

Committee Members: Commissioner Bliss (Chair),
Commissioner Mori, Commissioner Hubbs,
Commissioner Johnston, Tom Cassinelli

Staff to the Committee: Pat Jackson

**Nevada Board of Wildlife Commissioners
Wildlife Damage Management Committee
Lyon County Administrative Complex
Yerington, NV 89447**

Wednesday, March 23, 2016 / 5:30 p.m.

Minutes

1. Call to Order – Chairman Bliss

Meeting called to order at 5:47 p.m.

In attendance:

Commissioner Chad Bliss
Commissioner Brad Johnston
Commissioner Pete Mori
Commissioner Kerstan Hubbs
Committee Member Tom Cassinelli
Pat Jackson, Nevada Department of Wildlife

Others Present:

Mark Jensen, US Department of Agriculture Wildlife Services
Gerald Lent, Nevada Hunters Association
Pete Coates
Daryl Capurro
Chuck Garbinsky
Cody McKee, Nevada Department of Wildlife

2. Approval of Agenda

Commissioner Johnston moved to approve agenda. Commissioner Mori seconded the motion. The motion passed.

3. Approval of Minutes (January 28, 2016)

Commissioner Johnston moved to approve the minutes. Commissioner Hubbs seconded the motion. The motion passed.

4. Report on DRAFT FY 2017 Predator Management Plan – Predator Management Staff Specialist Pat Jackson, Nevada Department of Wildlife (NDOW)

Pat Jackson presented the DRAFT FY 2017 Predator Management Plan (Attachment A). Cody McKee presented survey and monitoring data regarding big game population trends in Nevada (Attachment B). His presentation focused on standard, intermediate, and rigorous monitoring approaches. Commissioner Johnston questioned if data at unit group level showed the effects of predator removal. Mr. McKee replied the data set was often at a level that was too gross to discern effects. Commissioner Bliss asked what data showed a stable population. Mr. McKee replied that the overall ratios were tied to many factors, but that generally above 50 indicated an increasing trend. Commissioner Bliss questioned when comparisons were appropriate and how best to compare the same unit or area over a span of years versus comparing similar units.

Commissioner Hubbs asked if the data was controlled for predators incoming from surrounding states. Mr. McKee replied such monitoring would be considered moderate to rigorous, which would often be cost prohibitive.

Discussion over the 3 levels of monitoring continued with the Committee asking Mr. Jackson and Mr. McKee what levels were used in the Predator Plan. Mr. Jackson replied the 3 levels of monitoring as discussed by Mr. McKee were not listed in the Predator Plan.

Chair Bliss opened the meeting to public comment specific to the presentations.

Daryl Capurro stated monitoring should be every fall and every spring and that eliminating predators did little good if the results were not being measured.

Dr. Gerald Lent, Nevada Hunters Association, submitted his testimony for the record (Attachment C).

Chuck Garbinski suggested there be tiered monitoring and multiple approaches to monitoring.

Mark Jensen, USDA Wildlife Services, spoke on behalf of the Predatory Animal and Rodent Control Committee (PARC) and restated the PARC's comments from its February 18, 2016 meeting (Attachment D).

Lynn Collins, Mountain Lion Foundation, stated the Predator Plan lacked hard science and data and did not account for predators under duress. Ms. Collins questioned NDOW's research data on Nevada's mountain lion population.

Chair Bliss closed public comment.

Projects 21 and 21-02 were introduced by Mr. Jackson, with support material provided by Dr. Pete Coates showing the progression of raven growth in Nevada and its effect on the sage-grouse population (Attachment E). Commissioner Hubbs questioned the chemicals used for poisoning ravens and if other species were affected by the chemicals used. Dr. Coates stated the poison's effect was extremely limited on other species. Commissioner Mori asked Dr. Coates if other species were impacted by the depredation of the ravens. Dr. Coates stated there were many other species affected besides sage-grouse, namely tortoise and birds. Commissioner Johnston questioned Project 21-02 and asked how it involved USGS and Wildlife Services.

Project 22 was introduced by Mr. Jackson as an umbrella project, with Projects 22-16 and 22-074 nested below it. Commissioner Hubbs asked how many sheep had been collared. Mr. McKee answered 10 sheep had been collared with regard to this project. Commissioner Johnston asked how NDOW measured an established viable population, queried what the achievable goal would be and wondered why such information was not in the Predator Plan. Commissioner Bliss also queried the variables involved in the Predator Plan, as well as the definitions used to determine success. Commissioner Hubbs asked about species that had been reintroduced and if NDOW was still working on reintroduction. Mr. Jackson discussed the budget increase from DRAFT 1 to DRAFT 2. Commissioner Johnston informed the Committee there had been a calculation error between the two drafts.

Project 22-16 was introduced by Mr. Jackson. Commissioner Bliss agreed with the recommendations submitted by PARC in that there has been enough information gathered already from money previously spent and the project had run its course (Attachment D). Commissioner Johnston questioned what occurred after the anticipated result was achieved. Mr. Jackson replied Phase 2 would then begin. Commissioner Johnston queried the expectation of Phase 2 and wondered what was going to be done with the subsequent information. Commissioner Johnston commented there had been significant public reaction to Project 22-16.

Project 22-074 was introduced by Mr. Jackson as being similar to Project 22-01. Commissioner Bliss questioned how a project is determined complete and wondered if there was sharing of projects. Commissioner Johnston pointed out a numerical typographical error on page 25.

Project 32 was introduced by Mr. Jackson. Commissioner Bliss asked what the next step would be once the goal of the project was reached. Mr. Jackson answered one focus could be mountain lion management instead of bear management. Commissioner Bliss wondered if Project 32 would become an issue of bears or an issue of mountain lions. Commissioner Johnston commented on the effect of the project on mule deer. Mr. Jackson answered one solution would be fewer mule deer tags and more bear tags.

Chair Bliss opened the meeting to public comment specific to Project 32.

Mark Jensen, USDA Wildlife Services, spoke on behalf of PARC and read the comments of the Committee's February 18, 2016 meeting (Attachment D). Commissioners Johnston, Mori, and Bliss questioned Mr. Jensen on specifics with regard to Wildlife Service's role in Project 32.

Daryl Capurro supported PARC's recommendations.

Dr. Gerald Lent, Nevada Hunters Association, submitted his testimony for the record (Attachment C).

Chuck Garbinski commented on the inadequate process used to establish the Predator Plan, citing lack of data.

Lynn Collins, Mountain Lion Network, questioned where the project money was going, the justification for its expenditure, and why the funds were not being spent in their entirety. Ms. Collins indicated that the point of Assembly Bill (AB) 78 was not to merely kill predators, but to engage in research, too.

Chair Bliss closed public comment.

Project 38 was introduced by Mr. Jackson. Commissioner Hubbs asked if the project benefitted from the tiered approach explained by Mr. McKee. Commissioner Hubbs asked if the tiered approach was integrated in the Predator Plan. Mr. Jackson answered it was used for monitoring only, but if he had to assign tiers to the various projects, he would assign Project 21 as Tier 1, Project 22-16 as Tier 3 and Projects 37 and 38 as Tier 1. Commissioner Hubbs commented that putting the projects into tiers was helpful and that the approach to the Predator Plan and its projects needed to be more transparent and easier to read.

Projects 40 and 41 were introduced by Mr. Jackson, commenting on the monitoring component of AB 78, as well as the federal limitation of removing only 2,500 ravens per year.

Projects 42 and 43 were introduced by Mr. Jackson.

Chair Bliss opened the meeting to public comment specific to Projects 38, 40, 41, 42 and 43.

Mark Jensen, USDA Wildlife Services, spoke on behalf of PARC and read the comments of the Committee's February 18, 2016 meeting, referencing numbers 7 through 10 (Attachment D).

Dr. Gerald Lent, Nevada Hunters Association stated the Washoe County Citizens Advisory Board was not transparent and he was upset that the Board's minutes were illegible.

Lynn Collins, Mountain Lion Network, queried the limiting factors of the projects and asked if there had been an assessment of habitat when developing the projects. Ms. Collins specifically

questioned Project 37 and its goals, which species it benefitted and its scientific justification. Ms. Collins lamented that the data seemed selective with presupposed findings. She questioned if the money being spent on the projects was justifiable and would be better spent on peer-reviewed research.

Mr. Capurro concurred with Ms. Collins.

Chair Bliss closed public comment.

Commissioner Johnston questioned the level of interaction between Wildlife Services and NDOW in the creation of the Predator Plan. Mr. Jackson replied that NDOW consulted with Wildlife Services during the creation of the first draft. Commissioner Johnston agreed with the public comments given earlier about transparency and explanation, agreeing the Predator Plan needed measurable goals and more data. Commissioner Johnston agreed there should be better planning and coordination between NDOW and Wildlife Services before the Committee reviews the Predator Plan DRAFT. He urged that budgets of multi-year projects be shown on the Predator Plan on a year-by-year basis and show year-on-year summaries. Commissioner Johnston urged Mr. Jackson to make improvements to the process inherent in the creation of the Predator Plan. He commented on the limiting factors of AB 78 and urged the Committee to reject Project 22-16 and approve Project 32. Commissioner Johnston advocated for more research-based projects.

Commissioner Mori generally approved of the Predator Plan and did not want more detail in the process.

Commissioner Mori agreed Project 22-16 was vague and urged its rejection.

Commissioner Hubbs urged the Committee to review AB 78 and to look beyond big game species that would benefit from predator removal.

Committee Member Cassinelli agreed with Commissioner Hubbs.

Commissioner Johnston commented that AB 78 requires 80 percent of funds be spent on lethal predator control.

Commissioner Johnston motioned to recommend approval of the Predator Plan as presented with the exception of Project 22-16. Commissioner Johnston also motioned that a revised Predator Plan be presented to the Commission at the Commission's next meeting in May 2016. Commissioner Hubbs motioned that the Predator Plan include baseline and measurable figures. Commissioner Johnston agreed with Commissioner Hubbs. Committee Member Cassinelli seconded both motions. Both motions passed unanimously.

5. Public Comment Period

Meeting adjourned at 9:12 p.m.

Predator Monitoring 3.23.2016

Pat Jackson, Predator Management
Staff Specialist



Two Approaches to Predator Control

1. Reduce overall predator population
2. Create a temporary void of predators in and around sensitive areas



Predators are Difficult to Monitor

- Lower densities than prey species
- Apt at avoiding detection
- Large home ranges

Predator Monitoring Not Always Necessary

- Predator monitoring efforts are expensive and time consuming
- Some goals may be reached without monitoring predator populations



Standard Monitoring

- Hunter return surveys (N/A for coyotes)
- Passive Tracking Indices (PTIs)
- Coyote scat transects
- Track stations
- Aerial track counts
- Point counts



What You Do Get

- A overall trend for local population
- Indices that can detect changes in location population over time
- Potential understanding of management efforts

What You Don't Get

- Abundance, density, or population estimate

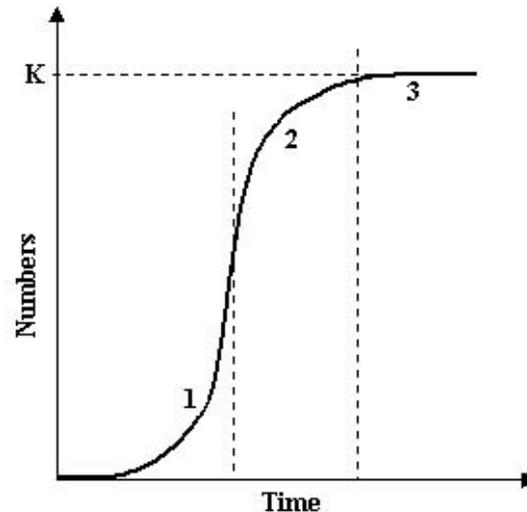
Intermediate Monitoring

- Camera trapping (presence/absence)
- Mark and recapture
- Genetic mark and recapture
- Efforts can be combined with standard monitoring for more inference



What You Get

- Abundance, density, and/or population estimate
- A more accurate estimate of population trend
- An understanding of management efforts



Rigorous Monitoring

- Camera trapping (mark/resight, occupancy modeling)
- Deployment of GPS collars
- Genetic mark and recapture



What You Get

- Most accurate abundance, density, and/or population estimate
- A more accurate estimate of population trend
- Home range estimates
- An understanding of management efforts
- An understanding of space use

Questions?

How does NDOW assess big game population trends?

- Minimum Survey Counts
 - Composition of Males, Females, Young
 - Ratios (juveniles/100 females, males/100 females)
- Harvest
 - Harvest Composition
 - Hunter Success
 - Hunter Effort
- Reconstructive Population Models
 - Population Estimate

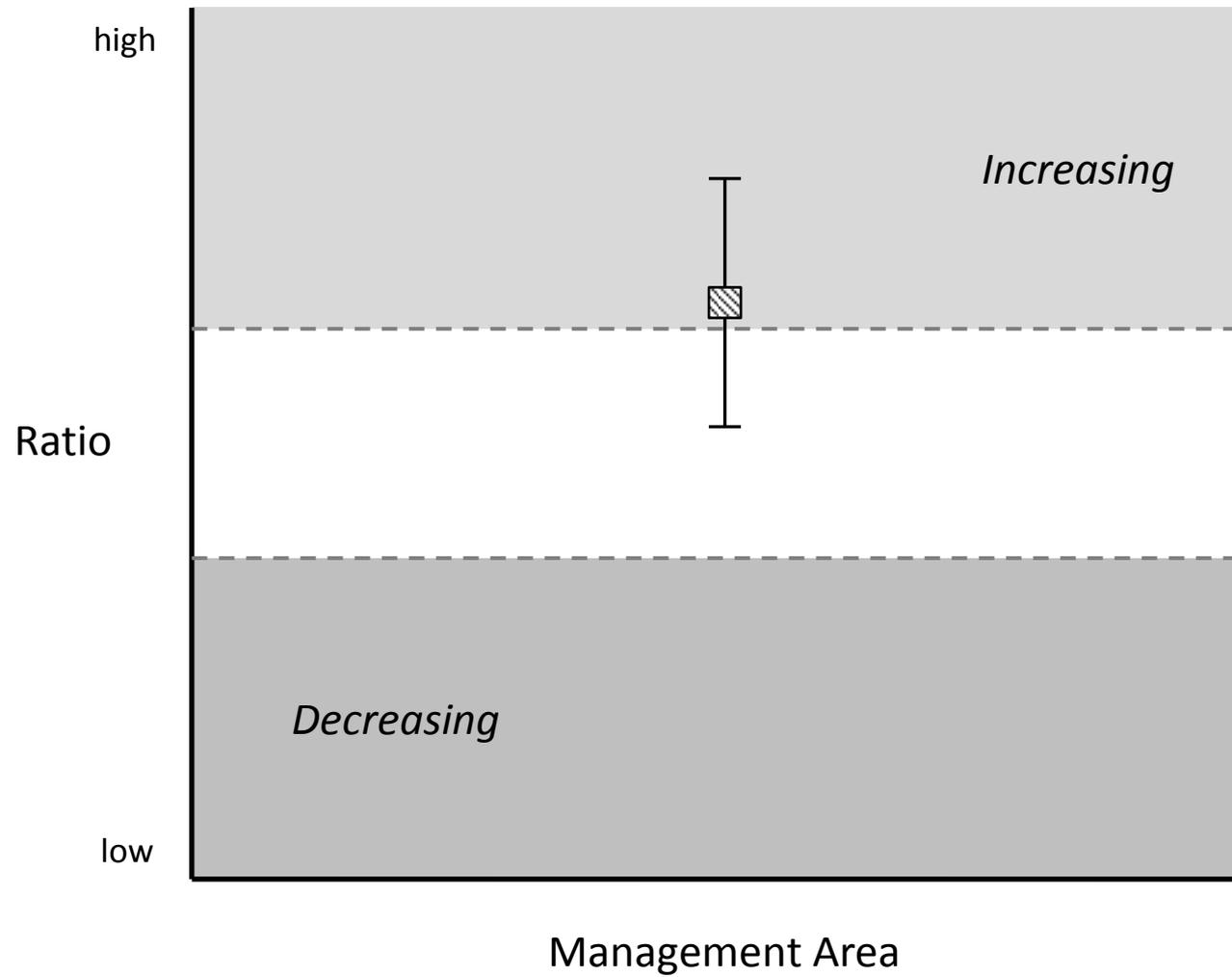


Juvenile Ratios

- A function of both reproductive rate and juvenile survival.
- Predator removal may result in higher juvenile survival and, consequently, be detected in higher juvenile ratios.

