



Brockmann, Steve <steve_brockmann@fws.gov>

Big Thorne Project SIR

3 messages

Lor, Socheata <socheata_lor@fws.gov>
To: Steve Brockmann <steve_brockmann@fws.gov>

Fri, May 30, 2014 at 4:01 PM

Hi Steve,

I received the attached letter this morning with stated attachments. You're probably expecting this packet.

Do you want me to scan the rest and send to you. Please excuse my ignorance for asking this question - what's next in this process?

Should Tim J and Steve K be alerted?

Soch

Field Supervisor
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 **Big Thorne Proj SIR_20140530.pdf**
422K

Brockmann, Steve <steve_brockmann@fws.gov>
To: "Lor, Socheata" <socheata_lor@fws.gov>

Fri, May 30, 2014 at 5:13 PM

I have my own copy, thank you. I've been trying to read thru this packet for several days now, and only get a few pages done at a time. I'll send a heads up notice for the RDT that the WTF report and the SIR have been released to the public and the appellants, and there may be media or political interest, as it affects a high-profile, controversial timber sale.

I'm quite discouraged by the SIR's dismissal of the concerns expressed over the Old Growth Reserve (OGR) moves. Moving the OGRs to lower-quality habitat (that is "not comparable" to the original) specifically because they want to make more timber available for harvest is not compliant with the Forest Plan, as I read it.

The appellants have 30 days to review the draft documents and get back to the Forest Supervisor with comments, then the Forest will finalize the SIR and send it to the Regional Forester. With the Regional Forester's blessing, the Forest will be able to solicit bids on the timber they're offering, unless the appellants file a lawsuit and get an injunction, which is a distinct possibility.

We don't have to do anything, but during this review period, I may provide some suggestions on how to reduce impacts to wolves by restoring the OGRs and dropping some of the more critical units from the sale.

Steve

[Quoted text hidden]

--

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Lor, Socheata <socheata_lor@fws.gov>
To: "Brockmann, Steve" <steve_brockmann@fws.gov>

Fri, May 30, 2014 at 5:16 PM

Sounds good. Thanks for sending the heads up to the RDT.

I'll read the SIR next week.

Enjoy the weekend!

Soch

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Federal Subsistence Board

1011 East Tudor Rd, Mail Stop 121
Anchorage, Alaska 99503



FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS

FOREST SERVICE

FEDERAL SUBSISTENCE HUNTING AND TRAPPING FOR WOLF CLOSED IN UNIT 2

SPECIAL ACTION: FEDERAL SUBSISTENCE BOARD

Under Authority of: 50 CFR Part 100. 27(i)(13)(i) and (ii)
36 CFR Part 242. 27(i)(13)(i) and (ii)

Special Action No: 13-WO-02-14

Issued at: Craig, Alaska, March 14, 2014

Effective Date: Wednesday, March 19, 2014-- 11:59PM

Expiration Date: Monday, March 31, 2014-- 11:59 PM

EXPLANATION: This Special Action closes Federal lands within Unit 2 (GMU2) to the harvest of wolf. The closure begins on Wednesday, March 19, 2014 at 11:59 p.m. and continues through 11:59 p.m. March 31, 2014. The Alaska Department of Fish and Game (ADF&G) has also implemented a similar, concurrent closure within Unit 2 for the State hunting and trapping seasons.

Authority has been delegated by the Federal Subsistence Board to both the Craig and Thorne Bay District Rangers to close the two seasons for wolf in Unit 2 when the combined Federal-State harvest quota has been taken.

Federal Subsistence Board by delegation to:

/s/ Matt Anderson

MATT ANDERSON

District Ranger

Craig Ranger District

14 March 2014

/s/ Rachelle Huddleston-Lorton

RACHELLE HUDDLESTON-LORTON

District Ranger

Thorne Bay Ranger District

14 March 2014

JUSTIFICATION: Unit 2 currently has a seasonal harvest limit of 60 wolves, which is 30% of the estimated fall wolf population. After several consecutive seasons of low wolf harvests in Unit 2, harvests reached high levels during the current and last year's seasons. This increase is believed to have been due in part to mild winter weather that kept much of the Unit 2 road system snow-free and accessible to trappers and thereby facilitated high trapper participation and effort. With the harvest nearing 60, biologists have been monitoring the harvest closely to ensure the Unit's wolf population is managed for long-term sustainability.

DISTRIBUTION:

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GOVERNMENT ORGANIZATIONS

Bertrand Adams, Chair, Southeast Alaska Regional Advisory Council; ADF&G Wildlife Divisions-Ketchikan & Craig; Jeff Bryden, Subsistence L.E.O., USFS-Moose Pass; Brian Skaggs, L.E.O., USFS-Ketchikan; Chris Sakraida, L.E.O. USFS-Craig; Jeff Sadowski, L.E.O. USFS-Thorne Bay; Carol Lagodich, Public Affairs, USFS-Ketchikan; Terry Suminski, Tongass Subsistence Program Leader, USFS-Sitka; Robert Larson, Council Coordinator, USFS – Petersburg; Steve Kessler, Regional Subsistence Program Leader, USFS – Anchorage; Alaska Public Safety Department-Fish & Wildlife Protection Division, Ketchikan & Craig; Craig Tribal Association; Klawock Cooperative Association; Hydaburg Cooperative Associa

From: [Flynn, Rodney W \(DFG\)](#)
To: [Logan, Brian -FS](#)
Subject: Wolf progress report Spring 2013
Date: Monday, June 10, 2013 3:38:56 PM
Attachments: [Person&Larson Spring 2013 Wolf Study Progress Report.pdf](#)

Brian: We have put together a progress report for the wolf study for spring 2013. This progress report was primary written by Kris Larson and edited by me. I assumed that this report will meet our contractual requirements with the USFS. I will also send it up the line here. If you have any comments, pass them along to me. I will wait to hear from you before I will send the report to Carol.

I spent a couple of days last week with Dave Person and Kris Larson discussing the wolf project. We haven't talked for a while about the project. I'm going down south tomorrow for a week for my daughter's graduation from grad school at UC Davis. If you are available next week, I would like to discuss the wolf project with you. Also, I would like to give you a rundown for our other projects and activities for the summer.

Thanks.

Rod Flynn
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Alaska Department of Fish and Game
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DEVELOPING A METHOD TO ESTIMATE ABUNDANCE OF WOLVES IN SOUTHEAST ALASKA

PROGRESS REPORT: 1 JANUARY 2013–31 MAY 2013

David K. Person and Kristian Larson
Division of Wildlife Conservation
Alaska Department of Fish and Game

Cooperators
Raymond Slayton and Brian Logan
USDA Forest Service
Tongass National Forest

BACKGROUND

This report covers study activities from midwinter (1 January 2013) through present (31 May 2013). The study is supported by the Alaska Department of Fish and Game (ADF&G) and U. S. Forest Service (USFS) contract AG-0116-C-09-0054. This report was written to satisfy contractual requirements for both the State of Alaska and the USFS.

The study area consists of a roughly 1,200 km region that encompasses the central Wildlife Analysis Areas (WAAs) of Prince of Wales Island (POW), an area that starts from Naukati, east to Coffman Cove, south to Thorne Bay, west to the Staney Creek headwaters, and north again to Naukati about 75 km west of Ketchikan, Alaska.

PRELIMINARY RESULTS

DNA Work

By midwinter, 125 of the wolf samples collected from the project had been sent to the USFS Rocky Mountain Genetics Laboratory (Dr. Mike Schwartz) in Missoula Montana for genotyping. The genetic samples consisted of 67 from hair boards distributed in the POW study area during the autumn (44 samples suspected from wolves and the rest a mix of bear, dog, marten, and perhaps other species), 1 sample from a road-killed wolf, 8 samples from the captured wolves, 10 samples from Gravina Island (bear, from sampler prototype tests in midsummer), and 40 late winter samples from harvested wolves. Of the 67 hair samples collected from the hair boards, over 70% were successfully genotyped. Final results are pending.

Over-winter Tracking

During 2012, we captured 8 wolves (1 juvenile, 7 adults), and we radiocollared the 7 adults with spread-spectrum, global position system (GPS) radiocollars that obtain a location every 6 hours. Through midwinter and into early spring, we flew once a month (31 December 2012, 21

February 2013, 4 March 2013, 11 April 2013, and 6 May 2013) to retrieve downloads, try to get visual observations of wolves and track their activities.

Through visual counts via aerial telemetry, we were able to determine a minimum population of 21 wolves in the study area. Motion cameras and ground observations seemed to corroborate this estimate. However, because we know from previous work that we should allow for extra territorial wolves or dispersers that are not associated with any of the three established packs, it is likely that the actual wolf count in our study area was closer to 24 during the estimation period.

By the end of March 2013 (the end of the POW wolf trapping season), we were aware of 2 radiocollared wolves legally harvested. In addition, one radiocollared wolf was killed and left, and one more vanished and its whereabouts is unknown. By early May, we had lost the last collared wolf, a female, in the Honker/Ratz area. Her ultimate fate is unknown, though we determined that she spent almost a week next to a campground on Balls Lake before disappearing. The two remaining active radiocollars are on wolves collared in the Staney Creek area. One of those wolves, an adult male, left Stanley Creek in midwinter and has been living on his own in the vicinity of Shaheen and Winter Harbor (outside our study area). The other collared wolf, a young female, bred and is currently dened in the Staney Creek area (Fig. 1-3).

