

APPENDIX

APPENDIX A: Interview Guide for ranchers:

Can environment market services offset/mitigate for human-wolf conflict in WA State?

Intro: *Many forms of human-wolf conflict have been documented (references). Our research focuses on the economic aspects.*

Purpose: to contribute to improving coexistence between humans and wolves in WA State.

Goal: To investigate potential mechanisms to offset or lessen economic loss due to wolves in WA State.

Objectives:

1. To document the existing social and economic costs of coexisting with wolves that ranchers in WA State are incurring.
2. To document the realized and unrealized economic benefits of coexisting with wolves.
3. To determine the feasibility and constraints to offset costs with benefits of coexisting with wolves.
4. To present results on the practices and alternatives to reduce economic loss due to wolves, to citizens of Washington State, ranchers in WA State are using to mitigate against economic losses due to wolves.

Recruitment of Ranchers as primary stakeholders:

- i. Word of mouth; Dr. B. Kertson, and Ms. Stephanie from WDFW know some cooperative ranchers whom we shall approach first and then snowball to others.
- ii. Before approaching the ranchers in WA State, we shall contact and meet with ranchers in Montana to test this questionnaire to make it more relevant for the study.

Ranchers (one-on-one interviews):

Personal intro (2 mins): *My name is Carol Bogezi. I am part of a University of Washington study investigating economic approaches that can be used to help offset economic losses due to wolves. I took on the position in this study so as to learn from farmers and ranchers here about the possibility of mitigating economic losses caused by wildlife. Back home we inherited a farm where we grow crops – tomatoes and corn; we have problem with vervet monkeys that destroy our crops. We are in the stages of trying to investigate how to protect our investment while protecting the wildlife. This study will greatly help to inform ways in which to mitigate economic losses due to wildlife and improve coexistence between humans and wildlife in my country and I hope in yours as well. We hope that through this research the opinion and ideas from ranchers will be documented and considered for implementation.*

This conversation has been approved by the IRB and all that we talk about here will be kept in strict confidentiality. We shall summarize the findings for the public and scientific community, but your identity and ranch location will not be revealed unless you so desire. (GIVE CONSENT FORMS FOR SIGNING AT THIS POINT.

Theme: Current state of wolf conflict, benefits and emotions	
1. What do you think/know/or hear about the recent return of wolves in WA State?	
b. Describe, where they are, how many they are, where they came from, what you perceive them as; what others perceive them as.	
c. How do you characterize your experience with wolves?	
d. Firsthand experience? From friends and neighbors? From media, internet, press? From culture such as childhood stories?	
e. In what ways do wolves affect your livelihood? Directly or indirectly.	

f. Do you think you are currently coexisting with wolves now? (Do you think you are having conflict with wolves? What level of conflict, if so? How much conflict?)	
g. Do you anticipate your intention with wolves to change in the future? How?	
h. What are some of the positives (and negatives) of living with wolves?	

Theme: Background info on the rancher and rancher experience	
<p>2. Can you please tell us about the ranching experience in your life?</p> <p>(Aim to learn how long have you been in ranching? Generations? Recently bought? Inherited?)</p>	
b. Will your children take on the ranch and ranching? What do you think can keep the family/children ranching the land?	
c. What is your product? (Mutton, beef, dairy, lambs, or wool?)	
d. Which processes of the product-chain to you manage as a rancher? (Do you grow your pasture, grow your animals, slaughter, sell? Or breed and sell lambs only? Or grow sheep for wool only?)	
e. What are your thought on certification? Do you have any special certification for your products? Is there a local outlet for your product that can certify your product as organic or grass fed for example?	
f. Are all your operations on your property or do you use lease some extra from BLM, or Forestry Services or private individual? How much do you lease? How long a year do your animals stay out in the leased land? (PS. We could get some of this info from BLM and/or Forest Services)	
Theme: Existing practices, known alternatives, limitations	
<p>3. How are you currently coexisting with wolves? What measures? How effective are they? What more would you do? What limits you from doing more?</p> <p>Why do you think some other people have more conflict and negative experiences with wolves than others in the same region?</p>	
b. If negative; - What would make it impossible to coexist with wolves? Have you heard about some mitigations measures? What do you think about the measures?	
c. Can you please tell us about the inconveniences you incur as a result of wolves? (These can be economical, social, etc. Aim for detail: no. of animals lost; how much extra operating costs? How much is lost in weight of beef animals? Try to quantify it to \$\$). (Are you bothered by wolves in anyway?)	
d. Can any measures be used to mitigate these inconveniences without killing the wolves? (What limits using these?	
e. Would you welcome assistance in implementing the measures mentioned in 3d? What forms of assistance? From whom would you accept this assistance?	
f. In what ways do you think the whole community can benefit from coexistence with wolves? E.g., through education opportunities, or information centers?	

