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and Tom Classen

IN THE SUPERIOR COURT FOR THE STATE OF ALASKA  
THIRD JUDICIAL DISTRICT AT ANCHORAGE

DEFENDERS OF WILDLIFE and  
ALASKA WILDLIFE ALLIANCE,

Plaintiffs,

vs.

STATE OF ALASKA, BOARD OF GAME,  
and COMMISSIONER, STATE OF  
ALASKA DEPARTMENT OF FISH AND  
GAME,

Defendants.

Case No. 3AN-06-010956 CI  
(Consolidated 3AN-06-13087 CI)

FRIENDS OF ANIMALS, INC., and TOM  
CLASSEN,

Plaintiffs,

vs.

STATE OF ALASKA, DEPARTMENT OF  
FISH AND GAME, BOARD OF GAME,  
and JOHN and JANE DOES 1-50,

Defendants.

**AFFIDAVIT OF**  
**DR. GORDON HABER**

STATE OF ALASKA )

) ss.:

THIRD JUDICIAL DISTRICT )

Gordon Haber, upon being first duly sworn, deposes and testifies as follows:

1. I am an independent full-time career professional wildlife scientist currently

in my 41<sup>st</sup> year of field research on wolves and wolf-prey systems in Alaska. I hold a Ph.D. degree in Zoology and Masters degree in Biology. For both of these degrees my research and field work focused on wolves and wolf-prey systems in Alaska. I have testified as an expert witness in legal proceedings and in many public hearings concerning the biology and management of wolves and wolf-prey systems, including wolf control proposals.

2. I have conducted research on wolves, moose, caribou, sheep, and other species in Denali National Park since 1966 and am still doing this research. My 817-page Ph.D. dissertation and 250-page Masters thesis were based on my first 11 years of wolf-prey research in Denali; the Ph.D. dissertation was published in its entirety by the Joint Federal-State Land Use Planning Commission For Alaska. Since 1993, I have conducted wolf research in the upper Yukon/Tanana ("Fortymile") region. In the 1990s, I also conducted wolf research in Game Management Units 13 and 20A, among other areas of Alaska. My wolf-prey research in Alaska has involved extended observations, including via aerial radio-tracking, of some 50-100 groups of wolves under diverse conditions. I conduct this research with research permits from the National Park Service and Alaska Department of Fish and Game. I conducted similar wolf-prey field research in northern British Columbia in 1978-1979 and 1987.

3. My research pioneered virtually all of the modern thinking in wildlife science concerning moose and caribou recruitment analyses and related "predator-pit" concepts. It has produced the most detailed body of original scientific information on wolf foraging (hunting and scavenging) and the natural "sustained yield" management of wolf-prey systems (including for moose and caribou hunting) ever published. It also focuses heavily on the behavior of wolves, especially their social organization. My Ph.D. dissertation alone provides more detail on wolf social organization and other aspects of wolf social behavior than any other single published source of original field research.

4. My research concerning the biological impacts on wolves of human hunting, trapping, and control programs is well known nationally and internationally. I was asked to address this issue in a debate with L.D. Mech before a large audience of professionals at the First Annual Conference of The Wildlife Society in 1994. A 1996 paper that I published - attached as **Exhibit A** - in the peer-reviewed scientific journal, *Conservation Biology* (Vol. 10, pp. 1068-1081), remains by far the most detailed scientific publication on this topic. In 2006, the National Museum of Natural Sciences in Madrid, Spain, invited select scientists from around the world to provide exhibits for a year-long (2007) museum feature on top predators. I was one of only two scientists from the United States, and the only one from Alaska, invited to provide an exhibit on wolves. I was asked specifically to provide an exhibit that emphasized Denali wolves, their social organization, and the biological impacts of human killing on wolves in general. Attached as **Exhibit B** is a true and accurate adaptation of the exhibit I provided, which was to be translated into Spanish by museum staff and subsequently will be published in English in a museum book.

5. In 2003, the state began a wolf control program via private aerial-hunting permittees in Game Management Unit 19D east, near McGrath. By early 2005, the state had initiated four additional wolf control programs via private aerial-hunting and land-and-shoot permittees in the GMU 13, 16B, 19A/B, and 20E ("Fortymile") areas. Formal bear removal/killing programs were included along with the wolf-killing programs in portions of the GMU 19D east and GMU 20E areas. Friends of Animals initiated legal action against these programs in Anchorage Superior Court in November 2003.

