct?**
 8 A. In the GYE, the DMA was not even relevant
 9 because we didn't have bears. We hadn't defined a DMA
 10 and we had bears almost wholly confined in terms of
 11 distribution inside the area that eventually became
 12 the DMA. So there wasn't the opportunity to collar
 13 bears outside the DMA back then.
 14 So there was not going to be bias introduced by
 15 not collaring bears outside the DMA because the DMA
 16 didn't exist and no bears existed outside the DMA, by
 17 all indications. So it's a moot point in terms of the
 18 bias aspect of this. The sampling error would apply
 19 in both instances, but that still doesn't account for
 20 bias even within the bounds of what was called the
 21 "recovery area," then the "primary conservation area."
 22 **Q. Okay.**
 23 A. Then the "Demographic Monitoring Area."
 24 **Q. Okay. Are you well-acquainted with the**
 25 **filings in this case?**

1 precautionary, that would be a safe window.
 2 **Q. So was there any data that you -- what**
 3 **data did you base those dates upon, specifically what**
 4 **data?**
 5 A. I've just described the data.
 6 **Q. What reports, though?**
 7 A. The reports, for example, in the
 8 Haroldson, et al., 2002 report, which again is an old
 9 report, there's a bear that was out, an adult male out
 10 in the last week of February. And there have been
 11 others, other bears that I've heard of that have been
 12 out that have been in the news. It always makes the
 13 news as to when bears are out.
 14 So I always try to ballpark, based on my current
 15 knowledge, when you're likely to avoid risk to pretty
 16 much all the bears pretty confidently. So based on
 17 the data here as well as those, the specific date in
 18 Haroldson, plus to my knowledge, the data that
 19 postdated what Mark relied on, plus these what I would
 20 consider to be reliable news reports, including
 21 posting on the Yellowstone National Park website,
 22 those were the evidence that I was drawing on.
 23 But then the other thing that it keeps coming
 24 back to in terms of how you deal with uncertainty like
 25 for these dates, entry and exit dates, is like where

1 A. No.
 2 **Q. Okay.**
 3 A. I mean, I did a quick read of Carter
 4 Niemeyer's declaration, which I found really
 5 interesting. But other than that, no.
 6 **Q. Okay. So other than Mr. Niemeyer's**
 7 **declaration, you didn't read any of the other filings?**
 8 A. No. I mean, I was actually looking for
 9 Chris Servheen's declaration but I didn't see it in
 10 the materials I got.
 11 Did he file a declaration?
 12 **Q. No, he did not.**
 13 A. Oh, okay.
 14 **Q. In the court filings, there is reference**
 15 **to January 1st to February 15th trapping dates where**
 16 **they would allow trapping to continue. Did those**
 17 **dates come from you?**
 18 A. Yes, they did. I mean, I had a
 19 conversation with Tim about what relief would look
 20 like. And I invoked the precautionary principle and
 21 said, "Well, based on my knowledge of when bears, that
 22 I have known of, have been last out, first out, there
 23 have been bears in Yellowstone out as early as the
 24 later part of February."
 25 That's documented. So I thought, Well, to be

1 is the burden of proof and where is the burden of
 2 risk? And how do you apply the precautionary
 3 principle? And is that the recommended approach under
 4 the ESA? That informed what I shared in terms of
 5 coming up with some dates.
 6 MR. SCOLAVINO: Okay. We'll take another
 7 quick break.
 8 (A brief recess was taken.)
 9 MR. SCOLAVINO: We're back on the record
 10 at 3:12.
 11 BY MR. SCOLAVINO:
 12 **Q. And, Dr. Mattson, when we ended our last**
 13 **conversation right before the break, we were talking**
 14 **about the January 1st to February 15th date.**
 15 **There you mentioned that there was some news**
 16 **articles and Haroldson that you were relying upon for**
 17 **creating those dates or creating the certainty around**
 18 **them?**
 19 A. There's no certainty to be had around that
 20 kind of stuff. You're looking at probabilities,
 21 likelihoods relative to risk, and then kind of judging
 22 on how to allocate that risk.
 23 And as I recall, I think I was hearing from
 24 people on the Grizzly Bear Study Team that they were
 25 having bears out, subsequent to the Haroldson paper,

1 earlier in February. I couldn't say exactly when I
 2 heard that or from whom, probably from Mark, but it
 3 created a certain consistency.
 4 **Q. You mentioned a gentleman named "Mark."**
 5 **Can you --**
 6 A. Mark Haroldson.
 7 **Q. Mark Haroldson?**
 8 A. Yes.
 9 **Q. Okay. Who created Haroldson, et al.?**
 10 A. Right, using data that only went up to
 11 about 2000, I think, or 2001.
 12 **Q. So there was some subsequent reports that**
 13 **Mark mentioned to you after he published his report?**
 14 A. Right, as well as the news articles that
 15 were credible.
 16 **Q. Then how long after he published his**
 17 **report did he provide you with some additional data?**
 18 A. Probably not long after.
 19 **Q. Was it a few years or for how long after?**
 20 A. A couple of years. I couldn't say exactly
 21 how many years.
 22 **Q. Okay. Is there anything else that you**
 23 **relied upon for those dates?**
 24 A. No, other than what I said in terms of the
 25 evidence and sort of the judgment on how to deal with

1 A. It was not in the smorgasbord of issues
 2 that immediately struck me because I was not aware
 3 that there was any points of contention regarding
 4 growth of the population.
 5 **Q. Okay.**
 6 A. And it was only subsequently that I was
 7 becoming aware, and it was sort of indirectly of that
 8 being a prospective issue. At which point, then I
 9 rebriefed myself on the material I put together and
 10 then updated my assessment based on examining some of
 11 the more recent records. So that would have been, I
 12 don't know, prior to being informed of the deposition
 13 even.
 14 **Q. When you say update your assessment, was**
 15 **that your own personal assessment or was someone**
 16 **asking you for an assessment?**
 17 A. That was at my own initiative.
 18 **Q. Okay.**
 19 A. Because it was -- I would be hard-pressed
 20 to say exactly where I queued into it as being an
 21 emerging issue, but as I recall, I became aware of it.
 22 And so I thought, Well, I'll reacquaint myself with
 23 the critique I did and update it.
 24 **Q. And I bring that up because it seems like**
 25 **today, we spoke a lot about the demography of grizzly**

