

Stirling Environmental Camp

5th September 2012

Feeding Birds: An Investigation into Motivations of Privately Providing Public Goods and Engaging with the Natural Environment

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The Presentation

1. Introduction- Why is this study interesting and important for Environmental Economics?
2. Methodology: The Construction of the Study
3. Results
4. Discussions and Conclusions



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Broadly categorised, environmental valuation benefits economists in three ways:-

1. Allows decision-makers to incorporate a richer set of facets which influence people's Subjective Well-Being (SWB)
2. Enables elements which are not easily monetarised to be afforded adequate weighting in these decision-making processes
3. Provides social scientists with an opportunity to grasp a better and deeper understanding of the dynamics of human interactions with the environment.

As social scientists we not only strive to discover what is important, but also why.

Regarding environmental valuation, the scale and nature of one's valuation for an asset is only really made intriguing when fused with investigations into the underlying reasons creating such value.

This is the platform from which I look to build my research

The Motivations of this Work

The primary focus was to try and contextualise people's value of 'everyday wildlife' within the field of behavioural economics.

- I. Connection to 'Nature Connectivity' (Dutcher et al (2007)) and wider literature on Subjective Well-being (SWB)
- II. Interaction of utilities within an Impure Public Goods (IPG) framework.
- III. The placement of this activity within the existing literature on altruism and philanthropy

The Motivations of this Work

A second focus was interested more in the wildlife values which could be gathered themselves:

- I. Many studies use SP techniques for valuing species in need of needing conservation of preservation (e.g. Loomis & White (1996); White et al (1997); Kontolean & Swanson (2003)), but none apply this to 'everyday wildlife'
- II. This is usually because of the payment mechanism. This study is capable of overcoming this obstacle.
- III. Also wished to compare and contrast against the more traditional values held for entities on a regional and national scale.

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The Survey

The Discrete Choice Experiment I intend to undertake investigates the valuation people may hold for birds that come to feed in their garden.

In the UK, purchasing wild bird seed is a common act and I hope to exploit this well-understood consumer habit to successfully elicit species valuations. Additionally, this work hopes to investigate some of the dynamics listed in the Literature Review.

Each participant will be presented with 16 choice sets such as this one...

Option A



Nutrition:



Price:

£1.99

(Including donation of)

NONE

Option B



Nutrition:



Price:

£2.99

(Including donation of)

£0.50

Option C : Buy Neither

Choice
14

Please indicate your preferences on Page 1 of the Answer Sheet by placing a **1** in the box of your top choice and a **2** in that of your second choice

The Survey

There are a range of attributes which may potentially influence how a respondent makes their decision:

- 6 Bird Species:

Name: House Sparrow
Colourful: No
Rarity Rank: 4th



Name: Woodpigeon
Colourful: No
Rarity Rank : 3rd



Name: Robin
Colourful: Yes
Rarity Rank : = 5th



↑
Name: Blackbird
Colourful: No
Rarity Rank : 1st

↑
Name: Blue Tit
Colourful: Yes
Rarity Rank : 2nd

↑
Name: Bullfinch
Colourful: Yes
Rarity Rank : 32nd

The Survey

There are a range of attributes which may potentially influence how a respondent makes their decision:

- 6 Bird Species:
- Price:

Option A



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Option B



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The Survey

There are a range of attributes which may potentially influence how a respondent makes their decision:

- 6 Bird Species:
- Price:
- Visibility :



The Survey

There are a range of attributes which may potentially influence how a respondent makes their decision:

- 6 Bird Species:
- Price:
- Visibility :
- Nutrition Level:

Option A



Nutrition:



Price:

£1.99

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Option B



Nutrition:



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The Survey

There are a range of attributes which may potentially influence how a respondent makes their decision:

- 6 Bird Species:
- Price:
- Visibility :
- Nutrition Level:
- Donation:

Option A



Nutrition:



Price:

£1.99

(Including donation of)

NONE

Option B



Nutrition:



Price:

£2.99

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£0.50

Option C : Buy Neither

Choice
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What I hope to obtain from this experiment.