Species	Population Stable (#Juv/100 females)
Deer	40-50
Elk	30-40
Pronghorn	30-45

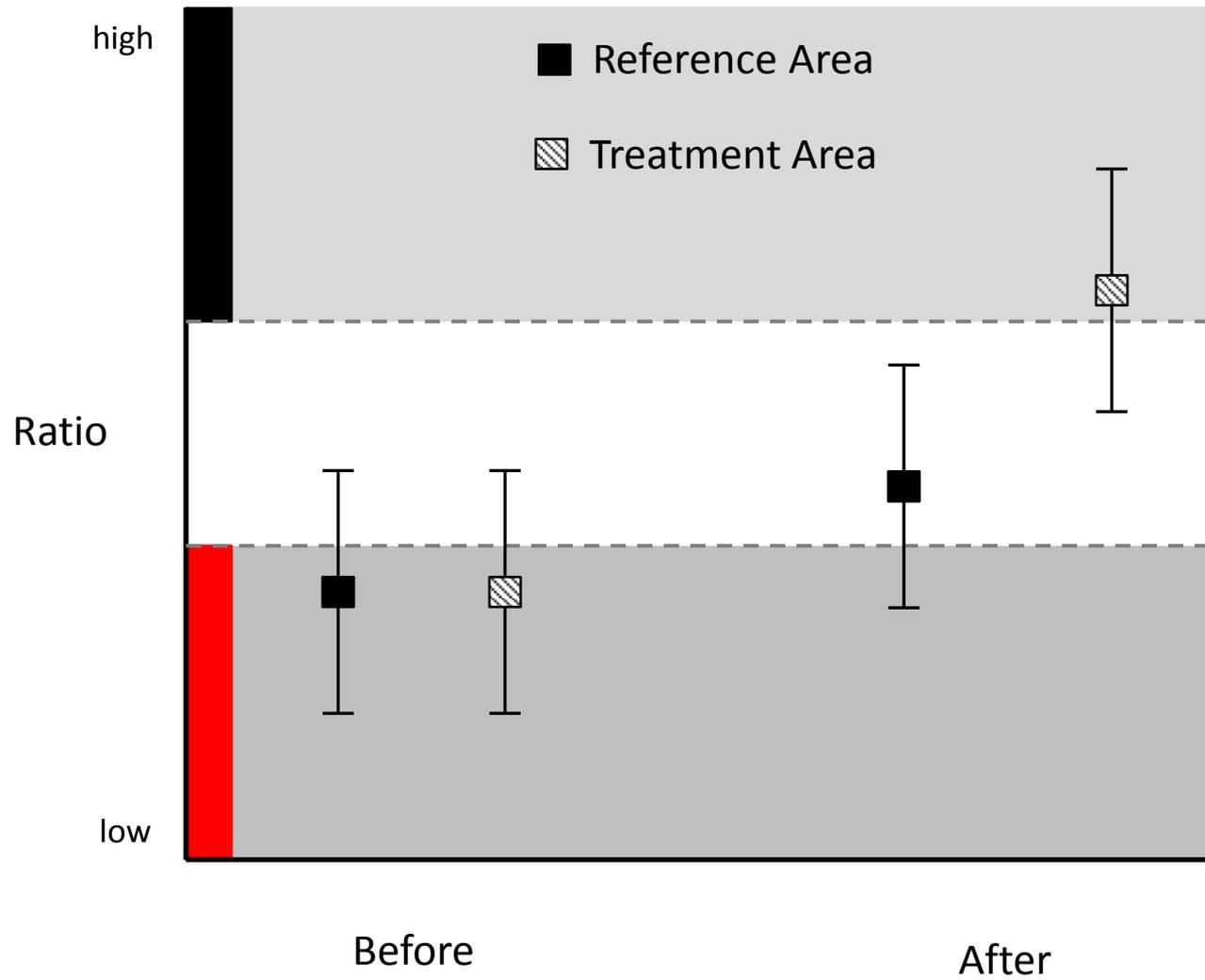
Standard Monitoring



Data Needs and Funding: Standard

- Conduct aerial surveys and analyze composition data in management area of interest.
- Consider perspective of local experts.
- No added costs.

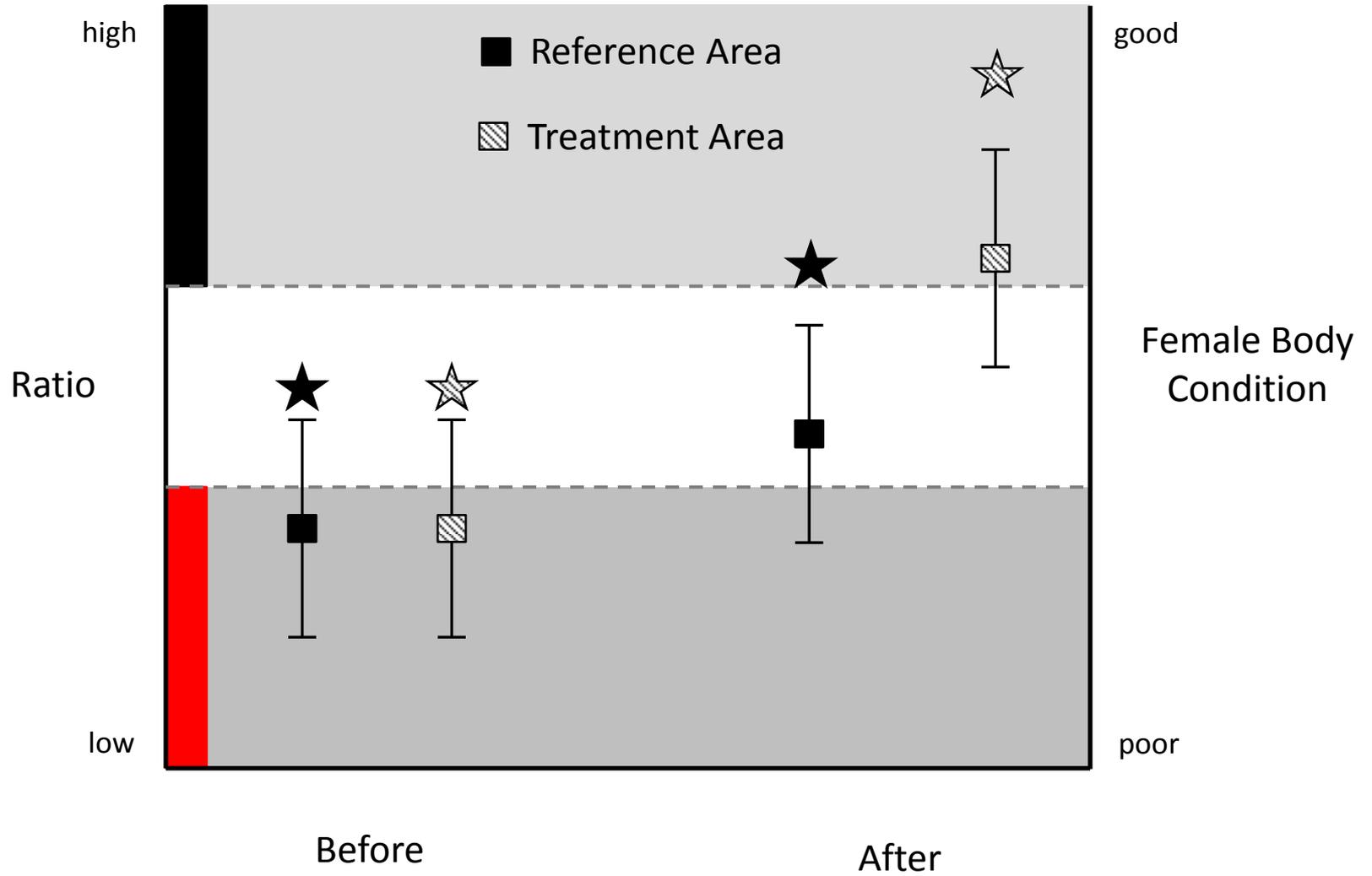
Intermediate Monitoring



Data Needs and Funding: Moderate

- Apply study design *a priori* by identifying treatment and reference area(s).
- Conduct standardized aerial surveys before, during, and after treatment to derive juvenile ratios in focal areas.
- Evaluate climatic or habitat trends occurring during monitoring and compare to observed juvenile ratios.
- Moderate increase in costs due to increased aerial survey effort and personnel needs for analysis.

Rigorous Monitoring



Data Needs and Funding: Rigorous

- Mirrors a moderate effort:
 - Study design, aerial surveys, etc.
- Further evaluation of:
 - Survival and cause specific mortality of neonates and juveniles.
 - Female body condition and productivity
 - Range conditions (e.g., crude digestible protein)
- Rigorous monitoring would result in robust inferences

Questions?



DR GERALD A. LENT
TESTIMONY

Pred Plan Questions

1. 1st Question: Why were you doing this project in the Diamond Mountains? ANS: TO PROTECT MULE DEER

a) How many mule deer did you have before you started this program?

b) Do you have any information beforehand to justify going in and killing these 400 + Coyotes?

c) Got to have population goals to start a predator project!

d) If not NDOW cannot defend shooting these coyotes.

2. In fact at the Jan. Commission meeting in Las Vegas, NDOW's predator biologist was asked how he evaluates the success of these projects his answer was: "we take the total number of animals removed & inference on the success & impact

of each project completed." **Read Defn Sheet** 
I DOUBT ANYBODY CAUGHT THAT

3. In fact at that same meeting NDOW's predator biologist started his testimony to the Commission & I quote:

"NDOW is committed to using all available tools & the most up-to-date science, including strategic use of predator mgmt to preserve our wildlife for the long term."

4. Comm. Johnston asked in L.V.: "Is this money well spent - I guess at the end of year we will know."

ANS: how can you tell if no pre & post survey data is done? will use inference which is bogus science!

5. This absolutely not happening with this 2nd Draft Pred. Plan! Your job is to make sure it does!

Definition Sheet

2

② assumption is not correct science, in fact it is bogus science
① just another word for assumption. - NOT SCIENTIFIC!

Means absolutely nothing.

icious (adj)

731 inextricably / infeudation

infectio 1 an infecting; specif., a) the act of causing to become diseased b) the act of affecting with one's feelings or beliefs 2 the fact or state of being infected, esp. by the presence in the body of bacteria, protozoans, viruses, or other parasites 3 something that results from infecting or being infected; specif., a) a disease resulting from INFECTION (sense 2) b) a feeling, belief, influence, etc. transmitted from one person to another 4 anything that infects

in-fec-tious (in fek'shəs) **adj.** 1 likely to cause infection; containing disease-producing organisms or matter 2 designating a disease that can be communicated by INFECTION (sense 2) 3 tending to spread or to affect others; catching (an infectious laugh) 4 [Obs.] infected with disease —in-fec'tiously **adv.** —in-fec'tious-ness **n.**

infectious hepatitis HEPATITIS A
infectious mononucleosis an acute disease, esp. of young people, characterized by fever, swollen lymph nodes, sore throat, and abnormalities of the lymphocytes: it is caused by the Epstein-Barr virus

in-fec-tive (in fek'tiv) **adj.** [ME *infectif* < OFr *infectivus* < L *infectivus*] likely to cause infection; infectious —in-fec'tiv-ity **n.**

in-fe-cund (in fē'kənd, -fek'ənd) **adj.** [ME *infecundus* < L *infecundus*] not fecund; not fertile; barren —in-fe-cun-dity (in fē'kəndə tē, -fi) **n.**

in-fe-lici-tous (in fə'lis'ə təs) **adj.** not felicitous; unfortunate or unsuitable —in-fe-lic'i-tously **adv.**

in-fe-lic-ity (in fə'lis'ə tē) **n.** [L *infelicitas* < *infelix*, unfortunate: see IN-2 & FELICITY] 1 the quality or condition of being infelicitous 2 **pl.** -ties something infelicitous; unsuitable or inapt remark, action, etc.

in-fer (in fər') **vt.** -ferred', -fer-ring [L *inferre*, to bring or carry in, infer < *in-*, in + *ferre*, to carry, BEAR!] 1 [Obs.] to bring on or about; cause; induce 2 to conclude or decide from something known or assumed; derive by reasoning; draw as a conclusion 3 **a)** to lead to as a conclusion; indicate **b)** to indicate indirectly; imply (in this sense, still sometimes regarded as a loose usage) —**vi.** to draw inferences —in-fer'-able **adj.** —in-fer'-ably **adv.** —in-fer'-rer **n.**

