Expert Opinion on Environmental Biology

Case Report

Successfully Preserving a Farm as Open Space: What Values Were behind the Giving?

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Abstract

Open space preservation has become increasingly as important as urbanization has crept into suburban and exurban areas. The problem of disappearing open space in the suburbs of a large US city was addressed in this work. The goal was to associate responses to a retrospective survey of donors to a successful farm-to-open-space campaign in the Philadelphia metro region to the donations that people actually made. A survey was sent to the non-business donors *after* they had contributed, eliciting information about them, their values for the site, and their motives for giving. Data on donations were available from a local ecological restoration trust. Most donors were willing to pay at most $5 for a "day," ranked "views" as the most preferred attribute, and chose "existence" as their primary motive for giving. Respondents ranked "preserve property value" as the least likely motive, and this was borne out by actual donation data. Logistic regression showed that respondents in higher donation classes were in higher willingness-to-pay classes. The analysis indicates that appreciation of the ecosystems services of open space was more important than property value increases to the donors who responded to the survey.

Keywords

Open space; Mail survey; Ecosystem services; Economic valuation; Logistic regression

Abbreviations: CVM: Contingent Valuation Method; PERT: Pennypack Ecological Restoration Trust; NOAA: National Oceanic and Atmospheric Administration; URL: Universal Resource Locator; WTP: Willingness to Pay; WTA: Willingness to Accept

Introduction

Developing open countryside has become the rule rather than the exception in the US. The bulldozing continued virtually unabated in many parts of the country until the economic downturn following the financial crisis of 2008 slowed it down. The slowdown coincided with a movement of municipalities to create master plans that included purchasing open-space. The US housing market is coming alive again, but where will development take place? Can the green fields in the metro regions be preserved?

The Philadelphia metropolitan area is the fifth largest in the US

in terms of population. The city has steadily lost residents over the last half century, while the population of the suburbs has grown dramatically. Fortunately, the Commonwealth of Pennsylvania has often led the nation in the number and acreage of farms that have been preserved following its path-breaking "Clean and Green" Act 319 in 1974 [1,2].

According to the Sierra Club, "Suburban sprawl is irresponsible, poorly planned development that destroys green space, increases traffic, crowds schools, and drives up taxes" [3]. In a private-property, free-enterprise, political-economic system, how does society deal with such a problem? Buying the land outright is an option that is getting to be more fashionable.

In 1996, a coalition of government agencies, businesses, non-profit organizations and private individuals raised enough money to buy the 160-acre Raytharn Farm. The Farm is located in the Montgomery County suburbs north of Philadelphia. The campaign was coordinated by the private, non-profit land trust, Pennypack Ecological Restoration Trust (hereafter PERT), and the Farm became part of PERT. As seen in the upper left of Figure 1, the Pennypack Creek springs up in the town of Horsham in Montgomery County, PA. It winds its way southeastward past the Raytharn Farm in the town of Huntingdon Valley. The Creek continues through Lorimer Park in Abington, crosses the County Line, and flows through
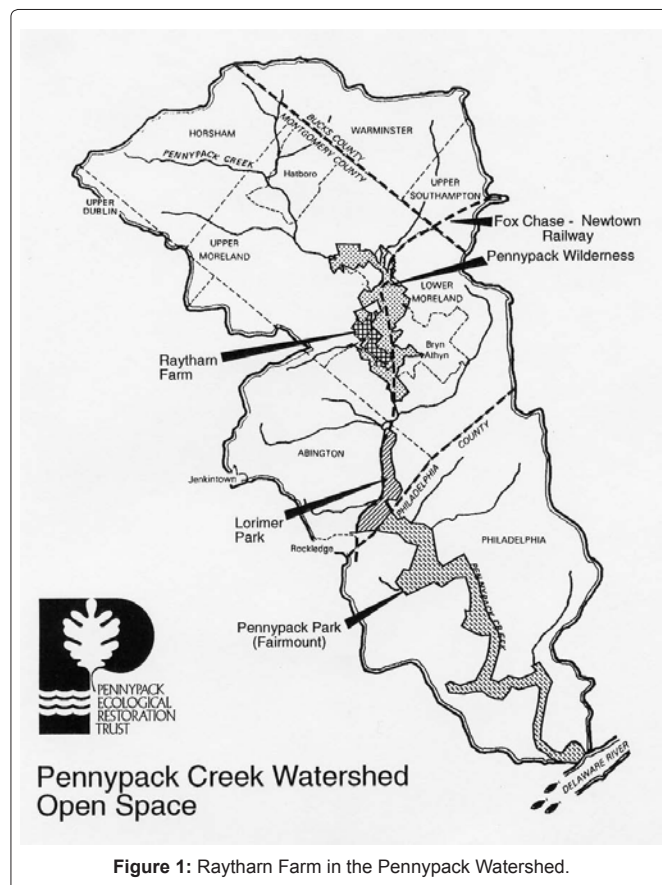

