BIRDWATCHING IN NEW YORK STATE: A STUDY OF MOTIVATIONS AND GENDER

Mary Joyce Sali
Ph.D. Graduate
SUNY College of Environmental Science and Forestry

Diane M. Kuehn
Assistant Professor
SUNY College of Environmental Science and Forestry

David White
Coastal Recreation & Tourism Specialist
NY Sea Grant

INTRODUCTION

Birdwatching is an important component of wildlife-related recreation in New York State. In 2001, 2.8 million individuals observed birds around the home and on birdwatching trips in New York. Eighty-eight percent (approximately 2.48 million individuals) were in-state residents while 12% (approximately 326,000 individuals) were from out-of-state. A large majority (82% or approximately 2.3 million individuals) were at-home birdwatchers, while 42% (approximately 1.2 million individuals; U. S. Fish and Wildlife Service & U. S. Census Bureau, 2003) were "away-from-home" birdwatchers (i.e., those who travel a mile or more from home to observe birds; LaRouche 2003). Wildlife watchers in general spent an estimated $1.4 billion in New York on trip-related expenditures, equipment, bird-related magazines, membership dues and contributions, land leasing and ownership, and plantings, making them an important economic development force in the state (U. S. Fish and Wildlife Service & U. S. Census Bureau, 2003).

As wildlife managers and recreation service providers seek strategies to enhance birdwatching opportunities and experiences, information about the motivations that drive people to participate in birdwatching becomes important. Moreover, information about gender-related differences in birdwatching initiation (i.e., how someone first becomes involved in birdwatching), participation (i.e., the number of birdwatching trips they take per year), and characteristics of birdwatching experiences is essential for marketing to birdwatchers. This study examines differences between males and females in away-from-home birdwatching activities and motivations. Funding was provided by New York Sea Grant and the SUNY College of Environmental Science and Forestry.

METHODS

A three-stage process involving telephone interviews, a short survey, and a mail survey of male and female away-from-home birdwatchers was used. The results of the interviews were used to develop the birdwatching participation survey.

Telephone interviews

Sixty away-from-home birdwatchers were chosen for telephone interviews through a three-step process. First, a list of individuals with email addresses included in the 2004 American Birding Association (ABA) membership directory was compiled for each of the twenty ABA regions in New York State; only New York state residents were chosen. Second, an email message requesting participation in a telephone interview was sent to this sample; those who responded positively to this request were interviewed. Third, snowball sampling was employed by asking interviewees for the contact information for other away-from-home birdwatchers. The first author then contacted these individuals and asked for permission to conduct the interviews.

The interviews were conducted by telephone in spring 2005, were tape recorded (with interviewee permission), and ranged in length from 10 to 45 minutes. The list of interview questions included several related to the central question of "What currently motivates or encourages you to participate in birdwatching?" The interviews were transcribed verbatim using Microsoft Word. The transcripts for males and females were

carefully reviewed and interviewee comments were then grouped into motivation "concepts" (Taylor and Bogdan, 1998; Table 1).

Short survey

With permission from the Audubon Council of New York State, a short questionnaire was distributed among participants of the New York Audubon Spring Meeting held on March 11-13, 2005 at Saratoga Spa State Park, New York. A total of 26 individuals (i.e., 12 males and 14 females) returned the questionnaire. The question "Did you travel a mile or more from home for the primary purpose of birdwatching in 2004?" was used to determine if each respondent was an away-from-home birdwatcher. Respondents were asked to write in an answer to the open-ended question: "What motivates you to participate in birdwatching?" Data concerning motivations were then summarized using EXCEL (Table 1).

Mail survey

Results from the interviews and short survey guided the development of the survey questionnaire. The mail survey instrument comprised 31 questions related to involvement in birdwatching, motivations for birdwatching, and demographic characteristics. Birdwatchers responded to questions by checking an answer, writing an word or a number, or circling a number on a five-point scale (i.e., -2 = strong disagreement, -1 = disagreement, 0 = neutral, 1 = agreement, 2 = strong agreement). Motivations, defined as reasons for participating in birdwatching (Stankey & Schreyer, 1987), were measured by asking respondents to indicate the importance of motivation-related statements to their birdwatching activities using the five-point scale.

