Final Report

Assessment of the Virginia Birding and Wildlife Trail

Prepared for
The Virginia Department of Game and Inland Fisheries

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Executive Summary

This study was designed to assess the Virginia Department of Game and Inland Fisheries' (VDGIF) recently created Virginia Birding and Wildlife Trail (VBWT). To fully understand the usage of the VBWT, as well as the impact that the VBWT has on communities, it was necessary to create three separate surveys. The "Visitor Survey" was designed to survey individuals who had requested a VBWT trail guide. The "Encounter Survey" was implemented to assess the individuals that were actually using the VBWT. The "Locality Survey" was designed to find the community planning/habitat conservation-related impacts of the VBWT, as well as perceived use of the trail by the site owners, planning personnel and tourism officials around the Commonwealth.

Visitor Survey

We surveyed 5,000 individuals by mail and 30,439 by email. Surveys were sent to a random sample of individuals that had requested a copy of the VBWT guide. A total of 772 (18.7%) mailed and 1,609 (6.8%) emailed surveys were returned. Responses obtained from the two methods were pooled after determining responses between the two methods were statistically similar.

Of those that responded to the survey, 56.4% were male and 43.6% were female. The mean age of respondents was 52.7 years. Overall, respondents were highly educated. Greater than 72% of all respondents completed at least 4 years of college and more than 40% of respondents had earned a graduate degree. Median annual income exceeded $75,000. The ethnic and racial diversity of respondents was low; 95% of all respondents classified themselves as white/Caucasian. Of the completed surveys, 63% of respondents were residents of Virginia. Both Virginia respondents and non-resident respondents reported that visiting the VBWT was not their primary reason for being in the area. When visiting the VBWT, non-resident respondents indicated that they traveled an average of 436 miles while Virginia respondents traveled an average of 52 miles.

The primary variable used by Virginia respondents for selecting a site to visit is distance from home. For non-residents, distance from the primary activity was the most important factor. Survey respondents indicated that the presence of a walking or hiking trail was an important factor in determining their choice of sites to visit. Site fees play a role in site selection but there was not a clear indication from respondents that cost alone would prevent most visitors from visiting a fee site.

Local attractions were more important for non-residents than for Virginia residents. Both Virginia respondents and non-resident respondents indicated that the opportunity to see specific wildlife species plays a role in site selection but they also indicated that during their last visit they did not select visited sites for the probability of seeing a specific wildlife species. This suggests that multiple variables were used for site selection, but not all variables are weighted evenly. There was no direct correlation between the number of sites in each area of the VBWT (Coastal, Mountain, Piedmont) and the number of sites the respondents actually visited.

Most respondents used their trail guides to select sites and loops to visit, but did not use the lodging and service information provided in the guide. A large proportion (83%) of respondents used the VBWT guide to navigate to sites and found the directions to be accurate and easy to use. Respondents also found the guide informative and useful for finding information regarding species likely to be observed at particular sites. Overall, respondents indicated they were very satisfied with the VBWT guide.

Over 90% of respondents reported leaving their last visit to the VBWT as either satisfied or very satisfied. Additionally, over 90% of respondents indicated that they intend to visit the VBWT again. Due to their positive experience of visiting the VBWT, most individuals reported that on average they have shared information pertaining to the VBWT to 9 other individuals.

Encounter Survey

At the time of survey design, the VBWT consisted of 617 sites once all sites with multiple entries and sites only accessible by water were removed. We surveyed a random subset of 70 of these sites on one weekend day between the months of April and October 2007, and randomly selected the beginning time for the 8-hour survey block. A total of 285 individuals were surveyed over 536 hours.

Of those that responded to the survey, 56% were female and 44% were male. The mean age of respondents was 49.8 years. Overall, respondents were highly educated: greater than 70% of all respondents had completed at least 4 years of college and more than 40% of respondents had earned a graduate degree. Median annual income exceeded $75,000. The ethnic and racial diversity of respondents was low, as 92% of all respondents classified themselves as White/Caucasian.

Those encountered at VBWT sites were asked a series of questions to help characterize the knowledge and usage of the typical site user. Most respondents indicated that they considered themselves to have a less than intermediate familiarity with birding/wildlife watching. Of all surveyed individuals, 31% were aware of the VBWT and that they were presently at a VBWT

site. Of these, 44% reported that they were in the area for the primary reason of visiting the VBWT. All other individuals reported using the VBWT as their secondary activity.