Figure 1: Raytharn Farm in the Pennypack Watershed.

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Pennypack Park in Philadelphia County until it reaches its outfall at the Delaware River. The Farm is now owned by PERT, whose mission includes:

> … to protect, restore and preserve the lands of the Pennypack Creek valley so that they remain forever an enhancement to the quality of residents' lives, remain forever a natural wilderness supporting native plant and animal life, and become the standard of excellence for innovative restoration and stewardship practices to be shared with other individuals and organizations joined in common commitment to the environment [4].

Since being founded in 1970, PERT has been assembling a natural preserve through a combination of land donations, purchases, and conservation easements. With the purchase of the Raytharn Farm on August 19, 1997, the Pennypack Preserve had grown to include a total of 650 acres of protected meadows and woodlands, making it Montgomery County's single largest privately owned natural area that welcomes the public. The size of the Farm in relation to the size of the area preserved by PERT is shown in Figure 2. While avoiding the ecological footprint of 188 town homes, the Farm provides *ecological services* such as habitat for nearly endangered meadow-nesting birds (e.g., the Bobolink, the Eastern Meadowlark, the Grasshopper and Savannah Sparrows), erosion mitigation, percolation of rainwater, aesthetic amenities, etc. The fields are gradually being converted from "cool season" grasses of European origin to native "warm season" grasses.[1] The clump-growing aspect of these grasses enhances

Figure 2: Raytharn Farm & Pennypack Ecological Restoration Trust.

the birds' food searching, and limits their exposure to predators. A mixed stand of these grasses encourages a diversity of seed and insect populations. Their deep fibrous root systems bind the soil. Regenerating their roots every three to four years creates humus that enhances soil fertility [5].

A pair of statewide surveys conducted in Pennsylvania serves to elucidate several dimensions involved in the present study. Combining data from a survey summarized by Moore and Ishler [6] with a survey conducted a decade later, Lembeck, Willits and Crider [7] analyzed changes in the attitudes of Pennsylvania citizens about farmland preservation. Previous studies had shown that support for preservation was based largely on *productive, protective and heritage* values. Though many individuals were concerned about preserving the capacity to produce agricultural products, many were concerned about preserving the amenities of open space and traditional lifestyles.

These authors found that gender, age, education and residential location had rather weak relationships to the priority given to farmland preservation. These findings are shared with the survey below.

From among characteristics of the geographical areas of residents, only percentage change in population and market value of agricultural products led to a high priority for farmland preservation. Interestingly, the region of the state containing Philadelphia and its suburbs had the second largest percentage giving farmland preservation a high priority. The authors found that respondents with "environmental, anti-growth and anti-pollution" attitudes tended to place a high priority on preservation. Those who supported "laissez-faire government" tended to give preservation a low priority. Though the economic value of real estate and of farm products entered into their analysis, the researchers did not explicitly investigate the economic value that people place on preserved farmland, and their willingness to pay for preservation as producing farms or other open space. The survey below deals explicitly with these issues.

The Contingent Valuation Method (CVM) is often used to elicit values for environmental assets. CVM has its supporters [8-10] and has been used for land preservation [11,12]. However, there are those who question one or more aspects of the approach [13-17]. This debate is largely avoided here. The survey given to the private, non-business Raytharn donors was based on the in-person survey given in "Appendix B" to Mitchell and Carson [10]. The National Oceanic and Atmospheric Administration (NOAA) Guidelines [18] were kept in mind, though some obvious exceptions have been made. The most obvious is that the survey was *mailed* to a random sample of households. The NOAA Panel argued that in-person or telephone interviews are necessary to explain the complexity of a contingent market. However, exceptions to the "no-mail" rule have become more commonplace [19].

