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Supplemental Material

Supplement 1: *Qualtrics Panel Sampling Methodology*

The participants were a non-probability sample of Californian adults aged 18 or older with sampling stratified on household income and party identification to help ensure respondents representative of the California population. Participants were drawn from commercial online panels aggregated by Qualtrics from third-parties. The panels include people living in all U.S. states, but our sample includes only Californians. Qualtrics or its partners invite the participants and pay the participant incentives for completing a questionnaire. These panels consist of convenience samples of individuals who have elected to opt-in to participate in surveys in exchange for points, which they may exchange for gift cards from retail merchants, for cash, to enter raffles, for gift cards, or for products. Participants in the Qualtrics panel receive an incentive based in part on the length of the survey. Participants are invited with an email, which does not include details about the survey. The panel partners maintain profiles of the panelists that are used for stratification. These panelists must submit an initial registration form and use a double opt-in requirement. To avoid duplication, Qualtrics checks IP addresses. For more information, please visit:
http://success.qualtrics.com/rs/qualtrics/images/ESOMAR%2028%202014.pdf

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Supplement 2: *Survey Questions*

Demographics, Education and Employment

In which state do you currently reside?

Which of the following best describes the area where you live?

- Urban
- Suburban
- Rural

How old are you?
What is your sex?

What is the highest level of school you have completed or the highest degree you have received?

- Less than high school degree
- High school graduate (high school diploma or equivalent including GED)
- Some college but no degree
- Associate degree in college (2-year)
- Bachelor's degree in college (4-year)
- Master's degree
- Doctoral degree
- Professional degree (JD, MD)

Information about income is very important to understand. Would you please give your best guess? Please indicate the answer that includes your entire household income during the past year before taxes.

- Less than $20,000
- $20,000 to $39,999
- $40,000 to $59,999
- $60,000 to $74,999
- $75,000 to $99,999
- $100,000 to $149,999
- $150,000 or more

Please indicate your occupation:

- Management, professional, and related
- Service
- Sales and office
- Farming, fishing, and forestry
- Construction, extraction, and maintenance
- Production, transportation, and material moving
- Government

- o Retired
- o Unemployed

Choose one or more races that you consider yourself to be:

- ☐ White
- ☐ Black or African American
- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Pacific Islander
- ☐ Other _____

Are you Spanish, Hispanic, or Latino or none of these?

- o Yes
- o None of these

Political Preference and Affiliation

Generally speaking, do you consider yourself a Republican, a Democrat, an Independent, or something else?

- o Republican
- o Democrat
- o Independent
- o Other; Please Specify _____

If responded Independent: **Do you think of yourself as closer to the Republican Party or to the Democratic party?**

- o Closer to the Republican Party
- o Closer to the Democratic Party
- o Neither

If responded Democratic: **Would you consider yourself a strong Democrat or a not very strong Democrat?**

- o Strong Democrat
- o Not very strong Democrat

If responded Republican: **Would you consider yourself a strong Republican or a not very strong Republican?**

- o Strong Republican
- o Not very strong Republican

Where would you place yourself on this scale, or haven't you thought about it much?

- o Extremely liberal
- o Liberal
- o Somewhat liberal
- o Moderate; middle of the road
- o Somewhat conservative

- Conservative
- Extremely conservative
- Haven't thought much about this

Portrait Values Questionnaire (PVQ)

Several different types of people are described below. Please read the descriptions thoroughly and think about how each person is or is not like you. There are no right answers, simply read the description and choose the best fit to the right.

	Very much like me	Like me	Somewhat like me	Not like me	Not like me at all
It's very important to him/her to help the people around him/her. He/she wants to care for other people.	□	□	□	□	□
He/she thinks it is important that every person in the world be treated equally. He/she wants justice for everybody, even for people he/she doesn't know.	□	□	□	□	□
He/she strongly believes that people should care for nature. Looking after the environment is important to him/her.	□	□	□	□	□
It is important to him/her to adapt to nature and fit into it. He/she believes that people should not change nature.	□	□	□	□	□
It is important to him/her to respect the earth. He/she believes that humans should live in harmony with other species.	□	□	□	□	□
This is a control question, please select "Not like me."	□	□	□	□	□
It is important to him/her to be rich. He/she wants to have a lot of money and expensive things.	□	□	□	□	□
It is important to him/her to be in charge and tell others what to do. He/she wants people to do what he says.	□	□	□	□	□
He/she always wants to be the one who makes the decisions. He/she likes to be the leader.	□	□	□	□	□
He/she wants everyone to be treated fairly, even people he/she doesn't know. It is important to him/her to protect the weak in society.	□	□	□	□	□

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[Pronouns were matched to the gender of the respondent.]