In the fall of 2005, a letter stating the purpose of the study and requesting mailing lists for birdwatchers was sent to 44 birdwatching-related organizations in New York State; 11 organizations provided mailing lists. The names from the lists were combined and sorted by New York State ABA region. For each of the twenty ABA regions, 50 names (i.e., 25 males and 25 females) were systematically chosen. The final sample comprised 1,000 individuals. An equal number of males and females were included in the sample to enable gender comparisons.

A mail survey was conducted in spring, 2006. A total of 1,000 questionnaires were mailed to the sample using a modified Tailored Design Method (i.e., the first and third mailings included a cover letter explaining the purpose of the study, a copy of the survey questionnaire, and a pre-stamped return envelope; the second and fourth mailings were reminder postcards; Dillman, 2000). An interval of ten days was set for each mailing. The first question (i.e., "During 2005, did you travel a mile or more from home to birdwatch?") was used to determine if the respondent was an away-from-home birdwatcher. Respondents answering "no" to this question were asked to return their questionnaire without completing it.

Significance tests were used to identify differences between males and females for level of participation (i.e., number of birdwatching trips taken in 2005) and birdwatching characteristics (alpha = 0.05). A factor analysis (conducted separately for males and

females) was used to group the motivation concepts (presented in Table 1) into factors; the means for these factors were then calculated. Each factor name was based on the motivation concepts comprising the factor. The concepts comprising each factor differed by gender (except for the "spiritual" motivation which included identical concepts for males and females) and were thus given different names.

Table 1. Motivations identified in the interviews and short survey (Sali, 2007).

Motivation Concepts	
• Sharing knowledge about birds with others	• Improving bird identification skills
• Teaching others how to birdwatch [a]	• Traveling to different places
• Going outdoors and enjoying wildlife and the natural environment	• Taking photographs of birds
• Enjoying the sight and sounds of birds	• Competing with other birdwatchers
• Getting physical exercise	• Being with friends who are birdwatchers
• Relaxing and escaping from everyday activities	• Meeting new people who have the same interest
• Enjoying something that is fun and exciting	• Enjoying birding with family and relatives
• Contributing to the conservation of birds	• Connecting with creation
• Being alone	• Communing with nature
• Adding a bird species to a life list	• Understanding and appreciating the Creator better
• Studying bird behavior and bird migration	• Renewing or refreshing my spiritual self [a]
• Studying birds in their natural habitat	• Experiencing the inner peace that birding provides [a]
• Seeing a new or rare bird species	

[a]Concepts identified through the short survey.

RESULTS

Interviews and short survey

Twenty-five motivation concepts were identified from the 60 birdwatcher interviews and the 26 short surveys. These concepts are listed in Table 1.

Mail survey

From the 1,000 surveys mailed, a qualified sample of 797 (i.e., 414 male and 383 female) respondents was identified. A total of 460 completed questionnaires was returned by 232 males and 228 females for a response rate of 58%.

Respondent demographics. The demographic characteristics of the respondents are presented in Table 2. The sample was largely representative of married Caucasians who were highly educated and residing in rural areas and small cities or suburbs. The respondents were also likely to be middle-aged or older. The sample was almost equally split between males and females. Most respondents (64%) had children and 57% of those with children indicated that they birdwatched with their children.

Table 2. Demographic characteristics of respondents.