During the campaign to raise money, PERT had mailed out literature explaining and displaying the Farm's attributes. The donors themselves were quite aware of the Farm, could generally imagine what a "day" or "use" of the Farm might be, and were interested enough in the amenities embodied in the Farm to contribute money to preserve it. Also, a set of twenty-five photos of the Farm was posted on the Internet for respondents to view at their leisure.

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[1]PERT initially considered using the fields to grow cash crops for a revenue source. It abandoned the plan when the effects on the meadow-nesting birds were analyzed.
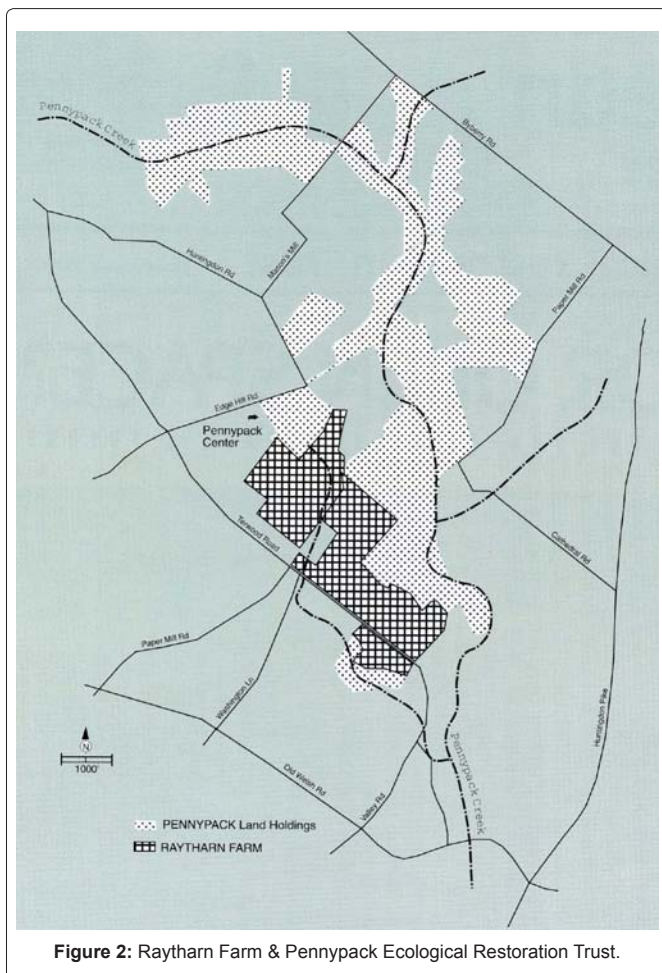
The overall goal of this study was to investigate and report the motives and values of the non-business donors to the campaign, and to determine whether relationships exist between these and their actual donations. A random sample of the private individuals [8,20] who donated to the campaign was surveyed with respect to, among other things, demographics, preferences and attitudes, use, willingness to pay (WTP) and willingness to accept (WTA). Data on actual dollars donated were made available by PERT, and these were tied to most of the respondents. As noted by the NOAA Panel [18], very few studies outside of hypothetical simulations involve *actual payments* by the survey respondents. In the studies cited there, any actual payment occurred after the WTP was revealed. In the Raytharn Farm case, this sequence was reversed. The survey was taken after the donations were made, though the donations were not payments for single uses.

The discussion in the following sections begins with describing the actual donations and the survey of the non-business, private individuals. Analysis and discussion of the responses, and their comparison to actual donations, follow. Conclusions are drawn from the circumstances of the Raytharn case and from the survey results.

Actual Donations

In the preservation campaign, 65% of the non-business respondents/contributors actually gave $100 or less, 12% gave between $101 and $400, 7% gave between $401 and $700, 8% gave between $701 and $1000, and 8% gave above $1000 to preserve the farm. The frequency-weighted donations made by the respondents whose addresses were available were gotten by multiplying the frequencies by the midpoint of the donation categories (DONATION-CLASS). Though primarily given for "existence/bequeath" reasons, it was thought to be informative to divide this by frequency-weighted use. The frequencies of the use categories (USE) other than "never" and "don't know" were multiplied by the use categories in days per year. This is shown in the last row of Table 3. This author suspects that since only 5% of the respondents "never" use the Farm, and 3% "don't know" their frequencies of use, perhaps an actual donation is a purchase of a "perpetuity" of future uses. In the table, ten years was substituted for forever.