4. Theme: Alternative ideas for offsetting social and economic	
In order to offset for losses, we have learnt of ideas of selling the products at a premium, or having additional income through wolf tourism; what other alternatives do you have to suggest?	
% increase in price per pound of beef?	
Certification considerations?	
Would they welcome tourism opportunities?	
Social inconveniences? How can those be offset?	
Wolf Fund for the community?	
Designated Range-riders?	
Wolf Hotline, and website maintenance?	

Summary of issues raised (2 mins): Ending Questions (5 mins): *Can you please share with us anything that we should have talked about but missed?*

Concluding Remarks: *Thank you for participating in this conversation, if you think there is anything that could help us with this study, please feel free to reach us by phone (425-628-4058) or email: cbogezi@uw.edu*

APPENDIX B:

Key Informant Consent Form (Sign 2 copies; keep one for your records)

Investigating the feasibility of economic services to offset human-wildlife conflict in WA State

You are invited to participate in a research study that will explore the feasibility of using economic services to mitigate and offset economic losses due to wolves, with the overall purpose of understanding of human-wildlife interactions in Washington State. You have been selected as a potential participant because of the insight that you may be able to provide on this particular subject. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by: John Marzluff and Stanley Asah, Professors, Carol Bogezi, and Catherine Gowan, graduate students, all of the School of Environmental and Forest Sciences at the University of Washington.

Background Information

The purpose of this research is to contribute to improving coexistence of ranchers and wolves in Washington State through investigating measures to mitigate for economic losses and inconveniences due to wolves. The objectives include - to document ranchers' experiences with predators; to document the existing social and economic costs of wolves that ranchers are incurring; to identify ideas of offset measures and their feasibility to improve coexistence with wolves.

Procedures:

By agreeing to participate in this study, we will ask you to do the following things:

- In a key informant interview, you will be asked questions regarding your knowledge of wolves in Washington State; the economic costs of wolves, and the ways in which these costs can be mitigated using both realized and unrealized benefits.

The entire session is anticipated to take roughly one hour.

Risks and Benefits of being in the Study

Your participation will help to identify participants for focus group interviews, as well as create a template for a future public survey.

There are no risks for participating in this study.

Confidentiality:

The records of this study will be kept private. Information that would make it possible to identify you will not be included in any report or publication that may result from this study and the audio-records will be destroyed as soon as they are transcribed. Information will be stored securely and only researchers will have access to the records.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Washington. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

This study has been approved by the Internal Review Board (IRB) for Human subjects Division (HSD study # 45684). hsdinfo@uw.edu, 206-543-0098.

The researchers conducting this study are: Prof. John Marzluff, Prof. Stanley Asah, Carol Bogezi, and Catherine Gowan. You may ask any questions you have now, and if you have questions later, **you are encouraged** to contact them in Seattle at [206-616-6883](tel:206-616-6883); 206-685-4960; 425-628-4058; 352-494-4125 or corvid@uw.edu, stasah@uw.edu, cbogezi@uw.edu, and cgowan13@uw.edu accordingly.

Printed name of study staff obtaining consent

Signature

Date

Subject's statement

This study has been explained to me. I volunteer to take part in this research. I have had a chance to ask questions. If I have questions later about the research, I can ask one of the researchers listed above. If I have questions about my rights as a research subject, I can call the Human Subjects Division, of the University of Washington, at (206) 543-0098. I will receive a copy of this consent form.

Printed name of respondent

Signature of subject

Date

APPENDIX C: Characteristics of the interviewed ranchers.

