The Australian public worries more about losing species than the costs of keeping them

Supplementary Materials

Fig. S1. Results of a correlation analysis of all potential explanatory variables

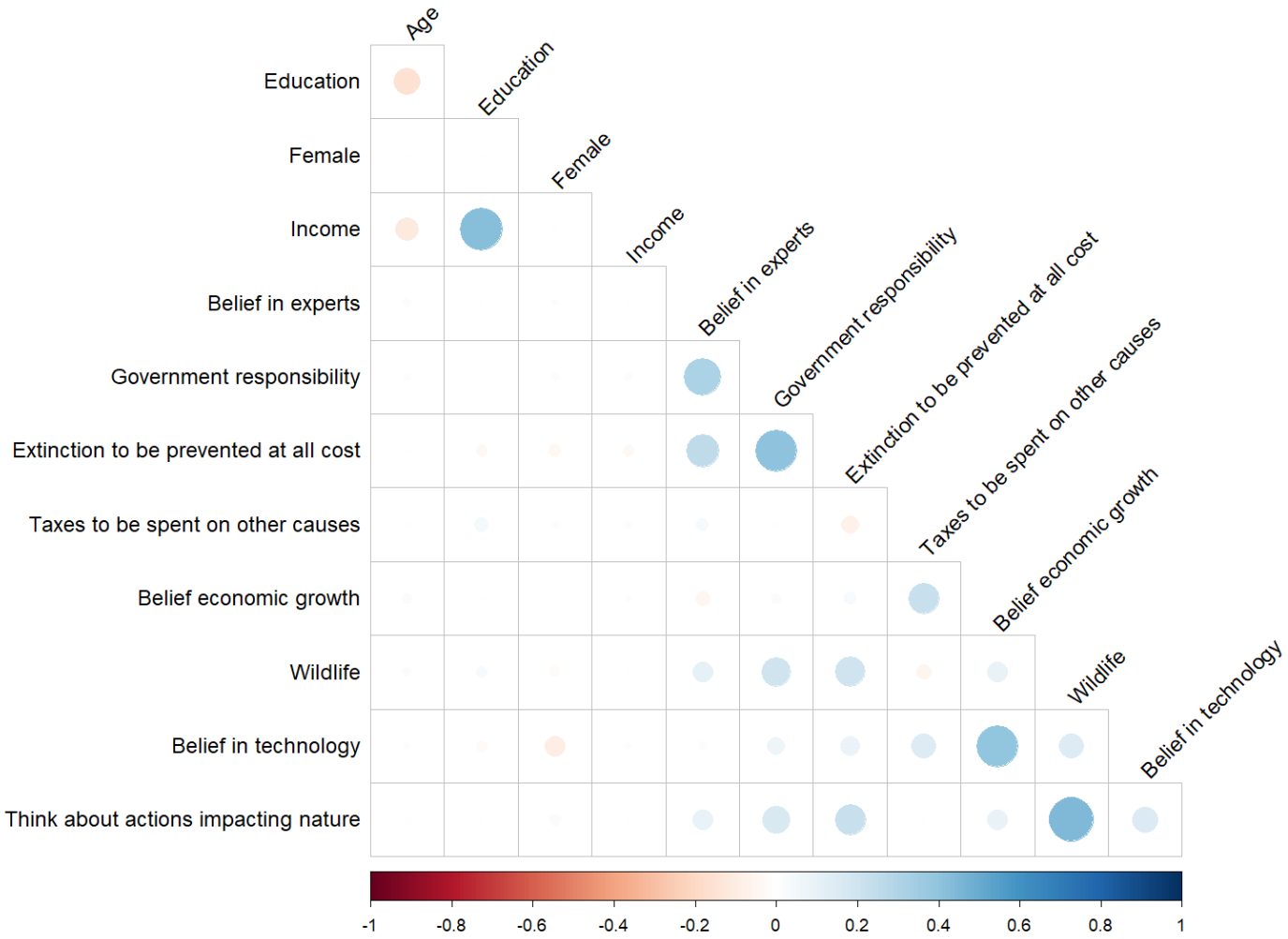

Fig. S2. Responses to statements assessing conservation and environmental attitudes (n=2,487)