1 uncertainty and risk.
 2 **Q. At what point did you present those dates**
 3 **to Tim?**
 4 A. As I recall, when Tim was trying to
 5 determine what a remedy would look like that would be
 6 credible, and so we had a very brief conversation
 7 about that.
 8 **Q. Was that conversation when he spoke to you**
 9 **about your declaration or was it thereafter?**
 10 A. It was during the deliberations in front
 11 of Molloy, as I recall. I actually couldn't say when
 12 exactly it was in terms of those, relative to those
 13 deliberations or, you know, where exactly where it was
 14 in the process. It was after I had submitted the
 15 declaration, though.
 16 **Q. Okay. And you said earlier -- scratch**
 17 **that, sorry.**
 18 **I believe it's Exhibit 20. Yes, it's Exhibit**
 19 **20, "Heart of the Grizzly Bear Nation." So in that**
 20 **report, you mention it dealt with the demography for**
 21 **bears in the NCDE. Well, you did not include that in**
 22 **your declaration --**
 23 A. No.
 24 **Q. -- because it pertained to demography,**
 25 **correct?**

1 **bears, and I just was wondering what you thought**
 2 **changed or why you brought that today.**
 3 A. I'm not sure, actually, other than it
 4 seemed to be on the docket and it was touched upon by
 5 a question you asked, I couldn't remember exactly what
 6 it was, but about the status of the population.
 7 It seems to me that it's not directly relevant
 8 but potentially relevant information as to what the
 9 prospects are for the population, whether it's in as
 10 good a shape as being currently perceived, which would
 11 inform what kind of impacts even a small increase in
 12 bear mortality might have on prospects for not only
 13 just the NCDE population, but connectivity between the
 14 NCDE and Bitterroot Ecosystem, which is, I think, the
 15 more important issue.
 16 **Q. Okay. So I'm going to jump back to just**
 17 **Figure 1 in your first declaration, which is Exhibit**
 18 **21. As we discussed earlier, in Figure 1, there's two**
 19 **areas: High-risk areas and then intermediate-risk**
 20 **areas.**
 21 **I guess I want to bring up a previous point that**
 22 **you mentioned, too, which was pertaining to like**
 23 **mountain biking and recreational activities besides**
 24 **recreational trapping.**
 25 **Wouldn't mountain biking, per se, cause high**

1 risk to grizzly bears in these areas as well?

2 A. It would be a risk-enhancing activity by
3 people in areas occupied by grizzly bears.

**4 Q. Are there any other activities that could
5 cause similar effects?**

6 A. There's ample numbers of human activities
7 that could harm grizzly bears or affect grizzly bears
8 depending on the individual bears and how they
9 respond, to whether they habituate or not.

10 I mean, the problem with mountain bikers is that
11 you have somebody traveling at high speed with limited
12 visibility where there's little warning for the bear
13 to respond and a trail with limited visibility often.
14 So that's a particularly risky behavior on the part of
15 people.

**16 Q. So the risk associated with that, and
17 let's just say we're looking at Figure 1, the risk
18 associated with that in a high-risk area would be a
19 high risk, correct?**

20 A. Higher there than elsewhere, but
21 especially high in places where there's lots of
22 mountain-biking activity. I think the important point
23 to all that is there's a context within which you add
24 increments of risk. If you've got already a high
25 baseline risk attributable to other human activities,

1 death by a thousand cuts.

2 So at which point do you have too much in terms
3 of hazards loaded onto a landscape? That's a really
4 tricky problem to come to grips with. I was involved
5 in clarifying the application of cumulative effects
6 analysis to grizzly bears in the mid 1980s. In fact,
7 I was a consultant for Parks Canada, the National
8 Parks Service, a number of different agencies on how
9 to conceive of cumulative effects and how to apply it
10 on the ground.

11 So that's absolutely, from my perspective, an
12 absolutely critical context for understanding any kind
13 of added and cumulative risk, in this case,
14 potentially attributable to trapping because any
15 single road, any single activity is not going to
16 conclusively, you know, put a grizzly bear population
17 in a death spiral. It's at some point, you have too
18 much of what's going on on the landscape.

**19 Q. In reference to "too much," wouldn't it be
20 safe to say that there is more mountain biking and
21 other recreational activities than there is trapping?**

22 A. So it gets back to the opportunities to
23 intervene to effect change on the landscape, and there
24 doesn't seem to be any receptivity on the part of the
25 Forest Service to curbing mountain biking on Forest

1 like people active on roads, people active on trails,
2 people mountain biking, then that amplifies the
3 effects of the additional increments of risk on bears.

4 That is the problem even with activities
5 respectively like trapping where you have widespread
6 exposure of the bears, which is the point of that map,
7 to a low probability event that has particularly
8 hazardous outcomes for the bear.

9 I mean when a bear's encountering mountain
10 bikes, they may hit a mountain bike or a mountain
11 biker, and it's the mountain biker that's going to pay
12 the price. As per the incident in Glacier National
13 Park or near Glacier National Park where the mountain
14 biker literally collided with a bear, they couldn't
15 even track down the bear to kill it. So it's really
16 who's bearing the brunt of that increment of risk,
17 that type of risk.