Spring Trapping

On April 20, we traveled to POW to start the spring capture session. The capture crew consisted of Ray Slayton (USDA) and Kris Larson (ADF&G). Between 22 April and 21 May 2013, we had up to 64 traps set for wolves in the study area. The traps were set for a combined 1,375 trap nights. We caught no wolves during this session, though we had one wolf pull out of a trap and we had two instances where wolves stepped on traps, but didn't set them off (standing on a jaw or spring, but not on the pan).

By comparison, during spring 2012, we set 26 traps for a combined 356 trap nights and caught 4 wolves. The major difference between this spring and last spring appears to be numbers of wolves. Three of the five radiocollared wolves in the Honker Divide and Ratz Harbor area were definitely killed while the other two vanished (one in November during the height of the deer hunting season and the other in May after hanging around an active campground for almost a week).

At least 13 wolves were legally harvested in study area. In addition, 3 legally-harvested wolves were located near the border of the study area or the capture locations were too vague to determine where the animals were actually taken. At least 2 more wolves were taken illegally (one radiocollared wolf killed and left on a beach and one unreported road kill) for a total of 18 human-caused deaths. We have 2 missing radiocollars. If these animals were trapped, it would bring the mortality up to 20 wolves. From our estimate of 21-24 wolves inhabiting the study area, a winter and spring mortality of 18-20 would equate to about 80% over-winter mortality rate.

We know from observations and motion cameras that there are still a few wolves in the study area. We have a 2-year old female that had her first litter of pups this spring. We know from

cameras near her den that she has at least 5 pups in her litter and another wolf is known to show up about twice a week (Fig. 4).

We also know from observations, motion cameras, and telemetry that there were at least 3 or 4 wolves in the Honker Divide and Ratz Harbor area at the beginning of the trapping session. However, we lost the only radiocollared wolf in the area in early May. Camera traps showed two uncollared wolves on one occasion and tracks in a snowy pass showed two wolves on two different days had walked over the pass. Also, there were some indistinguishable tracks in a sand pit that suggested three or four other wolves had traveled through the area.

To the north, around Sweetwater Lake, there appears to be a pack of wolves. We found sign around our northernmost set and tracks on a trap there indicate wolf activity in an area outside the Honker, Ratz, and Staney territories. Wolf activity was sporadic around this location, but may indicate a pack that has localized somewhere further away and is not visiting that location very often.

Bears and deer were a surprising source of frustration during the spring capture events. We had many deer investigate traps. Some got caught and others pulled out; none were killed. The bears were worse. They dug up sets in muskegs on a daily basis, though they rarely set off traps. Typically, the bears would dig up the traps and toss them aside. Occasionally the bears would investigate the trap transmitters. Sometimes they took interest in the trap toggles and hauled set traps away with the toggles still engaged, and then proceeded to chew the toggles to splinters (never having set the traps off). We observed that bears ate the moss that had soaked up some of the coyote urine that we used for lure.

FUTURE WORK

Telemetry flights will continue on a monthly basis (or more frequently) through the summer. We are keeping several motion cameras deployed in key areas on POW throughout the summer to monitor wolf movements. Our traps will be re-boiled and the trap transmitters washed with odorless soap and stored in evergreen boughs until redeployment.

Trapping and collaring efforts will also resume in September. By autumn, pups should be large enough to travel and be susceptible to capture. At the same time, we will increase our telemetry flights in an effort to establish minimum pack sizes in our study area. This may be difficult if we have in fact lost our last collared wolf in the Honker Divide and Ratz Harbor area. The hair boards will be deployed in September as well, though they won't be lured until October. We want the hair boards to weather and naturalize for a few weeks prior to beginning to collect wolf hair samples. Having them pre-deployed will help speed the transition from trapping to hair snaring as well.

Submitted by:

Rodney Flynn
Research Coordinator
Division of Wildlife Conservation



Figure 1. Five wolf pups (nearly five week old) at den entrance on May 20, 2013. Five is the average number of pups in litters in our study area.



Figure 2. Wolf pups at the den entrance on 20 May 2013.



Figure 3. Two year old female, first time breeder, standing outside the den on 20 May 2013.



Figure 4. Uncollared wolf visiting the active den on 12 May 2013. Photos indicate that this wolf was showing up at the den site about twice a week.

Interagency Wolf Task Force:

Narrative in Response to Four Broad Conclusions in Person Statement.

~~11-27~~ March, 2014

Background

The Interagency Wolf Task Force produced a table (**Table A**) which briefly documents and discloses our evaluation of the extent to which the Statement of Dr. David K. Person (here-after Statement) offered information, analysis, and conclusions substantially different from the Forest Service analysis for the Big Thorne project. The table was produced during a two-day Task Force meeting (5, 6 March 2014). Results reported in Table A demonstrate substantial overlap in the elements examined in the Statement and the Forest Service record for Big Thorne. Five analysis points from the Statement were highlighted during the Task Force discussion. These five elements differed in status from other elements. These 5 appeared to representing new information or a new way of looking at existing information; it wasn't clear that they were directly considered in the Forest Service record. **Attachment 1** provides the **Interagency Team Forest Service** perspective on these 5 items highlighted as potential new information.

Table (A) was designed to concisely summarize substantial discussion and to communicate the conclusions of the team regarding a set of points made in the Statement. Hence, individual elements of the table are purposefully brief. The table was built by extracting a large number of quotes from the Statement which represent the primary thesis of the Statement. The decisions regarding which quotes to consider was not trivial and the team recognizes that other analysts could extract more specific or more general quotes. In this case, an effort was made to identify those items in the Statement that represented fundamental information building the case for the Statement's final conclusions.

Project analysis, such as the Big Thorne evaluation, naturally builds from the Forest Plan which provides a contextual record, critical analysis, synthetic conclusions, and management design elements. Table A has a column titled "Tiered from Forest Plan?". This column points the reader to analysis and contextual evaluation that was completed in the Forest Plan rather than during the Big Thorne analysis.

Careful examination of Table A will reveal that the Statement reached a number of fundamental conclusions that differ from those reached in the Big Thorne analysis. These conclusions integrate the broad topics identified in the first column of Table A (Topic Categories). Ultimately, the substantive differences in conclusions (between the Statement and Big Thorne Record) are identified in the final 5 points highlighted in Table A (labeled "Broad Conclusions"). In the following pages we respond to these substantial differences.

Wolf Task Force Response To Final Conclusions

The bottom of Table A lists five broad conclusions reached by Dr. Person in his Statement. The Wolf Task Force regards these conclusions as the thesis of the Statement or the take-home message. Because

Comment [SB1]: The current draft does not reflect USFWS perspective, as it dismisses several of the concerns in ways that we do not agree with. Person's conclusions are based largely on Points 1 through 4 in attachment 1, plus his findings that landscapes with 25 to 40% logged or roaded are risky for wolves and >40% logged/roaded are population sinks. (This last point about % logged/roaded landscape should also probably be included in Attachment 1 as not used in the BT EIS analyses.) None of these were used in the Forest Service analyses and largely account for the differences in conclusions reached. Our report should be clear about that.

none of these conclusions were reached in the Big Thorne analysis, they clearly represent significant new circumstances or information relevant to cumulative effects on wolves. Here we outline our reaction to these conclusions (quotes) and demonstrate why these conclusions are inconsistent with the scientific information and analysis presented in the Big Thorne record. Four of these conclusions refer to a predicted collapse of the predator/prey system on Prince of Wales Island or associated geographic area. The narrative in the text around the remaining conclusion makes reference to the same phenomena. Given the similarity of the conclusions we will respond to them as a unit.

Note: This evaluation does not attempt to repeat or cite the analysis or science references contained in the FEIS, ROD, or wildlife specialist report but builds on that understanding w/o direct reference except where necessary to clarify a point.

Overview of case presented in Statement--The line of reasoning that forms the foundation for all 5 substantive conclusions in the Statement relates to the complex interactions between deer habitat, deer populations, deer hunters, wolves (as predators of deer), and wolf trappers/hunters. The Statement builds a case for “unstable predator/prey dynamics” or the “ecological collapse of the predator-prey system” ultimately questioning the viability of wolves. The 8 points listed under *predator/prey dynamics* in the matrix (see matrix for overview) outline the ecological interactions leading to unstable dynamics that could result in the collapse of the deer/wolf system (referred to in the Statement conclusions). In the Statement and in referenced material (particularly in Person and Brinkman 2013) a strong case is made for the complexity of the deer/human/wolf system. The argument begins with the idea that winter deer habitat is reduced (through timber harvest) to the point where a severe winter (or series of such winters) with deep snow results in high deer mortality. Deer abundance remains low (or is perceived to remain low) because of a combination of factors. Consequently, competition for deer (wolves and humans) occurs, resulting in high hunting/trapping mortality of wolves coupled with low wolf production due to reduced deer abundance. The ultimate outcome is the loss of wolf viability. The argument is clearly outlined and understandable. It relies on several critical assumptions outlined and analyzed below.

Before examining the assumptions of the substantive conclusions, it may be helpful to examine several critical points from the science documents that form much of the foundation for understanding wolf dynamics. The conclusions build indirectly from the evaluation presented in the Conservation Assessment (Person et al. 1996:19-20) and modeling in the 1997 population viability analysis (Person and Boyer 1997). The referenced viability modeling of deer/wolf interactions indicate that:

- Prior to ‘industrial logging’ (pre-1954), extensive oldgrowth forest supported very high deer carrying capacity which resulted in high deer abundance and high wolf abundance.
- Wolf harvest (hunting and trapping) is a stabilizing factor largely because it reduces the frequency of high wolf numbers depressing deer abundance, especially after a winter with high deer mortality. The stabilizing influence is most effective when wolf harvest goals are a consistent proportion of the wolf population.
- Deer populations appear to recover rapidly under all model conditions following extreme winter induced mortality events.
- Wolf extinction did not occur in the modeling scenarios.