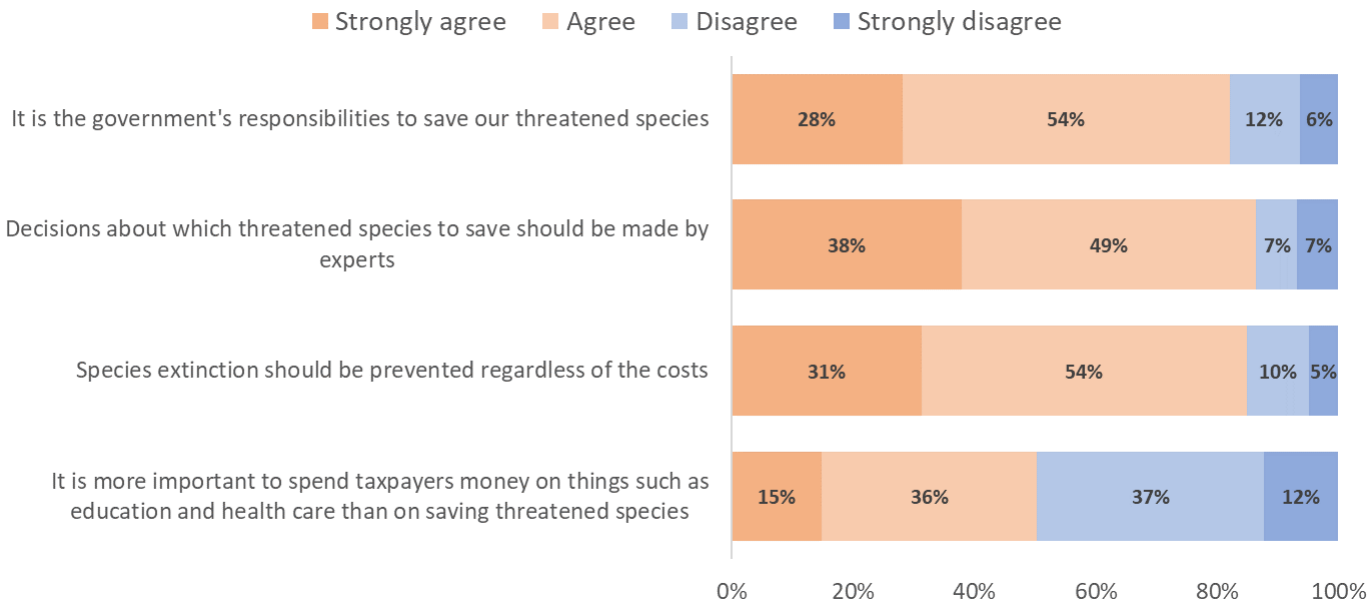

Fig S3. Aggregated number of times items (actions for conservation) have been selected as best and worst items (n=2,487)