Demographic characteristics		Percentage (%)		
		Males	**Females**	**Both genders**
Gender		51%	49%	100%
Age group	44 years and below	14	16	15
	45-54	14	21	18
	55-64	31	33	32
	65 and above	41	30	35
Education	High school education	7	6	7
	Undergraduate college	33	34	33
	Graduate college	60	60	60
Race	Caucasian	99	99	99
	Native American	1	<1	<1
	Hispanic	0	<1	<1
Marital status	Married	79	58	69
	Widowed	3	9	6
	Divorced/Separated	7	13	10
	Never married	11	20	15
Area of residence	Rural areas or villages	47	63	55
	Small cities or suburbs	30	22	26
	Medium cities	9	5	7
	Large cities	14%	10%	12%

Birdwatching initiation. The mean initiation age for all male respondents (N = 226) was 22 years of age and was not significantly different from the mean initiation age of 23 years for female respondents (N = 214; $p \leq 0.05$). The individuals responsible for initiating respondents into birdwatching are shown in Table 3. Most respondents were initiated into birdwatching by themselves, with no significant difference existing between males and females ($p \leq 0.05$).

Respondents were asked to identify characteristics that influenced their initial participation in birdwatching (Table 4). "Having easy access to an area where there are birds," "reading books or magazines about birds," "maintaining a bird feeder," and "living in a house surrounded by birds" were the characteristics that most influenced initial participation. Significant differences were identified between the percentage of males (68%) and females (78%) who were influenced by "having easy access to an area where there are birds." Additional significant differences were found for "maintaining a birdfeeder" (males 47%, females 67%), "living in a house surrounded by birds" (males 30%, females 45%), "having experiences in hunting or fishing" (males 28%, females 8%), and "having changes in my life that gave me time to birdwatch" (males 14%, females 22%; $p \leq 0.05$).

Participation rates. Significant differences were identified between males and females for the median number of birdwatching trips taken in 2005 (Table 5). Specifically, males reported having a higher median number of trips taken as compared to females for in-state ($p = 0.0005$), out-of-state ($p = 0.0005$), and total birdwatching trips ($p = 0.0005$) taken in 2005. However, there was no significant difference between males and females for international birdwatching trips ($p = 0.163$).

Table 3. The proportion of males (N = 232) and females (N = 228) according to the individuals who initiated them into birdwatching.

	Proportion	
Initiator	**Males**	**Females**
Father	0.13	0.19
Mother	0.10	0.15
Spouse/Significant other	0.08	0.09
Sibling	0.03	0.01
Relative	0.08	0.06
Club	0.07	0.12
Friend	0.18	0.20
Teacher/Professor	0.12	0.13
Self	0.56	0.54
Other	0.17	0.24

Table 4. The proportion of males (N = 229) and females (N = 227) who identified characteristics that influenced their initial birdwatching participation. Significant differences are shown in bold.

Characteristics influencing initial participation	**Proportion**	
	Males	**Females**
Learning about birdwatching in school	0.10	0.12
Maintaining a birdfeeder	**0.47**	**0.67**
Having experiences in hunting and/or fishing	**0.28**	**0.08**
Going on organized birdwatching field trips	0.27	0.27
Using birds as subjects for photography	0.12	0.08
Camping as a family activity	0.14	0.19
Taking classes related to birds or birdwatching	0.14	0.19
Reading books or magazines about birds	0.55	0.51
Having easy access to an area where there are birds	**0.68**	**0.78**
Having changes in my life that gave me time to birdwatch	**0.14**	**0.22**
Seeing a specific bird species	0.20	0.23
Having a family member who was a birdwatcher	0.21	0.28
Going on nature trips as a child	0.24	0.25
Living in a house surrounded by birds	**0.30**	**0.45**
Watching birds as a child	0.41	0.45

Table 5. Differences in participation rates between male and female respondents. Significant differences are shown in bold.

Trip category	Median number of trips	
	Males[a]	Females[b]
In-state [a]	**14**	**6**
Out-of-state [b]	**2**	**1**
International [c]	0	0
Total trips [d]	**17**	**9**

[a] N = 226 for males and N = 220 for females.
[b] N = 228 for males and N = 221 for females.
[c] N = 224 for males and N = 216 for females.
[d] N = 231 for males and N = 226 for females.

Birding groups. A moderately high percentage of both males (43%) and females (33%) participated in birdwatching alone. Respondents also primarily went birdwatching with birding organizations (6% of males and 10% of females), friends and family (21% and 24%), friends only (8% and 12%), and family only (21% and 19%). No significant differences between genders were identified for any birding group.