Materials and Methods

With a small grant from the author's institution, the officers and staff of PERT administered the survey. From the PERT database

of 630 private contributors, 500 were randomly selected using MINITAB [21]. Surveys were mailed to those 500, the photos of the Farm taken by the author were posted on a dedicated Website, and an online version of the survey was provided on that site. One hundred and ninety-five persons responded out of the five hundred that received the survey for a response rate of 39%. It turned out that the forms were not coded by PERT staff, but most of the respondents had left their addresses on the returned forms. The surveys were given numbers and linked by their addresses to the actual donations file provided by PERT. This could not be done for those who answered the survey online.

The instrument itself (available from the author by request) began with a short statement of the motives of the researcher, a short description of the Farm with the URL of the Website to complete the survey online and/or to view the photos, and the instructions. Slightly altered instructions were given for the online version of the survey. These were followed by thirty-four questions ranging from general opinions about open space preservation to demographic characteristics, ranking of site attributes, motives for giving, and economic valuation.

Survey Results and Discussion

Table 1 lists the original values and names of the variables that are included in the analysis of the results. Since the survey questions yielded categorical responses, frequency description, cross-tabulation and the χ^2 test, and logistic regression became viable approaches to analyzing the results. Additional results are given in the Appendix below.

Survey results: descriptive statistics

Figure 3 shows the spatial distribution of donors living in the region of the Farm. Figure 4 reveals the distribution of the donor locations in 2 and 4 mile bands, and uses an aerial photograph to give some indication of where the built-up areas are relative to the Farm and the close-in donors. Most respondents (71%) lived within 5 miles (DISTANCE) of the farm.

Having been asked to rank-order certain attributes of the Farm as open space, the respondents chose the orderings given in Table 2. Over 80% revealed that they would be willing to pay (WTP) up to $10 for one *day's* enjoyment of Raytharn Farm. Nearly 40% of respondents indicated that they were willing to accept (WTA) less than $20 if a day of Raytharn were "taken" from their use. Over 36% needed more than $60 to compensate for such an event.

Table 1: Variable Values & Names.

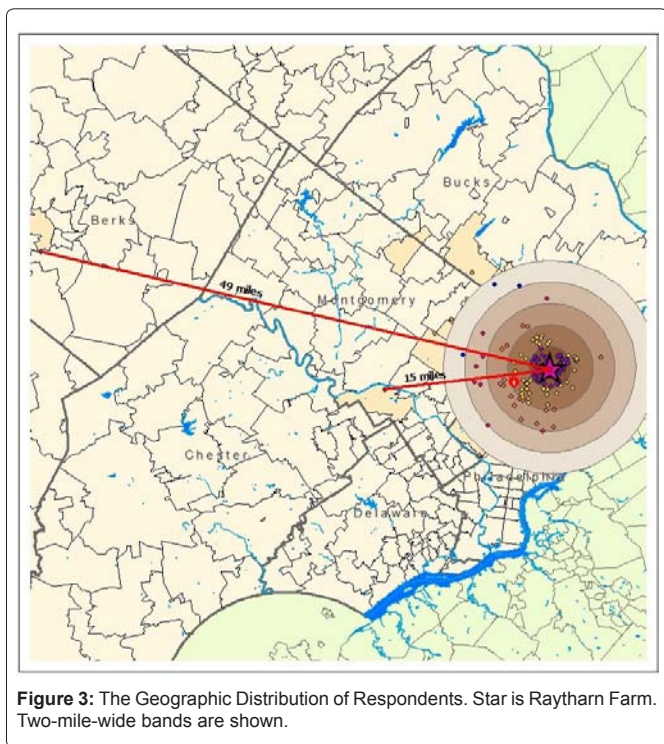| Attribute	Original Categories	Variable Name
Distance from the Farm	Miles: Five intervals < 1 to > 13	DISTANCE
Education Level	Seven categories -- HS to postdoc	EDUCATION
Familiarity with the Farm	Likert 1 to 5 1- very	FAMIL-FARM
Familiarity with PERT	Likert 1 to 5 1- very	FAMIL-PERT
Percentage by Which a Natural Site Is Preferred	Five 20% intervals from 0%	NATURAL
Paid at Other Site	Four $20 intervals from $0 to > $60	PAID-OTHER
Percentage of Other Site that Raytharn Yields	Five 20% intervals from 100% to < 20%	PCT-OTHER
Percentage Increase in Open Space Spending	Six 20% intervals from 0% to 100%	PCT-INCREASE
Time-Frequency of Use	Use within past week, month, year, more	USE
Willingness to Accept	Four $20 intervals from $0 to > $60 per day	WTA
Willingness to Pay I	Five $10 intervals from $0 to > $40 per day	WTP1
Willingness to Pay II	Five $4 intervals from $0 to > $20 per use	WTP2
Actual Donation	Intervals: < $100, $101-400, $401-700, $701-1000, > $1000	DONATION-CLASS
Actual Donation II	Actual $-amounts	DONATION