**18 Q. And so to just recap, so hiking and
19 backpacking or camping or let's just say even wildlife
20 viewing could result in --**

21 A. They create a certain baseline of risk.
22 And that's important against which to register added
23 increments of risk because if you don't look at -- I
24 mean, then that gets back to the notion of cumulative
25 effects, which is a well-established problem, like

1 Service trails, any public land management agency, in
2 curbing mountain biking on trails.

3 So you can identify a risk and you can identify
4 the opportunity to intervene. To my knowledge, I
5 mean, there may have been people that try to litigate
6 the harm caused by mountain bikers to bears, but I
7 don't know that it's been successful if it has been
8 undertaken.

9 But, I mean, the virtue of litigation is it
10 provides an opportunity to intervene in a decision
11 process to remedy harm, and that's a key part of the
12 whole equation. It's just not about what's causing
13 what level of risk. Like you could argue that the
14 people in Flathead Valley or Missoula are imposing a
15 much higher level of risk on bears than trapping
16 would.

17 But what are the opportunities for intervention?
18 Talk to somebody like Tim Manley, talk to somebody
19 like Jamie Jonkel. You know, how are you going to
20 intervene in that system when you have to deal with
21 county commissioners and you have to deal with the
22 issue of zoning?

23 So kind of think of it as a two-dimensional
24 schematic where you have likelihood of harm or
25 magnitude of harm and opportunities to intervene. And

1 so if there's an opportunity to intervene to prevent
 2 additional harm, there's a logic to that.
 3 **Q. And so just jumping off of harm, isn't the**
 4 **harm here as "take" defined by the Endangered Species**
 5 **Act?**
 6 A. Harm can be as per individual animals, and
 7 also habitat, also populations. I mean, it's been an
 8 established principle that you could harm a bear by
 9 impairing its habitat.
 10 That was the genesis of the successful
 11 litigation of the 1993 recovery plan, to come up with
 12 habitat-based recovery criteria to where bears don't
 13 live in a vacuum. They are affected in terms of their
 14 birth and death rates by the hazards embedded in the
 15 environment that they live in.
 16 **Q. But for purposes of this case, the harm**
 17 **here is "take" as defined by the ESA, right?**
 18 A. From my perspective, the harm is that
 19 which is incurred by bears due to trauma, physical
 20 suffering. Part of the issue with evidence here is
 21 that we don't have a reliable assessment of the
 22 historical take by trappers of bears. You have a
 23 report on whether there was a take or harm to the
 24 bear.
 25 And the other point I try to make is that I'm

1 **Can't mountain biking and/or camping and/or**
 2 **hiking cause trauma or stress upon the bear?**
 3 A. And I'll go back to what I just said.
 4 There's ample documentation of lots of impacts
 5 attributable to human activities. And if you look at
 6 any one increment of that in isolation - a single
 7 road, a single house, a single activity - you don't
 8 get a complete picture of the hazards embedded in that
 9 landscape for bears.
 10 So if you can prevent the loading of additional
 11 hazards on landscape for bears, that's desirable,
 12 especially if the status of the population is
 13 uncertain, and especially if the opportunities to
 14 intervene to reduce other hazards are not there.
 15 There has been successful litigation that
 16 controls road densities and roading, but not trail
 17 use, not mountain biking. I think the prospects for
 18 limiting recreational activity, those kinds of
 19 recreational activity are limited outside of national
 20 parks or limiting housing or building
 21 overpasses/underpasses, which a lot of people have
 22 been beating their head against that wall to get
 23 something to happen.
 24 So it's not about a risk in isolation. It's the
 25 risk relevant to the totality of risks embedded in

1 acquainted with how researches trap bears, and we have
 2 fairly reasonable data from Alberta as to the toll
 3 that trapping takes on bears even without injury as in
 4 stress, as evidenced in stress hormones, as impaired
 5 life performance afterwards. So there's pretty
 6 reliable data by a guy named "Cattett," who I
 7 reference in my declaration.
 8 So there's different ways that have been
 9 recognized that you can harm individual bears and it's
 10 not just by killing them. But then you never know how
 11 many of these bears that have been found in the field
 12 that are decomposed, dead, likely caused by humans,
 13 unreported, unknown, that were unreported by trappers
 14 who may have accidentally trapped a bear in a set.
 15 And I wouldn't want to be a trapper who
 16 accidentally caught a grizzly bear especially after 48
 17 hours had transpired, because I guarantee you, there's
 18 damn few trappers, if any, that are carrying around
 19 immobilization kits that have been qualified to
 20 immobilize a bear to release a bear under those
 21 circumstances.
 22 **Q. I think what I'm trying to understand,**
 23 **though, and you mentioned "trauma" or "stress,"**
 24 **whether the trauma is physical or not, but trauma and**
 25 **stress were two things that you previously mentioned.**

1 landscape and opportunities to intervene.
 2 **Q. Okay. If we're trying to limit the risk**
 3 **to the totality, is it safe to say that we should just**
 4 **shut down the entire western portion of Montana**
 5 **because grizzly bears are at risk from every human**
 6 **activity? Whether that be mountain biking --**
 7 A. Well, I can say this for a fact, that
 8 grizzly bears fared well in this part of the world
 9 prior to the advent of European settlement. I can say
 10 that for a fact. And it's clear, clear from the fates
 11 of bear populations in areas that are relatively
 12 unpopulated that bears do a heck of a lot better
 13 without human activity. There's no doubt about that.
 14 It's not a matter of: What is the perfect world
 15 for grizzly bears? It's a matter of: What can we do
 16 to make it a tolerable world for grizzly bears to
 17 sustain them, to recover them? Which is why I think
 18 demography is relevant vis-a-vis that issue, like:
 19 How well is the population doing, in fact?
 20 And even if we have a thousand bears, is that
 21 enough to assure recovery? Which gets back to a lot
 22 of issues embedded in the recovery planning process.
 23 **Q. So, again, if we're going to try and limit**
 24 **the risk, the totality, in those high-risk areas,**
 25 **should we shut down mountain biking? Should we shut**

**1 down hiking? Should we shut down camping and wildlife
2 viewing in those high-risk areas as well?**

3 A. Should we/can we? Is it plausible? Is it
4 feasible?

5 I would say you have to judge impacts on people
6 in the equation. And when it comes to trapping, for
7 example, you look at the wolf harvest reports. And on
8 average, 68 trappers have successfully trapped a wolf
9 or more than one wolf in a given year.