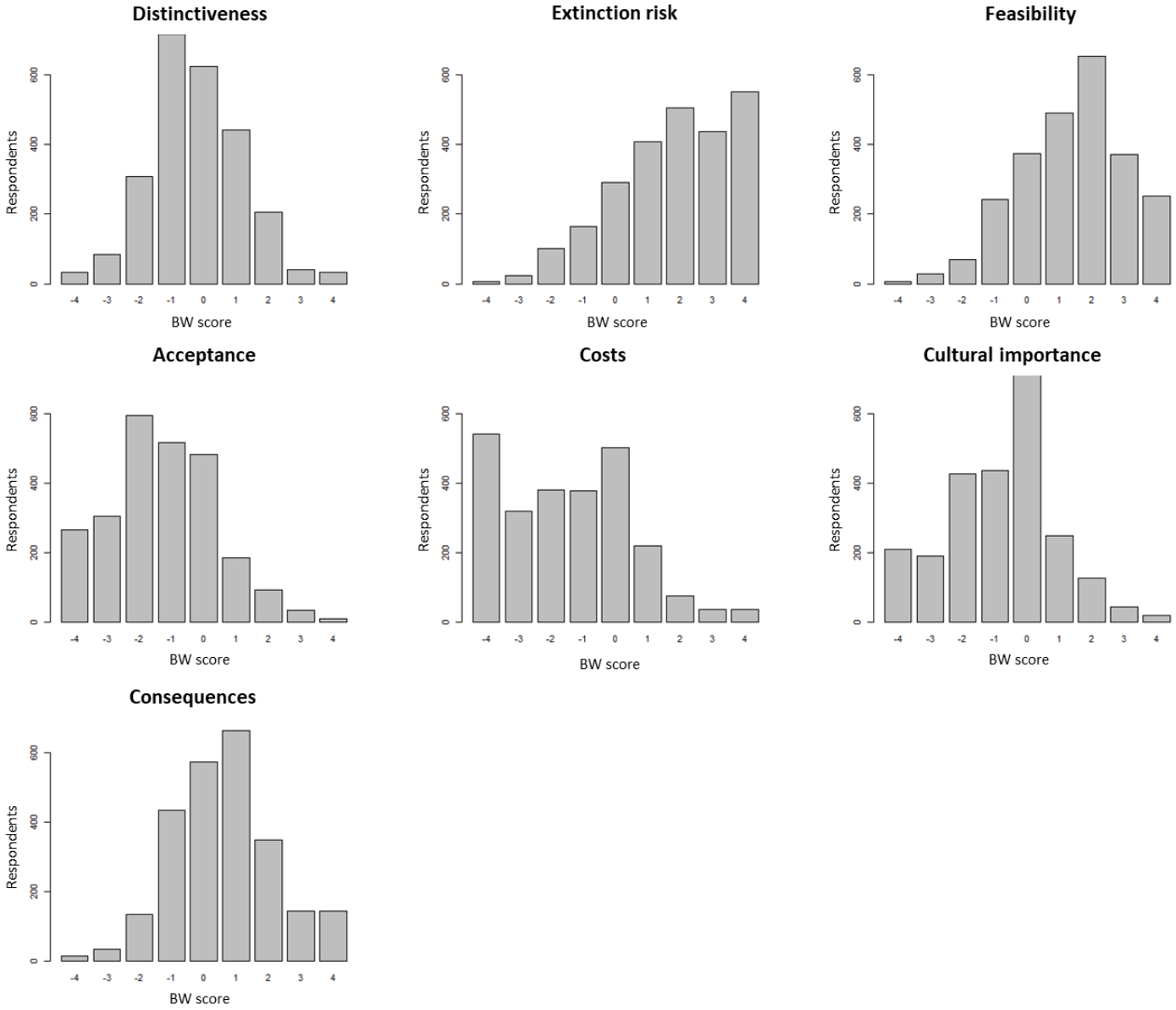

Table S1. Sample description (n=2,487)

Characteristics	Sample values	National values
Mean age (SD; median)	48.5 (16; 48)	38 (median)
Female (%)	50.3	50.7
Identify as Aboriginal or/and Torres Strait Islander (%)	5.4	3.2
Highest level of education (%):		
less than Year 10	4	3*
completed Year 10 or 11	10	10
completed Year 12	17	23
Diploma or Trade certificate	30	28
Undergraduate degree	22	17
Post Graduate degree	17	9
Annual personal income before tax in AUD (%):		
less than 20,000	20	19
20,001 to 40,000	23	16
40,001 to 60,000	15	15
60,001 to 80,000	14	18
80,001 to 100,000	10	14
100,000 to 120,000	5	5
120,001 to 150,000	8	8
150,001 to 180,000	2	5
more than 180,000	3	
Location (%):		
NSW	23	31
Victoria	19	25
QLD	18	20
WA	15	11
SA	15	8
TAS	8	2
ACT	1	2
NT	1	1
Taking part in conservation activities or work in conservation sector (%)	17	NA

AUD = Australian dollar

Source for national values: Australian Bureau of Statistics (ABS). 2021 Census. www.abs.gov.au

* the numbers do not sum up to 100%. Many people do not state their highest level of education in the census, and also, these values only include persons from 19 years on

Table S2. Results from counting approach: BWS scores (n = 2487)

Summary of disaggregated best-worst (BW) scores:

	mean B	mean W	mean BW	mean stdBW	SD stdBW
Distinctiveness	0.69	0.94	-0.25	-0.06	0.36
Extinction risk	2.15	0.36	1.80	0.45	0.45
Feasibility	1.82	0.44	1.38	0.34	0.41
Acceptance	0.36	1.63	-1.27	-0.32	0.42
Costs	0.35	1.81	-1.46	-0.37	0.49
Cultural importance	0.42	1.22	-0.80	-0.20	0.42
Consequences	1.21	0.61	0.60	0.15	0.40

Aggregated best-worst (BW) scores:

	B	W	BW	stdBW	sqrtBW	std.sqrtBW
Distinctiveness	1724	2336	-612	-0.06	0.86	0.35
Extinction risk	5353	883	4470	0.45	2.46	1.00
Feasibility	4530	1103	3427	0.34	2.03	0.82
Acceptance	885	4054	-3169	-0.32	0.47	0.19
Costs	864	4502	-3638	-0.37	0.44	0.18
Cultural importance	1042	3024	-1982	-0.20	0.59	0.24
Consequences	3011	1507	1504	0.15	1.41	0.57

std = standardised; SD = standard deviation; sqrt = squared

Table S3. Fit statistics of models with different number of classes

Classes	LL	AIC	BIC
2	-31390	63022	63726
3	-30891	62153	63235
4	-30613	61728	**63188**
5	-30388	61408	63247
6	-30234	61230	63447