SYN.—infer suggests the arriving at a decision or opinion by reasoning from known facts or evidence (from your smile, I infer that you're pleased); deduce, in strict discrimination, implies inference from a general principle by logical reasoning (the method was deduced from earlier experiments); conclude strictly implies an inference that is the final logical result in a process of reasoning (I must, therefore, conclude that you are wrong); judge stresses the careful checking and weighing of premises, etc. in arriving at a conclusion; gather is an informal substitute for infer or conclude (I gather that you don't care)

in-fer-ence (in fər'əns) **n.** [ML *inferentia*] 1 an act or the process of inferring 2 a conclusion or opinion arrived at by inferring

in-fer-en-tial (in fər'en'shəl) **adj.** [L *inferentia* + -AL] based on or having to do with inference —in-fer-en'tially **adv.**

in-fer-i-or (in fir'ē ə) **adj.** [ME < L, compar. of *inferus*, low, below < IE **ndheros* < base **ndhos*, UNDER] 1 lower in space; placed lower down 2 low or lower in order, status, rank, etc.; subordinate 3 lower in quality or value than: with to 4 poor in quality; below average 5 *Anat.* located below or directed downward 6 *Astron.* designating or of planets between the earth and the sun 7 *Bot.* having the sepals, petals, and stamens attached at the apex: said of the ovary of an epigynous flower 8 *Printing* placed below the type line, as 2 in NO; —**n.** an inferior person or thing —in-fer'i-or-ity (-ōr'ə tē, -ār'ə) **n.** —in-fer'i-or-ly **adv.**

inferiority complex 1 *Psychol.* a neurotic condition resulting from various feelings of inferiority, such as derive from real or imagined physical or social inadequacy, and often manifested through overcompensation in excessive aggressiveness, a dominating attitude, etc. 2 popularly, any feeling of inferiority, inadequacy, etc.: cf. SUPERIORITY COMPLEX

in-fer-nal (in fər'nəl) **adj.** [Ofr < LL *infernalis* < L *infernus*, underground, lower, infernal < *inferus*: see INFERIOR] 1 **a)** of the ancient mythological world of the dead **b)** of hell 2 hellish; diabolic; fiendish; inhuman 3 [Informal] hateful; outrageous —in-fer'-nally **adv.**

infernal machine former name for: 1 a booby trap 2 a time bomb

in-fer-no (in fər'nō) **n., pl.** --nos [It < L *infernus*: see INFERNAL] 1 hell or any place suggesting hell, usually characterized by great heat or flames 2 [I-] that section of Dante's *Divine Comedy* which describes hell and the sufferings of the damned

infero- (in fə'rō) [L *inferus*: see INFERIOR] combining form below and [inferoanterior]

infero-an-te-rior (in fə'rō'an tir'ē ə) **adj.** [prec. + ANTERIOR] lying below and in front

in-fer-tile (in fər'til) **adj.** [Mfr < L *infertilis*] 1 not fertile; not productive; barren 2 not fertilized, as an egg —**SYN.** STERILE —in-fer-til-ity (in fər'til'ə tē) **n.**

No known facts
implan



logical
reasoning
is not science
based!

to be insolvable —in-ex-tri-cabil'-ity **n.** —in-
... (f') **n.** [Sp *Inez*] a feminine name: see
... below 2 infantry 3 infinitive 4 informa-
... **adj.** [ML *infallibilis*: see IN-2 & FALLIBLE]
... never wrong 2 not liable to fail, go wrong,
... dependable; reliable; sure 3 *R.C.Ch.* inca-
... setting forth doctrine on faith and morals: said
... speaking *ex cathedra* (i.e., in his official capacity)
... person or thing —in-fal'-libil'-ity **n.** —in-fal'-libly
... **adj.** [ME < OFr *infameux* < ML *infamosus*
... & FAMOUS] 1 having a very bad reputation;
... or dishonor 2 causing or deserving a bad
... ; outrageous 3 *Law a)* punishable by
... a penitentiary (said of certain crimes, usually
... such a crime —in-fa'mously **adv.**
... **pl.** --mies [ME *infamye* < OFr *infamie* < L
... see prec.] 1 very bad reputation; notoriety;
... 2 the quality of being infamous; great wicked-
... act 4 *Law* loss of character and of certain
... by a person convicted of an infamous crime
... **pl.** --cies [LME < L *infantia*] 1 the state or
... infant; babyhood; very early childhood 2 the
... stage of anything 3 *Law* the state or period
... period before the age of legal majority, usually
... [ME *infaunt* < OFr *enfant* < L *infans* (gen.
... not yet speaking < *in-*, not + *fans*, prp. of *fari*,
... 1 a very young child; baby 2 a person in the
... minor —**adj.** 1 of or for infants or infancy 2
... -fan'-) **n.** [Sp & Port, fem. of *infante*: see fol.]
... daughter of a king of Spain or Portugal 2 the
... -fan'-) **n.** [Sp & Port < L *infans*: see INFANT]
... of a king of Spain or Portugal except the heir
... -fan'tə sid') **n.** [Fr < LL *infanticidium* < *in-*
... an infant: see INFANT & -CIDIE] 1 the murder
... LL *infanticida*] a person guilty of this
... -til) **adj.** [L *infantilis*] 1 of or having to do
... infant or baby 2 like, suitable for, or characteristic of an
... childish or childlike; immature 3 in the earliest
... POLIOMYELITIS
... fan'ti liz'əm; also in fən-) **n.** 1 immature or
... *Psychol.* an abnormal state in which such
... into adult life: it is marked by retarded mental
... and by failure to mature sexually
... fan'tal iz') **vt.** --lized', --liz'-ing 1 to treat (a child
... infant or baby 2 to keep in a dependent, infantile
... —in-fan'-tili-za'-tion **n.**
... -tin; also, -tēn', -tin) **adj.** [Fr *infantin*, *enfantin*]
... **n., pl.** --tries [Fr *infanterie* < It *infanteria* <
... person, knight's page, foot soldier < L *infans*:
... soldiers collectively; esp., that branch of an
... soldiers trained and equipped to fight chiefly on
... (ated) infantry regiment (the 274th Infantry)
... **n. pl.** --men (-mən) a soldier in the infantry
... a school for children aged five to seven
... [ML *infarctus*, for L *infartus*, pp. of *infarcire*
... to stuff: see FARCE] an area of dying or dead
... inadequate blood flow through blood vessels
... the part
... -shan) **n.** 1 the development of an infarct 2
... [ME *infer*, entrance < OE *infeſ* < *inn*, IN-1 + *fær*,
... giving < *faran*: see FARE] [Dial.] a reception or
... a wedding, usually on the day after
... (ə at') **vt.** --at'ed, --at'-ing [L *infatuatus*, pp.
... make a fool of < *in-*, intens. + *fatuus*, foolish: see
... make foolish; cause to lose sound judgment 2 to
... or shallow love or affection —**adj.** infatuated —
... infatuated
... **adj.** 1 lacking sound judgment; foolish 2 com-
... by foolish or shallow love or affection —in-
... fəch'ŋ ə'shən) **n.** [LL *infatuatio*] an infatuating
... —**SYN.** LOVE
... the animals burrowing into marine or fresh-
... EPIFAUNA
... ball) **adj.** not feasible; not possible



Budget Summary

Fiscal year 2015 predator fee revenues totaled \$563,742; consequently this plan has budgeted over \$450,993.60 for lethal predator control. Proposed predator projects for fiscal year 2017 include \$672,000 for lethal work. Therefore 149% of predator fee revenue is budgeted for lethal predator management and control. About \$500,000 in predator fee revenues are left over from previous fiscal years; it is the Department's goal to reduce this surplus.

~~DOESN'T MAKE SENSE~~

just throwing numbers out.

this needs an audit of these funds.

This is an embarrassment.

Run a 30M + agency and can't even tell how much has been taken in and how much has been expended of the 3% fee.

Confusion by design is occurring here.

~~They had to get better~~

Sombody in NDow must be held accountable for the money taken in & the money spent. - otherwise, all this is a sham.

A) Pat Jackson in his presentation of the Predator Plan and also on many projects in the plan: *Plan refers to other contractors*

- 1) In the future might use private contractors to reduce mtn lion populations to benefit Big Horn Sheep.
- 2) We may also use private ~~contractors~~ houndsmen, and/or private trappers

B) 1. What rules or guidelines are being followed to hire contractors to contract with a State Agency re NDOW?
 2. What are the qualifications of the "other vendors"?

3. You need some kind of qualifications:

- a) Has to go to Board of Examiners - when I was on the Commission & we gave contracts to private vendors this was mandatory. *Do they have a Business License? or Insurance?*
- b) Do they have a Bond to protect NDOW? (from excess suit)
- c) Do they adhere to the NEPA process to work on public lands
- d) One trapper hired by Eureka County ^{and} who was in jail was hired by Spanish Ranch in Elko and BLM & F.S. said he could not operate on ^{public} ~~land~~ ^{land} because he didn't go thru the NEPA process and threatened to pull his grazing permit. (NDOW filed charges - wasn't checking traps)

Important for this Committee & Commission to know this!

[scribble]

CABS

1. Washoe - ^{a) (no vote because)} not a vote; not enough information ^{or} transparency
 b) PARC recommendations not even on their agenda

2. Elbo - stop coyote den study & lion-bear interaction study.

3. Clark ^{a)} "no funding for coyote den study - No useful data from money being invested."

b) Overall plan lacks clarity as to measurable and detailed results. Better background material needed.

BRIAN SANDOVAL
Governor

STATE OF NEVADA

JAMES R. BARBEE
Director



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March 2nd 2016

PARC comments on NDOWs FY2017 Predator Management Plan

PARC recommends:

1. Overall NDOW needs to develop specific goals (i.e. brood size / fawn to doe ratio) for the predator management plans. PARC would also like to see accounting from NDOW to verify where the predator funds are being spent.
2. Because of the nature of predator management and how employees, equipment, and aircraft need to be planned for, PARC recommends NDOW complete the 80% lethal removal budget as close to July 1st as possible. That gives WS and contractors the time necessary to plan to do this correctly. Specifics of who, when, where and how much should be included.
3. PARC recommends NDOW provide more specific information on the budget including past balances, carry over amounts, and specific fiscal information regarding expenditures for project staff.
4. Using phrases such as "abiotic" factors such as dry climate and loss of quality habitat" and blaming persistent drought or extreme weather are most certainly true, but PARC recommends NDOW start verbalizing other intrinsic justifications for implementing predator programs.
5. PARC recommends the budget should include more information. In past predator management plans the budget included past balances, carry over amounts, and new money. Also included was how much was spent by NDOW, WS, and contractors.
6. PARC recommends NDOW should develop specific goals and objectives for projects. The goal could be to increase fawn/doe ratios for mule deer or antelope. Or the goal could be an increase in population level. For sage-grouse (since nest success data is very difficult to get) we could have a goal of reducing raven densities around sage-grouse leks during the nesting season. Since translocating bighorn sheep is very expensive and some populations are very low the goal for bighorn sheep projects could be zero depredations.
7. PARC recommends NDOW include more information on the resource being protected whether that be mule deer, antelope, bighorn sheep, sage-grouse or

any other natural resource. **NDOW should convey to the public why these resources are important and valuable and why we are protecting them from excessive predation.**

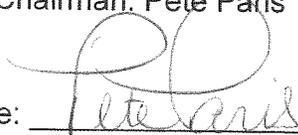
8. PARC recommends NDOW establish peer reviewed research protocols. PARC is also concerned some current research projects do not meet the spirit of AB 78. (Conducting research necessary to determine successful techniques for managing and controlling predatory wildlife)

PARC comments on specific projects:

1. Project 21: no clear goal, but PARC supports this project. Mid-winter populations of ravens are heavily concentrated along rural roads especially when there is solid snow cover throughout the landscape. The attraction can be viewed as a subsidy, but adjacent power lines and rabbit road kill can and should be considered an opportunity for lethal removal of common ravens. NDOW's plan refers to experimental management and thus should include new approaches. Since much of northern Elko County is considered focal areas for sage-grouse, targeting these clustered ravens with lethal actions, carte blanche, is most certainly justified. Attempting to deal with the same birds, when scattered in the spring and summer months is much more difficult.
2. Project 21-02: lethal/nonlethal, with no details as to percentage of funds spent on lethal. PARC recommends information be provided pertaining to the distribution percentage of funds for lethal or nonlethal management.
3. Project 22-01: Again, no clear goal but PARC supports this project.
4. Project 22-16: This project does not meet the requirements set forth in AB 78 (Sec. 4, 1c) conducting research necessary to determine successful techniques for managing and controlling predatory wildlife. This project continues to change and the methods continue to change. This study appears to be a failure. PARC recommends this project be discontinued.
5. Project 22-074: What is the goal? PARC supports but would like to know the long term goal.
6. Project 32: PARC feels this project does not meet the requirements set forth in AB 78 (Sec. 4, 1c).
7. Project 37: PARC likes the project idea, but doesn't feel it meets the requirements in Commission Policy Number 23 on pages 4 and 5 Predation Management Plan.
8. Project 38: PARC likes the project idea but doesn't feel it meets the requirements in Commission Policy Number 23 on pages 4 and 5 Predation Management Plan.
9. Project 40: good, PARC supports this project.
10. Project 41: PARC supports this project.

PARC Committee Chairman: Pete Paris

Chairman Signature: _____



Date: 3-3-16



Effects of Raven Predation and Raven Reduction on Sage-Grouse Population Dynamics



This information is preliminary and is subject to revision. It is being provided to meet the need for timely best science. The information is provided on the condition that neither the U.S. Geological Survey nor the U.S. Government may be held liable for any damages resulting from the authorized or unauthorized use of the information.