Most individuals encountered during the survey were residents of Virginia who reported traveling an average distance of 40 miles. Only six out-of-state individuals were encountered who were aware they were on the VBWT. Most respondents indicated that they only intended to visit one VBWT site during their outing.

Forty percent of survey respondents indicated that they had obtained information about the VBWT prior to their visit. These individuals reported the most common source for information was the VDGIF web site. Fifteen percent of respondents indicated that they owned a VBWT guide and used it for their visit. Forty-seven percent of the surveyed individuals indicated that they participated in other activities in addition to visiting the VBWT for wildlife viewing activities.

Overall respondents were very satisfied with their visit to VBWT sites. Over 95% of respondents indicated that they are likely to visit the VBWT again. Fifty-six percent of respondents indicated that they have passed VBWT information on an average of 8.5 individuals. Overall respondents indicated that they enjoyed the trail, the opportunity to see wildlife, scenery, and peace and quiet and did not report any negatives regarding their VBWT experience.

Economics

The economic contribution of VBWT to local economy was estimated using information obtained from data collected in the Encounter Survey. This data reflects actual usage and spending of visitors to the VBWT. An estimated 1,041 visitors are actively using each VBWT site annually. The annual VBWT usage rate for all sites combined was estimated to be 642,297 visitors. Trail users were asked about their expenditures directly related to visiting the VBWT. Specifically, visitors were asked how much they expected to spend in the following categories: food, gas, lodging, shopping, and other. The mean annual expenditures rate was estimated at $13.45 per person. The total direct economic effects of the VBWT are estimated at $8,638,895 per year. Upper and lower estimates, based upon the 95% confidence limits of mean visitor expenditures, are $12,537,637 and $4,746,575, respectively.

Locality Survey

Surveys were sent to 302 VBWT site owners, 142 planning personnel, and 159 tourism officials throughout the Commonwealth of Virginia. The surveys were conducted primarily as an email/Internet survey. The response rate for all three surveyed groups was over 50%.
Most respondents of the three surveyed groups indicated that they were aware of the VBWT as well as knowing that VDGIF is the managing agency. Most VBWT site owners and tourism officials reported knowing who to contact at VDGIF for information regarding the trail, however less than half of planning respondents reported knowing this.

Nearly 80% of site owner and tourism respondents reported that they promote the VBWT through VDGI- produced literature and word of mouth. However respondents for all three groups indicated that most of their websites do not link to the VBWT. Less than 50% of respondents from any of the three surveyed groups reported that they were aware of out-of-town individuals visiting their locality due to the VBWT. Of those that were aware of out-of-town individuals, most report that out-of-town visitors requested information pertaining to local attractions and few requested information pertaining to lodging.

When asked about economic contributions of the trail to their locality, most respondents indicated that they consider the VBWT an economic draw for their locality but that they do not believe local business was aware of the VBWT. Overwhelmingly, all three groups surveyed indicated (98-100%) that they believe the VBWT is an asset to their locality.

Most respondents from the three surveyed groups believe that there is a need for greater habitat/conservation planning within their locality. When asked if their locality takes open space planning into consideration, most planning respondents believe that their locality does (92%) compared to a smaller proportion of site owner and tourism respondents (77% and 68% respectively). All three groups indicated they believe their locality takes wildlife planning into consideration in their comprehensive planning activities, but they do not believe it is considered as much when encouraging new business/industry/companies into the locality.

Overall, most respondents were satisfied with the information that VDGIF provides to trail users. Respondents also indicated that they believe the VDGIF has done an “adequate to great” job of providing information to trail users. They also believed that the VDGIF could do a better job at educating localities about the VBWT.

TABLE OF CONTENTS

EXECUTIVE SUMMARY I

List of Tables vii

List of Figures xiii

List of Appendices xviii

INTRODUCTION 1

Objectives 3

The objectives of this project were to 3

METHODS 4

Visitor Survey Methods 4

Encounter Survey Methods 5

Locality Survey Methods 8

Data Analysis 8

Comparison of Responses Between Online and Mail Survey 9

VISITOR SURVEY 10

Response Rate 10

Demographics 10

Trail Usage 12

Trail Use Demographics 15

Site Selection 24

Guide Use and Satisfaction 30

Spending 36

Overall Satisfaction 39

ENCOUNTER SURVEY 42
Response Rate 42
Demographics 42
Trail Usage and Knowledge 45
Trail Information 51
Spending 58
VBWT User Satisfaction 60
ECONOMICS 62
Estimation of Total Visitor Trips 62
Economic Effects of the VBWT 64
Direct Spending by Trail Visitors 64
Total Direct Economic Effects 70
LOCALITY SURVEY 74
Response Rate 74
Trail Awareness 74
Information Transfer 79
Trail Usage 91
Habitat Conservation 96
VDGIF Satisfaction 100
DISCUSSION 103
LITERATURE CITED 106
APPENDICES 107