10 So are you talking about depriving 70 people of
11 the opportunity to kill a wolf? And the percentage of
12 wolves that have been killed by trapping is a minority
13 of the total of wolves killed. It would not prevent
14 Montana from achieving its harvest objectives for
15 wolves.

16 You look at that in contrast to mountain biking,
17 the number of people that engage in that activity, the
18 number of people that hike. So it's about balancing a
19 number of factors, from my perspective, if you're
20 wanting to be implementing effective policy.

21 So from my perspective, it's a no-brainer where
22 the points of intervention are with the least cost to
23 the totality of people in western Montana.

**24 Q. So it's not about "take" as defined by the
25 ESA to you, because "take" means to harass, and a**

1 well-acquainted at what's been done in the Blackfoot
2 Challenge and previously on the East Front.

3 It's about engaging in ways that one can, using
4 the levers that are available, to try to promote
5 better coexistence, less risk embedded in the
6 landscape. So there's any number of ways that you can
7 approach that, well-proven ways.

8 So it's not just about a blanket closing down of
9 all human activity. Roads can be removed, torn up.
10 That's another thing that can be done to reduce
11 hazards, risk, to try to achieve some increment of
12 benefit for bears that might allow us to progress
13 towards recovery.

14 And under the ESA, the people in the United
15 States made a commitment to recover endangered and
16 threatened species. So it's a manifestation of our
17 public interest as codified in law what we can do and
18 it's a pragmatic exercise.

**19 Q. I heard earlier that you mentioned 68
20 trappers. Is that referenced in an FWP article?**

21 A. Yes, in all the harvest reports. There's
22 the total number of trappers that killed one, two,
23 three, four, five, six, seven, and now eight wolves in
24 a season. So all you have to do is add that into a
25 database and you can average that over the last

1 mountain biker can harass an individual.

2 A. No. It's about harassment, it's about
3 stress, it's about harm. That is a fact. And it's
4 also about the practicalities, because nowhere ever
5 has the Fish and Wildlife Service said, "We're going
6 to close all roads, we're going to prohibit all
7 recreational activity on public lands," because it's
8 always about judging how far things can be pushed
9 politically relative to what's needed to recover
10 grizzly bear populations.

11 So I am not saying what you're saying, that it's
12 about closing down all human activity. I'm talking
13 about what increments of human activity that result in
14 potential harm, as in stress and harassment, can be
15 managed with the least cost to people that are here.
16 So there's the tractable arenas and the intractable
17 arenas.

18 Q. And just because one is retractable --

19 A. "Tractable."

**20 Q. -- one is tractable and one is
21 intractable, we should just honor one rather than the
22 other, though?**

23 A. No, and that's not what's been done. Like
24 I said, I work with people in carnivores and am
25 acquainted with a lot of -- in fact, I'm

1 handful of years.

2 There hasn't been really an increase in the
3 number of trappers who have taken wolves. It's a
4 minority of the total take compared to people who are
5 shooting them or killing them with archery equipment.

**6 Q. So a loss of 68 people's activity has less
7 of an effect on the bears than all of those that ride
8 mountain bikes or mountain bikers, correct?**

9 A. Loss of an activity for 68 people has less
10 of an effect? I'm not sure that I understand your
11 question. I'm talking about the balance of burden on
12 the bears relative to burden on people as reckoned as
13 residents of Montana. People engage in different
14 activities.

15 My point is that there might be a certain number
16 of people that get licenses to trap. Of those,
17 there's apparently only a handful that are competent
18 enough to catch a wolf that are actually benefiting,
19 however you want to reckon that, from that activity.

20 If you're going to say, "Okay, if we want to
21 manage risk on the landscape, do we do it in a way
22 that deprives a handful of people, literally, a couple
23 of dozen people of an opportunity to engage in
24 activity? Or are we going to tackle depriving,
25 literally, thousands of people of the opportunity to

1 engage in an activity?
 2 Don't get me wrong. I think there should be
 3 places where we don't allow mountain biking where
 4 there's high impacts on bears. But the Forest Service
 5 had jurisdiction over that and they have been
 6 unresponsive to any request/opportunities to change
 7 the decision they make regarding distribution of
 8 mountain bikers. So in this case, we have a decision,
 9 a decision point.
 10 **Q. I think what I was trying to get at with**
 11 **that question was: Sixty-eight people have a much**
 12 **lower effect than mountain bikers --**
 13 A. No.
 14 **Q. -- which are a presumed higher amount?**
 15 A. Are you talking about per person, which --
 16 we're talking about per capita terms here, risk
 17 engendered by an individual and their activity, or as
 18 opposed to the totality of all those activities?
 19 If you're looking at per capita loading, it's
 20 hard to say which person is going to have the greater
 21 effect. But as I said with mountain bikers, you may
 22 have displacement, you may have stress, but the bear
 23 isn't injured or, that I know of, isn't injured, only
 24 very rarely removed, but under extenuating
 25 circumstances.