Predators of Greater Sage-Grouse nests identified by video monitoring

Peter S. Coates,^{1,3} John W. Connelly,² and David J. Delehanty¹

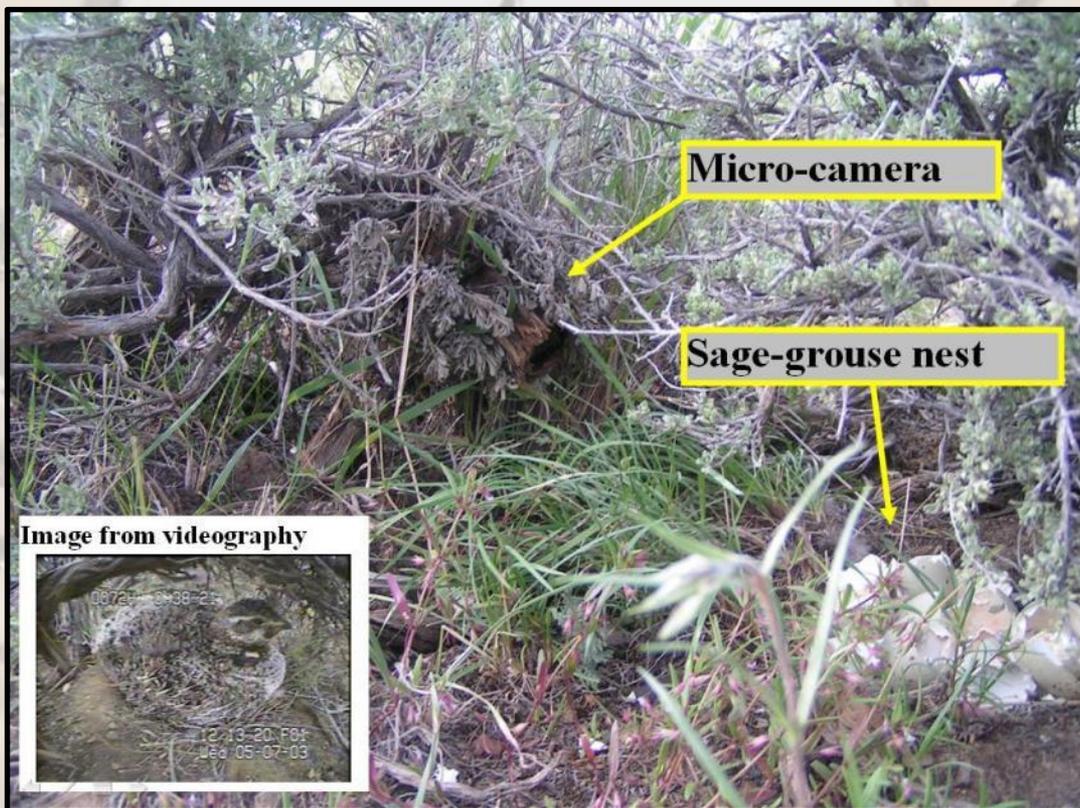


Journal of Fish and Wildlife Management | www.fwspubs.org

December 2013 | Volume 4 | Issue 2 | 242

Greater Sage-Grouse Nest Predators in the Virginia Mountains of Northwestern Nevada

Zachary B. Lockyer,* Peter S. Coates, Michael L. Casazza, Shawn Espinosa, David J. Delehanty



Ravens are most frequent predator (9 years of video data)