Figure 3: The Geographic Distribution of Respondents. Star is Raytharn Farm. Two-mile-wide bands are shown.

Table 2: Rankings of Attributes & Motives.

S. No.	Rank-Order of Raytharn Farm Attributes	Rank-Order of Reasons for Giving
1	VIEWS	EXISTENCE
2	SOUNDS	BEQUEATH
3	SMELLS	OPTION TO USE
4	WILDLIFE	USE
5	KNOW-IT-IS-PRESERVED[2]	PROPERTY VALUE

Based on the frequencies of the responses, the WTP/WTA estimates in Table 3 were calculated. The relative frequencies of the responses to the %-of-other-place-gotten-at-Raytharn question (PCT-OTHER) were multiplied by the category midpoints to yield a frequency-weighted %. This % was applied to the sum of the frequency-weighted midpoints of the paid-at-other-site (PAID-OTHER) categories to arrive at a WTP based on the weighted sum of what was paid for the comparable enjoyment at Raytharn. Three of the remaining four estimates are frequency-weighted sums of the midpoints of the categories in the relevant direct questions. The last comes from the actual donation data.

Cross-Tabulations

Some of the survey questions asked respondents to place themselves in discrete numerical categories or classes associated with particular variables. One example is "If 5 is 'very familiar' & 1 is 'barely familiar,' how familiar are you with the Raytharn Farm? with a choice among "1, 2, 3, 4 and 5." Another is "In what range is the distance between your home and the Raytharn Farm?" with a choice among "less than one mile, more than 1 mile but less than 5 miles, more than 5 miles but less than 9 miles, more than 9 miles but less

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[2]Perhaps this attribute is too different from the others, as its low ranking appears to contradict the high ranking of "existence" as a motive.

than 13 miles and more than 13 miles." Cross-tabs display a matrix of absolute and relative frequencies with which respondents fall into each pair of categories. For instance, of the 44 respondents in the highest familiarity category, 27 (61.36%) lived more than 1 but less than 5 miles away from the Farm.

Since many of the respondents chose *not* to answer one or more of the questions, the number of classes of some of the variables listed in Table 1 was reduced by collapsing the sparse higher classes into the highest remaining class.

Table 4 contains some results from the cross-tabs. The bulk of the close-in respondents were in the $0 to $10 WTP category. The null hypotheses of independence in χ^2 tests of DISTANCE categories and WTP categories, and FAMIL-FARM categories and WTP categories, *could not be rejected.* These results were somewhat surprising to this author, indicating that distance and familiarity with the farm did not influence willingness to pay.

An inordinate number of respondents refused to answer the WTA question. Hence, none of the WTA cross-tabs with the factors above yielded valid χ^2 tests. However, the majority of close-in donors were in the highest WTA category, and almost half of the people in each of the USE classes were in the high WTA class.