6. On January 17, 2006, Superior Court Judge Sharon Gleason ruled on the Friends of Animals' complaint, declaring the state's five control programs to be invalid and ordering them halted. In response, at a January 25, 2006 teleconference meeting, the Alaska Board of Game amended 5 AAC 92.125 by repealing subsections (1), (5), (6), (7),

and (8) and adding 77 pages of new subsections (9), (10), (11), (12), and (13), to take effect immediately as an emergency regulation for 90 days. The Board concluded that there was a need to resume the five control programs as quickly as possible and therefore undertook its actions at the January 25 meeting without allowing any oral or written public testimony. I attended this meeting in its entirety, via teleconference in Anchorage. The Board indicated that public testimony in response to its actions in amending 5 AAC 92.125 at the January 25 meeting would be accepted into the record at the March 2006 meeting in Fairbanks, at which time the Board would consider whether or not to extend these emergency regulations.

7. Based on the emergency regulations (5 AAC 92.125 (9), (10), (11), (12), (13)) and related reports, I prepared a 43-page scientific review of the control program approved on January 25 and entered this into the record of the Board of Game's March 2006 meeting as RC-35. A true and correct copy of this review is attached as **Exhibit C**. This review is titled, "The Case Against Wolf and Bear Control In Alaska," and includes citations to 76 other scientific reports, papers, etc. I also provided oral testimony to the Board at the meeting, for the allotted five minutes. There was no mention or consideration of my written or oral comments during the Board's subsequent deliberations at the March 2006 meeting, which I attended.

8. At the March 2006 meeting, the Board announced that it was tabling consideration of 5 AAC 92.125 (9), (10), (11), (12), (13) and any related predator control discussions until May 2006. Alaska Department of Fish and Game (ADF&G) Tok area biologist Jeff Gross gave a brief PowerPoint preview of a new proposal and management plan for adding Fortymile caribou objectives to the Fortymile wolf control program that ADF&G would present to the Board in detail at the May meeting. During a coffee break, assistant attorney general Kevin Saxby told me that the May session would be considered an extension of the March meeting rather than a separate meeting.

9. A public notice issued about two weeks beforehand indicated that the May 2006 meeting would be held in Anchorage on May 12-14 and that the Board would accept additional written testimony until the time of the meeting but no additional oral testimony. The public notice mentioned, but did not contain any meaningful information about, the new Fortymile proposal and two other aerial control proposals. In response, I submitted a 24-page "Supplement No. 1" to the 43-page review entered into the record of the March meeting. This supplement was entered into the record of the Board of Game's May 2006 meeting as RC-201. A true and correct copy of this supplement is attached as **Exhibit D**. I wrote an op-ed overview of the Exhibits C-D arguments in the November 12, 2006 edition of the Fairbanks Daily News-Miner, a slightly condensed version of which was also published in the February 18, 2007 edition of the Juneau Empire; this op-ed overview is attached as **Exhibit E**.

10. I attended the May 2006 Board of Game meeting in its entirety. The Board neither discussed nor even briefly mentioned my reviews (**Exhibits C-D**), or the other scientific opposition entered into the record, during its deliberations at this meeting. (See Exhibit E at p. 2) Instead, the May 2006 Board of Game meeting in Anchorage consisted largely of detailed PowerPoint presentations from ADF&G biologists. These presentations included new data, little if any of which were available for me or anyone outside of ADF&G to examine prior to the May meeting. The only written state control program details that were available to me (or other members of the public) in preparing review comments were in the published emergency regulation, 5 AAC 92.125 (9), (10), (11), (12), (13). This regulation included nothing about the three new control proposals, nor did it include the new data for the existing programs that ADF&G biologists presented at the May meeting. In short, I was precluded from any opportunity to comment meaningfully on these new proposals and data.

11. Based on the newly presented data and recommendations from ADF&G

biologists, the Board approved two major changes to the upper Yukon/Tanana wolf control program and extended the four other control programs with lesser changes.

12. The Board changed the objective of the upper Yukon/Tanana control program from increasing moose numbers to increasing moose and caribou numbers (by increasing the size of the Fortymile caribou “herd”). The Board also tripled the size of this control area, to supposedly include the entire area over which Fortymile caribou currently range. The state’s “justification” (from ADF&G) is that it thinks Fortymile caribou numbers are currently “stagnating,” i.e., not increasing.

13. For the following reasons, among others, these caribou-related arguments, and thus the Board’s actions in tripling the size of the upper Yukon/Tanana control area, are arbitrary and capricious:

- ADF&G’s standard way of estimating Fortymile and other caribou numbers is via aerial censusing during which post-calving concentrations of caribou are photographed and then counted on the photographs. As explained in **Exhibit F** (which I submitted to the Board of Game in 1999), there are problems with photo censusing but much worse and usually insurmountable problems in trying to estimate numbers indirectly by relying primarily on sex and age data.