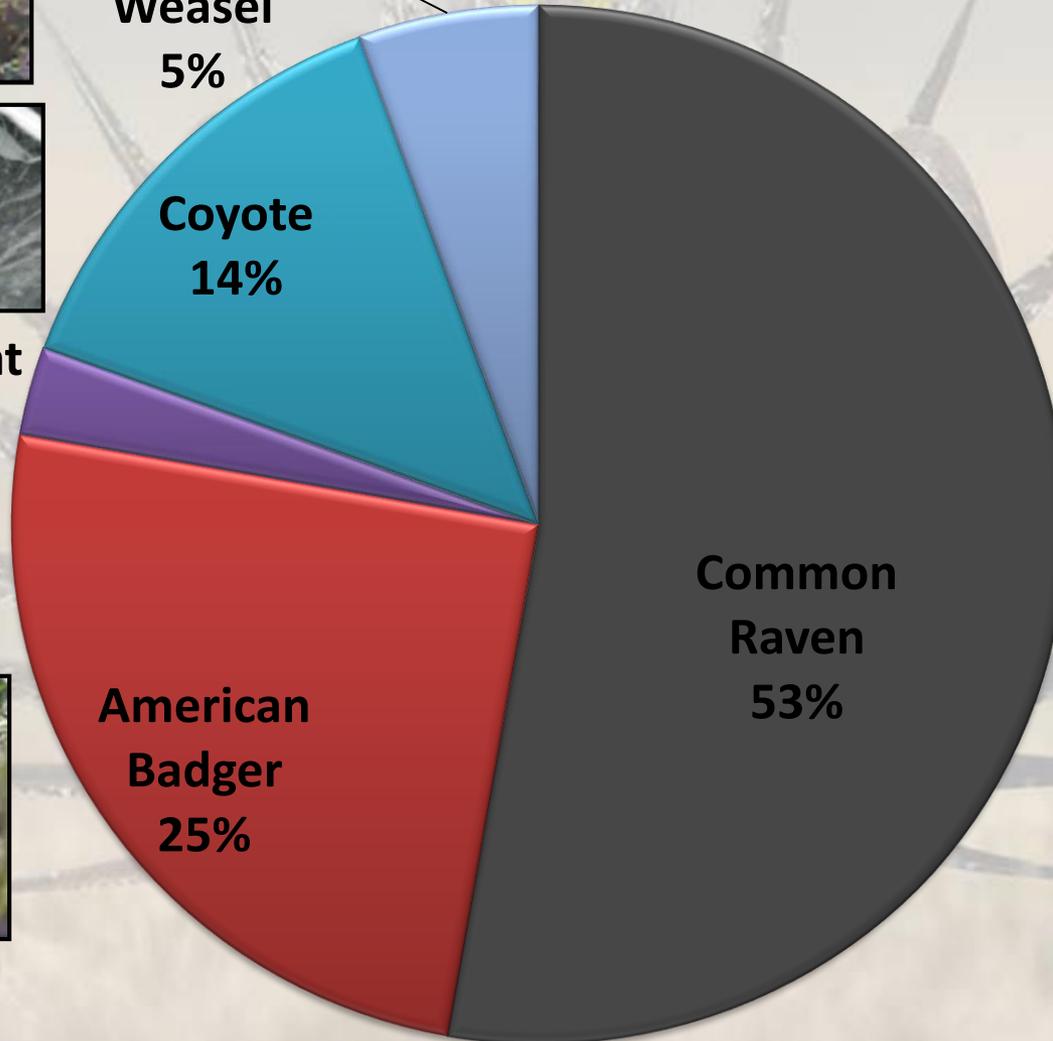
Long-Tailed Weasel
5%



Coyote
14%

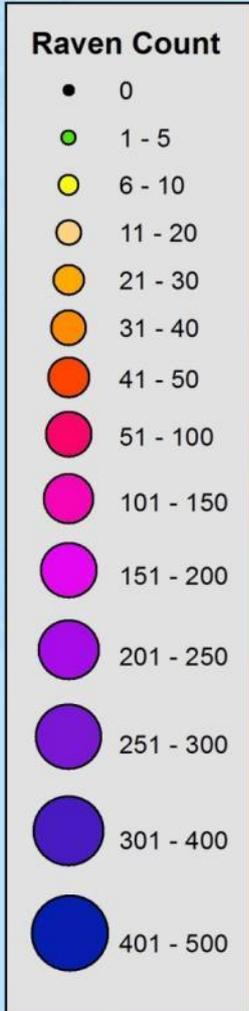


Bobcat
3%

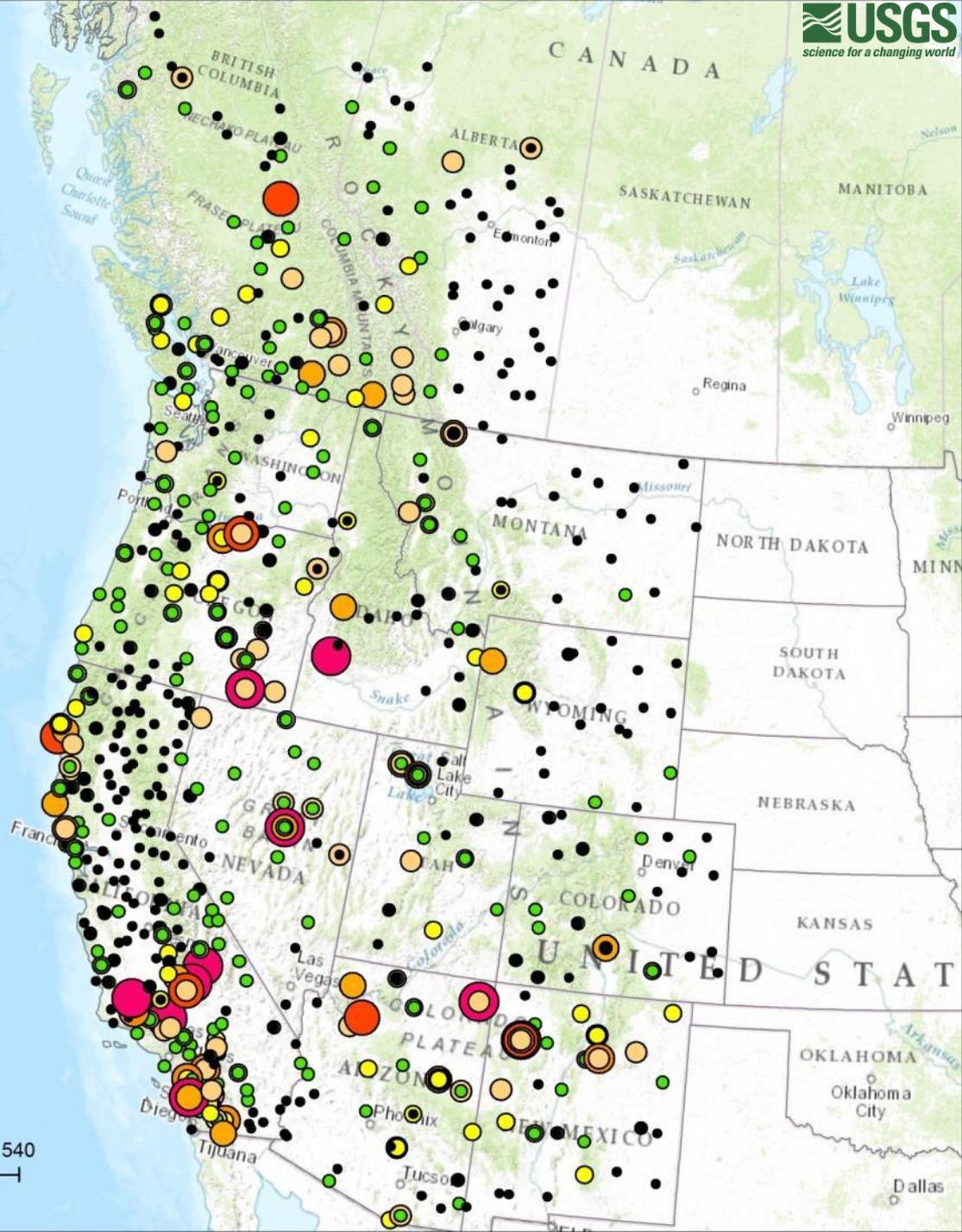


Breeding Bird Survey Data
Sauer, USGS

Years 1971 - 1975

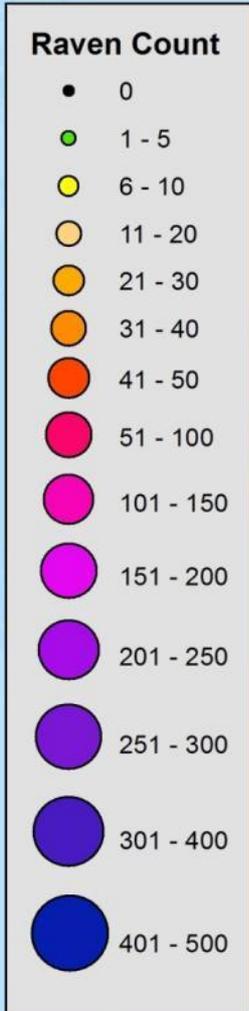


**Detected
at ~40% of
surveys**

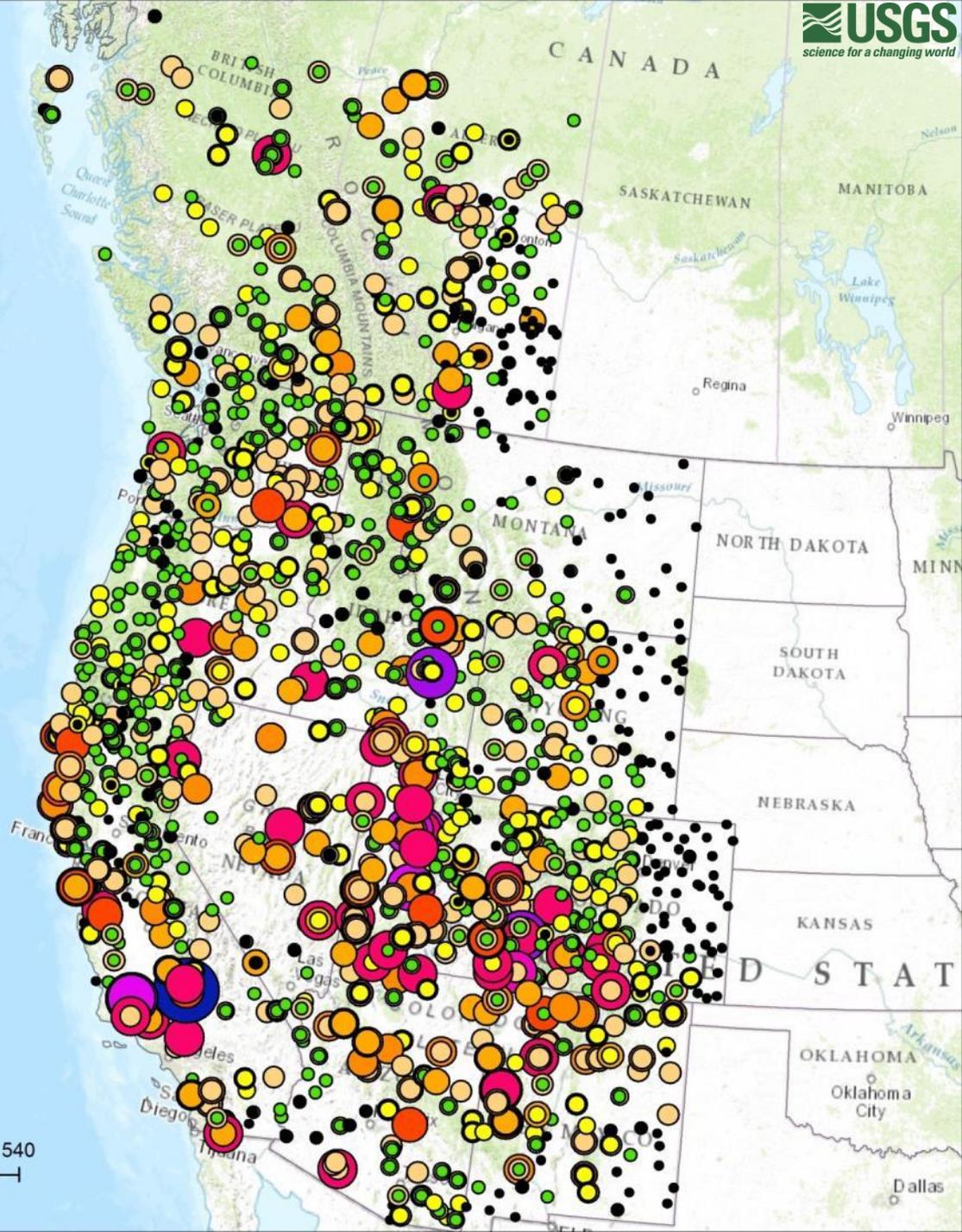


Breeding Bird Survey Data
Sauer, USGS

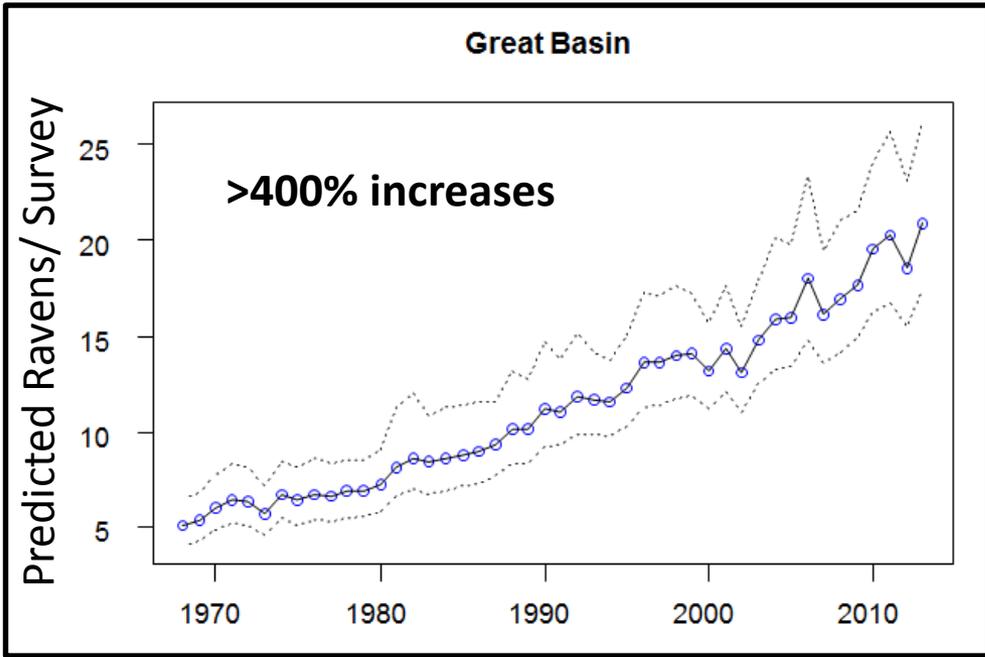
Years 2006 – 2010



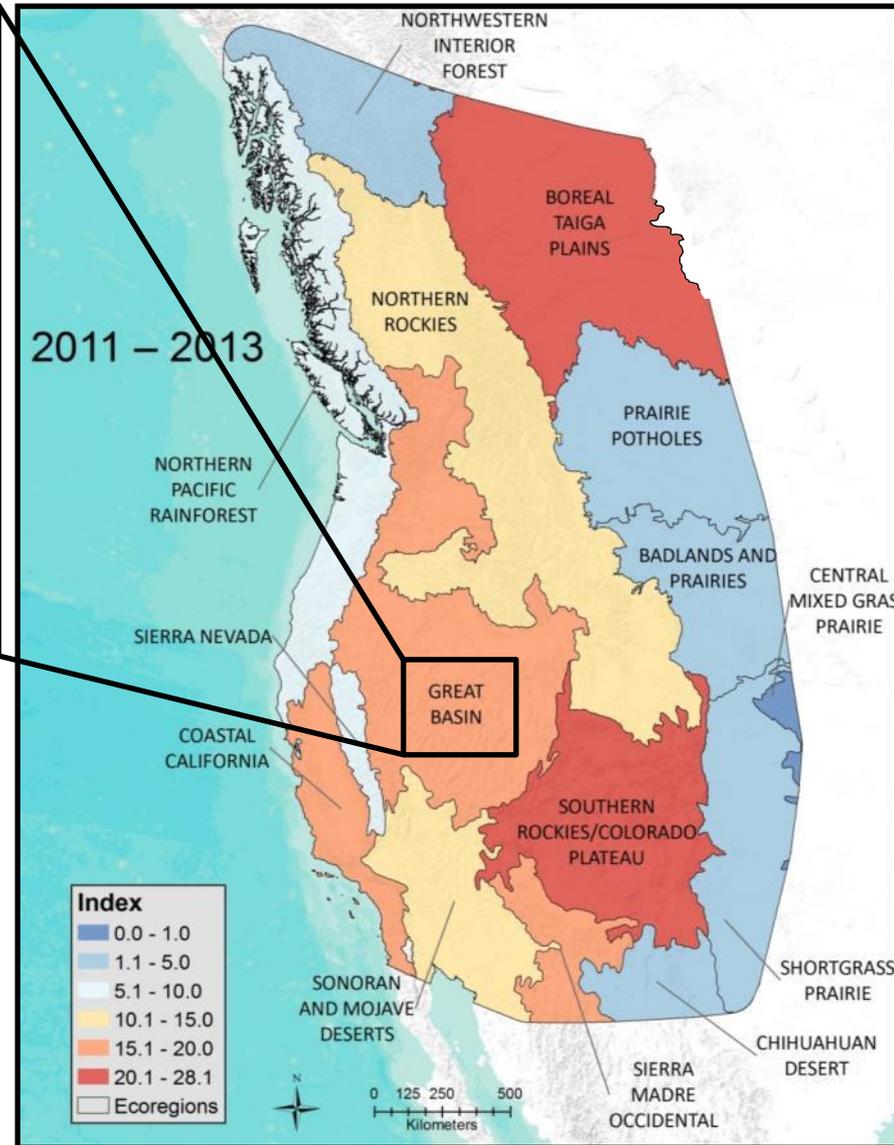
**Detected
at ~80% of
surveys**



Raven Population Growth within Great Basin



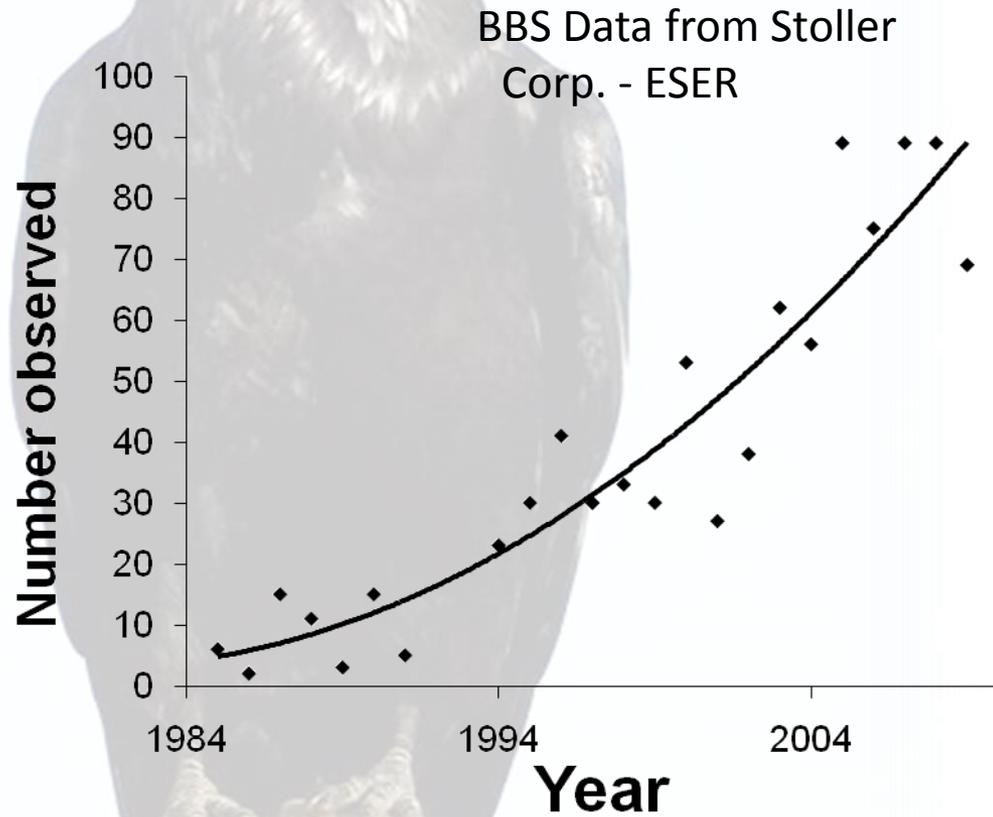
(BBS hierarchical models; *Sauer and Link*)



Studies Focused on the Effects of Tall Structures on Ravens



Idaho National Laboratory
2,305 km²



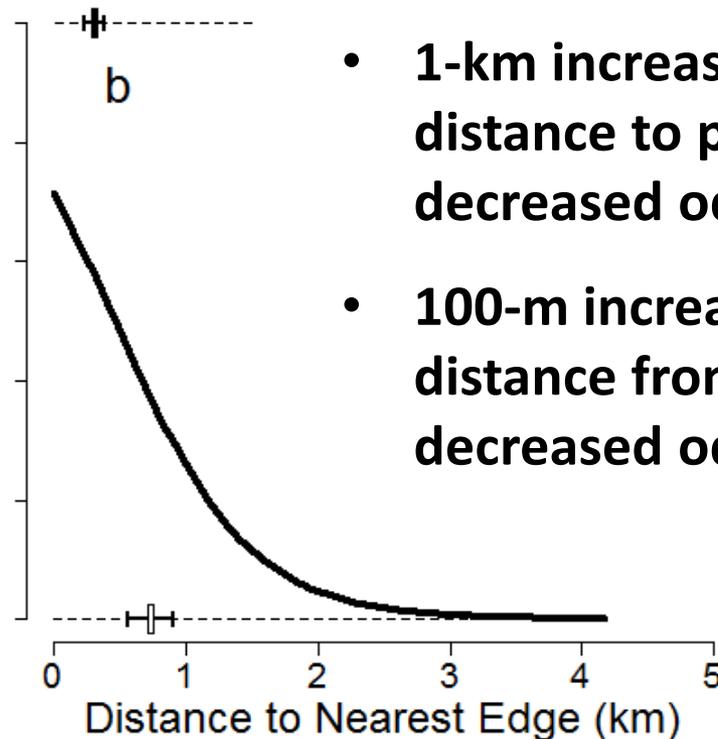
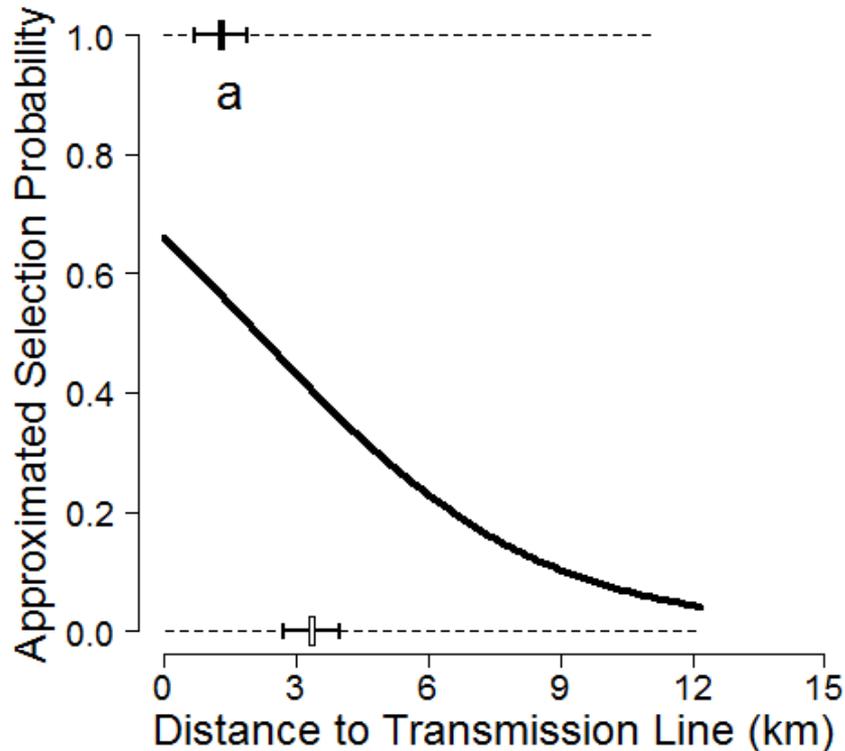


RESEARCH ARTICLE

Selection of anthropogenic features and vegetation characteristics by nesting Common Ravens in the sagebrush ecosystem

Kristy B. Howe,^{1,2} Peter S. Coates,^{3*} and David J. Delehanty¹

Findings



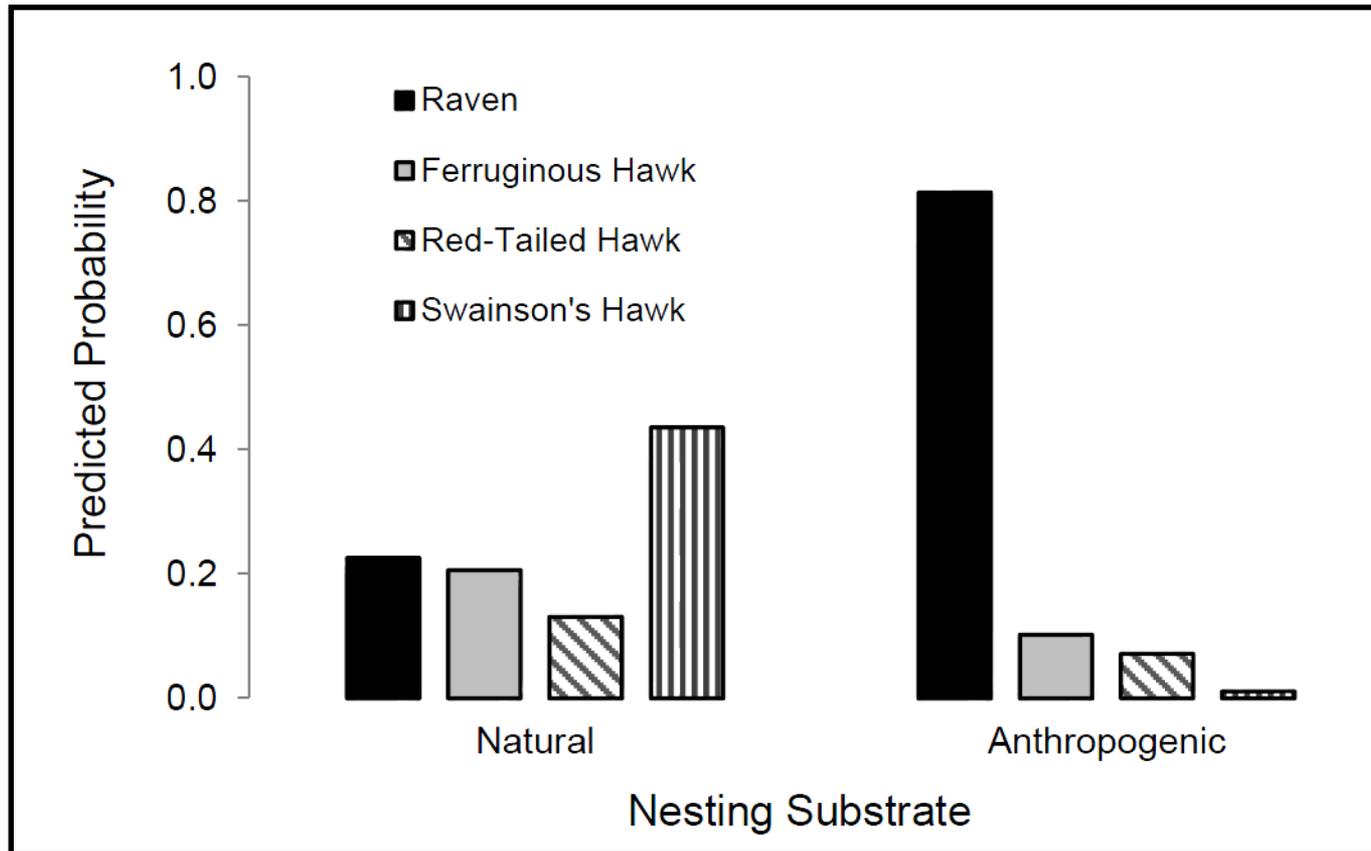
- **1-km increase in distance to power line decreased odds 31%**
- **100-m increase in distance from edge decreased odds 20%**