1 What we're talking about here is about a device
 2 deliberately designed to hold an animal. And that's a
 3 -- that which engenders almost axiomatically some kind
 4 of injury, tissue trauma, as well as stress. And
 5 that's going to be exacerbated by the 48-hour window.
 6 Now, if you wanted to minimize harm, you could
 7 say trappers need to check their traps every 24 hours
 8 or less and have a radiomonitoring device that's
 9 triggered when a trap is released so that they can be
 10 out there expeditiously to check the strap. That
 11 would minimize stress and potential for harm.
 12 They could change release weight from 500 and
 13 1,000 to something less or more, maybe. I don't know
 14 which way that plays in terms of potential harm for a
 15 bear. Do you want a bear walking around with a trap
 16 dangling off its foot or not?
 17 So it's not like there's nothing that can be
 18 done even in terms of how trapping is implemented to
 19 reduce the prospect of harm. But the longer a bear is
 20 in a trap, it's predictable that's going to be more
 21 injurious.
 22 So that, again, is a key distinction between
 23 people hiking, people on mountain biking -- mountain
 24 bikes. They are not out there with spikes on their
 25 bike aiming at bears or any other animal. It's purely

1 accidental. Likewise, people out recreating, hiking,
 2 you know, they may carry a handgun but that's a whole
 3 different matter in terms of how they respond to the
 4 encounter.
 5 **Q. But for purposes of this case, I will let**
 6 **you know that it deals with take, and "take" means**
 7 **"harass." So whether you're harassing the bear as a**
 8 **mountain biker or as a hiker, you are taking under the**
 9 **ESA.**
 10 A. Okay. That's your purview, not mine.
 11 **Q. Earlier you stated that data within**
 12 **reports was either skewed or repressed because of**
 13 **political reasons. Could you tell me what those are,**
 14 **what those political reasons are?**
 15 A. Which reports are you referencing?
 16 **Q. You've stated throughout your deposition**
 17 **today that there are many political reasons that go**
 18 **into factoring.**
 19 A. Yeah, I mean, amongst other things,
 20 there's things that are quite predictable, which I
 21 have witnessed and experienced internal to an agency:
 22 Group loyalty; group think; living in a silo; creating
 23 boundaries so you have the enemy without, the friends
 24 within, which creates a silo effect; you have data
 25 monopolies that are held by government agencies so you

1 don't have the opportunity for independent scrutiny by
 2 other scientists with free access to the data.
 3 Despite what people might think, a scientific
 4 progress does not happen just because you've done an
 5 analysis and get it through peer review. It's been
 6 pretty well documented that error detection by peer
 7 review is about equivalent to throwing a dice. So
 8 peer review is no guarantee of an error-free result.
 9 And any result is provisional by nature in terms
 10 of any scientific result. It can only stand for some
 11 temporary time until it's revised in light of new data
 12 or new scrutiny or new analysis.
 13 So one of the big problems is when you have any
 14 monopolistic arrangement where people don't have free
 15 access to raw, underlying data for independent
 16 analyses, creating an opportunity for replication or
 17 not, to test what other people have done.
 18 So there's a number of factors that conspire to
 19 make the pursuit of science internal to federal and
 20 state agencies really problematic. Monopolies, fairly
 21 well, you know, in terms of what journals you see
 22 scientists publishing in and which ones are going to
 23 be friendly to the perspective agenda of the host
 24 agency of the scientist, there's a dramatic skew
 25 towards a certain set of journals versus others. So

1 there's that evidence.
2 And you look at, if you go to look at email
3 exchanges amongst people internal to agencies obtained
4 via FOIAs, you can see a pattern of defensive
5 posturing, of sequestering data of defensive
6 behaviors, of money, funding being applied with the
7 intent to produce a certain result.

8 Not all arenas are beset as much as the grizzly
9 bear arena because it so politicized because it's set
10 in this context of contestation between federal and
11 state authority. So anytime you get this polarized,
12 contested environment as you get with management of
13 endangered and threatened species, lynx, grizzly
14 bears, you create an opportunity that's ripe for
15 corruption of the scientific process, which has been
16 well documented in any number of cases in addition to
17 grizzly bears.

18 It besets ESA research, research into protected
19 species more than most other species. So you can have
20 management of mule deer, management of whitetail deer,
21 which are not going to be nearly as politicized, not
22 necessarily beset with these corrupting effects and
23 influences.

24 I mean, there's just, you know, bookshelves in
25 libraries full of case histories affirming this. So

1 Q. You mentioned that this also occurs in
2 instances where these reports are being peer-reviewed.
3 So why wouldn't the scientists that are peer-reviewing
4 it notice these biases or political shifts or lack of
5 hypotheses that may have been tested?

6 A. Scientists, in my opinion, physical
7 scientists, are some of the most acontextual people I
8 know in terms of their judgments being completely,
9 utterly divorced from any cognizance of a larger
10 policy environment that might configure what's going
11 on to even be able to pick up on patterns that might
12 be there.

13 If you look at the payoff for investing in peer
14 review, when you've got a full docket, people don't.
15 It's rare that people really invest themselves in peer
16 review to critically look at it.

17 The other thing is you've got a predictable
18 stable of reviewers that know each other from bear
19 conferences that are friends that end up being
20 reviewers. So you've got, you know, personal
21 loyalties, acquaintanceships. You've got lack of time
22 and energy to reward the investment in peer review.
23 You've got people that are not familiar with the
24 political/social culture environment in which that
25 research was done that don't even -- where that

1 that's the general pattern, that's the general
2 phenomenon. That would be what I would invoke as sort
3 of an explanation for these patterns.

4 And I look at the peer-reviewed publications and
5 reports that I've seen published, and there's bias in
6 terms of what questions are asked, how they're asked,
7 how the analyses are done, what factors are
8 considered, what factors aren't considered, how
9 results are interpreted.

10 Each step in that path is ripe with the
11 opportunity for bias. And I could say that applies to
12 every publication that's come out of the NCDE, every
13 publication related to grizzly bears that's come out
14 of the GYE, and also out of the Cabinet-Yaak.

15 And so this is probably as thorough
16 documentation as you will get for the NCDE. I also
17 have some -- this objection that I put together for
18 the Cabinet-Yaak bears, which describes the
19 problematics with work that's been done there.