Appendix C: Showing the summary of respondents interviewed so far and some of their attributes							
Respondent ID	Age of respondent (years)	County	Date of interview	Duration of Interview (minutes)	Generation of Ranching in WA State	Ranching all life in WA State	Type of ranch/operation
R1	55-60	Kittitas	12 Sept, 2013	81	first	no	organic finisher
R2	55-60	Yakima	13 Sept, 2013	51	first	no	organic finisher
R3	>65	Kittitas	13 Sept, 2013	35	fourth	yes	tradition cow/calf
R4	60-65	Kittitas	15 Sept, 2013	77	second	yes	organic finisher
R5	>65	Kittitas	16 Sept, 2013	49	fourth	yes	tradition cow/calf
R6	>65	Kittitas	16 Sept, 2013	72	third	yes	tradition cow/calf
R7	40-45	Yakima	20 Sept, 2013	41	second	no	tradition cow/calf
R8	>65	Yakima	20 Sept, 2013	148	fourth	yes	tradition cow/calf
R9	60-65	Yakima	20 Sept, 2013		fourth	yes	tradition cow/calf
R10	>65	Yakima	20 Sept, 2013		fourth	yes	no longer active
R11	>65	Kittitas	20 Sept, 2013		third	yes	tradition cow/calf
R12	<40	Kittitas	20 Sept, 2013		second	yes	organic finisher
R13	>65	Kittitas	20 Sept, 2013		fourth	yes	tradition cow/calf
R14	50-55	Yakima	20 Sept, 2013	60	third	no	no longer active
R15	60-65	Kittitas	23 Sept, 2013		third	yes	tradition cow/calf
R16	55-60	Yakima	30 Sept, 2013		second	yes	organic finisher
R17	45-50	Kittitas	30 Sept, 2013		second	yes	tradition cow/calf
R18	40-45	Kittitas	30 Sept, 2013		second	yes	organic finisher
R19	40-45	Stevens	7 Nov, 2013	66	fourth	yes	tradition cow/calf
R22	50-55	Stevens	7 Nov, 2013	107	third	yes	tradition cow/calf
R23	>40	Okanogan	9 Nov, 2013	154	second	no	orchards
R24	55-60	Okanogan	9 Nov, 2013		fourth	yes	tradition cow/calf
R25	50-55	Okanogan	10 Nov, 2013		first	yes	sheep
R26	40-45	Okanogan	10 Nov, 2013	65	third	yes	organic finisher?
R27	60-65	Okanogan	11 Nov, 2013	70	First homeste	yes	tradition cow/calf
R28	45-50	Lincoln	11 Nov, 2013	79	fourth?	yes	tradition cow/calf
R29	60-65	Spokane	12 Nov, 2013	45	first?	yes	organic finisher
R30	>65	Stevens	12 Nov, 2013	105	third?	yes	organic finisher
R31	40-45	Stevens	12 Nov, 2013		fourth	yes	stocksmen
R32	40-45	Stevens	12 Nov, 2013		second	yes	tradition cow/calf
R33	40-45	Stevens	13 Nov, 2013		third	yes	No longer active, cow/calf, horses, sheep
R34	45-50	Stevens	13 Nov, 2013	159	second	yes	subsistence
R35	<40	Stevens	13 Nov, 2013			yes	Helps R36 with his ranch
R36	50-55	Stevens	13 Nov, 2013		First	no	Organic Cow/calf
R37	60-65	Stevens	13 Nov, 2013		Third?	yes	tradition cow/calf
R38	60-65	Stevens	13 Nov, 2013		second	yes	tradition cow/calf
R39	45-50	Stevens	13 Nov, 2013		Third?	yes	tradition cow/calf
R42	60-65	Stevens	15 Nov, 2013	50	third	yes	tradition cow/calf
R43	>65	Stevens	15 Nov, 2013	49	third	yes	no longer active
R44	50-55	Stevens	17 Nov, 2013	47	third	yes	dude ranch, stocksmen
R45	60-65	Okanogan	20 Mar, 2014	129	First	yes	tradition cow/calf
R46	60-65	Walla Walla	22 Mar, 2014	125	Third	yes	tradition cow/calf
R47	50-55	Stevens		99	Third	yes	tradition cow/calf
R48	60-65	Okanogan	21 Mar, 2014	56	First	yes	Organic Cow/calf
R49	40-45	Colville	10 May, 2014	53	First	yes	Organic, custom exempt