The narrative in the Conservation Assessment describing modeling results (Person et al 1996:19-20) focus on an objective of retaining an equilibrium in the deer/wolves system that would sustain 250 to 300 wolves. This equilibrium objective (250 – 300 wolves) represents a strong foundation for the goal of maintaining habitat for 13 deer/ mi². ~~This threshold does not represent a management target for deer associated with a ‘minimum viable population for wolves’.~~ This wolf population objective was based on published recovery goals of 200 animals, for independent wolf populations elsewhere in the United States, in recognition of the isolation of the Prince of Wales wolf population.

Evaluation of Conclusions.—Empirical evidence supports the contention that wolf populations become locally extinct as a consequence of ~~poorly regulated~~ intentionally focused killing by humans and that hunting/trapping mortality can lead to wolf extinction in a wide range of environments. The absence of wolves throughout much of North America south of the 50th parallel provides numerous examples. By 1880 wolves were absent along the east coast of the United States and by 1944 wolves were absent from most of the Great Plains and western United States. These sweeping changes in wolf distribution were largely a result of targeted wolf killing by humans (Paradiso and Nowak 1982). In addition, the potential for a strong link between predators and prey (whether bottom up or top down) is well documented throughout both the theoretical and empirical literature (e.g. Holling 1959, Peterson 1995, Krebs et al. 2001). The relationship is strongest in relatively simple systems where a predator species relies on a single prey species (Begon et al. 1996, Gotelli 1998). Furthermore, some recent theory suggests that declines in prey habitat can have especially strong impacts on large predators (Carbone et al. 2010). Thus, both empirical and theoretical evidence supports the notion that the population dynamics of deer, wolves, and humans are strongly linked in this system. Furthermore, experience demonstrates that the characteristics of hunting/trapping are key in determining the short- and long-term status of wolves.

Applying the science of predator/prey dynamics specifically to Prince of Wales Island and to the effects of the Big Thorne project, to reach the substantive conclusions outlined in the Statement requires a set of important assumptions. Among the critical assumptions, one must accept:

- a. that ~~agencies will fail to adequately regulate wolf harvest~~ and to a lesser extent, deer harvest by humans;
- b. that ~~wolves must be maintained near an objective a population~~ of 250 – 300 ~~individuals~~ wolves would provide a high likelihood that stability and therefore avoid unstable ~~resilience in the predator prey dynamics community may be retained.~~
- c. ~~that a stable equilibrium (dominated by interactions between deer and wolves) is critical to the persistence of the predator/prey system on Prince of Wales Island [this assumption is strongly linked to the previous]~~
- d. ~~c. and that changes in habitat resulting from the Big Thorne project in combination with past harvest and road-building, and proposed or pending land transfers to Sealaska Corporation, Alaska Mental Health Trust, and the State of Alaska, reducing the extent of high quality winter habitat on Prince of Wales Island by 2%, will result in the cascade of consequences outlined in the statement non-linear response in the predator-prey-human system, with a possibility that viability of wolves will be at risk.~~

Comment [SB2]: Many extirpations were intentional, with the assistance of government trappers. Not a result of “poor” regulation. “Poor” is a pejorative term that implies the agencies allowing such killing are doing a poor job. Such accusations should be avoided here.

Comment [SB3]: This assumption appears to be saying that the WTF believes that changes in harvest regulations may be necessary to avoid compromising wolf viability. If that’s true, we should acknowledge it.

An analogous assumption for loss of deer habitat could also be presented: that agencies will fail to adequately protect deer winter habitat through forest management. I don’t see that assumption listed here.

Person describes a potential scenario that could occur if the responsible management agencies don’t put appropriate safeguards into effect (and he doesn’t seem to believe that they are in effect, right now). We shouldn’t assume that away. At the very least we should identify a potential need if one MAY exist.

Comment [SB4]: My read of the statement suggests that resilience to perturbations is the objective, not stable equilibrium (which is probably impossible in a changing environment). Stable equilibrium is not required.

Comment [SB5]: I do not believe that a stable equilibrium is necessary, and have been unable to verify that this assumption is either explicitly stated or implied in the Person statement. Rather, variations in wolf and deer numbers, and departures from equilibrium are explicitly anticipated, even without the additional timber harvest. Such variance is modeled in the PVA and other Person references. Resilience to respond to disequilibrium is what Person argues is necessary for the system to survive.

Comment [SB6]: Person’s statement explicitly cites these cumulative effects (past and reasonable foreseeable future) as working together with the BT timber sale to push the landscape beyond a (non-linear) tipping point. It isn’t the 2% loss alone that would cause the “cascade of consequences”. The Non-linear nature of the response is critical. Small changes in K result in increasingly larger changes in sustainable harvest rates, for example.

~~We contend that theory and empirical observations do not support the contention of a likely collapse of the predator/prey system based on the poor evidence supporting these critical assumptions.~~ We will briefly respond to each assumption in order:

Comment [SB7]: FWS cannot make such a statement at this time.

Assumption a: Over the past half century government agencies cooperating with public organizations have demonstrated effective regulatory response to threats of species extinction and potential listing under the ESA (e.g. Beissinger and Perrine 2001, Smith 2005) demonstrating the ability of government regulatory systems. ~~Indeed, State and Federal partners have worked together to avoid the need to list species many times. It is reasonable to expect that agencies will indeed work to conserve wolves and avoid listing. The Person statement, though, describes a possible scenario that he believes could result if adequate precautions are not taken.~~

~~Courts typically rely on existing regulatory mechanisms, rather than promises of future actions, though. The District Court of the District of Columbia specifically rejected assurances that future regulatory mechanisms would adequately protect Alexander Archipelago wolves when they remanded a listing decision to the Fish and Wildlife Service in 1996, for example (96 CV 00227 DDC). For the purposes of this document, the Wolf Task Force will suggest, in general terms, areas that may need further evaluation based on conditions and information available at this time.~~

The predator/prey system on POW Island has a regulatory structure and law enforcement infrastructure in place. These include State regulation of sport hunting and trapping and both Federal and State regulation of subsistence harvest.

Estimates of illegal harvest nearly equaling reported, legal harvest suggest opportunities for ~~improvement in the law enforcement~~ arm of that structure (Person and ~~Logan 2012~~Russell 2008).

Comment [SB8]: Enforcement actions have been successful when radio-collared wolves taken out of season are located in the possession of presumed perpetrators. Without assistance of radio transmitters, experienced Federal wildlife law enforcement officials report that wolf poaching cases are among the most difficult to detect and solve (S. Friberg, pers. Comm, 2014). Undercover operations may be necessary.

~~State and Federal agencies have indicated an intention to address regulatory and enforcement changes.~~ Legal harvest of wolves on Prince of Wales Island is currently limited to ~~25-30~~ percent of the estimated fall population. ~~Effectiveness of this regulation is hampered by lack of a reliable, current population estimate upon which to base the annual harvest cap. The current harvest cap is 60 wolves, implying a population of approximately 200 wolves. No reliable population estimates have been produced since 2004, when intensive radio-location and pack-size extrapolations were last done. An interagency research effort is currently attempting to develop a cost-effective population estimation methodology, which the Wolf Task Force considers critical. If harvest mortality, including both legal and illegal/unreported take of wolves, can be kept below approximately 35 percent, harvest is likely to be sustainable (Person and Russell 2008).~~

~~Seasons have been closed when the pre-determined harvest cap has been met, in 2000 and in 2014, demonstrating an ability and willingness by the regulatory bodies (Alaska Board of Game and the Federal Subsistence Board) to move quickly to regulate legal take of wolves. Additional regulatory efforts that affect distribution of the harvest or limit effectiveness of individual hunters and trappers, such as individual bag limits or gear restrictions, especially in the roaded portion of Prince of Wales, may reduce overall mortality if annual harvest caps are regularly exceeded. Such actions may have little or no influence on illegal take of wolves, but may be necessary to compensate for illegal harvest.~~

- **Assumption b:** The Statement places considerable emphasis on an apparent threshold of 13 deer/mi² necessary to maintain the stability-resilience of predator/prey dynamics. This threshold develops from analysis of wolf/deer dynamics necessary to support 250-300 wolves-an isolated population of 200 wolves (Person et al. 1996), which was based on recovery goals for isolated wolf populations elsewhere in the United States.

Comment [SB9]: This is a Forest Plan assumption and standard. Here it seems that you are attacking the validity of the Forest Plan.

The Conservation Assessment (Person et al. 1996) and Statement indicate that wolf numbers have varied on POW island over the past couple decades. This pattern of population fluctuations does not suggest a strong equilibrium. NOR-nor does it suggest dramatic disequilibrium dynamics in response to the system drifting away from an equilibrium value. Given the range of dynamics illustrated in Person and Bowyer (1997), and the observations of variable wolf and deer abundance on POW, evidence appears weak for the need to maintain an equilibrium in the predator/prey system is unlikely to be constantly maintained. Rather, equilibrium may be considered a balance to which the predator/prey/hunter community should return following perturbations (such as severe winters) if conditions stabilize around an abundance of wolves at 250-300 to avoid collapse. Therefore, the efficacy of the 13 deer/mi² threshold for stability (rather than sustained yield) may be questioned (because it is based on maintaining an equilibrium of 250-300 wolves

Comment [SB10]: This term, and others, should be defined. I'd suggest we define equilibrium, stability, resilience, and sustainable, and be careful in how we use these terms.