RESEARCH ARTICLE

Landscape alterations influence differential habitat use of nesting buteos and ravens within sagebrush ecosystem: Implications for transmission line development

Peter S. Coates,^{1*} Kristy B. Howe,^{1,2,3} Michael L. Casazza,¹ and David J. Delehanty³

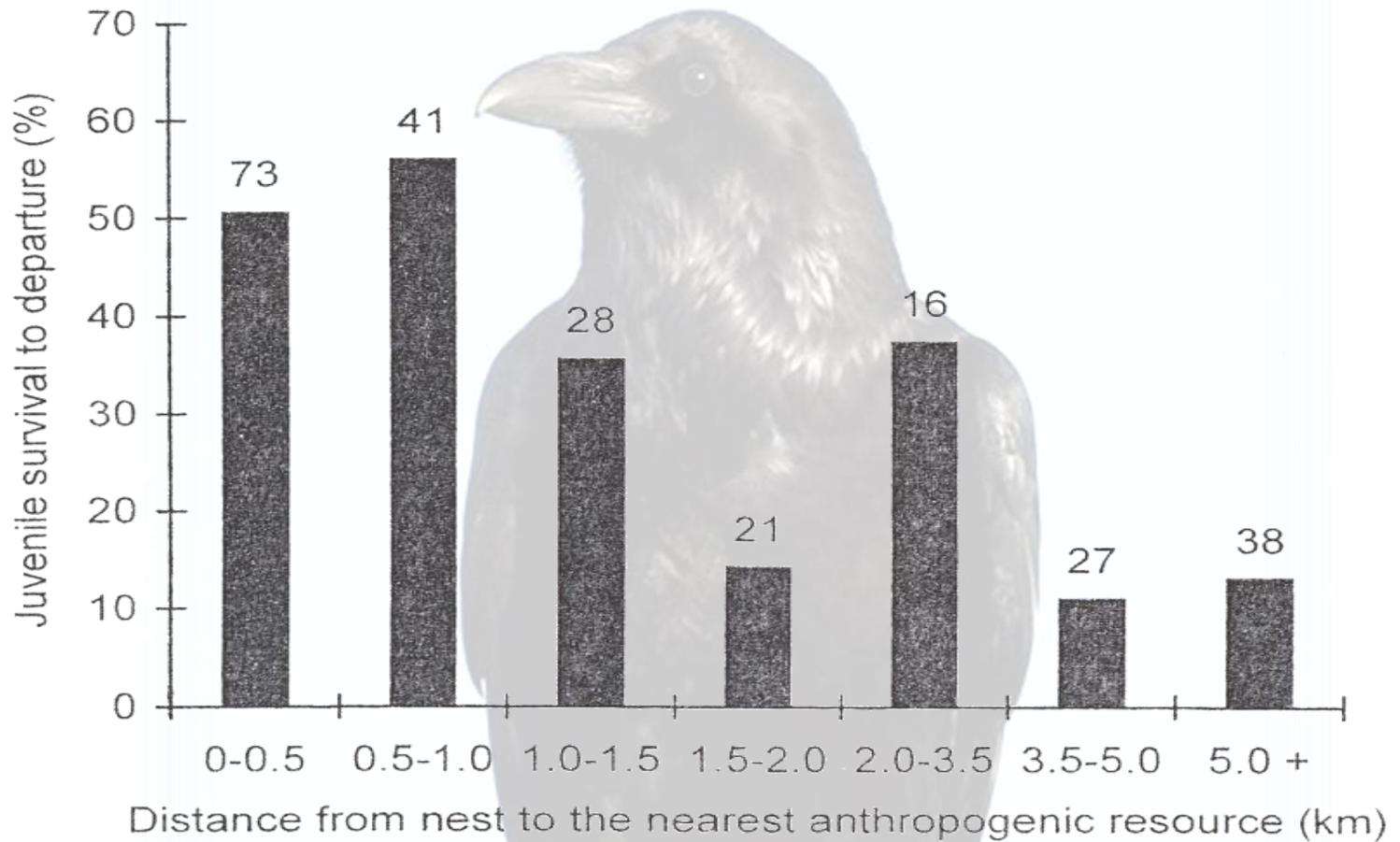


Breeding Ravens

Anthropogenic Nest and Perch Substrate



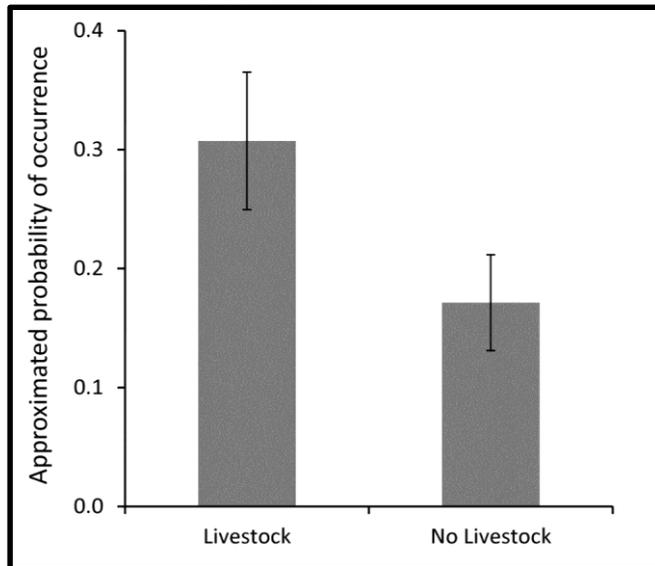




Webb et al. 2004. *Common raven juvenile survival in a human augmented landscape.* The Condor 106:517-528

Landscape characteristics and livestock presence influence common ravens: relevance to greater sage-grouse conservation

PETER S. COATES,^{1,†} BRIANNE E. BRUSSEE,¹ KRISTY B. HOWE,^{1,2}
KIT BENJAMIN GUSTAFSON,¹ MICHAEL L. CASAZZA,¹ AND DAVID J. DELEHANTY²



Odds of raven occurrence increased >45% in areas where livestock were present

“
What are the Consequences of More Ravens to Sage-Grouse Populations?



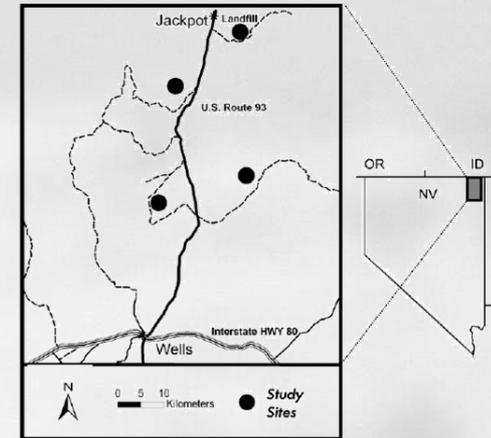
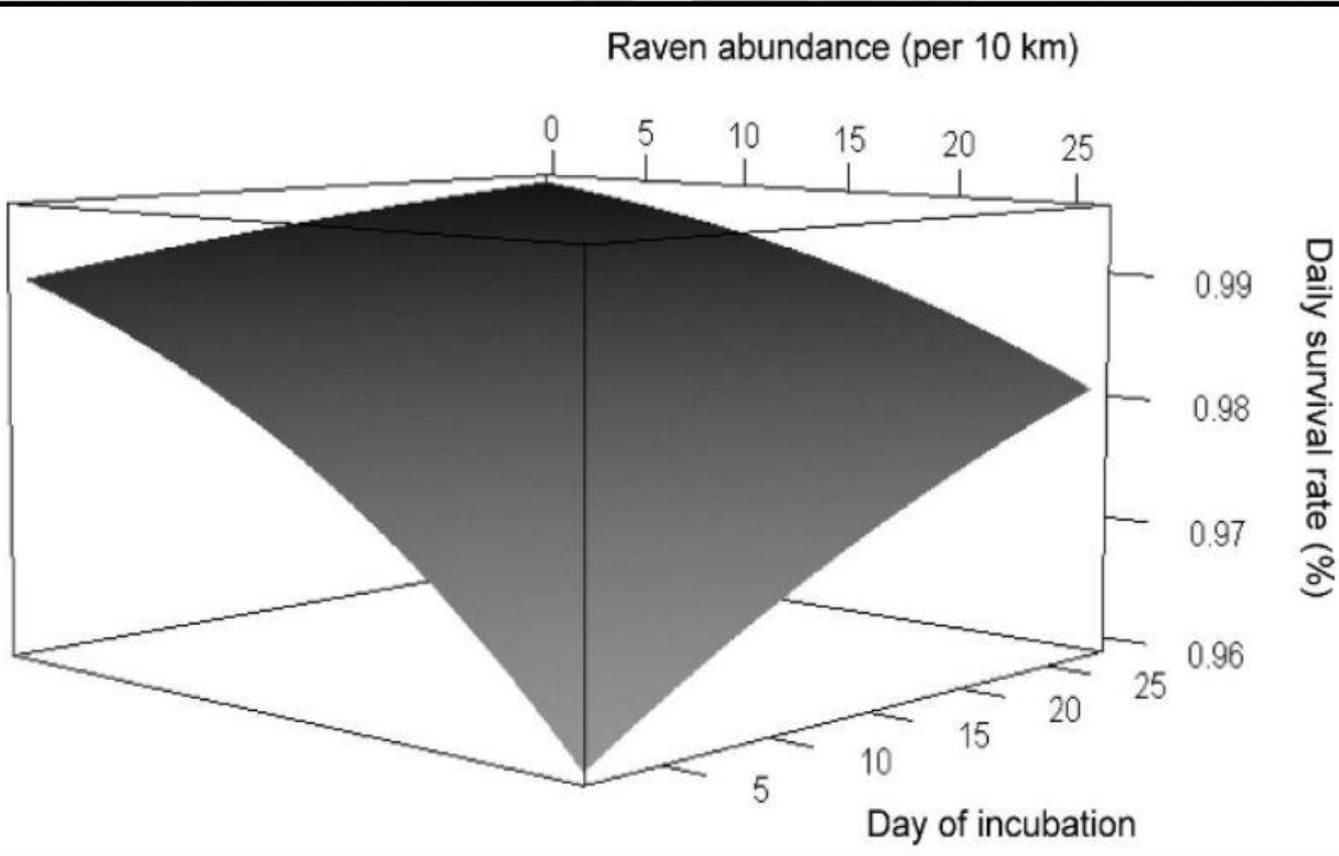


Management and Conservation Article

Nest Predation of Greater Sage-Grouse in Relation to Microhabitat Factors and Predators

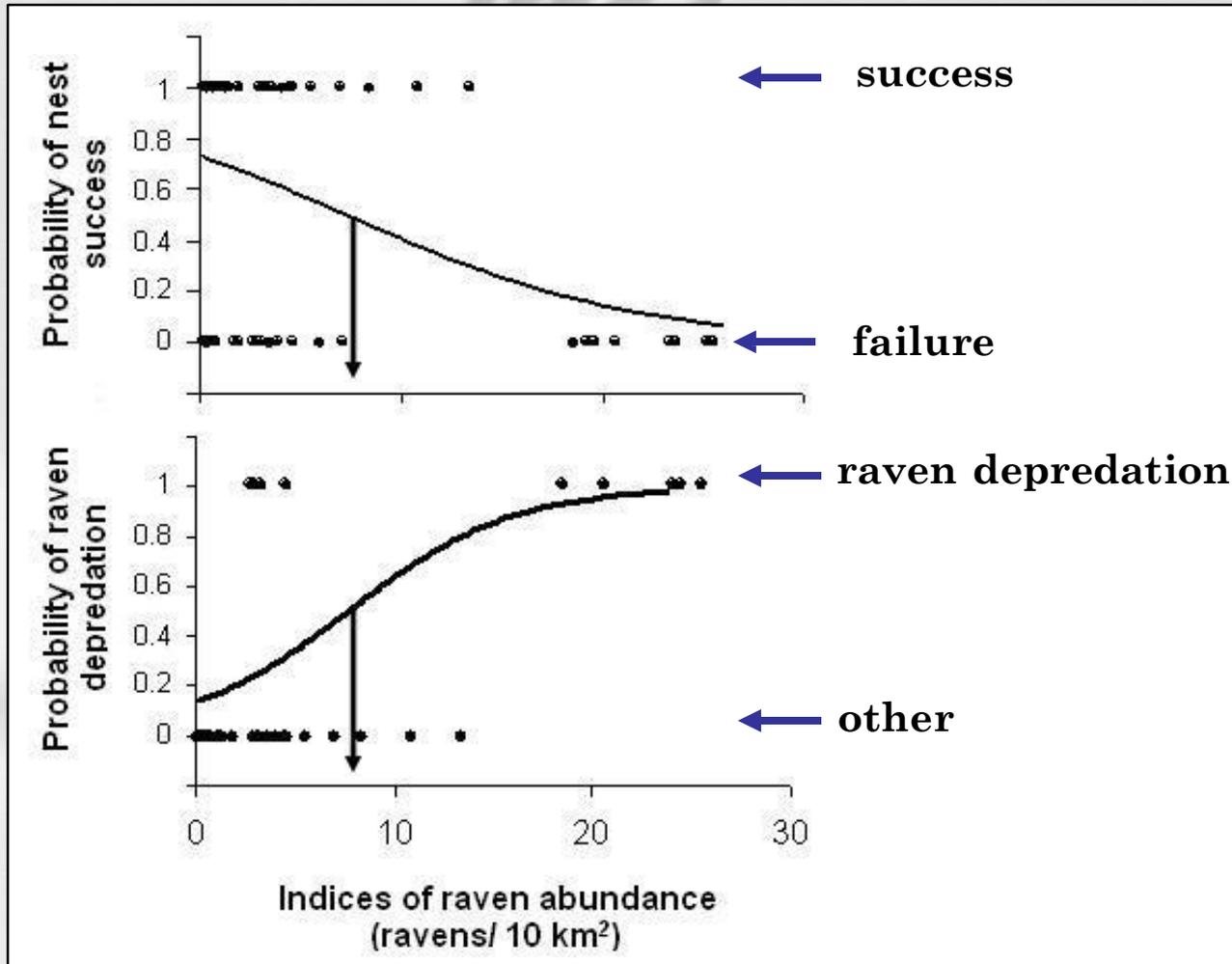
PETER S. COATES,¹ *Department of Biological Sciences, Idaho State University, Pocatello, ID 83209-8007, USA*