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New Environmental Paradigm (NEP)

Please read each of the following statements and indicate whether you strongly agree, mostly agree, are unsure, mostly disagree, or strongly disagree. There are no right or wrong answers.

	strongly agree	mostly agree	Unsure	mostly disagree	strongly disagree
Humans are severely abusing the environment.	□	□	□	□	□
The balance of nature is strong enough to cope with the impacts of modern industrial nations.	□	□	□	□	□
The so-called "ecological crisis" facing humankind has been greatly exaggerated	□	□	□	□	□
If things continue on their present course, we will soon experience a major ecological catastrophe.	□	□	□	□	□
The earth is like a spaceship with limited room and resources.	□	□	□	□	□

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Again, read each of the following statements and indicate whether you strongly agree, mostly agree, are unsure, mostly disagree, or strongly disagree. There are no right or wrong answers.

	strongly agree	mostly agree	Unsure	mostly disagree	strongly disagree
If people have the vision and ability to acquire property, they should be allowed to enjoy it.	□	□	□	□	□
Everyone should have an equal chance to succeed and fail without government interference.	□	□	□	□	□
Co-operation with others rarely works.	□	□	□	□	□
It seems that no matter who you vote for in an election, things remain pretty much the same.	□	□	□	□	□
If people have the vision and ability to acquire property, they should be allowed to enjoy it.	□	□	□	□	□

Species Awareness and Reintroduction Support

Do the following wildlife species exist in the wild in California?

	Yes	**No**	**Don't Know**
Grizzly bears	□	□	□
Bald eagles	□	□	□
Bison	□	□	□
Wolves	□	□	□
Black bears	□	□	□

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Grizzly Reintroduction Treatment 1(no national park reference): As you may know, grizzly bears once lived throughout much of the state, but the last grizzly in California was killed in 1922. There have been some proposals to reintroduce grizzly bears to California.

Grizzly Reintroduction Treatment 1(national park reference): As you may know, grizzly bears once lived throughout much of the state, but the last grizzly in California was killed in 1922. There have been some proposals to reintroduce grizzly bears to a number of national parks in California.

Do you oppose or support efforts to reintroduce grizzly bears to California?

- o Strongly support
- o Support
- o Somewhat support
- o Neither support nor oppose
- o Somewhat oppose
- o Oppose
- o Strongly oppose

In the last year, which of the following outdoor recreational activities have you participated in? (check all that apply)

- ☐ Fishing
- ☐ Hunting
- ☐ Hiking
- ☐ Bird watching/wildlife viewing
- ☐ Camping in a campground
- ☐ Backpacking
- ☐ Climbing, mountaineering, or other alpinism
- ☐ Ocean activities such as surfing, kayaking, boating, diving, etc.
- ☐ Skiing or snowboarding
- ☐ Other, please specify_____

If grizzly bears were reintroduced in the outdoor areas where you currently recreate, how likely would you be to continue to use these areas?

- o Very likely to continue using areas
- o Somewhat likely to continue using areas
- o Neither likely nor unlikely to continue using areas
- o Somewhat likely to discontinue using areas
- o Very likely to discontinue using areas

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We'd like to understand more about how you think about grizzly bears. Please tell us how much you agree or disagree with each of the following statements about grizzly bear reintroduction in California.

	strongly agree	mostly agree	unsure	mostly disagree	strongly disagree
People have a responsibility to ensure the survival of grizzly bears.	□	□	□	□	□
Grizzly bear reintroduction would help make California forests healthier.	□	□	□	□	□
Grizzly bear reintroduction would pose a threat to my safety.	□	□	□	□	□
Grizzly bear reintroduction would pose a threat to my livelihood.	□	□	□	□	□
Grizzly bear reintroduction would benefit the California economy by increasing tourism.	□	□	□	□	□
Grizzly bear reintroduction would lead to an increased role for the federal government.	□	□	□	□	□
Grizzly bear reintroduction would threaten property rights on private lands.	□	□	□	□	□
Grizzly bear reintroduction would benefit other species.	□	□	□	□	□
Grizzly bear reintroduction would help prevent their extinction.	□	□	□	□	□
Grizzly bear reintroduction would reduce local control over public lands.	□	□	□	□	□
This is a control question, please select "Strongly agree."	□	□	□	□	□
Grizzly bear reintroduction would negatively impact ranchers.	□	□	□	□	□
Grizzly bear reintroduction would benefit outdoor recreation.	□	□	□	□	□
Grizzly bear reintroduction would harm agricultural producers.	□	□	□	□	□
Grizzly bear reintroduction would benefit urban residents.	□	□	□	□	□
Grizzly bear reintroduction would benefit rural residents.	□	□	□	□	□