Person's statement, and the references he cites, instead focus on resilience of the prey population (deer) following severe winters, particularly in the face of wolf predation and hunting. Modeling presented suggests that resilience (though not necessarily stability or constant equilibrium) is likely to be maintained if adequate winter habitat to support a prey population large enough for 250 to 300 wolves is provided. Many predator/prey systems exhibit low stability but also exhibit resilience—the herbivore rebounds following declines in abundance facilitating predator rebound (e.g. Krebs 2001, Korpimaki and Norrdahl 1989). Strong density dependent population growth in prey populations facilitate recovery following periods of low abundance (as shown in these long-term empirical studies). As illustrated in Person and Bowyer (1997), regulated harvest of wolves on POW provides the mechanism to may facilitate deer recovery after high winter mortality. Person's statement maintains that retaining adequate habitat to support recovery of depressed deer populations is critical. Protection of remaining winter range in harvested landscapes such as the Big Thorne project area is viewed by Person as important to maintaining resilience in the deer population.

Furthermore, a availability of secondary wolf prey, such as salmon and beaver on Prince of Wales, provide a mechanism to reduce the risk of especially low wolf abundance following deer population declines.

Comment [SB11]: 13 deer per square mile is a Forest Plan standard. Thus far, all analyses by the Forest Service and Person have incorporated this standard. For that reason, I recommend that we accept this standard as a given, for purposes of the WTF review.

- **Assumption c:** The tie between the deer 13 deer/mi² threshold and an assumed requirement of predator/prey equilibrium is echoed in the wolf Conservation Assessment (Pearson et al 1996:19-20) and on page 11 of the Statement. The equilibrium paradigm appears to be central to the concern for a predator/prey system collapse. While equilibrium concepts are critical to the development of certain predator prey models and to developing a theoretical basis for understanding ecological interactions (see for example Gotelli 1998), few long-term studies

Comment [SB12]: I do not find any claim that equilibrium must be constantly maintained, or that constant maintenance of equilibrium is even possible. Instead, I see Person's modeling and discussions describe perturbations that upset equilibrium, with resilient populations moving back toward equilibrium. The objective is to provide for resiliency. Likewise, there is no assumption of stability. This entire assumption and discussion around it should be deleted.

demonstrate stable populations or long-term equilibrium dynamics (e.g. Begon et al. 1996:118, Perrins et al. 1991). Rather, density dependent population growth, within the context of variable population dynamics, appear to be the norm in temperate terrestrial predator/prey systems (e.g. Krebs 2001, Korpimaki and Norrdahl 1989, Stephens et al. 2012). Therefore, changes in wolf abundance from the objective of 250-300 and observations of changing wolf and deer numbers do not categorically suggest the collapse of the predator/prey system.

- **Assumption d:** The Big Thorne project boundary includes 232,000 acres or about 7% of Prince of Wales Island and occurs at an important location for movement of large, mobile vertebrates between the north and south portions of the island. The project will harvest 9,064 acres of oldgrowth forest recognized as winter habitat including 2,358 acres of high quality winter habitat for deer. As outlined in Table A, both the Big Thorne Record and the Statement carefully examined the consequences of changes in deer habitat from the project – both conclude that there will be measurable declines in the winter habitat capability in the project area (*see more details below*).

The scenario of predator/prey collapse outlined in the Statement begins with an understanding of the extent of winter habitat loss and the importance of snow interception for winter food availability to deer. Old-growth forest is effective at snow interception providing a refuge for deer during uncommon, but critical heavy snow accumulation periods. The relationship between old-growth forest, quality deer habitat, and potential deer mortality during periods of deep snow is well documented (Parker et al 1999). However, extending the consequences of removing old-growth forest in Big Thorne, to concerns for island-wide collapse of the predator/prey system requires an assumption of a threshold in response of the predator/prey system to the specific habitat loss associated with a project removing habitat from a limited portion of the island.

The existence of such a threshold is suggested by work presented at the 2006 Tongass Conservation Strategy Review Workshop, where Person showed that wolf mortality typically exceeds reproduction when more than 40 percent of a wolf pack's home range is logged and roaded (Person Statement, p. 14). This information was not used to modify standards and guidelines in the subsequent Forest Plan amendment (TLMP, 2008), nor was it considered in the Big Thorne timber sale EIS. Person's conclusion that the Big Thorne timber sale could lead to island-wide declines is linked to loss of resilience in the deer population in the Big Thorne project area (and other heavily-logged areas), in combination with increases in wolf harvest vulnerability resulting from development and roading across much of the remainder of the island from past actions and foreseeable actions associated with proposed or pending land transfers. Non-linear responses of predators and prey in response to changes in habitat capability can be expected to result in dramatic instability and reduced resiliency (Bowyer et al. 2005). This effect seems plausible across much of the roaded portion of Prince of Wales.

We begin with a brief review of some specifics regarding the loss of winter habitat before more directly addressing the assumption of a threshold.

The Big Thorne project will reduce the extent of old-growth forest by 9,064 acres, a level of timber harvest within the expectations of the Forest Plan. Within the project area, this will represent a 7% decrease in the extent of forest classified as deep snow winter range

Comment [SB13]: The discussion that follows about percentages of winter habitat lost is incomplete unless we discuss the non-linear response of populations to changes in habitat carrying capacity (or habitat capability as modeled by the Forest Service). As habitat capability is reduced, population response increases at a disproportionate rate. On POW, much deer habitat has already been impacted, so the response of the deer population to loss of the best remaining winter range is likely to be disproportionate, following a hard winter. This is why the non-linear response is so important.

With respect to a threshold, Person has presented thresholds based on accessibility of the landscape to (primarily road-associated) hunters and trappers. Neither the Forest Plan nor the Big Thorne analyses address this threshold of 40% of the landscape developed = mortality sink for wolves. 25% of landscape developed = near mortality sink. This relationship is also probably non-linear.

The Person Statement builds the case that the BT project, in conjunction with past harvest and reasonably foreseeable development with land transfers, succession debt, etc., will result in most of the island exceeding this threshold. The Forest Plan and the BT analyses may have acknowledged the land transfers, and may have assigned zero deer habitat value to private industrial forest lands (which effectively masks declines in habitat capability that will result as they are cut) but the Forest Service analyses do not use the information presented by Person in 2006 that development of between 25 and 40 percent of the landscape represents a mortality risk to wolves. Such an analysis, at the scale of individual wolf pack home ranges, is likely to show that most wolf packs would be at some risk.

and 6% decline in forest classified as average snow winter range. One WAA will lose an estimated 13% of current deep snow winter habitat.

Within the northern portion of Prince of Wales Island, the project will reduce the modeled deer habitat capability by 2 percent after project implementation and by about 5 percent at stem exclusion (Table WLD-24). The resulting landscape across the northern portion of the island will support modeled deer density 75% of the pre-1954 values, and following forest development (stem exclusion), 72% of the pre-1954 value.

At the biogeographic province scale, modeled deer habitat capability is currently 17.95 deer per square mile. In the absence of timber harvest, this value will decrease to 17.36 with stem exclusion but to 17.17 under the proposed old-growth timber harvest (following stem exclusion). Consequently, the proposed harvest will reduce modeled deer density by 0.19 deer per square mile across the biogeographic province compared to a no-harvest alternative.

Forest Plan analysis was accomplished prior to provisions resulting from the Roadless Rule. Lands currently reserved from timber harvest within the boundaries prescribed by the Roadless Rule include 78,000 acres of productive old-growth forest in areas identified as timber LUDS in the Forest Plan in the North- and North-Central Prince of Wales. An additional 45,000 acres of productive old-growth forest in timber LUDS in the South Prince of Wales biogeographic province are reserved from harvest based the Roadless Rule. The contribution of this old-growth to winter deer habitat varies geographically and the extent to which it contributes has not been analyzed. Consequently, current implementation of the Forest Plan may be conservative relative to the analysis completed at that time but the extent to which it underestimated the availability of winter deer habitat because of the Roadless Rule is unclear.

Building on this background we address the role of winter habitat loss initiating a collapse. The scenario requires that reductions in the deer population as a result of the habitat loss in the Big Thorne area results in a cascade of events initiated by severe winter snowpack influencing deer and wolf status across the entire island, leading to collapse of the predator/prey system. ~~As noted in the review for the previous 2 assumptions, the case for such a cascade of events, which presupposes an equilibrium model for predator/prey interactions, appears weak.~~ Equally important, it requires that the change in winter habitat (which is less than 5% across the biogeographic province after stem exclusion in 25 years) to result in a fundamental shift in wolf/deer interactions – a threshold response. The projected change in habitat capability is small compared to the variability in winter habitat capability and other factors influencing deer across years in response to differences in snowpack, timing of snow, spatial variation in snowfall, and variation in vegetation production (see modeling in Person et al. 1997 as an example). ~~Given the relatively small change in habitat capability at the spatial scale of the bioregion and therefore across the island, it is difficult to imagine a threshold response in deer response to winter habitat as a consequence of the project. More over, the existence of such a threshold dynamic in deer/wolf~~

~~systems has not been documented, nor is it as likely given the relationship of predator/prey body size and the potential for management regulation of wolf harvest in the system.~~

Comment [SB14]: This seems like conjecture.