Birdwatching activities. The activity most commonly chosen by male and female respondents was "maintained a birdfeeder or nest box,'' followed by "kept a list of the bird species I saw" (Table 6). Significant differences between males and females were identified for "led a birdwatching walk or tour" and "gave presentations on birds or birdwatching," with a higher proportion of males reporting each.

Bird species sought. Large percentages of male and female respondents searched for songbirds (97% of males and 98% of females) and birds of prey (90% and 85%), with no significant differences between males and females. However, a significantly higher percentage of males (84%) than females (75%) sought water birds such as herons and shorebirds.

Birding locations. The location most preferred by male and female respondents was woodlands, followed by brush-covered areas and meadows (Table 7). No significant differences were found between males and females for these birdwatching locations.

Equipment. While almost all of the respondents had a pair of binoculars, significant differences were noted between males and females concerning the use of birdwatching equipment (Table 8). Specifically, a greater proportion of males than females reported using a scope, spotting camera, and tape recorder, while a higher proportion of females than males had birdfeeders.

Table 6. The proportions of males (N = 230) and females (N = 228) according to birdwatching-related activities in 2005. Significant differences are shown in bold.

	Proportion	
Birdwatching-related activity	**Males**	**Females**
Maintained a birdfeeder or nest box	0.90	0.88
Kept a list of the bird species I saw	0.69	0.70
Record bird songs	0.05	0.05
Led a birdwatching walk or tour	**0.30**	**0.15**
Attended a birdwatching walk	0.55	0.58
Took part in an organized bird census	0.54	0.47
Kept notes about the activities of birds I saw	0.36	0.31
Took photographs of birds	0.48	0.40
Attended a tour or a presentation on birds and birdwatching	0.50	0.53
Gave presentations on birds or birdwatching	**0.20**	**0.11**
Other	0.07	0.11

Table 7. The proportions of males (N = 232) and females (N = 226) according to preferred birdwatching locations.

	Proportion	
Birdwatching location	**Males**	**Females**
Woodlands	0.90	0.90
Brush-covered areas	0.75	0.71
Meadows	0.71	0.71
Agricultural lands	0.58	0.51
Landscaped areas	0.51	0.50
Ocean shorelines	0.52	0.48
Lake and stream shorelines	0.52	0.48
Marshes, wetlands, swamps	0.52	0.48
Other	0.20	0.13

Table 8. The proportions of males (N = 232) and females (N = 228) according to the types of birdwatching equipment used. Significant differences are shown in bold.

	Proportion	
Birdwatching equipment	**Males**	**Females**
Binoculars	0.99	1.00
Scope	**0.65**	**0.43**
Spotting camera	**0.65**	**0.57**
Tape recorder	**0.24**	**0.13**
Birdfeeder	**0.84**	**0.90**
Nesting boxes	0.53	0.52
Video camera	0.13	0.08
Boat	0.36	0.40
Parabolic microphone	0.03	0.02
Other	0.07	0.05

Birding interests and skills. Differences were noted between males and females for keeping a birding life list (i.e., a tally of bird species seen by a birder during his or her lifetime) and bird species identification. The percentage of male respondents (N = 232) who kept a list of the bird species they had observed (72%) was significantly different from the percentage of females (64%; N = 228) who indicated doing so ($p \leq 0.05$). In addition, males reported a higher median number of species on their birding life list than their female counterparts reported ($p = 0.0005$). Males indicated that they were able to identify a higher median number of bird species without the use of a field guide than females indicated ($p = 0.0005$). Finally, males reported that they owned a significantly higher median number of books and magazine subscriptions related to birds and birdwatching than females reported ($p = 0.0005$ and $p = 0.0295$, respectively).

Birding related expenditures. The average respondent spent approximately $2,484 for birding-related travel (i.e., in-state, out-of-state, international), equipment, books and magazine subscriptions, organization and club membership fees and dues, and conservation-related donations in 2005 (Table 9). On average, males had higher expenditures related to birdwatching than females. Males spent more for all expenditure categories in 2005, with the exception of conservation-related donations for which females spent more. Away-from-home birdwatchers residing in New York State spent an estimated total of $2.1 billion in birdwatching-related expenditures in 2005 (based on the 862,000 away-from-home birdwatchers estimated to reside in New York State in 2001; U.S. Fish and Wildlife Service & U.S. Census Bureau, 2003). It is important to note that some of these expenditures were made outside of New York State.