Possible inferences that may emerge which connect to the motivations for the paper:

1. Whether disparities exist between species and, if so, by how much? Moreover, whether characteristics of rarity or colourfulness appear to explain these differences.
2. Whether people hold value for nutritional improvements, suggesting altruistic tendencies in their engagement in this act.
3. Whether valuations for existence value occur (either locally or regionally). If so, their absolute and relative magnitudes and what this implies regarding the IPG nature of bird feeding.
4. Whether socio-demographic aspects (e.g. age, gender) are explanatory variables for valuation disparities.

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Regression Results

	Full Sample <i>Model (1)</i>		Give to Environmental Charity <i>Model(2)</i>		Bird Knowledge <i>(Model (3))</i>		Altruistic Feeders <i>(Model (4))</i>	
	<i>Coef.</i>	<i>P> z </i>	<i>Coef.</i>	<i>P> z </i>	<i>Coef.</i>	<i>P> z </i>	<i>Coef.</i>	<i>P> z </i>
Blackbird(2)	0.7455434	0.000	0.7769565	0.000	1.105667	0.000	1.015769	0.000
Sparrow(2)	0.6814952	0.000	0.7475914	0.000	0.9795964	0.000	0.8371943	0.000
Tit	0.5599263	0.000	0.6335593	0.000	0.7731799	0.000	0.6541141	0.000
Tit (2)	1.297145	0.000	1.675717	0.000	1.747881	0.000	1.449206	0.000
Woodpigeon (e) ⁺	0.0405273	0.640	0.0011897	0.992	-0.0631698	0.707	0.2219364	0.051
Woodpigeon	-0.1369086	0.068	-0.3160129	0.004	-0.1530202	0.308	-0.1991779	0.048
Robin	0.9059818	0.000	0.8708107	0.000	1.304196	0.000	1.01477	0.000
Bullfinch (e) ⁺	0.2980427	0.017	0.3621973	0.035	0.4085744	0.077	0.1103045	0.493
Bullfinch	0.2313223	0.007	0.4675647	0.000	0.163062	0.316	0.2998668	0.008
2* Nutrition	0.8607292	0.000	1.231308	0.000	0.906238	0.000	1.05471	0.000
3* Nutrition	0.7373646	0.003	1.4658896	0.000	0.6334408	0.164	1.08126	0.001
Donation	-0.0035081	0.000	-0.027117	0.000	-0.0047559	0.000	-0.0025072	0.000
Nutnum	-0.0633076	0.000	-0.0781922	0.000	-0.0823717	0.005	-0.0754199	0.000
Price	-0.0008119	0.001	-0.0008847	0.012	-0.0008945	0.060	-0.0009771	0.003
Model Fit (χ^2)	2638.9	0.000	1984.33	0.000	1215.64	0.000	2288.29	0.000
Pseudo R^2	0.1283		0.1754		0.1876		0.1794	

Associated Valuations

	Full Sample <i>Model (1)</i>		Give to Environmental Charity <i>Model(2)</i>		Bird Knowledge <i>(Model (3))</i>		Altruistic Feeders <i>(Model (4))</i>	
Robin	£0.56	1	£0.49	1	£0.73	1	£0.52	1
Tit	£0.35	2	£0.36	2	£0.43	2	£0.33	2
Tit (2)	£0.24	3	£0.31	3	£0.28	5	£0.21	5
Blackbird(2)	£0.24	4	£0.23	5	£0.32	3	£0.27	3
Sparrow(2)	£0.22	5	£0.22	6	£0.29	4	£0.22	4
Bullfinch^{(e)+}	£0.18	6	£0.20	7	£0.23	6	£0.06	8
Bullfinch	£0.14	7	£0.26	4	£0.09	7	£0.15	6
Woodpigeon^{(e)+}	£0.03	8	-£0.01	8	-£0.04	8	£0.11	7
Woodpigeon	-£0.08	9	-£0.18	9	-£0.09	9	-£0.10	9
2* Nutrition	£0.53		£0.70		£0.51		£0.54	
3* Nutrition	£0.45		£0.83		£0.35		£0.55	