20 So there's no Ecosystem that's immune from these
21 syndromes and it's evident in multiple ways, tearing
22 back to what you can find out by looking at email
23 exchanges or any kind of exchanges of documentations
24 that you can get through a Freedom of Information Act
25 request and a Freedom of Records request.

1 doesn't even penetrate their consciousness.

2 You've got scientists who make claims to
3 objectivity that compounds this syndrome, you know,
4 the failure of peer review. There's people that can't
5 even inquire into themselves to recognize bias where
6 it occurs.

7 And, for example, having had spent almost as
8 long as we've spent here talking to the former head of
9 the Grizzly Bear Study Team about how scientists are
10 not objective, they're subjective beings like every
11 human being. They're subject to everything that preys
12 upon human beings and human judgment.

13 And after four hours, he said, "I've got a
14 headache. I get your point. Go away."

15 But that was after -- this was an intelligent
16 man. We engaged in a very deliberative conversation
17 for four hours, and even then it was hard for him to
18 upload that.

19 And I've taught students at Yale and MIT about
20 all of this. It's not transparent. It's rarely
21 transparent to anybody. So you've got people who are
22 opaque to themselves, a system that's opaque to people
23 that are scrutinizing it, especially within a
24 community of physical and biological scientists.

25 Q. So in your eyes, it doesn't matter if the

1 article is peer-reviewed or not?

2 A. The data show about 50 percent chance that
3 error has been detected. And another instance, for
4 example, where people have taken the same exact
5 dataset, farmed it out to numerous scientists, and
6 said, "Do you see a significant result, insignificant,
7 or evidence of an effect, no evidence of an effect,
8 evidence of there definitively not being an effect?"
9 You can just roll your dice.

10 Q. Okay.

11 A. So the paradox of peer review. It's kind
12 of like what Winston Churchill said about democracy.
13 I forget the exact quote, but it's: Of all the
14 systems that have been tried from time to time, it's
15 probably the best, but it's not -- it's far from
16 perfect.

17 And that's the same that could be said of peer
18 review. It's better, probably, that we have it than
19 we don't, but it's no guarantor of quality.

**20 Q. And we've talked about Cecily today. Do
21 you have reason to believe that Cecily, Cecily
22 Costello, is politically motivated?**

23 A. I think she's prey to all these
24 influences. I think it's rare that people even
25 recognize when they are swayed by political

1 Q. Okay.

2 A. But field data, 1993.

**3 Q. Field data was 1993, okay. And data that
4 you've received after 1993 is data that's publically
5 available?**

6 A. I've got data up through 1996 from the
7 Grizzly Bear Study Team because I agreed to provide
8 them with some funding to support their operations,
9 and part of the exchange is that I had access to
10 certain data sets up through 1996.

**11 Q. Do you believe there is any data that is
12 being withheld from you with regards to grizzly bears
13 specifically?**

14 A. That I don't have free access to?

15 Q. Correct.

16 A. Yeah, an immense amount. All the raw data
17 pertaining to what went into reckoning occupancy
18 conflicts even, radiotelemetry locations, VHF
19 locations, known fates of bears, and I don't know that
20 there's been much work done on diets and behaviors
21 explicitly, no, none of that is available.

22 And what I've seen is that if you want to gain
23 access to data, it's with the proviso that there be
24 control exercised by the people providing the data,
25 which, as I just said, is antithetical to making

1 influences. I think there's a lot of incentives and
2 disincentives intrinsic to any agency environment that
3 people who are subject to them don't even recognize.

4 So I don't think she's malicious, but I don't
5 think she's very cognizant, from anything I've seen
6 knowing her going back quite a ways. I mean, she's
7 another one that I would say is not very cognizant of
8 these dynamics and the effects they have when they're
9 systemic. So it's not maliciousness, by any stretch,
10 in my judgment.

**11 Q. When was the last time you collected data
12 about grizzly bears?**

13 A. 1993. And it depends on what you mean by
14 "data" because I've subsequently collected geospatial
15 data that I published in 2002, 2004, 2005, but it was
16 data that were public accessible. But that gets back
17 to the problem of data monopolies where when you are
18 not in an agency where you have free access to data,
19 you can't do independent scrutiny other than by virtue
20 of what data can be harvested through the public
21 domain, which is what I've relied on.

22 So in terms of collecting, collating, analyzing,
23 yeah, probably actively -- I mean, it depends on how
24 you want to look in these reports, but up through at
25 least 2004.

1 reliable scientific progress with critical scrutiny.

2 I do know, in my own personal experience, the
3 paper I published with Craig Pease back in 1999, we
4 respectfully requested the data from the Grizzly Bear
5 Study Team post 1993-1994. There was a series of
6 exchanges, but with the proviso of control still being
7 exercised by bear study team scientists. It went to
8 the top of the food chain in the U.S. Biological
9 Service at that point, and it came down to litigation
10 to get that information released.

11 So in my experience, either you're still under
12 the sway of the people who collected the data, that
13 worked for the agencies, or it's virtually impossible
14 to get the data. And if you want to get the data, you
15 probably have to litigate under the Freedom of
16 Information Act and request.

17 But, then, there is ample redaction because
18 there's this putative concern about disclosure of
19 locations, grizzly bear locations, which might allow
20 poachers with access to the data online to track down
21 the bears, which is not a restriction on the
22 government researchers. They have precise geospatial
23 locations.