- ADF&G has not conducted a census of Fortymile caribou since 2003, and the 2003 estimate represented approximately a doubling of numbers over the previous six years. Simply put, there is no reasonable scientific basis to conclude that wolf control is currently needed to effectuate a Fortymile caribou increase and no reasonable scientific basis to conclude that Fortymile caribou numbers are not currently increasing in the first place. Other fundamental biological and management issues – such as whether it makes sense to view these caribou as a separate “herd” over the long term – are also highlighted in **Exhibit F** but have not been considered by the Board.

- Large numbers of Fortymile caribou spend major portions of the winter in

Canada, where wolf control is not allowed. There, they attract resident and migratory wolves, including some of my radio-collared study groups of wolves from Yukon-Charley Rivers National Preserve 130-140 miles away. A third or more of the upper Yukon/Tanana control area is used as a wintering area by thousands of Nelchina caribou (5,000-30,000 per winter over recent years); these caribou migrate from about 200 miles away in Game Management Unit 13, to the southwest. Thus, one of the spectacles of the winter wolf control program that the state says it wants to carry out in the upper Yukon/Tanana region for Fortymile caribou objectives is that it is likely targeting wolves that are substantially diverted from eating Fortymile caribou by the presence of large numbers of Nelchina caribou.

14. For the following reasons, among others, the state cannot legitimately argue that halting wolf control in the upper Yukon/Tanana and other control areas would harm state interests directly or indirectly via harm to subsistence users:

- The state's estimates of moose numbers in the control areas are of such low quality that they cannot provide a basis for measuring any control-related changes (**Exhibit C** at pp. 3-8, summarized in **Exhibit E**). Per paragraph 13, above, the same is true for estimates of caribou numbers in the expanded upper Yukon/Tanana control area (the only area for which wolf control is being carried out for caribou objectives). The state cannot claim anything about the efficacy of control – and thus harm if control is stopped - without reliable measurements of any resulting changes in moose or caribou abundance. Claims about increases in calf survival are unreliable for evaluating the efficacy of control without good, accompanying estimates of moose and caribou numbers, because of the similar way calf survival can respond to predator control at high as well as low moose and caribou numbers (**Exhibit C** at pp. 13-23, esp. p. 19, summarized in **Exhibit E**).

- The state's estimates of wolf numbers in the control areas are of even lower

quality than the moose and caribou estimates (**Exhibit C** at pp. 9-13); they are contradictory and much more likely to be too high than too low (**Exhibit C** at pp. 41-43, 11-12; **Exhibit D** at pp. 4-6). Without good wolf estimates, it is impossible for the state to conclude anything reliable about the efficacy of wolf control and thus any harm from stopping control, especially in combination with the poor moose and caribou estimates. The state now claims that it must offer a wolf bounty and perhaps follow this with helicopter gunning to reach its annual wolf killing goals. But this ignores the most likely reason for not coming close to reaching these goals for the third consecutive winter: The goals are based on gross overestimates (**Exhibit D** at pp. 5-6). My aerial observations in three of the control areas – upper Yukon/Tanana, GMU 19D east, GMU 13, especially the first area) likewise suggest that wolf numbers are much lower than the state thinks and are probably already below the minimums the state said it would leave in these areas.

15. In summary, the state's wolf control program is based on assumptions and claims that amount to junk science. The program also relies on highly selective presentations and uses of the available information by ADF&G biologists, which at a minimum borders on scientific misconduct. This is happening primarily because the Board process shields ADF&G biologists — including the two retired ADF&G biologists who sit on the seven-member Board — from any kind of meaningful, external peer-review of the control proposals, related data, analyses, justifications, and other advice that they provide.

16. The state's aerial wolf control program has caused, and will continue to cause, major harm to wolves and wolf-prey systems across five areas of Alaska equivalent to about two-thirds the size of Wyoming. It has also caused, and will continue to cause, major harm to my long-term scientific research on wolves and wolf-prey systems in the upper Yukon/Tanana ("Fortymile") region, where the state has now tripled the size of the control area. Wolves feature a sophisticated form of social organization



based on cooperative breeding and cooperative hunting (**Exhibits A-B**). My research focuses heavily on this fundamental aspect of wolf biology and as such is contributing importantly to an understanding of the underpinnings of cooperative behavior in general, identified in 2005 as one of the most important areas in all of scientific inquiry in a special section of Volume 309 of the prestigious journal *Science* at pages 75-102. Killing these wolves thus harms a broader public interest as well.