~~Person cites his analysis of the percentage of the landscape developed by logging and roads as an indicator of mortality of risk to wolves (Person 2006). Landscapes with 25 to 40 percent logged or roaded are characterized as high risk, with mortality rates very near reproductive rates. Mortality from human harvest exceeded reproduction in wolf pack home ranges where a threshold of 40 percent logged or roaded was exceeded. Because of the non-linear nature of predator-prey population responses, small changes in harvest rates and habitat carrying capacity can have proportionately greater population effects. Where the effects of declining deer habitat capability are compounded by increase harvest rates on wolves, Person maintains, impacts to wolves may be substantial, particularly where this condition exists across much of the island.~~

Clarifying Note: We avoided complicating our discussion with details regarding the value of young-growth forest to deer. The current deer model allocates zero value to forest stands during stem exclusion. The Statement does not acknowledge recent research regarding the value of young-growth forest, particularly thinned stands, as deer habitat (Hanley 2005, Hanley et al. 2012), nor does it acknowledge the benefits of quality summer habitat facilitating deer survival through winter stress periods (Parker et al. 1999). The Big Thorne project would result in commercial thinning of about 2,300 acres and 12,300 acres of pre-commercial thinning of young-growth. The forage value of these stands will therefore increase, offsetting some of the estimated loss in winter habitat capability.

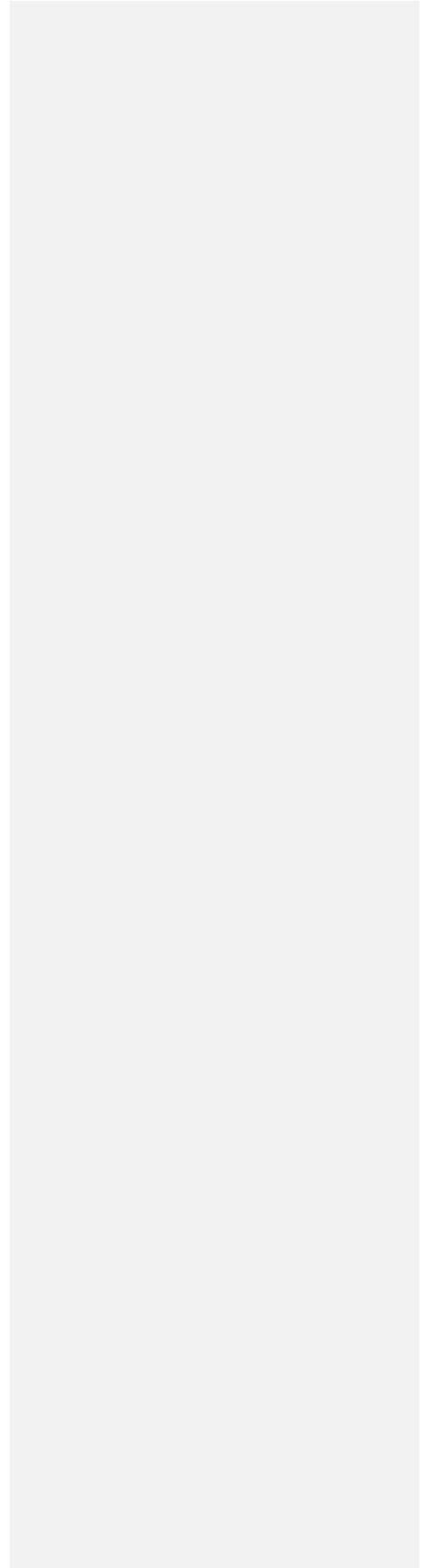
Our assessment of ~~four~~ assumptions that are critical to the substantial conclusions reached in the Statement raise ~~considerable doubt regarding the scenario leading to concern over a possible~~ “the ecological collapse of the predator prey system” (Statement p7) presented in the Statement. ~~Considerable uncertainty remains. We do not deny that~~ ~~the Big Thorne project increases the risk of low populations of wolves occurring on Prince of Wales and associated islands. Nor (as noted above) do we contend that~~ ~~Deer habitat, snow, deer population abundance, wolves, and humans~~ ~~experience-interact in a complex ecological interactions-system. However, the evidence fails to suggest a substantial risk of island-wide predator/prey collapse in the context of active regulation of deer and wolf harvest. The conservation fabric developed in the 1997 and 2008 Forest Plans is still intact. Furthermore,~~ ~~the status of Roadless Rule land, provides additional protection (though of unknown amount) beyond that afforded by the Conservation Strategy, further-potentially reducing the risk for wolf populations on Prince of Wales Island. It is not clear whether wolf viability will be at risk or not, as a result of the Big Thorne timber sale in the context of existing and future cumulative effects. It does seem clear, though, that the project is likely to reduce resiliency of the deer population in the project area, as acknowledged in Forest Service analyses. The link between declines in deer populations and increased efforts to take wolves, legally or otherwise, also appears plausible but difficult to model or predict quantitatively. Given the habitat conditions and accessibility of much of Prince of Wales Island, there does appear to be some cause for concern. Efforts to minimize impacts of the project, by protecting important remaining winter range, treating second growth stands to improve their ability to support deer, and reducing trapper access to~~

important wolf refugia appear to be among the best strategies for minimizing impacts to wolves in the long term.

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DRAFT

DEVELOPING A METHOD TO ESTIMATE ABUNDANCE OF WOLVES IN SOUTHEAST ALASKA

Capture Report: 10 September 2013–24 October 2013

Prepared by:

Kris Larson ~~and Rod Flynn-DWC~~
ADF&G and Raymond Slayton ~~and~~
~~Brian Logan~~, USFS

Abstract

In the fall of 2013, Alaska Department of Fish and Game and the US Forest Service conducted their fourth ~~semi-annual~~ (???) capture and collar event for ~~the a~~ wolf ~~abundance estimation~~ project ~~initiated to examine several potential approaches to estimate wolf abundance in the forested systems of Southeast Alaska on Prince of Wales Island.~~ During the six weeks of capture ~~effort~~, very little wolf sign was detected ~~and wolf activity seemed very low.~~ In previous years we detected __ scats (with x effort) and __ scats were detected in autumn 2013 after traveling __. ~~Low detection of wolves may have resulted from a decrease in wolf abundance or as a consequence of wolf behavior in response to~~ ~~Likely this was influenced by~~ large salmon runs that ~~ran~~ extended until late fall, causing wolves to localize on fish streams. ~~Observations of w~~Wolf activity increased several fold around the third week of October with scat and tracks showing up in various location (as much sign in the last week of trapping as the previous five weeks). On October 24, JM435 (a juvenile male wolf) was captured and collared. This was the only wolf trapped and collared during the fall 2013 capture and collar event.

Background

Comment [BDL1]: Cite?

Comment [BDL2]: Cite?

Comment [BDL3]: Cite? Do we have collar GPS location data to support this observation? If so say so

Comment [BDL4]: Quantify? Several fold? Do we have data to support this statement? Are we collecting "sign" data or is this observational?

[Thrououghout report avoid using the phrase “our wolves” or “our Staney pack”. The wolves are ‘owned’ by the citizens of the nation. Furthermore, it presents a tone indicating you are too close to the situation – emotionally involved. Readers will not expect objectivity from folks who feel they own certain wolves.]

This report ~~covers~~ describes wolf observation rates and trapping results for the ~~fall~~-autumn capture effort (10 September 2013–24 October 2013) for the Prince of Wales wolf abundance estimation project. We compare observations in autumn 2013 with previous periods of field study to provide insight into the data accumulating in the investigation.

The study area ~~consists of a roughly~~ includes a 1,200 km² region ~~that encompasses~~ defined by the central Wildlife Analysis Areas (WAAs) of Prince of Wales Island (POW), an area that starts form Naukati, extends east to Coffman Cove, south to Thorne Bay, west to the Staney Creek headwaters, and north again to Naukati about 75 km west of Ketchikan, Alaska. [one sentence paragraphs are fine in journalism – avoid here. I won’t focus on writing style or writing approach from here on]

Previous capture and collaring events took place in spring 2012, fall 2012, and spring 2013. Spring 2012 resulted in 4 wolf captures and 3 collars deployed, fall 2012 resulted in 4 wolf captures and 4 collars deployed, and spring 2013 resulted in zero captures. [consider small table of: field session, captures, #trap nights. This can then just be expanded w/ each field session]

Sport and subsistence harvest ~~er efforts~~ in 2012–2013 ~~reported~~ resulted in 13 wolves as being harvested in the ~~of the estimated 21–24 wolves in our~~ study area. ~~being legally taken~~. Two of these ~~were~~ ~~ese~~ being collared subject wolves with collars. Two more collared wolves were killed and left on beaches and two others vanished under suspicious circumstances (one at a campground full of spring bear hunters and the other at the height of fall deer hunting). All but about 20% of Prince of Wales Island (the northern tip) was searched by plane to try and relocate the two missing wolves. [As with capture information, wonder about building a small table to display annual mortality observations?]

Comment [BDL5]: Please specify which ones

Comment [BDL6]: Were capture efforts held constant? Catch rate (per unit effort) is dependent on this if we are trying to make any comparison

Comment [BDL7]: Cite project record/date

Based on X,Y, and Z, we estimate Of the 21-24 wolves estimated in our study area spent a majority of their time in the study area during the fall of 2012. Direct evidence demonstrates that, 15 of these wolves were certainly killed by hunters and trappers. Two others were likely killed before the 2013 trapping field session. (likely 17 killed) before the fall 2013 capture

event. During the spring 2013 collar event it appeared that one pack of wolves had been reduced from 5 individuals to 2 and another pack had been reduced from 16 individuals to 3 or 4. X,Y, and Z suggested that There may have been another pack occurred on the northern border of the study area., but Wwe didn't manage to catch and collar any individuals from thisa third pack. Consequently, we have no direct evidence for and so we don't know that a northern boundary pack (Sweetwater) actually exists.