LL = Log-likelihood function; AIC = Akaike information criterion; BIC = Bayesian information criterion

Table S4. Results of LCA showing the probability of BW scores of each item in each class and the determinants of class membership (compared to class 1, the reference class)

		Class 1 ('Save everything')	Class 2 ('Cost irrelevant')	Class 3 ('Save if possible')	Class 4 ('Save if convenient')
BW score		Probability	Probability	Probability	Probability
Extinction risk					
	-4	0.0%	0.0%	0.0%	0.0%
	-3	0.0%	0.0%	0.0%	3.0%
	-2	0.0%	0.2%	0.4%	12.6%
	-1	0.0%	0.6%	1.8%	19.5%
	0	0.0%	2.5%	11.8%	27.7%
	1	0.0%	12.4%	30.3%	23.2%
	2	0.0%	25.2%	55.7%	9.4%
	3	43.6%	24.6%	0.0%	3.3%
	4	56.4%	34.6%	0.0%	0.5%
Feasibility					
	-4	0.0%	0.0%	0.0%	0.9%
	-3	0.8%	0.0%	0.3%	2.6%
	-2	1.7%	1.1%	0.0%	6.7%
	-1	6.4%	3.8%	3.2%	21.2%
	0	11.0%	8.8%	8.0%	27.6%
	1	23.2%	19.1%	15.5%	20.1%
	2	38.3%	31.6%	21.7%	16.0%
	3	18.8%	20.2%	20.1%	4.5%
	4	0.0%	15.3%	31.2%	0.3%
Consequences					
	-4	0.5%	0.0%	0.2%	1.3%
	-3	1.2%	0.0%	0.0%	3.5%
	-2	5.1%	1.8%	3.6%	9.2%
	-1	13.1%	18.3%	15.4%	21.9%
	0	27.3%	23.9%	18.7%	21.9%
	1	35.5%	32.3%	20.6%	19.6%
	2	15.6%	13.8%	15.2%	11.9%
	3	1.9%	4.6%	10.8%	6.3%
	4	0.0%	5.3%	15.5%	4.3%
Distinctiveness					
	-4	2.1%	0.0%	2.0%	1.1%
	-3	4.1%	0.0%	4.2%	4.7%
	-2	12.2%	8.9%	13.2%	14.3%
	-1	31.9%	31.3%	32.4%	22.3%
	0	28.0%	28.3%	23.1%	22.0%
	1	14.1%	21.2%	14.1%	20.9%
	2	6.8%	7.5%	6.4%	11.2%
	3	0.8%	1.7%	1.7%	2.4%
	4	0.0%	1.1%	3.0%	1.3%
Culture					
	-4	16.1%	0.0%	13.9%	4.3%
	-3	13.6%	0.0%	12.5%	4.9%
	-2	17.5%	17.5%	20.3%	14.4%

	-1	17.4%	18.4%	14.2%	19.3%
	0	28.5%	52.0%	27.3%	22.3%
	1	4.7%	5.8%	7.7%	19.1%
	2	2.1%	4.3%	3.6%	9.2%
	3	0.2%	1.3%	0.3%	4.6%
	4	0.0%	0.7%	0.2%	1.9%
Acceptance					
	-4	22.6%	0.0%	21.9%	0.8%
	-3	24.9%	0.0%	24.2%	2.3%
	-2	21.4%	45.9%	22.8%	11.3%
	-1	15.1%	26.4%	17.1%	23.9%
	0	14.1%	25.4%	12.3%	24.5%
	1	2.0%	1.6%	1.0%	20.5%
	2	0.0%	0.5%	0.3%	11.4%
	3	0.0%	0.1%	0.0%	4.3%
	4	0.0%	0.2%	0.4%	0.9%
Costs					
	-4	0.0%	94.7%	0.0%	3.5%
	-3	22.2%	5.3%	19.5%	5.9%
	-2	26.2%	0.0%	26.2%	9.6%
	-1	17.6%	0.0%	18.2%	21.7%
	0	27.0%	0.0%	27.3%	23.9%
	1	5.9%	0.0%	5.3%	19.8%
	2	0.7%	0.0%	1.7%	8.1%
	3	0.4%	0.0%	1.5%	3.3%
	4	0.0%	0.0%	0.4%	4.4%