A χ^2 test of independence of DONATION-CLASS and DISTANCE resulted in not being able to reject the null hypothesis that they are independent. *Contributors close to the Farm gave relatively small contributions, not appearing to attempt to bolster their property values by preventing a housing complex and preserving open space.*

Logistic regression

Among the attributes of logistic regression is its capacity to analyze the relationships among continuous and/or discrete variables without any assumptions about the distributions of the independent variables [22]. The categories of the relevant response variables were
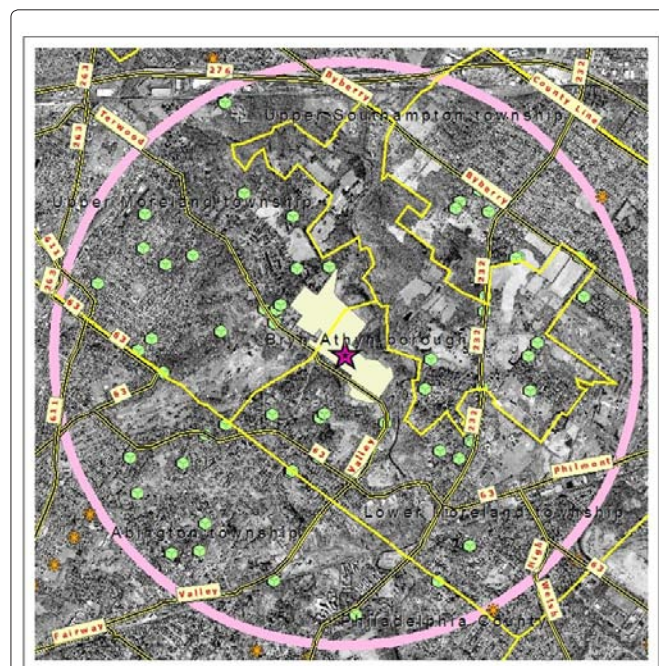

Figure 4: Aerial View of Close-In Respondents. Star is Raytharn Farm. Pink is Two-Mile Band.

Table 3: Frequency-Weighted WTP/WTA/Donation Estimates.

Estimate Type	How Calculated	$ Amount
Raytharn Equivalent of Day at Comparable Place	(frequency-weighted enjoyment %)*(sum of frequency-weighted midpoints of payment-at-other-site categories)	8.77
WTP1: One Raytharn Day	frequency-weighted midpoints of payment -per-Raytharn-day categories	7.97
WTP2: One Raytharn Use	frequency-weighted midpoints of payment -per-Raytharn-use categories	6.79
WTA: One Raytharn Day Lost	frequency-weighted midpoints of payment-needed-per-lost-Raytharn-day categories	33.51
DONATION-CLASS: (Midpoint Donation)/ Use	(frequency-weighted midpoints of donation categories) / [([frequency-weighted Raytharn visit categories per year]*10 years)]	1.78

Table 4: Some Cross-Tabs.

Variables	Highest Frequency	p-value of χ^2 (not reject: p>.05)
DISTANCE, WTP	Over 80% of each DISTANCE class were in $0-$10 WTP class	0.458
DISTANCE, PCT-OTHER	In each DISTANCE class, most were in the highest PCT-OTHER class	0.467
DISTANCE, FAMIL-FARM	In each DISTANCE class, most were in the moderate FAMIL-FARM class	0.065
DISTANCE, PCT- INCREASE	Over 50% in each DISTANCE class were in the lowest PCT-INCREASE class	0.960
USE, WTP	Roughly 85% of each USE class were in $0-$10 WTP class	0.967
USE, FAMIL-FARM	Roughly 65% in the high USE class were in the high FAMIL-FARM class; 50% in other USE classes were in moderate FAMIL-FARM class	**0.000**
PAID-OTHER, WTP	94% in the lowest PAID-OTHER class were in the $0-$10 WTP class	NA
PCT-OTHER, WTP	94% in the lowest PCT-OTHER class were in the $0-$10 WTP class	NA
EDUCATION, WTP	Roughly 80% of each DISTANCE class were in the $0-$10 WTP class	0.501
EDUCATION, PCT-INCREASE	An average of 53% of the EDUCATION classes were in the lowest PCT-INCREASE class	0.707
FAMIL-FARM, WTP	An average of 83% of the FAMIL-FARM classes were in the $0-$10 WTP class	0.250
PCT-INCREASE, WTP	An average of 80% of the PCT-INCREASE classes were in the $0-$10 WTP class	0.048

Table 5: Some SAS Logistic Regressions.