Table 9. Average birding-related expenditures for respondents in 2005.

Gender	Travel	Equipment	Books and magazines	Organization membership fees	Conservation-related donations	Total
Male [a]	$1,934	$477	$108	$57	$228	$2,805 ± $622 [d]
Female [b]	1,344	281	74	47	402	2,148 ± 690 [d]
Both [c]	$1,646	$381	$92	$52	$313	$2,484 ± $463 [d]

[a] N = 224
[b] N = 214
[c] N = 438
[d] 95% confidence interval

Motivations. The results of the factor analysis for female respondents identified six different motivation factors: "enjoying the outdoors," "sharing of self," "intellectual," "challenge," "social," and "spiritual." The concepts comprising each of these factors are shown in Table 10. High factor means indicate that "enjoying the outdoors" and "intellectual" motivations are most important to female respondents; the moderately high factor mean of the "challenge" motivation indicates its moderate importance. The "sharing of self," "social," and "spiritual" motivations are slightly important.

For male respondents, five different motivation factors were identified: "appreciating birds," "sharing knowledge," "exploration," "companionship," and "spiritual." The concepts comprising each of these factors are shown in Table 11. The high factor mean for "appreciating birds" indicates that it is the most important motivation to male respondents; the moderately high factor mean of the "sharing knowledge" and "exploration" motivations indicates their moderate importance. Of slight importance were the "companionship" and "spiritual" motivations.

Table 10. Female away-from-home birdwatching motivations (Sali, Kuehn, and Zhang, 2008).

Motivation factors [a]	Concepts	Factor mean [b]
Enjoying the outdoors	Enjoying the sight and sounds of birds Going outdoors and enjoying wildlife and the natural environment Contributing to the conservation of birds	1.77
Intellectual	Studying bird behavior and bird migration Studying birds in their natural habitat	1.38
Challenge	Seeing a new or rare bird species Improving bird identification skills Adding a bird species to a life list	0.99
Spiritual	Experiencing the inner peace that birding provides Communing with nature Connecting with creation Renewing or refreshing my spiritual self Understanding and appreciating the Creator better Being alone	0.60
Social	Meeting new people who have the same interest Being with friends who are birdwatchers Traveling to different places	0.50
Sharing of self	Sharing my knowledge about birds with others Teaching others how to birdwatch Taking photographs of birds Enjoying birding with family and relatives Competing with other birders	0.11

[a] Names for motivation factors were based on the concepts comprising each factor.
[b] Factor means are based on a scale of "–2" (not very important to respondents) to "0" (neutral) to "2" (very important to respondents).

Table 11. Male away-from-home birdwatching motivations (Sali, Kuehn, and Zhang, 2008).

Motivation factors [a]	Concepts	Factor mean [b]
Appreciating birds	Studying birds in their natural habitat Studying bird behavior and bird migration Going outdoors and enjoying wildlife and the natural environment Contributing to the conservation of birds Enjoying the sight and sounds of birds	1.53
Exploration	Seeing a new or rare bird species Adding a bird species to a life list Enjoying something that is fun and exciting Traveling to different places	1.01
Sharing knowledge	Sharing my knowledge about birds with others Teaching others how to birdwatch Improving bird identification skills	0.88
Companionship	Meeting new people who have the same interest Being with friends who are birdwatchers Enjoying birding with family and relatives	0.48
Spiritual	Connecting with creation Experiencing the inner peace that birding provides Communing with nature Renewing or refreshing my spiritual self Understanding and appreciating the Creator better Being alone	0.32

[a] Names for motivation factors were based on the concepts comprising each factor.
[b] Factor means are based on a scale of "–2" (not very important to respondents) to "0" (neutral) to "2" (very important to respondents).