17. As explained in **Exhibit B** (especially the last section, “Implications of Exploitation”) and in my 1996 scientific paper – **Exhibit A** - referenced therein, biological harm to wolves arising from heavy human killing cannot be addressed by considering only the numbers of wolves in an area and how rapidly these numbers might recover. What sets this species apart and makes it so valuable and interesting from biological, scientific, and other standpoints is its advanced form of social organization, which is highly adapted for exploiting (hunting) difficult prey but not for *withstanding* heavy exploitation. The state’s current wolf killing program is likely to have lingering impacts on the social structure and other behavior, hunting patterns, distribution, genetic variations, and mortality patterns of survivors and recolonizers throughout the control areas, even to the point of leading to increases in natural mortality well after the program ends. In some cases numbers may recover temporarily only to eventually decline for a much longer period. In other cases there may not even be a short-term recovery in numbers. Once the underlying social fabric is shredded – as continuation of the current control actions virtually guarantees - the long-term prognosis regarding numbers becomes much more uncertain. In any case, apart from numbers much of the behavior of the pre-control regional wolf populations - including learned traditions that were unique to certain family lineages – will not return for many additional years or decades if ever. What will likely remain for a long period following control is a much-simplified version of what was there before, with little resemblance to anything that natural processes would

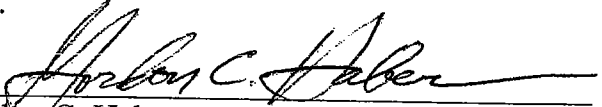
have produced. For an ultra-social species like the wolf, it is difficult to imagine a more serious biological consequence. As I pointed out in the 1996 paper (**Exhibit A** at p. 1075), focusing on the numerical signals of endangerment while ignoring virtually all else about a creature's biology is a prescription for the ultimate biological harm - in this case a process of "unwolfing."

18. Wolf control has already caused major harm to my wolf research and its contributions to the broader public interest, by eliminating most of my study groups in the upper Yukon/Tanana area. The most serious loss due to the control program was in 2005 of a family group, i.e., "Copper Creek," that I had studied since 1994. My plea to the state to spare this group because of its scientific importance was denied in a frivolous way; this request, the state's response, and my reply to the state's response are attached as **Exhibit G**. Currently only one of my long-term upper Yukon/Tanana study groups ("Twin," aka "Seventymile") remains, and it, too, is threatened by the control program. This group dens and spends most of its time within Yukon-Charley Rivers National Preserve, which is excluded from the control program. But like previous Yukon-Charley Rivers study groups, it periodically migrates for weeks at a time to caribou wintering areas within the adjacent state wolf control area. Already this winter, Twin has migrated at least once, more than 100 miles, into the adjacent control area. There is a high likelihood that my research and its contributions to the broader public interest will suffer additional harm from the loss of this remaining long-term study group if the upper Yukon/Tanana control effort continues.

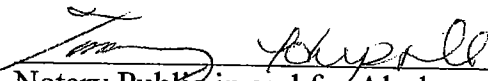
19. On March 25, 2007, my pilot, Troy Dunn, phoned to tell me that on late March 24 and early March 25, ADF&G Tok Area Biologist Jeff Gross and ADF&G Region III Supervisor David James told him by phone from Tok that he and I were to refrain from doing any aerial radio-tracking of wolves in the upper Yukon/Tanana control

area under the authority of my ADF&G aerial radio-tracking permit 07-037, for at least one week. James explained to Dunn that this was because ADF&G would be conducting an intensive effort to locate and kill wolves in the upper Yukon/Tanana control area commencing on March 25 for a week, using both state and private-permittee pilots/gunners and airplanes. According to Gross, the effort to locate wolves will include aerial radio-tracking as well as snow-tracking.

20. On Friday, March 23, 2007, I received updated kill data from ADF&G. A copy of the information provided is attached as **Exhibit H**. Given ADF&G's intensified efforts to locate and kill wolves (¶ 19, above), these numbers have likely increased and will continue to increase throughout the week.

  
Gordon C. Haber

SUBSCRIBED AND SWORN to before me this 26<sup>th</sup> day of March, 2007.

  
Notary Public in and for Alaska  
My Commission expires: 9/15/08

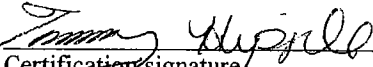
Certificate of Service

This certifies that on this 27<sup>th</sup> day of March, 2007,  
a true and correct copy of the foregoing document was  
served via hand-delivery on:

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Affidavit of Dr. Gordon Haber

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