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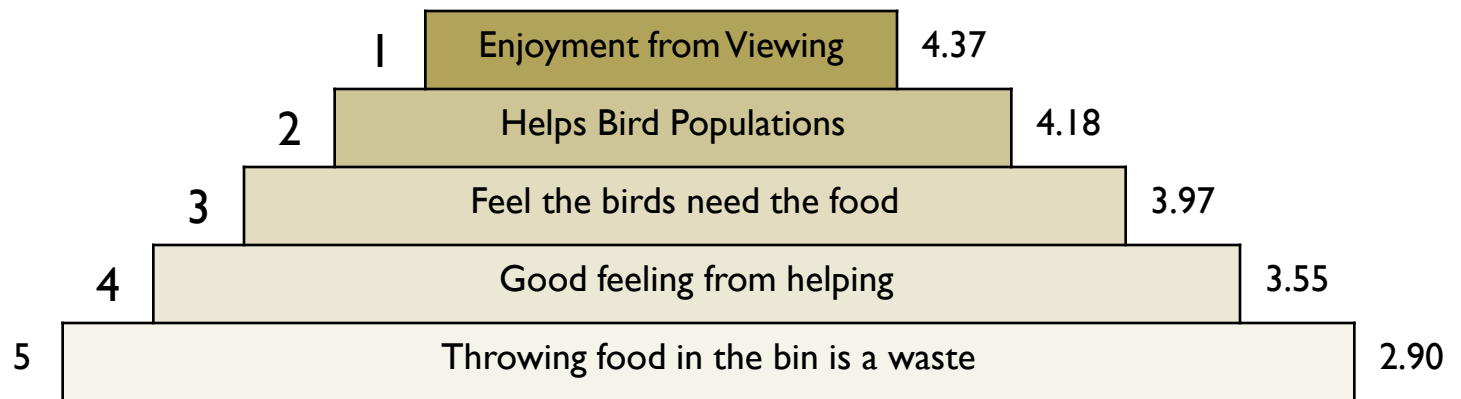


Key Finding 1: Bird Valuation Rankings

- ❑ Robin and Blue Tit Highest Ranked – colourful/aesthetic
- ❑ Woodpigeon lowest (and even negatively) ranked
- ❑ Bullfinch is surprisingly low
- ❑ But complies with the SWB literature on the type of species that can induce satisfaction:
 - Responsibility
 - Dependence
 - Repeated interaction

	0.56
	0.35
	0.24
	0.24
	0.22
	0.18
	0.14
	0.03
	-0.08

Key Finding 2: Motivational Hierarchy



- ✓ Self-Indulgent motive is the top reason
- ✓ 'Help' comes above 'Need' - shows voluntary action but still important of dependency – compliance with bird ranks.
- ✓ Interesting when considered from an Impure Public Goods framework and the interactions between the private and public dimensions.

Key Finding 3: Interpretation of “Donation” Variable

	Full Sample <i>Model (1)</i>		Give to Environmental Charity <i>Model(2)</i>		Bird Knowledge <i>(Model (3))</i>		Altruistic Feeders <i>(Model (4))</i>	
	<i>Coef.</i>	<i>P> z </i>	<i>Coef.</i>	<i>P> z </i>	<i>Coef.</i>	<i>P> z </i>	<i>Coef.</i>	<i>P> z </i>
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Nutnum	-0.0633076	0.000	-0.0781922	0.000	-0.0823717	0.005	-0.0754199	0.000
Bullfinch (e) ⁺	0.2980427	0.017	0.3621973	0.035	0.4085744	0.077	0.1103045	0.493

The donation variable is consistently negative and significant.

Seems against intuition, but anecdotal evidence from respondents gives one explanation.

Interesting when compared against our ‘local existence value’ variables. Perhaps fits with IPG and SWB models

But also must show caution with how we interpret this variable

The Wider Importance of My Research and its Potential Contribution to the Literature.

How this research appears to add something new:

- ✓ Identifies an original and thought-provoking payment vehicle.
- ✓ Recurring theme of 'everyday wildlife' delivering a very different form of worth to that of regional or national conservation.
- ✓ Embedded in the SWB literature and characterised by the phrase 'Nature Connectivity'..

The Wider Importance of My Research and its Potential Contribution to Environmental Economics.

How this research appears to aid multiple agents:

✓ Conservation Groups

✓ Policymakers

✓ Manufacturers

Thank You for Listening



Questions and Discussion welcome!



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