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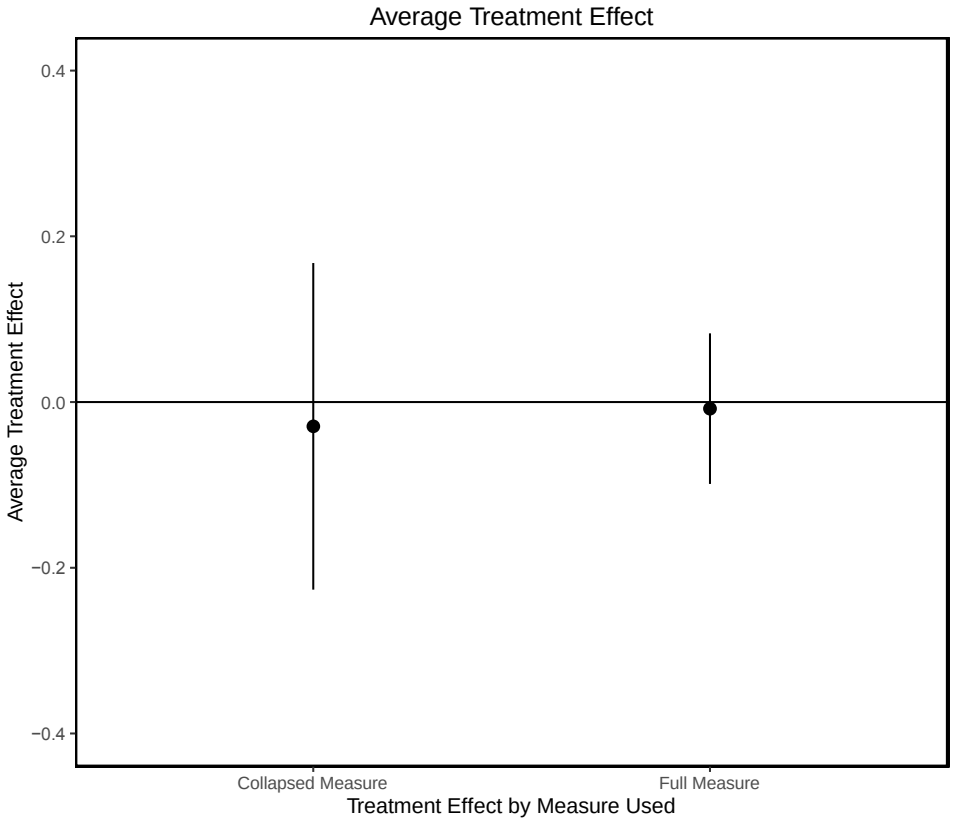
Supplemental Figures

Figure S1:



Note. 95% confidence intervals denoted by error bars. Collapsed measure merges the 7-point scale for support for reintroduction into a 3-point scale indicating no support, neither support or support, or support. Full measure uses 7-point scale. N = 980.

Supplemental Tables

Table S1: *Representativeness (Survey and California)*

Variable	Survey	California
Age (Median)	40***	36
Female over 18 (Percent)	62.1%***	50.3%
College (Percent with Bachelor's degree or higher)	45%***	32%
White Only (Percent)	68%***	61.3%

Household Income (Median, in thousands)	40 – 60	63.8
Republican (Percent)	28%	26%
Democrat (Percent)	48%	45%
Independent (Percent)	21%*	25%

Note: California demographic statistics taken from 2016 US Census American Community Survey. The measure of household income is ordinal, with each level corresponding to an income bracket, rather than a specific amount, and income brackets used in the US Census do not overlap with ours. Chi-square tests check sample representativeness for Female, College, and White only, and a two-sided Wilcoxon signed rank tests for representativeness of Age. We compare the median household income bracket in our sample to the median household income of Californians as a whole, but do not test for representativeness. In each test, the null hypothesis is that there is no difference between the sample and California as a whole. Party identification information taken from the Public Policy Institute of California's January 2017 survey of Californians. We do not weight by age because age categories in the sample do not overlap correctly with US Census age estimates.
*$p < .05$; **$p < .01$; ***$p < .001$.