DAVID J. DELEHANTY, *Department of Biological Sciences, Idaho State University, Pocatello, ID 83209-8007, USA*

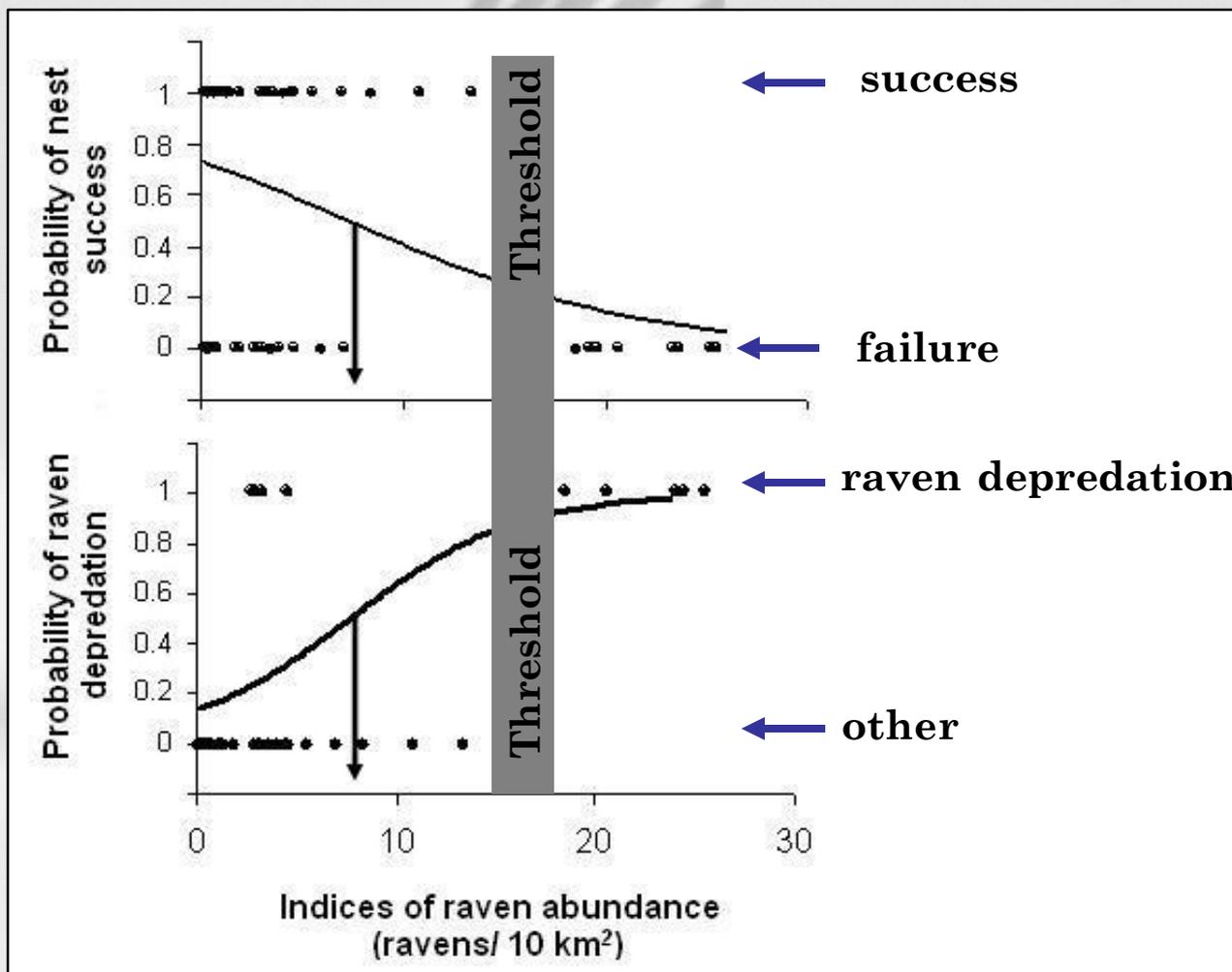


Sage-Grouse nest survival declines with increased raven numbers

Nests fail in areas of high raven abundance



Threshold of raven abundance



Ravens predation increases with less shrub cover



Resp.	Covariate	Estimate	95% CI	
			lower	upper
Raven	raven	0.23	0.11	0.41*
	shrub cover	-0.08	-0.15	-0.02*
	grass	0.17	-0.63	0.41
	forb	0.16	-0.40	0.70
	understory	0.02	-0.04	0.08
	shrub height	0.00	-0.06	0.06
Badger	understory	0.10	0.03	0.12*
	forb	0.70	0.13	1.43*
	grass	0.23	-0.02	0.49
	shrub cover	0.02	-0.02	0.06
	shrub height	0.01	-0.01	0.42

1% decrease in shrub cover increased the odds of raven predation by 7.5%

20–30% sagebrush cover and >40% total shrub cover

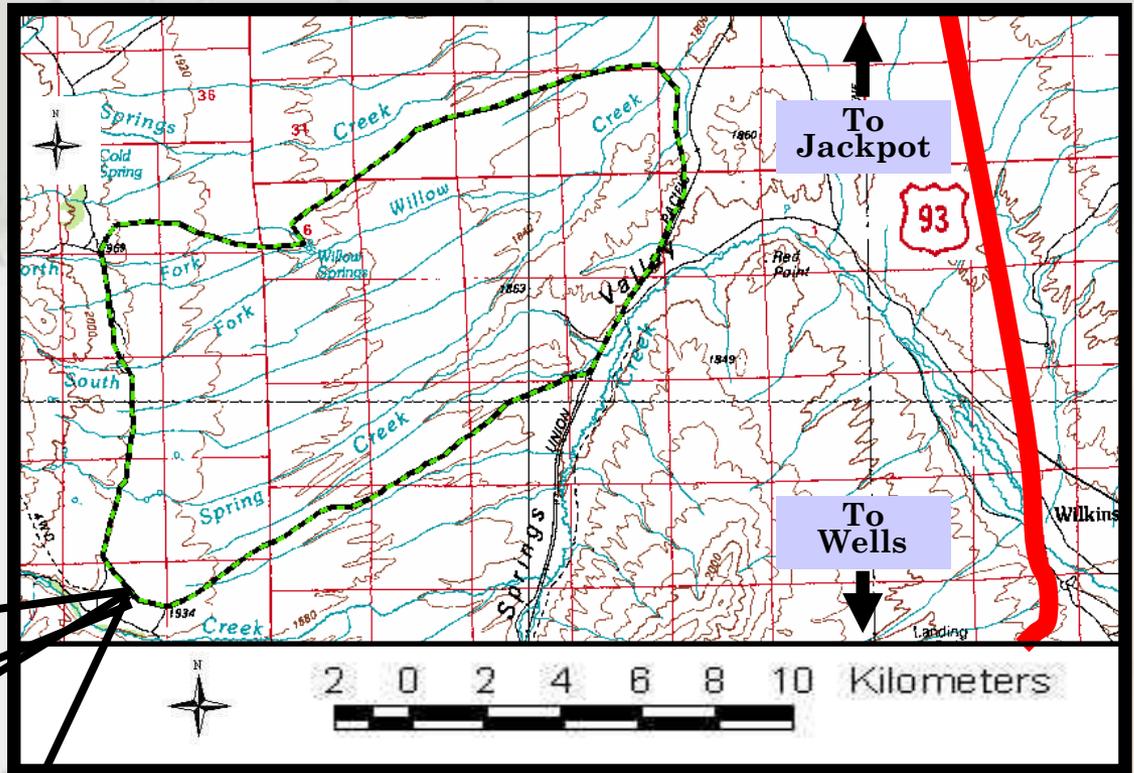


Important Interaction

Effects of Raven Removal on Sage-Grouse Nest Survival and Population Growth



2002 – 2005 Northeastern Nevada Study

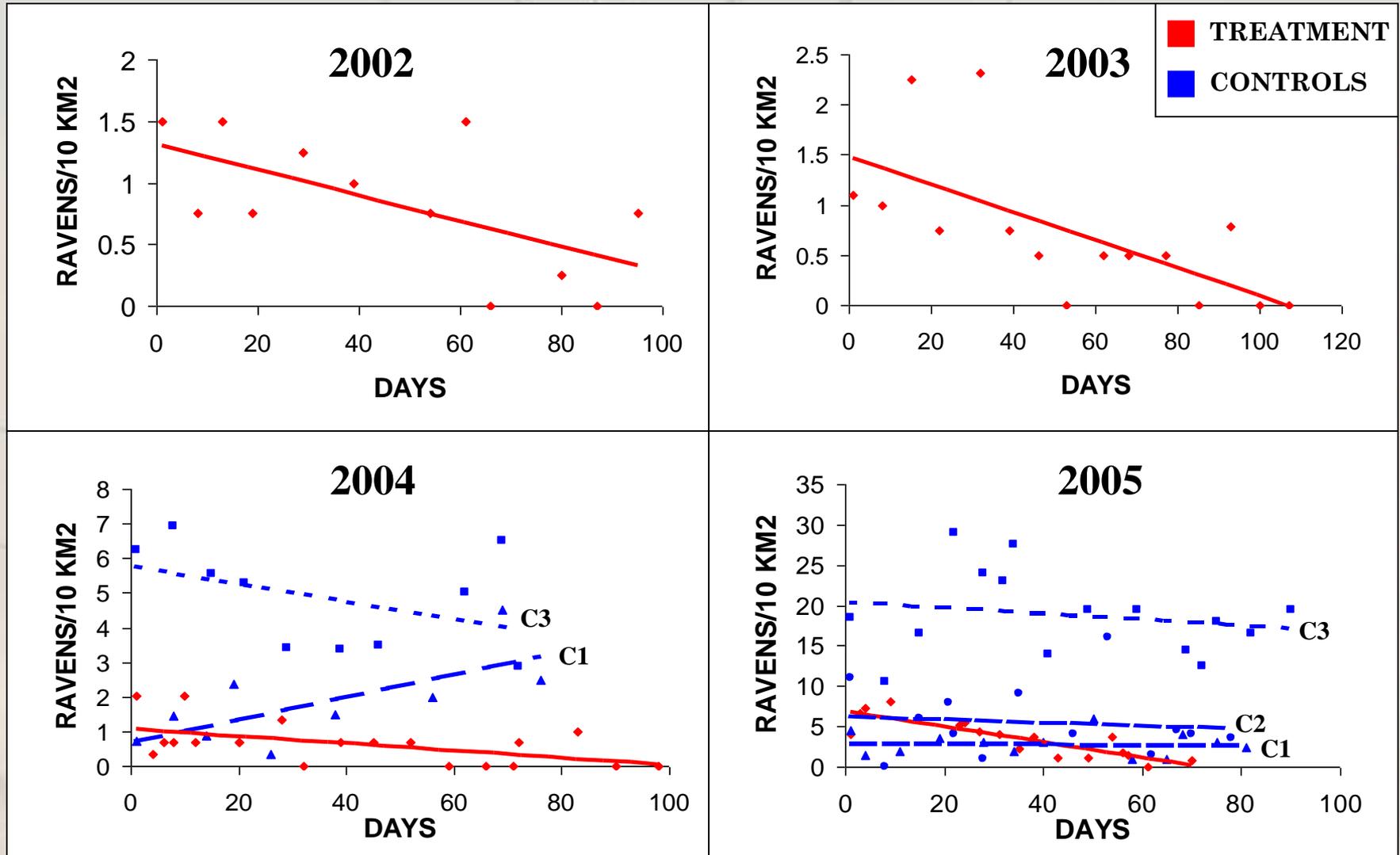


Use DRC-1339 egg baits

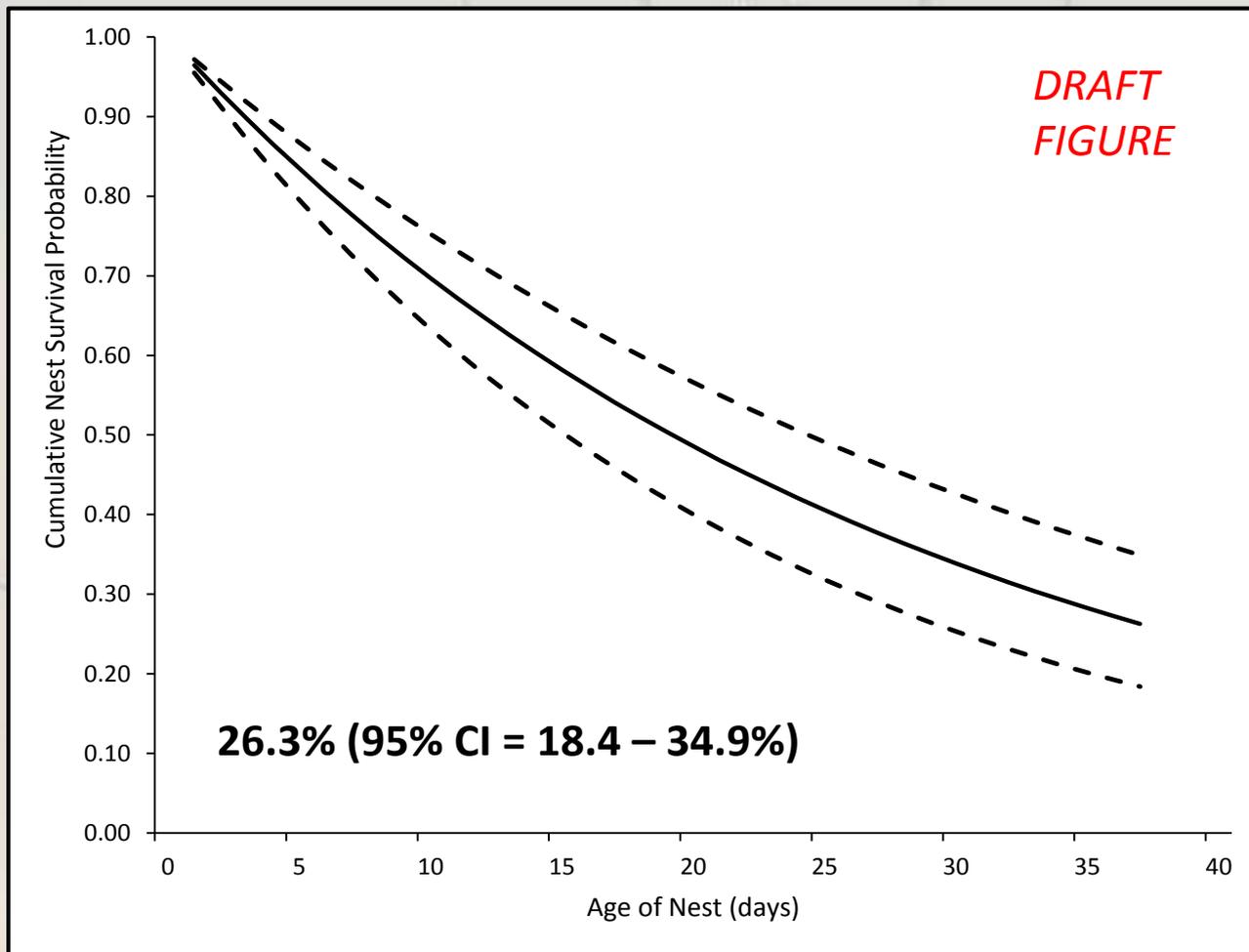
Estimate efficacy of DRC-1339 on raven numbers