What we do know is that the remaining remnants individuals that were of the two packs we ccollared and followed both produced pups in spring 2013 with one pack producing 6 pups (for a total of 8 individuals) and the other pack producing ged a litter of unknown size (average litter size is 4-6 pups) to a pack of likely 3-4 individuals for a possible total of 7-10 individuals in the pack. Recent aerial counts place this pack at 12 individuals. Perhaps they had suggesting a particularly large litter or were also infused the addition of by dispersing wolves from the North or South adults or subadults to the pack.

Fall Trapping



Prince of Wales Island capture effort Fall 2013

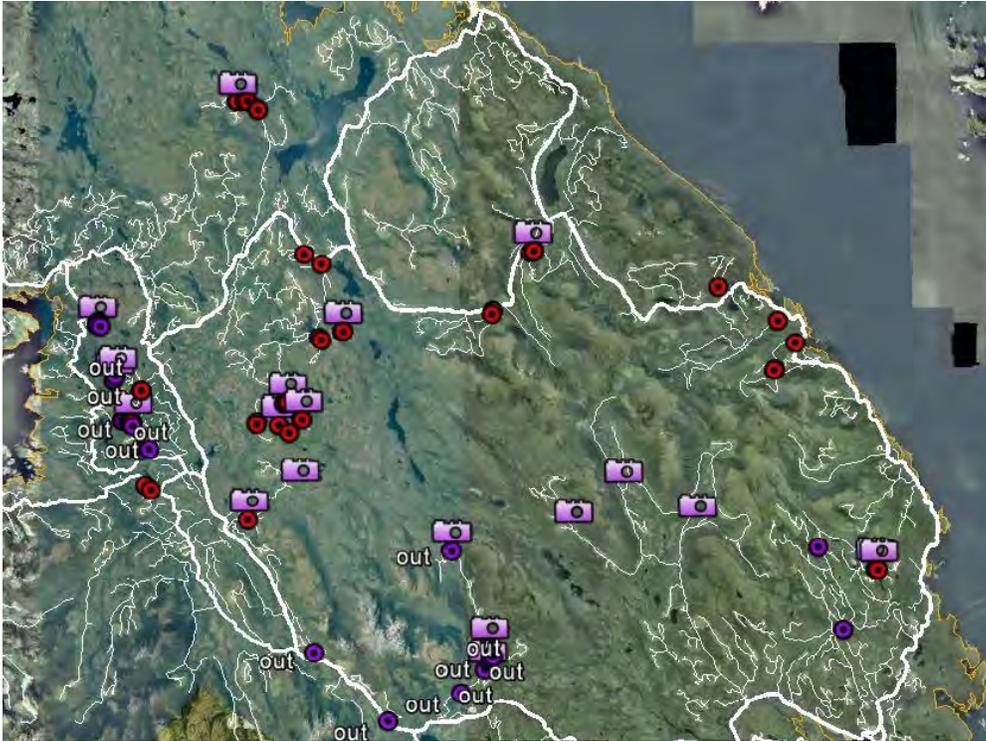
Comment [BDL8]:

Comment [BDL9]: Having the data to support this claim *perhaps as an appendix? Would be helpful to substantiate

Comment [BDL10]: Speculation – without data to support; are there alternative scenarios?

Comment [BDL11]: Speculation without any substantiation; this report should be a reporting of capture activities rather than speculation and interpretation.

Comment [BDL12]: Speculation – just report the data



Red and Purple bulls eyes mark wolf sets, camera icons mark motion cameras (some deployed from April through present). Checking this wolf line required over 200 miles of driving every day.

Comment [BDL13]: Provide data – no need to present in visual format in this report

The fall capture effort started on 10 September 2013 and ran through 24 October 2013. Over the course of the six week effort 64 wolf traps were deployed and checked daily by ADF&G staff (Kris Larson and Lucas Baranovich) and USFS staff (Raymond Slayton). The effort consisted of a total of 1640 trap nights which culminated with one wolf capture, JM435 (a juvenile male from the Honker/Ratz Pack). There was very little activity on the fall 2013 trap line, though we did have two other near captures, where wolves fought free of our traps.

[Should add a column for 'obvious misses' to the small table suggested above]



JM435 in trap. 24 October 2013. The only wolf caught and held during the fall 2013 capture event.

Discussion

Due in parts to our aerial telemetry, gps locations, previous years knowledge, on the ground observations, and constant monitoring via motion cameras, I feel inclined to say that in fall 2013 we have at least three wolf packs in the study area.

Comment [BDL14]: The objective of this project is to develop a technique for estimating numbers – not generate an estimate for the project area that is without meaningful bounds

The Packs:



Staney Pack: 8 wolves; AF255, one adult male, and six pups observed from motion detection camera deployed...

The We have the Staney Pack (2 adults and 6 pups) which we have was monitored by way of using aerial and on the-ground observation, gps/vhf tracking of AF255, and motion cameras since the birth of the-pups on 23 April 2013. .



A lone Honker wolf investigating a trap. 15 September 2013

We have the Honker Pack is (minimum estimated to include 12 wolves; 3-4 adults and ,8-9 pups and/or immigrants.) which we have recently begun-monitoring via aerial observation

and gps/vhf tracking of JM435 began on _____. We had During the autumn of 2012, 5 collared wolves in from this pack in fall 2012 were monitored. [Give details – How many confirmed dead, how many not located.] All five collared wolves were dead or missing (likely dead) by spring 2013, so we have a gap in our summer 2013 aerial and gps/vhf monitoring. But, we deployed trail cameras to monitor this pack in April 2013 and have kept them deployed through present. The cameras showed us at least two male wolves throughout the summer and an active den proved the existence of at least one adult female. In late fall/early winter 2013 with the new pups up and traveling with the pack and no longer localized in some undiscovered location, we collected photos of the pack that suggested a minimum of 7 wolves and more likely 9 individuals. Aerial confirmation on 2 January 2014 showed 12 wolves; JM435, 2 black wolves, and 9 grays. Based on the 2012 collaring, non-invasive work and harvest data there may have been few wolves left in the greater Honker/Ratz pack (16 wolves in 2012; 8 reported by harvesters and all 5 of the collared wolves. 13 wolves missing from this group by spring 2013.) [suggest re-writing to be more concise and direct. What does reader need to know – sequence of data on abundance.]

Comment [BDL15]: Speculation – state limits of the data



Part of the Honker Pack seen on 2 January 2014.



Wolf in Sweetwater area, urinating next to a wolf trap.

~~During late 2012 and spring/summer 2013 observations of wolves in the northern portion of the study area suggest a wolf pack may be using area. We currently label this group the We suspect the presence of a Sweetwater Pack. Evidence for this pack in cludes, (3 individuals caught-observed on a motion-activated camera on ??date?, x,y, and z sign observed at what times???? Observations during 2014 may provide evidence indicating whether this is a new pack or the Honker/Ratzor Staney wolves. In particular, DNA samples in 2014, matching earlier samples would provide direct evidence regarding the identity of the ___ wolves.). While we didn't notice very much wolf activity in the Sweetwater area in 2012 (except by collared Honker/Ratz and Staney wolves), we had slight, but constant wolf sign in the area in 2013. This could be a new pack, or it could be traveling Honker/Ratz or Staney wolves again. But, the consistency of fresh sign suggests that this is a third group.~~

~~We have had some discussion about the~~Limited evidence suggests the possibility of a fourth group of wolves ~~as well,~~ the Snug Harbor pack, using the study area. Our only evidence comes from 2-3 individuals showing up on camera about every 3-4 weeks during the 2013 summer and fall. We've had collared Honker and Ratz Harbor wolves wander around this area before. It is possible that the wolves we captured on camera in 2013 are Honker/Ratz wolves, but this is not known.

In 2012 ~~we had a group of sightings suggested a~~ 'Ratz Harbor 'group', ~~which behaved like an~~ may be an extension of the Honker Pack. The Ratz Harbor group consisted of an adult female her pups and occasionally a collared Honker wolf (AM310). By the time the pups were mostly

Comment [BDL16]: An awful lot is being read into the data – again speculation

grown the Ratz Harbor wolves and the Honker Pack would spend extended periods of time together traveling both ranges. Evidence in 2013 suggests that there are no longer resident Ratz Harbor wolves. Periodic tracks and sign suggest that occasional wolves still travel through Ratz Harbor, but these might be Honker wolves. Continued monitoring of JM435 may support this assumption.

~~All and all, it seems that we had somewhere~~ Evidence suggests between 21 and 25 wolves occurred regularly in the study area as of fall 2013. This number includes 12 wolves in the x pack, This estimate for 2013 is similar to the ~~About the same as our~~ 2012 population estimate. The 2012 abundance estimate was considered a record low based on ~~.....~~ ~~, but keep in mind that our 21-24 wolves for 2012 was considered a record low.~~ The 2013 pack composition is ~~quite a bit~~ different than ~~the-in~~ 2012 ~~composition.~~ ~~Our~~ The 2012 Honker pack consisted of a minimum of 16 wolves, ~~while where we observed~~ ~~the 2013 pack has~~ a minimum of 12 in 2013 (likely ~~with only~~ 3-4 adult/yearlings ~~among them~~). ~~Our~~ In 2012 we observed 5-6 wolves in the Staney pack ~~had 5-6 known wolves where the~~ and 8 in 2013 pack has 8 (2 adults and 6 pups). ~~[Seems that you actually did, given that you name a pack etc. Instead of talking about 'not much sign, indicate the number of detections in 2013 and previous field sessions....]~~ And in 2012 we did not detect very much wolf sign in the Sweetwater area or the snug harbor area, but in 2013 we saw evidence to suggest a Sweetwater group (regular sign and photos of as many as 3 wolves together) and periodic sign of 2-3 wolves around Snug Harbor

Comment [BDL17]: We continue to read an awful lot into "sign" and observations rather than reporting capture data.