**24 Q. What about in regards to FWP or the
25 commission, is there any data that you think we were**

1 **withholding from you?**
 2 A. All of the above. I mean, I haven't even
 3 bothered because I'm absolutely positive that it would
 4 come with the same strictures and requirements, and I
 5 don't want to beat my head against the wall. And I'm
 6 taking that stance not in the absence of any lived
 7 experience. It is well-informed by lived experience.
 8 **Q. Okay.**
 9 A. I mean, withholding any data, what I do
 10 have access to is what is reported in the monitoring
 11 reports, which are incredibly brief, cursory, terse,
 12 especially compared to the Grizzly Bear Study Team
 13 reports from Yellowstone.
 14 **Q. Just jumping back to the political biases**
 15 **and my question pertaining to political reasons: Is**
 16 **it fair to say that you can't trust any state or**
 17 **federal agency scientists?**
 18 A. Are you asking me do I trust them and in
 19 what ways and on what basis?
 20 **Q. Yes.**
 21 A. It depends. I would trust all of the
 22 state researchers to be nice people. I would expect
 23 that of them. In terms of what they produced, I would
 24 always cast a critical eye on what they produced
 25 because of all these potentially configuring, biasing

1 **Is there a difference between what is in those**
 2 **reports and your professional opinion?**
 3 A. Oh, well, no. The sourcing population
 4 dynamic is pretty well-documented in those papers.
 5 And, actually, elements of those papers substantiate
 6 my statement regarding -- well, actually,
 7 well-substantiate my professional opinion that this
 8 sourcing population dynamic has produced many of the
 9 gains in population distribution.
 10 I mean, that's been shown by estimates of
 11 population growth rate for those different source
 12 areas and sink areas. You have declining populations
 13 locally in the sink areas, most of which are on the
 14 periphery, and you have increasing estimated growth in
 15 source areas.
 16 So axiomatically, you can't sustain bears in a
 17 situation where you have a locally declining
 18 population without influx of bears from the source
 19 areas, which has been documented in the estimated flow
 20 rates between the source-sink areas.
 21 I'm trying to remember which of those papers
 22 they estimated the flow rate of bears from the source
 23 to the sink and vice versa. But, I mean, it is sort
 24 of by first principles, you can't have bears where the
 25 population is locally in decline for very long without

1 influences that I know are afoot.
 2 So I wouldn't take anything that's produced at
 3 face value. That's the nature of scientific inquiry.
 4 You always look at it with a critical eye. That is
 5 antithetical to being a good scientist, to take
 6 anything that anybody puts down on paper on faith.
 7 That applies to everybody, but especially for
 8 people working in situations where there's a
 9 monopolistic arrangement with the data and where there
 10 are all these configuring influences in a highly
 11 charged, highly politicized environment that typifies
 12 just about all management of endangered and threatened
 13 species.
 14 MR. SCOLAVINO: We'll take one last break.
 15 And then we'll come back and we'll finish it up.
 16 THE WITNESS: Sounds like a plan.
 17 (A brief recess taken.)
 18 MR. SCOLAVINO: Back on the record, and it
 19 is 4:10.
 20 BY MR. SCOLAVINO:
 21 **Q. So, Dr. Mattson, I'm going to jump to**
 22 **Exhibit 21, which is your first declaration, Paragraph**
 23 **33. And in Paragraph 33, you cite some scientific**
 24 **research reports, and then state in your professional**
 25 **opinion.**

1 some supplementation/augmentation from the source-sink
 2 structure. And that's the conclusion that was
 3 explicitly reached in all of those papers.
 4 **Q. So when you say in your professional**
 5 **opinion, that's not different --**
 6 A. No.
 7 **Q. -- than what is in those research papers.**
 8 A. It isn't. It isn't. It's entirely
 9 consistent with the conclusions in those papers.
 10 **Q. I only ask because in certain other areas,**
 11 **you just reference the reports and then don't say "in**
 12 **my professional opinion," and it stuck out to me here.**
 13 A. Yeah, yeah. Well, "opinion" is a
 14 vagarious thing. But, yes, what I said here is
 15 entirely consistent with what is in those papers and
 16 is not any undo inference or highly subjective
 17 inference.
 18 **Q. So earlier today, you mentioned your time**
 19 **working with U.S. Biological Survey or Science.**
 20 A. Survey Service.
 21 **Q. At that time, you were working under Mr.**
 22 **Servheen and Mr. Knight; is that correct?**
 23 A. I was working for -- by that time, I was
 24 no longer working for Richard Knight. I was working
 25 for Gerald Wright, who was my supervisor at the

1 University of Idaho.

2 **Q. So was there any point in time where you**

3 **were working under both Mr. Servheen and Mr. Knight?**

4 A. Christopher Servheen did not have any

5 direct-line authority over me; Dick Knight did. He

6 was my supervisor in the Interagency Grizzly Bear

7 Study Team. Chris Servheen was the recovery

8 coordinator. He worked for the Fish and Wildlife

9 Service. He provided substantial funding to the

10 Interagency Grizzly Bear Study Team. And the recovery

11 coordinator continues to provide substantial funding

12 to the Interagency Grizzly Bear Study time -- Study

13 Team.

14 **Q. Okay.**

15 A. From the onset, that's been the case. So

16 they exert considerable influence indirectly through

17 funding.

18 **Q. If I'm not mistaken, earlier today, you**

19 **mentioned that -- I thought it was Mr. Servheen had**

20 **informed someone else to pull your funding, or**

21 **something along those lines. I thought Mr. Servheen**

22 **told Mr. Knight. Is that not correct?**

23 A. Servheen threatened to pull our funding

24 unless Dick Knight told me to terminate all

25 communications with Craig Pease, who had been my

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1 collaborator up to that point, explicitly on an

2 analysis up through whenever it was, 1992.

3 But then I continued to correspond with him on

4 other technical matters up through 1993, which

5 informed his comments on the grizzly bear, revised

6 grizzly bear recovery plan.