S. No.	Dependent Variable	Independent Variable(s)	b_j (k≠0)	Odds Ratio	p-value(s) for b_j	Overall p-value (null: all $b_j \neq 0$)
1	PCT-INCREASE	FAMIL-PERT	-0.1791	0.836	0.3144	**0.0034**
		NATURAL	-0.0264	0.974	**0.0014**	
2	PCT-INCREASE	NATURAL	-0.0212	0.979	**0.0358**	**0.0002**
3	WTP1	DONATION	-0.00823	1.008	0.9445	
		FAMIL-FARM	0.308	1.361	0.1783	0.1311
4	WTP1	PAID-OTHER	-0.0577	0.944	**0.0001**	
		PAID-OTHER	-0.0983	0.906	**0.0001**	**0.0001**
		DON	-0.2074	0.813	0.2028	
5	WTP1	PAID-OTHER	-0.0601	0.942	**0.0002**	**0.0001**
		DONATION	-0.9722	0.378	**0.0133**	

Bolded p-values indicate significant

ordered in this study. The *proportional odds model* of ordinal logistic regression was used to estimate the *cumulative* probability that a respondent who populates certain categories of the independent variable(s) is placed in a given or lower category as opposed to higher categories of the response variable.

The SAS [23] regressions listed in Table 5 involved polychotomous (multi-category) response/dependent and predictor/independent variables, except that WTP1 was binary in Regression 5 and DONATION was in dollars. The null hypotheses that all b_j=0 for regressions 1, 2, 4 and 5 were *rejected* at very low significance levels. Each of the four regressions has at least one significant b_j. The signs of the b_j indicate the direction taken by the log-odds as the predictor variable's category levels are increased from the reference level (lowest numerical class).

In Regression 1, PCT-INCREASE represents categories of %s by which the respondents thought that the government should increase spending on open space. This was regressed on increasing familiarity-with-PERT classes (FAMIL-PERT), and increasing %-classes by which people preferred a natural site (NATURAL; e.g., PERT land) to an artificial site (e.g., a zoo or manicured gardens). Since FAMIL-PERT was not significant, the NATURAL results will be interpreted. The negative sign of b_2 shows that the log-odds of a respondent being in the lower PCT-INCREASE classes *decreases* as the class of NATURAL increases. Having a strong preference for natural habitat is associated with the increased desire for government to provide more of it. The odds ratio of 0.974 ($e^{-.0264}$) means that a respondent in the higher NATURAL classes is 0.974 as likely to be in the lower PCT-INCREASE classes as a respondent in the lower NATURAL classes. An odds ratio of 1.0 would indicate equally likely.

Regression 2 is similar to Regression 1 in that NATURAL turned out to be the significant predictor variable. The coefficient is again negative and the odds-ratio less than one, but both are different from those in Regression 1. Not only has the other predictor changed, but

the set of observations with none of PCT-INCREASE, NATURAL and DONATION responses missing was different. The actual-donations variable, DONATION, was far from being significant. Increases in actual donation do not significantly imply the desire for more government spending on open space.

Regression 3 was only significant overall at the 13+% level. The sign of the FAMIL-FARM coefficient is positive, indicating that a higher familiarity class is associated with an increase in the likelihood of a lower WTP1 class. This appears to conflict to some degree with the fact that 45% of respondents considered Raytharn as providing above 60% of the enjoyment they had gotten at sites they paid for. Statistically, the variable was not significant at typical levels. The negative sign of the highly-significant paid-at-other-site variable (PAID-OTHER) is what might be expected. The willingness to pay a lower amount is inversely related to higher PAID-OTHER classes.

In Regression 4, the coefficient of PAID-OTHER is also negative and highly significant. The donation category variable (DONATION-CLASS) has a negative coefficient, but is significant only at the 20+% level. It is left for the next regression for donations to become highly significant.

Regression 5 involves the outcome of a WTP1 class based on the PAID-OTHER class and the amount of a respondent's actual donation. The negative values of b_1 and b_2 indicate that the log-odds of being in the lower WTP1 class decrease as the PAID-OTHER class and DONATION amounts increase. The odds ratios of 0.942 and 0.378 are both less than one, implying that those in higher PAID-OTHER categories and with higher DONATION amounts are less likely to be in the lower WTP1 categories. The result that people who donated more to preserve the Farm are willing to pay more for a use of the site seems to indicate that existence, option-to-use and use values are "bundled."