Hurdles and Pitfalls:

~~Prior to the 2013 trapping session, all previously collared wolves had died or were missing. Consequently, trapping efforts in the autumn of 2013 were hampered by the absence of gps locations of monitored wolves to assist in decisions regarding the placement of traps. The fall capture effort may have resulted in more deployed collars had we not lost all of our previously collared Honker/Ratz wolves (no way to track the pack). A federal~~ the government furlough began on 1 October 2013 lead to a discontinuity in trapping efforts [THIS MAKES IT ESPECIALLY CRITICAL THAT YOU PROVIDE ESTIMATES OF EFFORT RELATED TO DATA ON NUMBER OF SCATS OBSERVED, TRACKS OBSERVED, ETC. DESPIRATELY NEED A TABLE CLEARLY DISPLAYING THIS INFORMATION]. Furthermore, problems with ~~(shut down all government involvement after Oct 1), broken~~ work vehicles (both state project trucks) further reduced the field effort. Furthermore, records indicate ~~[give data on this year's salmon run vs. past years].~~ Wolves are known to feed on salmon and to change movements in response to this

seasonal food source. Consequently, scat and track observation rates and trapping (catch per unit effort) success may have been biased low relative to wolf abundance. , and a record breaking salmon run (which caused the wolves to localize on fish streams until mid/late October).

Finally, We have also had several wolves pull out of traps over the past 4 capture events [give an estimate for each session and the sort of evidence used to make the estimate]. Wolf capture probabilities are known to decreased based on learning (citation). Therefore, wolves within some packs may have reduced probability of capture based on past experience ~~and it is very likely that several of the remaining wolves in the study area are 'educated' and no longer susceptible to our sets.~~ It is a very rare that a wolf falls for the same trick twice.

Comment [BDL18]: conjecture

Acknowledgement

GMU 2 ADF&G Area Biologist Stephen Bethune should be recognized for his help with the fall capture effort. Steve loaned us his capture equipment, his vehicle, and his time. He was ever ready to run to the rescue. And he shouldered many of the ancillary problems with the capture effort (vehicle breakdowns and flat tires) so that the capture crew could stay on task. His involvement saved the effort more than once.

Thanks Steve.

DRAFT

DEVELOPING A METHOD TO ESTIMATE ABUNDANCE OF WOLVES IN SOUTHEAST ALASKA

Capture Report: 10 September 2013–24 October 2013

Prepared by:

Kris Larson, DWC ADF&G and
Raymond Slayton, USFS

Abstract

In the fall of 2013, Alaska Department of Fish and Game and the US Forest Service conducted their fourth capture and collar event for the wolf abundance estimation project on Prince of Wales Island. During the six weeks of capture, very little wolf sign was detected and wolf activity seemed very low. Likely this was influenced by large salmon runs that ran until late fall, causing wolves to localize on fish streams. Wolf activity increased several fold around the third week of October with scat and tracks showing up in various location (as much sign in the last week of trapping as the previous five weeks). On October 24, JM435 (a juvenile male wolf) was captured and collared. This was the only wolf trapped and collared during the fall 2013 capture and collar event.

Background

This report covers the fall capture effort (10 September 2013–24 October 2013) for the Prince of Wales wolf abundance estimation project.

The study area consists of a roughly 1,200 km² region that encompasses the central Wildlife Analysis Areas (WAAs) of Prince of Wales Island (POW), an area that starts from Naukati, extends east to Coffman Cove, south to Thorne Bay, west to the Staney Creek headwaters, and north again to Naukati about 75 km west of Ketchikan, Alaska.

Previous capture and collaring events took place in spring 2012, fall 2012, and spring 2013. Spring 2012 resulted in 4 wolf captures and 3 collars deployed, fall 2012 resulted in 4 wolf captures and 4 collars deployed, and spring 2013 resulted in zero captures.

Sport and subsistence harvester efforts in 2012-13 resulted in 13 of the estimated 21-24 wolves in our study area being legally taken. Two of those being collared wolves. Two more collared wolves were killed and left on beaches and two others vanished under suspicious circumstances (one at a campground full of spring bear hunters and the other at the height of fall deer hunting). All but about 20% of Prince of Wales Island (the northern tip) was searched by plane to try and relocate the two missing wolves.

Of the 21-24 wolves estimated in our study area in fall of 2012, 15 wolves were certainly killed (likely 17 killed) before the fall 2013 capture event. During the spring 2013 collar event it appeared that one pack of wolves had been reduced from 5 individuals to 2 and another pack had been reduced from 16 individuals to 3 or 4. There may have been another pack on the northern border of the study area, but we didn't manage to catch and collar any individuals from a third pack and so we don't know that a northern boundary pack (Sweetwater) actually exists.

What we do know is that the remnants of the two packs we collared and followed both produced pups in spring 2013 with one pack producing 6 pups (for a total of 8 individuals) and the other pack produced a litter of



Prince of Wales Island capture effort Fall 2013

unknown size (average litter size is 4–6 pups) to a pack of likely 3–4 individuals for a possible total of 7–10 individuals in the pack. Recent aerial counts place this pack at 12 individuals. Perhaps they had a particularly large litter or were also infused by dispersing wolves from the North or South.

Fall Trapping



Red and Purple bulls eyes mark wolf sets, camera icons mark motion cameras (some deployed from April through present). Checking this wolf line required over 200 miles of driving every day.

The fall capture effort started on 10 September 2013 and ran through 24 October 2013. Over the course of the six week effort 64 wolf traps were deployed and checked daily by ADF&G staff (Kris Larson and Lucas Baranovich) and USFS staff (Raymond Slayton). The effort consisted of a total of 1640 trap nights which culminated with one wolf capture, JM435 (a juvenile male from the Honker/Ratz Pack). There was very little activity on the fall 2013 trap line, though we did have two other near captures, where wolves fought free of our traps.



JM435 in trap. 24 October 2013. The only wolf caught and held during the fall 2013 capture event.

Discussion

Due in parts to our aerial telemetry, gps locations, previous years knowledge, on the ground observations, and constant monitoring via motion cameras, I feel inclined to say that in fall 2013 we have at least three wolf packs in the study area.

The Packs:



Staney Pack: 8 wolves; AF255, one adult male, and six pups.

We have the **Staney Pack** (2 adults and 6 pups) which we have monitored by way of aerial and on the ground observation, gps/vhf tracking of AF255, and motion cameras since the birth of the pups on 23 April 2013.



A lone Honker wolf investigating a trap. 15 September 2013

We have the **Honker Pack** (minimum estimate 12 wolves; 3-4 adults, 8-9 pups and/or immigrants) which we have recently begun monitoring via aerial observation and gps/vhf

tracking of JM435. We had 5 collared wolves in this pack in fall 2012. All five collared wolves were dead or missing (likely dead) by spring 2013, so we have a gap in our summer 2013 aerial and gps/vhf monitoring. But, we deployed trail cameras to monitor this pack in April 2013 and have kept them deployed through present. The cameras showed us at least two male wolves throughout the summer and an active den proved the existence of at least one adult female. In late fall/early winter 2013 with the new pups up and traveling with the pack and no longer localized in some undiscovered location, we collected photos of the pack that suggested a minimum of 7 wolves and more likely 9 individuals. Aerial confirmation on 2 January 2014 showed 12 wolves; JM435, 2 black wolves, and 9 grays. Based on the 2012 collaring, non-invasive work and harvest data there may have been few wolves left in the greater Honker/Ratz pack (16 wolves in 2012; 8 reported by harvesters and all 5 of the collared wolves. 13 wolves missing from this group by spring 2013.)



Part of the Honker Pack seen on 2 January 2014.



Wolf in Sweetwater area, urinating next to a wolf trap.

We suspect the presence of a **Sweetwater Pack** (3 individuals caught on camera). While we didn't notice very much wolf activity in the Sweetwater area in 2012 (except by collared Honker/Ratz and Stoney wolves), we had slight, but constant wolf sign in the area in 2013. This could be a new pack, or it could be traveling Honker/Ratz or Stoney wolves again. But, the consistency of fresh sign suggests that this is a third group.

We have had some discussion about the possibility of a fourth group of wolves as well, the Snug Harbor pack. Our only evidence comes from 2-3 individuals showing up on camera about every 3-4 weeks during the 2013 summer and fall. We've had collared Honker and Ratz Harbor wolves wander around this area before. It is possible that the wolves we captured on camera in 2013 are Honker/Ratz wolves, but this is not known.

In 2012 we had a Ratz Harbor 'group', which behaved like an extension of the Honker Pack. The Ratz Harbor group consisted of an adult female her pups and occasionally a collared Honker wolf (AM310). By the time the pups were mostly grown the Ratz Harbor wolves and the Honker Pack would spend extended periods of time together traveling both ranges. Evidence in 2013 suggests that there are no longer resident Ratz Harbor wolves. Periodic tracks and sign suggest that occasional wolves still travel through Ratz Harbor, but these might be Honker wolves. Continued monitoring of JM435 may support this assumption.