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Table S2: *Means for Urban and Rural Residents*

Variable	Urban Mean	Rural Mean	*T-statistic*
Awareness Score	2.43	2.77	-4.15***
Altruism	4.23	4.14	1.69
Biospherism	4.05	4.00	0.72
Egoism	3.28	3.04	3.42***
Recreation	2.42	2.44	-0.18
Safety	2.83	2.84	0.90
Livelihood	2.44	2.11	3.22***
Ideology	3.32	4.02	-4.69***

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. For each variable a difference in means test is performed.

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Table S3: *Analysis of Deviance (Model 3 Type II tests)*

Variable	*Degrees of Freedom*	*Chi Square*	*P-value*
General Awareness	1	0.00	.98
Grizzly Awareness	2	12.79	.002**
Benefit Component	1	181.12	<.001***
Cost Component	1	29.13	<.001***
Altruism	1	2.96	.09*
Biospherism	1	2.73	.10*
Egoism	1	1.22	.27
Recreation	1	42.77	<.001***
Threat to Safety	1	0.76	.38
Threat to Livelihood	1	6.84	.01***
Ideology	1	0.39	.53
College Graduate	1	0.72	.40
Rural	1	0.10	.76
Female	1	0.09	.77
Age	1	0.75	.39
Income	1	0.60	.44

White	1	0.76	.38
Received Treatment	1	0.12	.73
Note. *$p < .1$; **$p < .05$; ***$p < .01$			

Table S4: *Awareness of Grizzly Presence by Urbanicity*

	Grizzly Bear Presence in California		
Urbanicity	No	Yes	Don't Know
Urban	18%	58%	25%
Suburban	24%	53%	22%
Rural	38%	37%	25%
Note. Rows are rounded and may not sum to 100%. A chi-square test rejects the null of no dependence between awareness of grizzly bear presence and urbanicity ($\chi^2 = 37.2$, $df = 4$, $p < .001$).			

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Table S5: *Predicting Awareness of Grizzly Bear Presence (Logit)*

Variable	*B*	*SE B*	*Odds Ratio*
Constant	-2.88***	0.50	0.06
Age	0.02***	0.01	1.02
Female	-0.19	0.18	0.83
College Graduate	0.23	0.19	1.26
Income	0.05	0.04	1.05
Rural	0.56***	0.12	1.74
Ideology	0.03	0.05	1.03
Awareness Score	-0.14	0.12	0.87
Pseudo R^2	.05		
N	769		

Note. *$p < .1$; **$p < .05$; ***$p < .01$
Note. Dependent variable is grizzly-specific awareness indicator variable coded as 1 if respondent answered *no* and 0 they responded either *yes* or *don't know*. Awareness Score is a composite measure with eagles and black bears only; it does not include wolves and bison.

Table S6: *Average Treatment Effect for National Parks Experiment*

Variable	*B*	*SE B*
Treatment	-0.03	0.10

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. The intercept is 5.05***, $N = 980$, and $R^2 < .00$. Dependent variable is 7-point scale for support of grizzly bear reintroduction in California.

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Table S7: *Heterogeneous Treatment Effects by Party*

	Democrats		Republicans		Independents	
Variable	***B***	***SE B***	***B***	***SE B***	***B***	***SE B***
Treatment	-0.11	0.17	-0.13	0.23	0.18	0.24

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. Party identification is interacted with treatment status and treatment effects are reported. The intercept is 5.08***, $N = 980$, and $R^2 < .00$. Dependent variable is 7-point scale for support of grizzly bear reintroduction in California.

Table S8: *Heterogeneous Treatment Effects by Urbanicity*

	Urban		Suburban		Rural	
Variable	***B***	***SE B***	***B***	***SE B***	***B***	***SE B***
Treatment	-0.08	0.18	-0.08	0.18	0.02	0.25

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. Urbanicity is interacted with treatment status and treatment effects are reported. The intercept is 5.32***, $N = 980$, and $R^2 < .00$. Dependent variable is 7-point scale for support of grizzly bear reintroduction in California.

Table S9: *Heterogeneous Treatment Effects by Grizzly Awareness*

	Yes		No		Don't Know	
Variable	***B***	***SE B***	***B***	***SE B***	***B***	***SE B***
Treatment	-0.08	0.15	0.14	0.29	-0.23	0.30

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. Grizzly awareness is interacted with treatment status and treatment effects are reported. The intercept is 5.49***, $N = 980$, and $R^2 < .00$. Dependent variable is 7-point scale for support of grizzly bear reintroduction in California.

Table S10: *Average Treatment Effect for Survey Experiment with Collapsed Dependent Variable Scale (OLS)*

Variable	***B***	***SE B***
Treatment	-0.01	0.05

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. The intercept is 2.49***, $N = 980$, and $R^2 < .00$. Dependent variable is 3-point scale for support of grizzly bear reintroduction in California.