Conclusion

The survey in this study was undertaken to probe the underlying demography, attitudes, preferences and values of the private donors to the Raytharn Farm preservation campaign. The results reinforce the Lembeck, Willits and Crider [7] conclusion that demographic factors contribute little predictive power in terms of what groups may be more likely to support preservation. This is true even at the local scale (Figures 3 and 4) of the Raytharn campaign, where questions regarding motives and values can take on personal dimensions for the respondents. The prevalence of failure to reject independence in the χ^2 tests related to Table 4 is evidence of this. The failure to reject the independence of DISTANCE and DONATION-CLASS is perhaps the most interesting. In a more recent and elaborate study [24], Duke et al. found that proximity was associated with higher benefits, though payments were not made. In this study, the independence is taken to be important as it was suspected that the pecuniary motive of preserving property value by the close-in respondents would become evident. It did not.

The rank orderings of the Farm attributes and motives for giving listed in Table 2 are simple and direct statements of the respondents' preferences without the theoretical underpinnings that Gowdy [14] worries about. The WTP estimates in Table 3 involve a good bit of approximation. Given that, it appears interesting that the Raytharn equivalent-of-a-day-at-a-comparable-place is higher than the WTP measures directly stated. WTP measures for a "day" and a "use" were juxtaposed to determine whether there was a marked difference in

what "commodity" respondents thought they were willing to pay for. The difference was 15% of the WTP for a day. The estimated WTA follows the prediction in the literature that it will be greater than WTP, even among socially generous donors.

Among the ordinal logistic regressions in Table 5, perhaps the most interesting is the highly significant Regression 5. WTP1 tracks positively (log-odds decline) with what people paid elsewhere for a comparable experience and with what people actually gave for preservation. This gives double-barrel evidence that the Farm had value in more than one dimension to the survey respondents.

In this study, the question of whether the Raytharn Farm *should* have been saved from development is not addressed. The success of the preservation campaign is taken as revealed preference that a coalition of influential stakeholders thought that the benefits of open space exceeded the costs. Among the written responses to the composite open-ended question in the survey, "Would you be willing to pay on a per-use basis to save the Raytharn Farm from further development?" and "If 'Yes' or 'No,' please explain why in the space below." were: "Creeping urbanization is a morbid disease." "Land must be preserved at all cost…" "…open space is disappearing at an alarming rate." "I…don't want another large development on 'virgin' territory." "I value the green buffer…" "The property is invaluable as open, public space." "Whatever it takes to save this place and its natural potential as a buffer zone, habitat, and feast for the eye and soul and spirit." "It is the only bastion of natural land in Southeastern Montgomery County! The deer, turkeys, etc. would be eliminated if not for this land."

In the Age of Sprawl, it is fortunate for the "smart growth" advocates in a private-enterprise economy that purchasing land or the development rights to it has become somewhat popular. Citizens concerned about disappearing bucolic landscape can buy the land or the development rights themselves, contribute to NGOs (e.g., The Nature Conservancy, Natural Lands Trust) that buy one or the other, and/or vote for government bond issues to purchase green space. Opponents cannot claim overbearing government regulation preventing normal economic activity. The implications for government policy are lighter with this strategy, as various levels of government only need to allow the free-market purchase of land and/or rights to develop it, and perhaps to use their own powers of procuring funds for public purchases.

Perhaps the Raytharn Farm preservation campaign took place under especially benign circumstances. The state and county governments were very supportive. The landowners gave PERT a substantially reduced price, and very reasonable terms of sale. They were the biggest contributors. An influential state senator lives on the border of the property. The property is adjacent to an already-preserved wilderness area. Many generous individuals were able and willing to support open-space preservation.

What, then, can be taken from the circumstances surrounding this case and the survey results to apply to the "generic" case of preservation? First, it is important to seek out sympathetic landowners. Second, pursuing land that is adjacent to a water body and/or an already preserved land area may increase the chance of success. Third, creating a wide-ranging coalition of forces through lobbying and wide dissemination of information will enhance bargaining and fund-raising power.

From the survey results, we learn that there are very few

stereotypes for giving based on attitudes and demographic information. Preserving property value may not be a reliable motive for close-in neighbors. Those contributing more for preservation are likely to have higher use value as well.

If the strategy of buying farmland or the rights to it for agricultural purposes or open space amenities is to succeed, then the words of one of the survey respondents must be heeded: "…you have to put your money where your mouth is…"

Acknowledgements

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