Determinants of class membership:

	Coeff.	Coeff.	Coeff.	Coeff.
Constant	0.81 (0.64)	-1.91 (0.61)	0	0.82 (0.57)
Female	0.31** (0.14)	-0.21 (0.13)	0	-0.10 (0.14)
Age	-0.01 (0.001)	0.001 (0.001)	0	-0.01 (0.001)
Income	0.05 (0.04)	-0.02 (0.03)	0	0.04 (0.03)
Prevent extinction	0.12 (0.10)	0.52*** (0.10)	0	-0.36*** (0.10)
Other priority	0.05 (0.09)	-0.21** (0.08)	0	0.74*** (0.08)
Belief in experts	-0.16 (0.09)	-0.05 (0.09)	0	-0.65*** (0.09)
Economic growth	-0.12* (0.08)	-0.03 (0.08)	0	0.89*** (0.09)
Wildlife	-0.08 (0.11)	0.32** (0.11)	0	-0.48** (0.11)

Coeff: Coefficients; Standard errors in brackets; *p<0.1; **p<0.05; ***p<0.01

BWS design and analysis R code

The code for the BWS design and analysis was as follows:

```
#BWS design

library(support.BWS)

BWS1items <- c('Distinctiveness', 'Extinction.risk', 'Feasibility', 'Acceptance', 'Costs', 'Cultural.importance', 'Consequences')

#Items:

#1 How different the species is from other species [Distinctiveness]

#2 How close the species is to extinction [Extinction.risk]

#3 Likelihood of success in preventing extinction [Feasibility]

#4 Extent to which the public accepts the measure [Acceptance]

#5 Cost of measure [Costs]

#6 How culturally important it is [Cultural.importance]

#7 Risk of measure (to threatened species, to other species and to humans) [Consequences]


set.seed(12345)

my.design <- find.BIB(7, 7, 4, iter = 100)

my.design


#Counting approach BWS

res<- read_excel("all_data.xlsx")

res1 <- read_excel("most_left.xlsx") #sub-sample order most-least

res2 <- read_excel(""most_right.xlsx") #sub-sample order least-most


#creating data frame for BWS analysis

BWSdata <- bws.dataset(respondent.dataset = res, response.type = 2,
```

```
choice.sets = my.design, design.type = 2, item.names = BWS1items, id = 'RespondentID',

response = c('B1','W1','B2','W2','B3','W3','B4','W4','B5','W5','B6','W6','B7','W7'), model = 'maxdiff')


BWSdata1 <- bws.dataset(respondent.dataset = res1, response.type = 2,

choice.sets = my.design, design.type = 2, item.names = BWS1items, id = 'RespondentID',

response = c('B1','W1','B2','W2','B3','W3','B4','W4','B5','W5','B6','W6','B7','W7'), model = 'maxdiff')


BWSdata2 <- bws.dataset(respondent.dataset = res2, response.type = 2,

choice.sets = my.design, design.type = 2, item.names = BWS1items, id = 'RespondentID',

response = c('B1','W1','B2','W2','B3','W3','B4','W4','B5','W5','B6','W6','B7','W7'), model = 'maxdiff')


#calculating scores

scores_all <- bws.count(data=BWSdata)

scores_all

scores_all$aggregate$BW


scores1 <- bws.count(data=BWSdata1)  # order most-least

scores1

scores1$aggregate$BW


scores2 <- bws.count(data=BWSdata2) # order least-most

scores2

scores2$aggregate$BW
```

Latent class model specifications and R code

We applied a polytomous variable latent class analysis (LCA) using the *poLCA* package in R. The LCA model specifications in our case are as follows (Linzer and Lewis 2011):

The response variables are a combination of categorical variables (the BW scores of each item):

cbind(Difference, Acceptance, Cost, Culture, Risk, Extinction, Success)

including covariates into the final model:

cbind(Difference, Acceptance, Cost, Culture, Risk, Extinction, Success) ~ female+age+edu+prevent_extinction+taxpayer+experts+economic_growth+wildlife

The R code was as follows:

```
library(poLCA)

tiff <- cbind(Difference, Acceptance ,Cost,Culture  ,Risk, Extinction, Success) ~
female+ageincome+prevent_extinction+taxpayer+experts+economic_growth+wildlife

lc40 <- poLCA(tiff0, bws_data   , nclass=4,graphs=TRUE,na.rm=TRUE, nrep=10)

probs.start.new <- poLCA.reorder(lc40$probs.start,order(lc40$P,decreasing=FALSE))
```