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Table S11: *Measuring Support for Reintroduction (Ordered Logit)*

Variable	*B*	*SE B*	*Odds Ratio*
Species Awareness	0.02	0.09	1.02
Grizzly Existence (No)	-0.68***	0.23	0.50
Grizzly Existence (Don't Know)	-0.25	0.22	0.78
Benefits Component	1.78***	0.17	5.90
Costs Component	-0.61***	0.13	0.54
Altruism	0.35*	0.19	1.42
Biospherism	-0.18	0.15	0.84
Egosim	0.16	0.13	1.18
Recreation	-0.44***	0.08	0.64
Threat to Safety	0.15	0.101	1.16
Threat to Livelihood	-0.28***	0.10	0.75
Ideology	0.02	0.056	1.02
College Graduate	-0.22	0.18	0.80
Rural	0.10	0.12	1.10
Female	-0.27	0.21	0.76
Age	0.00	0.00	1.00
Income	0.04	0.05	1.04
White	0.11	0.19	1.12
Received Treatment	-0.11	0.17	0.90
AIC	1944.45		
N	754		
Intercepts:			

	Value	***SE***	***T-value***
1|2	**-5.89**	**0.83**	**-7.12**
2|3	**-4.76**	**0.80**	**-5.95**
3|4	**-3.35**	**0.78**	**-4.29**
4|5	**-1.11**	**0.76**	**-1.45**
5|6	**0.07**	**0.76**	**0.09**
6|7	**2.15**	**0.77**	**2.79**

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. Dependent variable is 7-point scale for support of grizzly bear reintroduction in California.

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Table S12: *Collinearity Check (Model 3)*

Variable	*B*	*SE B*
Constant	6.12***	0..26
Species Awareness	0.00	0.04
Grizzly Existence (No)	-0.32***	0.11
Grizzly Existence (Don't Know)	-0.15	0.10
Benefit Component	0.85***	0.06
Cost Component	-0.29***	0.06
Recreation	-0.26***	0.04
Threat to Safety	0.06	0.05
Threat to Livelihood	-0.16***	0.05
College Graduate	-0.06	0.09
Rural	-0.11	0.10
Female	0.00	0.09
Age	0.00	0.00
Income	0.02	0.02
White	0.13	0.09
Received Treatment	-0.05	0.08
R^2	.59	
N	761	

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. Dependent variable is 7-point scale for support of Grizzly bear reintroduction in California.

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Table S13: *Environmentalism Model (OLS)*

Variable	*B*	*SE B*
Constant	6.33***	0.35
Species Awareness	0.01	0.04
Grizzly Existence (No)	-0.35***	0.11
Grizzly Existence (Don't Know)	-0.156	0.101
Benefit Component	0.87***	0.06
Cost Component	-0.32***	0.06
Environmentalism	-0.10*	0.05
Recreation	-0.26***	0.04
Threat to Safety	0.06	0.05
Threat to Livelihood	-0.13***	0.05
Ideology	-0.01	0.03
College Graduate	-0.08	0.09
Rural	0.01	0.06
Female	0.02	0.09
Age	-0.00	0.00
Income	0.02	0.02
White	0.10	0.10
Received Treatment	-0.02	0.09
R^2	.59	
N	761	

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. Ordinary least squares regression. Dependent variable is 7-point scale for support of grizzly bear reintroduction in

California.

Table S14: *Measuring Support for Reintroduction (Cost Index)*

Variable	*B*	*SE B*
Constant	5.41***	0.64
Species Awareness	-0.00	0.04
Grizzly Existence (No)	-0.34***	0.11
Grizzly Existence (Don't Know)	-0.17	0.11
Benefit Component	0.92***	0.06
Cost Component	-0.23***	0.06
Altruism	0.21	0.13
Biospherism	-0.14	0.09
Egosim	0.08	0.06
Cost index	-0.11***	0.02
Ideology	0.01	0.03
College Graduate	-0.07	0.09
Rural	0.02	0.06
Female	-0.07	0.10
Age	-0.00	0.00
Income	0.02	0.02
White	0.08	0.10
Treatment	-0.02	0.09
R^2	.58	
N	764	

Note. *$p < .1$; **$p < .05$; ***$p < .01$.
Note. This is the same specification as Model 3, but with an index for cost statements.

Hiroyasu, Elizabeth H.T., C. Miljanich, S.E. Anderson. (2019). Drivers of support: The case of species reintroductions with an ill-informed public. *Human Dimensions of Wildlife*. (pre-print). https://doi.org/10.1080/10871209.2019.1622055