Estimate effects on sage-grouse nest survival

Efficacy of CPTH-treated egg baits for removing ravens



Before-After-Control-Impact Design Virginia Mountains Nevada



*DRAFT
FIGURE*

**Nest Survival Range-
wide Average =
43.6%**

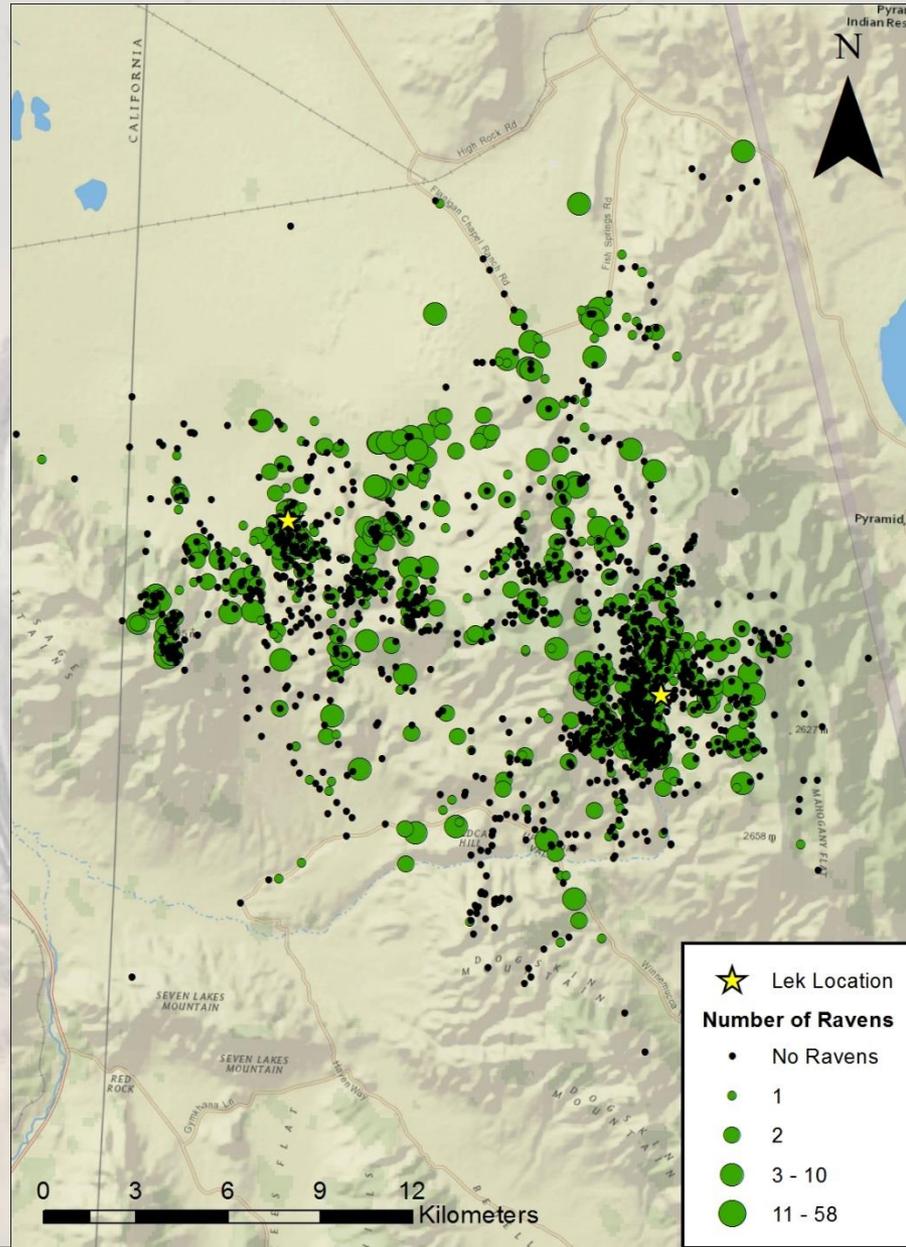
35 day vs 37 day

Site	Nest Survival
NS	54.1
MI	31.7
DE	30.8
MC	29.9
VM	28.3
SS	27.3
PN	25.8
TS	25.4
SV	11.2

Daily Nest survival rate: 96.5% (95% CI = 95.5 – 97.2%)

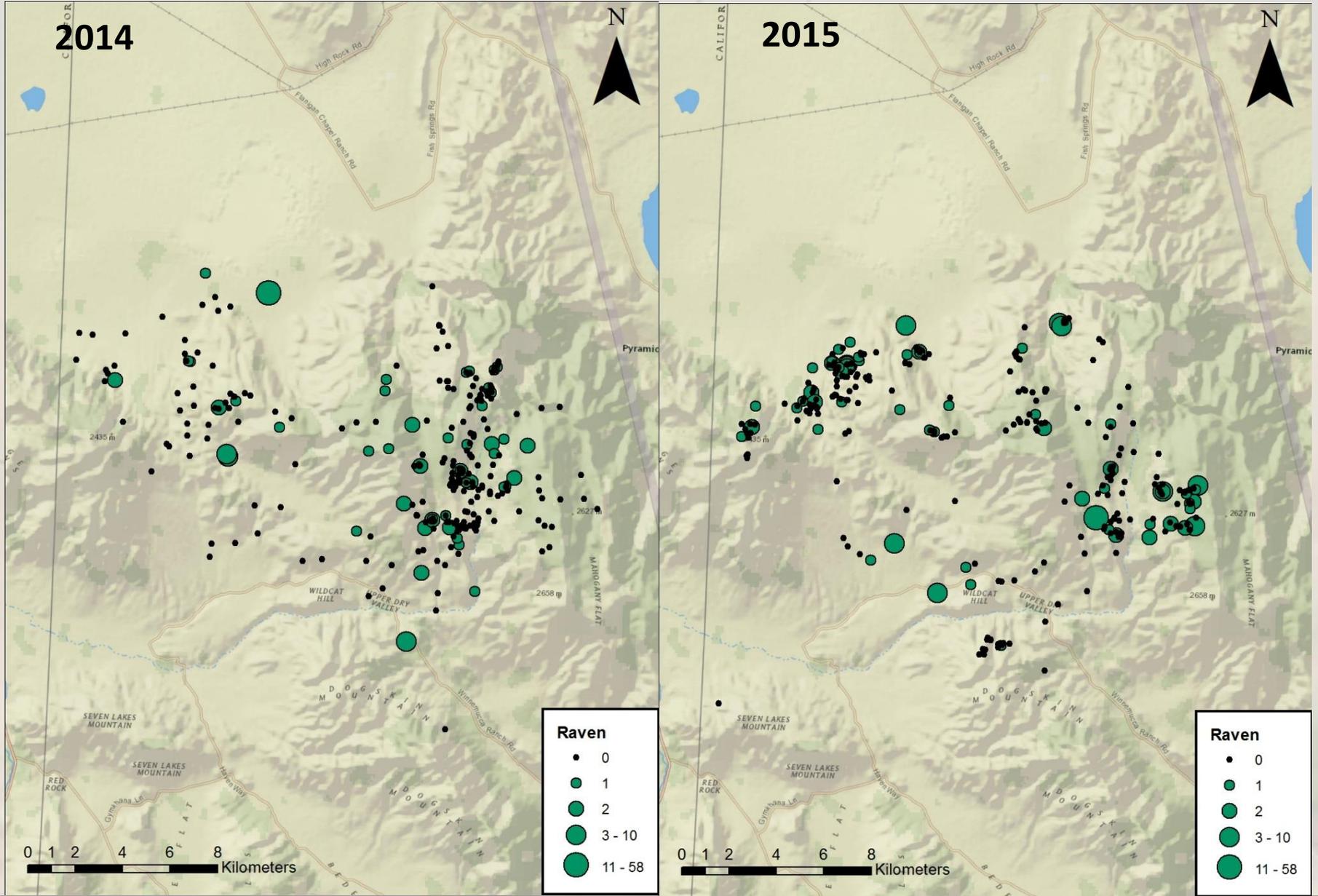
Raptor and Raven Surveys

2,155 surveys



*Preliminary
Information—Subject
to Revision. Not for
Citation or Distribution*

Raptor and Raven Surveys



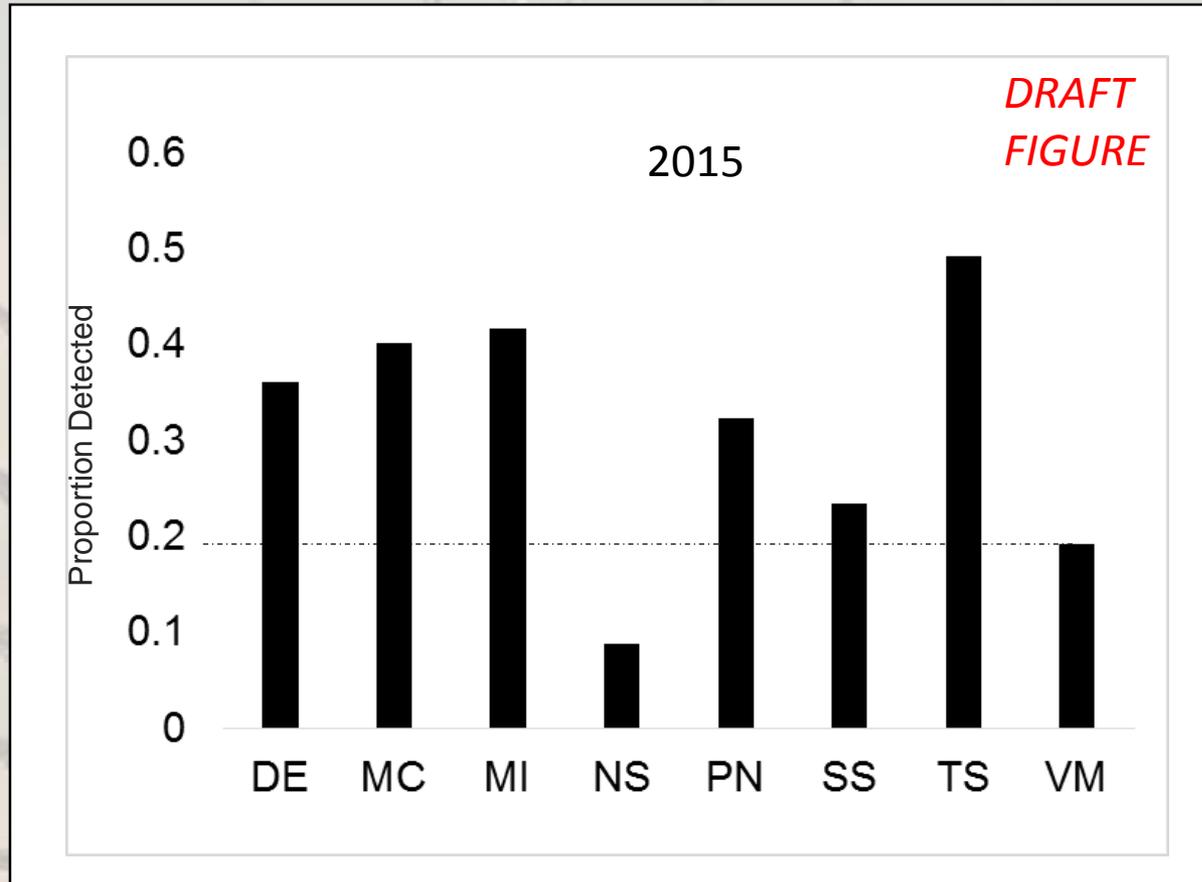
Inter-Annual Variation Preliminary

DRAFT TABLE

TREATMENT	Year	Raven Detections	Average No. Ravens	Nest Survival
No	2009	0.37	2.61	9.4% (1.9 – 24.9%)
No	2010	0.46	3.06	19.3% (5.2 – 40.4%)
No	2011	0.40	1.81	51.5% (30.2 – 69.3%)
2 nd year drought → No	2013	0.18	1.76	18.1% (4.6 – 39.0%)
Initial	2014	0.16	1.74	17.4% (2.6 – 43.7%)
Yes	2015	0.19	2.08	31.8% (11.2 – 55.2%)

Treatment conducted by USDA APHIS program

Preliminary Results



Inter-Annual Variation Preliminary

DRAFT TABLE

TREATMENT	Year	Raven Detections	Average No. Ravens	Nest Survival
No	2009	0.37	2.61	9.4% (1.9 – 24.9%)
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No	2011	0.40	1.81	51.5% (30.2 – 69.3%)
No	2013	0.18	1.76	18.1% (4.6 – 39.0%)
48%* increase → Initial	2014	0.16	1.74	17.4% (2.6 – 43.7%)
Yes	2015	0.19	2.08	31.8% (11.2 – 55.2%)

*On average across other sites, 107% increase (max >400%)

Treatment conducted by USDA APHIS program

Final Points

Overall Objectives

- Estimate differences in nest predation by ravens
Preliminary: no raven predation on video during treatment years
- Estimate difference in nest survival
- Develop stage-based stochastic population models to estimate effects of raven removal on population growth
 - 2016 treatment is planned
 - At least two more years of sage-grouse data would be highly beneficial to help account for inter-annual variation