List of Tables

TABLE 1. RESPONSE RATE AND DELIVERABLE RATE OF THE 500 EMAIL PRETEST. **4**

TABLE 2. WHAT IS YOUR GENDER? **10**

TABLE 3. IN WHAT YEAR WERE YOU BORN? **10**

TABLE 4. WAS VISITING THE VBWT THE PRIMARY REASON FOR BEING IN THE AREA? **13**

TABLE 5. VISITATION RATE OF VBWT USERS BASED ON WHEN PRE AND POST OBTAINING A TRAIL GUIDE. **16**

TABLE 6. VISITATION OF THE VBWT SINCE RECEIVING A TRAIL GUIDE AND PLANNED VISITATION. **16**

TABLE 7. USER VISITATION OF MULTIPLE LOOPS AND SITES. **17**

TABLE 8. NUMBER OF LOOPS AND SITES VISITED DURING YOUR LAST VBWT VISIT **17**

TABLE 9. DID YOU STAY OVERNIGHT FOR THE PURPOSE OF VISITING A VBWT LOOP OR SITE? **18**

TABLE 10. DO YOU CHOOSE LOOPS/SITES BASED ON THE OPPORTUNITY OF SEEING A SPECIFIC GROUP OR SPECIES OF WILDLIFE? **28**

TABLE 11. WOULD YOU USE INFORMATION IN THE TRAIL GUIDE TO PLAN FUTURE BIRDING AND WILDLIFE OBSERVATION TRIPS? **35**

TABLE 12. DURING YOUR LAST TRIP, ABOUT HOW MUCH DID YOU SPEND RELATED TO VISITING THE VBWT? (PLEASE ANSWER IN DOLLAR AMOUNTS) **37**

TABLE 13. DAILY EXPENDITURES BY RESPONDENTS WHO DID NOT STAY OVERNIGHT FOR THE PRIMARY REASON OF VISITING THE VBWT. **37**

TABLE 14. NIGHTLY EXPENDITURES BY RESPONDENTS WHO STAYED OVERNIGHT FOR THE PRIMARY REASON OF VISITING THE VBWT. **39**

TABLE 15. HAVE YOU SHARED INFORMATION ABOUT THE VBWT TO FRIENDS OR FAMILY? **40**

TABLE 16. HOW MANY INDIVIDUALS HAVE YOU SHARED VBWT INFORMATION WITH? **41**

TABLE 17. WHAT IS YOUR GENDER? **42**

TABLE 18. WHAT YEAR WERE YOU BORN? (DATA MODIFIED TO OBTAIN AGE) **42**

TABLE 19. HOW MANY BIRDING/WILDLIFE WATCHING TRIPS DO YOU TAKE IN A YEAR? (NOT NECESSARILY ON THE VIRGINIA BIRDING AND WILDLIFE TRAIL (VBWT)) **45**

TABLE 20. HOW MANY BIRDING/WILDLIFE WATCHING TRIPS DO YOU TAKE IN A YEAR? (RESPONSES OF ZERO WERE REMOVED FROM THE AVERAGE) **46**

TABLE 21. HOW MANY PEOPLE ARE TRAVELING IN YOUR GROUP THIS TRIP? **47**

TABLE 22. ARE YOU AWARE OF THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **48**

TABLE 23. ARE YOU AWARE THAT YOU ARE ON THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **48**

TABLE 24. AVERAGE DISTANCE TRAVELED BASED ON ZIP CODE. **48**

TABLE 25. AVERAGE DISTANCE TRAVELED OF VA RESIDENTS. **48**

TABLE 26. WAS VISITING THE VBWT YOUR PRIMARY REASON FOR BEING IN THE AREA? **49**

TABLE 27. DO YOU PLAN ON VISITING OTHER SITES ON THE LOOP TODAY? **49**

TABLE 28. HOW MANY OF THE SITES DO YOU PLAN ON VISITING? **49**

TABLE 29. IS THIS YOUR FIRST TIME ON THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **49**