All and all, it seems that we had somewhere between 21 and 25 wolves in the study area as of fall 2013. About the same as our 2012 population estimate, but keep in mind that our 21-24

wolves for 2012 was considered a record low. The 2013 pack composition is quite a bit different than the 2012 composition. Our 2012 Honker pack consisted of a minimum of 16 wolves where the 2013 pack has a minimum of 12 (likely with only 3-4 adult/yearlings among them). Our 2012 Staney pack had 5-6 known wolves where the 2013 pack has 8 (2 adults and 6 pups). And in 2012 we did not detect very much wolf sign in the Sweetwater area or the snug harbor area, but in 2013 we saw evidence to suggest a Sweetwater group (regular sign and photos of as many as 3 wolves together) and periodic sign of 2-3 wolves around Snug Harbor

Hurdles and Pitfalls:

The fall capture effort may have resulted in more deployed collars had we not lost all of our previously collared Honker/Ratz wolves (no way to track the pack), the government furlough (shut down all government involvement after Oct 1), broken work vehicles (both state project trucks), and a record breaking salmon run (which caused the wolves to localize on fish streams until mid/late October).

We have also had several wolves pull out of traps over the past 4 capture events and it is very likely that several of the remaining wolves in the study area are 'educated' and no longer susceptible to our sets. It is a very rare that a wolf falls for the same trick twice.

Acknowledgement

GMU 2 ADF&G Area Biologist Stephen Bethune should be recognized for his help with the fall capture effort. Steve loaned us his capture equipment, his vehicle, and his time. He was ever ready to run to the rescue. And he shouldered many of the ancillary problems with the capture effort (vehicle breakdowns and flat tires) so that the capture crew could stay on task. His involvement saved the effort more than once.

Thanks Steve.

From: [Larson, Robert -FS](#)
To: [Logan, Brian -FS](#); [Dillman, Marla -FS](#); [Suminski, Terry -FS](#)
Subject: RE: wolf
Date: Wednesday, September 05, 2012 5:02:21 PM

I agree. The proposal was without merit and should not be mentioned. We have a generalized management plan to allow wolf harvest with a goal of harvesting 30% of the population. The Agencies are currently investigating methods to estimate the population size.

If the State has firm plans, I suggest we ask them.

SE Subsistence Regional Council Coordinator
US Forest Service, Tongass National Forest
PO Box 1328
Petersburg, AK 99833
Tel: (907) 772-5930

From: Logan, Brian -FS
Sent: Wednesday, September 05, 2012 4:45 PM
To: Dillman, Marla -FS; Suminski, Terry -FS; Larson, Robert -FS
Subject: RE: wolf

There is no current estimate of population size so no way to validate ANY harvest cap or try to infer population status from reported harvest.

I suggest not making any comparisons of observed harvest to a harvest cap – historic, current, or otherwise. And since there is no cap that is jointly sanctioned by ADFG/BOG and subsistence board we should avoid drawing conclusions altogether.

Brian Logan, Forest Wildlife Biologist
Tongass National Forest
Juneau, Alaska
office phone: 907.789.6298
cell Phone: (b) (6)

From: Dillman, Marla -FS
Sent: Wednesday, September 05, 2012 4:21 PM
To: Logan, Brian -FS; Suminski, Terry -FS; Larson, Robert -FS
Subject: wolf

Here is my attempt to clarify the wolf section based on my conversation with Terry. Please feel free to edit or let me know if I got it wrong.

A lower wolf population estimate has recently been proposed. A lower population estimate would result in a lower harvest cap; however even based on the this new lower estimate the reported wolf harvest for the years 2008-2010 (the most recent years for which there is data), even taking into account illegal harvest, is still below the lower harvest cap. The State has not implemented this emergency closure since the 1999-2000 season.

Marla Dillman

Zoned Planning Wildlife Biologist-NEPA
Craig and Thornz Bay Ranger Districts
Prince of Wales Island
907-826-1617



From: [Logan, Brian -FS](#)
To: [Dillman, Marla -FS](#); [Woeck, Brita \(Brita.Woeck@tetrattech.com\)](#)
Subject: FW: wolf hair project
Date: Thursday, May 16, 2013 8:07:00 AM

Fyi

I wouldn't provide numbers in BT but there is some relevant info to consider including in the FEIS - wolf section

Brian Logan, Forest Wildlife Biologist
Tongass National Forest
Juneau, Alaska
office phone: 907.789.6298
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-----Original Message-----

From: Person, David K (DFG) [<mailto:dave.person@alaska.gov>]
Sent: Thursday, May 16, 2013 8:03 AM
To: Logan, Brian -FS
Subject: FW: wolf hair project

Hi Brian,

Here is Kris's e-mail about our progress on extracting wolf DNA and genotyping individuals from our hair samples. Hopefully, Kristy will send us the genotyping data soon for analyses. Kris and Ray have seen very little wolf activity within the study area this spring. Based on our telemetry observations and camera traps this spring, there may only be 7-8 wolves left in our study area after the trapping season. Our sealing records indicate that 12-15 wolves were killed in the WAAs overlapping our study area, which would suggest 6-12 remaining based on our aerial and camera trap counts during autumn 2012. The Honker-Ratz group was hit particularly hard losing both breeding females which we had radiocollared. One was killed and left unreported. We lost 3 of our 7 collared wolves to trapping and a fourth is missing. As I have said many times over the years, the Honker OGR is not nearly large enough to protect that pack from unsustainable hunting and trapping. Indeed, none of the OGRs in GMU 2 are sufficiently large for that purpose.

Take care and good luck.

dave

From: Larson, Kristian R (DFG)
Sent: Tuesday, May 14, 2013 2:13 PM
To: Person, David K (DFG)
Subject: FW: wolf hair project

Hooray! It looks like we did it!

From: Pilgrim, Kristine L -FS [kpilgrim@fs.fed.us]
Sent: Tuesday, May 14, 2013 8:22 AM
To: Larson, Kristian R (DFG)
Subject: wolf hair project

Hi Kris,

I am wrapping up the wolf hair project this week; sorry it's taken a little longer than I anticipated. In general, the hair samples have been working really well. About 86% worked for species identification and there are some 50 that are wolf/dog. Genotyping success is pretty high for the hair samples (70% are working well and this may increase with the last of the re-amplifications).

One question I had is can you provide locations for the tissues? I have genotyped these and depending on where they were located they might be useful for looking at allele frequencies in comparison to the hair samples you have.

Thanks!
Kristy

Kristy Pilgrim
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Carrothers, Cheryl A -FS

From: Logan, Brian -FS
Sent: Thursday, October 24, 2013 1:52 PM
To: Carrothers, Cheryl A -FS
Subject: FW: Moving forward with Wolf Task Force

From: Schenck, Ted -FS
Sent: Tuesday, March 26, 2013 4:04 PM
To: Logan, Brian -FS
Cc: Cole, Forrest -FS
Subject: Moving forward with Wolf Task Force

Brian,

Just a short follow-up regarding the discussion you, Forrest, and I had about moving forward with discussions regarding wolves, population management, habitat management and our interagency cooperation.

Please continue your work with your counterparts in Fish and Wildlife Service and the State of Alaska to facilitate a meeting in April to discuss our commitment to work with them and others on wolf issues of mutual interest.

As noted during our conversation, the Forest Plan standard and guideline is to “Implement a Forest-wide program, in cooperation with ADF&G and USFWS, to assist in maintaining long-term sustainable wolf populations.

1. Where wolf mortality concerns have been identified, develop and implement a Woolf Habitat Management Program in conjunction with ADF&G. To assist in managing legal and illegal wolf mortality rates to within sustainable levels, integrate the Wolf Habitat Management Program (including road access management) with season and harvest limit proposals submitted to federal and state boards.
 - a. Participate in interagency monitoring of wolf populations on the Forest.
 - b. Where wolf population data suggest that mortality exceeds sustainable levels, work with ADF&G and USFWS to identify probable sources of mortality.”

The Forest Plan direction is pretty clear that the Forest Service is a cooperator with ADF&G and USFWS in the effort to sustain wolf populations, and while we are working on several fronts, our work that was started in October of 2011 with these cooperators has not moved forward for a variety of reasons.

Please keep Forrest and me informed as to your progress, and let me know what help you need.

Ted Schenck
Wildlife, Subsistence and Planning Staff Officer
Tongass National Forest
648 Mission Street
Ketchikan, AK 99901
Office: 907-228-6303, Mobile: (b) (6)

Carrothers, Cheryl A -FS

From: Logan, Brian -FS
Sent: Friday, December 13, 2013 11:04 AM
To: Carrothers, Cheryl A -FS
Subject: wolf project pic
Attachments: MFDC0410.JPG; MFDC0169.JPG

Hi Cheryl

Just back from POW to coordinate with ADFG on the ADFG/USFS wolf project.

The project is going very well.

While there we were able to download location data from the two wolves we currently have GPS collars on and also collect hair samples from the hair snares which have been deployed for 5 weeks now.

We also got some great photos from some remotely triggered cameras that we have set up at some of the hair snare stations – I've attached two (one even shows a wolf rolling on a hair snare!).

The techniques we are refining through innovative and dedicated field personnel are proving to be very effective and I expect will result in much better information on AA wolves than we've ever had.

Brian Logan, Forest Wildlife Biologist
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