7 **Q. Okay.**

8 A. And it was Chris Servheen responding to

9 Craig Pease's comments and his reading into them my

10 input which he took offense at, that led him to

11 threaten to pull our funding, which led my boss to

12 come to me and say to me, and I'd overheard part of

13 the conversation by virtue of the open-cubicle nature

14 of the office, but come explicit to me -- say explicit

15 to me that, "Chris Servheen threatens to pull our

16 funding unless you stop communicating with Craig Pease

17 at this point in time. You need to stop," which I

18 did.

19 **Q. So given your past experiences with Mr.**

20 **Servheen and Mr. Knight, would you trust any work that**

21 **they produced?**

22 A. I go back to what I just said. I don't

23 take on faith any scientific products that any

24 scientist produces. I read everything that's been

25 published with a critical eye, but I read publications

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1 coming out of the Federal Government with an

2 especially critical eye, especially that have been

3 produced in the crucible of grizzly bear conservation

4 management science.

5 So I don't think -- I mean, Dick definitely,

6 Dick Knight, had his virtuous sides. He didn't think

7 of himself as being dishonest, I know that. But there

8 were all these configuring circumstances that led him

9 to make the kinds of choices he did make.

10 Chris Servheen, I know for a personal fact,

11 exercised routine intimidation and threats as part of

12 his operating and modus operandi, not just me being on

13 the receiving end, but other people who worked for the

14 Fish and Wildlife Service who were involved in Section

15 7 consultation.

16 **Q. So is it safe to say if the two of them**

17 **were government employees working on grizzly bears,**

18 **you would question their research more so than a**

19 **regular scientist?**

20 A. I would look at a critical eye at any

21 research produced by any agency scientist working with

22 grizzly bears in the contiguous United States for all

23 the reasons that I described: Because of the data

24 monopolies; because of the configurations of political

25 influences; funding influences; the highly

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1 politicized, inflamed nature of the arena.

2 I had cause to doubt Dick's research based on my

3 familiarity with raw data, so that was a bit of a

4 difference compared to what you might just see in a

5 published paper.

6 **Q. Okay. I guess I just want to make sure**

7 **that I'm understanding you correctly. So if they were**

8 **a government scientist, you would criticize their work**

9 **more so than a scientist that is not employed by the**

10 **government; is that correct?**

11 A. Especially in a situation where they had a

12 monopoly on the data or where you could not -- you did

13 not have the opportunity to replicate an experiment,

14 if you will, or an analysis independent of any kind of

15 influence.

16 So that's a peculiar circumstance of research

17 undertaken by most government scientists of any

18 stripe, involved with any species, any endangered and

19 threatened species.

20 **Q. After looking, as you stated, with a**

21 **critical eye at the data in this case that was**

22 **produced by agency scientists --**

23 A. "In this case" meaning data that bear on

24 the impacts potentially, prospectively, of trapping

25 wolves in areas occupied by grizzly bears?

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1 **Q. So Cecily's data.**
 2 A. Okay.
 3 **Q. Do you believe that that data is sound or**
 4 **do you still suspect that science?**
 5 A. There's a difference between the data and
 6 the analysis and the reporting of the analysis. Upon
 7 looking with a critical eye at what she's produced, it
 8 has not given me any great confidence in those results
 9 and has led me to doubt about -- doubt the
 10 relationship between the data and the results.
 11 But more than that, it's not just the data, it's
 12 the analysis. It's the way of applying the analyses
 13 to management deliberations, which takes me back to
 14 what I was saying about taking an analysis relying on
 15 data that are 15 to 16 years old on average, that
 16 doesn't include any data from the most recent 10
 17 years, and projecting that out ad nauseam into the
 18 future linked to a 2004 estimate of population size
 19 without accounting for what changed between the time
 20 when Mace made his estimate of 3.2 percent, Cecily
 21 made her more recent estimate of 2.3 -- 3.2 to 2.3
 22 percent.
 23 How you can reconcile an increase, near 40
 24 percent or more increase in estimated adult female
 25 death rates to your estimate pegged to data that ended

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1 STATE OF MONTANA)
 : ss.
 2 County of Silver Bow)
 3
 4 I, Candice L. Nordhagen, Court Reporter - Notary
 5 Public in and for the County of Silver Bow, State of
 6 Montana, do hereby certify:
 7
 8 That the witness in the foregoing Deposition,
 9 David J. Mattson, was by me first duly sworn according
 10 to law in the foregoing cause; that the deposition was
 11 then taken before me at the time and place herein
 12 named; that the deposition was reported by me in
 13 machine shorthand and later transcribed by computer,
 14 and that the foregoing two hundred fourteen (214)
 15 pages contain a true record of the witness, all done
 16 to the best of my skill and ability.
 17 IN WITNESS WHEREOF, I have hereunto set my hand
 18 and affixed my notarial seal this ____ day of
 19 _____, 2024.
 20
 21
 22
 23 Candice L. Nordhagen
 24 Notary Public for the State of
 25 Montana residing at Butte,
 Montana. My commission
 expires October 26, 2024.
 (NOTARIAL SEAL)

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1 in 2014, that doesn't pass the test of logic or
 2 prudent application of science to management.
 3 As to why she did that, I don't know, but I can
 4 invoke the potential for political expediency or all
 5 of the opaque incentives and disincentives within an
 6 agency context.
 7 MR. SCOLAVINO: No further questions.
 8 MR. BECHTOLD: I have no follow-up.
 9 (The deposition concluded at
 10 approximately 4:30 p.m.)
 11
 12 * * * * *
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1 DEPOSITION OF: DAVID J. MATTSON
 2 DEPOSITION DATE: MARCH 7, 2024
 3 IN RE: FLATHEAD-LOLO-BITTERROOT, et al.
 v. STATE OF MONTANA, et al.
 4
 5 COURT REPORTER: CANDICE L. NORDHAGEN
 6
 7 I have read my deposition and make the following
 8 corrections or additions:
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22 Signed under penalty of perjury this ____ day
 23 of _____, _____.
 24
 25 DAVID J. MATTSON

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