Discussion and Conclusion

Away-from-home birdwatchers are an important constituency in wildlife-related recreation. The findings of this study can help wildlife managers improve birdwatching experiences for both male and female away-from-home birdwatchers.

With regard to initiation, the majority of male and female respondents started birdwatching on their own as adults, indicating that initiation into birdwatching may not be highly dependent on childhood participation. Initiation for males appears to be influenced by involvement in other wildlife-related recreational activities that take place away from home, while initiation for females appears to be influenced by birdwatching opportunities around the home.

Both similarities and differences between genders in relation to birdwatching-related characteristics and participation were noted. Males and females were similar in terms of primary birding groups, birdwatching-related activities, types of bird species sought, and preferred birdwatching locations. However, differences were noted as well. For example, males had significantly higher median participation rates for in-state, out-of-state, and total birdwatching trips taken in 2005 than did females. While males spent more on birding-related travel, females contributed more to conservation-related efforts. Males reported having a higher number of birding-related books and magazine subscriptions than did females. Finally, while a higher proportion of males than females reported owning technical equipment such as scopes, spotting cameras, and tape recorders, a higher proportion of females than males indicated that they owned birdfeeders.

With regard to motivations, the high importance of the concepts “enjoying the outdoors” and “intellectual” to females indicate that females enjoy being outdoors and studying birds and bird behavior during their birding experiences. Females also enjoy the challenge associated with identifying rare species and adding species to their life list. For males, “appreciating birds” was highly important, while “exploration” and “sharing knowledge” were of moderate importance. It appears that males enjoy birdwatching experiences that incorporate exploring birding locations, studying birds and bird behavior, and sharing their knowledge of birds with others.

In conclusion, it appears that away-from-home birdwatchers are seeking birding experiences that are intellectually stimulating and that provide them with the opportunity to enjoy and appreciate bird-related resources. From a marketing standpoint, males and females are likely to respond to different promotional messages. Males might be motivated by messages that emphasize outdoor exploration and sharing knowledge about birds and birdwatching with other people, whereas females might be motivated by messages that highlight enjoyment of the outdoors, the study of birds, and the challenge of birdwatching. Natural area managers could encourage visitation by providing information on websites and through other media about unique habitats, bird species present, and bird migration, and by encouraging the involvement of birdwatchers in leading birding-related educational programs. Collaboration between natural area managers, promoters, and birding organizations will provide a strong foundation for future birding-related programs and opportunities.

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Literature Cited

Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method*. New York: John Wiley & Sons.

La Rouche, G. P. (2003). *Birding in the United States: A demographic and economic analysis. Addendum to the 2001 national survey of fishing, hunting, and wildlife-associated recreation* (Report 2001-1). Washington DC: U.S. Fish and Wildlife Service, Division of Federal Aid.

Sali, M. J., Kuehn, D. M., and Zhang, L. (2008). Motivations for male and female birdwatchers in New York State. *Human Dimensions of Wildlife*, *13*(3): 1-14.

Sali, M. J. (2007). *A mixed methods study of motivations for participation in non-residential birdwatching.* Ph. D. Dissertation. Syracuse: State University of New York College of Environmental Science and Forestry.

Stankey, G. H. & Schreyer, R. (1987). Attitudes toward wilderness and factors affecting visitor behavior: A state-of-knowledge review. *In Proceedings of the National Wilderness Research Conference: Issues, state-of-knowledge, future direction.* USDA Forest Service General Technical Report INT 200. pp. 246-293.

Taylor, S. J. & Bogdan, R. (1998). *Introduction to qualitative research methods.* 3rd edition. New York: John Wiley and Sons, Inc.

U. S. Fish & Wildlife Service. (2002). *2001 national survey of fishing, hunting, and wildlife-associated recreation: National overview.* Washington DC: U. S. Government Printing Office.

U. S. Fish & Wildlife Service, & U. S. Census Bureau. (2003). *2001 national survey of fishing, hunting, and wildlife-associated recreation: New York.* Washington DC: U. S. Government Printing Office.