TABLE 30. AVERAGE VISITATION RATES. **50**

TABLE 31. DID YOU STAY OVERNIGHT FOR THE PURPOSE OF VISITING A VBWT LOOP OR SITE? **50**

TABLE 32. DID YOU OBTAIN ANY INFORMATION ABOUT THE VIRGINIA BIRDING AND WILDLIFE TRAIL PRIOR TO YOUR VISIT? **51**

TABLE 33. DO YOU HAVE A TRAIL GUIDE OF THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **53**

TABLE 34. RESPONDENTS USE OF THE VBWT GUIDE. **53**

TABLE 35. TRAIL GUIDE USE AND SATISFACTION **54**

TABLE 36. DID YOU CHOOSE THIS LOOP TO TARGET SEEING A SPECIFIC GROUP OR WILDLIFE SPECIES? **58**

TABLE 37. DURING YOUR LAST TRIP, ABOUT HOW MUCH DID YOU SPEND RELATED TO VISITING THE VBWT? (PLEASE ANSWER IN DOLLAR AMOUNTS) **60**

TABLE 38. HOW LIKELY ARE YOU TO VISIT THE VBWT AGAIN? **61**

TABLE 39. HAVE YOU SHARED INFORMATION ABOUT THE VBWT WITH FRIENDS OR FAMILY? **61**

TABLE 40. HOW MANY INDIVIDUALS HAVE YOU SHARED VBWT INFORMATION WITH? **61**

TABLE 41. ESTIMATED NUMBER OF DAILY VISITORS TO THE VBWT PER SITE BY VISITATION PERIOD. THESE VALUES REPRESENT ONLY THOSE PERSONS AWARE OF THEIR PRESENCE ON THE VBWT. **63**

TABLE 42. ESTIMATED NUMBER OF ANNUAL VISITORS TO THE VBWT PER SITE BY DAY AND VISITATION PERIOD. THESE VALUES REPRESENT ONLY THOSE PERSONS AWARE OF THEIR PRESENCE ON THE VBWT. **63**

TABLE 43. ESTIMATED NUMBER OF ANNUAL VISITORS TO THE VBWT SYSTEM BY DAY AND VISITATION PERIOD. THESE VALUES REPRESENT ONLY THOSE PERSONS AWARE OF THEIR PRESENCE ON THE VBWT. **64**

TABLE 44. EXPENDITURES, IN DOLLARS, PER DAY OF VBWT VISITORS (PRIMARY AND NON-PRIMARY). AVERAGE EXPENDITURES PER PERSON WERE $13.45 PER DAY. Q15. "HOW MUCH DO YOU EXPECT TO SPEND TODAY DIRECTLY RELATED TO VISITING THE VIRGINIA BIRDING AND WILDLIFE TRAIL?" **68**

TABLE 45. EXPENDITURES, IN DOLLARS, PER DAY OF PRIMARY VBWT VISITORS. Q15. "HOW MUCH DO YOU EXPECT TO SPEND TODAY DIRECTLY RELATED TO VISITING THE VIRGINIA BIRDING AND WILDLIFE TRAIL?" **68**

TABLE 46. EXPENDITURES, IN DOLLARS, PER DAY OF NON-PRIMARY VBWT VISITORS. Q15. "HOW MUCH DO YOU EXPECT TO SPEND TODAY DIRECTLY RELATED TO VISITING THE VIRGINIA BIRDING AND WILDLIFE TRAIL?" **68**

TABLE 47. ARE YOU FROM OUT OF STATE? **69**

TABLE 48. DO YOU HAVE A TRAIL GUIDE OF THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **69**

TABLE 49. ARE YOU STAYING OVERNIGHT FOR THE PURPOSE OF VISITING A VIRGINIA BIRDING AND WILDLIFE TRAIL LOOP OR SITE? **70**

TABLE 50. ANNUAL CUMULATIVE DIRECT ECONOMIC EFFECTS OF THE VBWT. ANNUAL EXPENDITURES BASED UPON AN ANNUAL ESTIMATE OF 642,297 VISITORS. **71**

TABLE 51. ANNUAL VISITOR SPENDING ESTIMATES BY SPENDING CATEGORY. **73**

TABLE 52. RESPONSE RATES FOR LOCALITY SURVEY **74**

TABLE 53. ARE YOU AWARE OF THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **76**

TABLE 54. DO YOU KNOW WHAT AGENCY MANAGES THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **76**

TABLE 55. DO YOU KNOW WHO TO CONTACT ABOUT INFORMATION PERTAINING TO THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **76**

TABLE 56. WERE YOU INVOLVED IN HELPING TO ESTABLISH VIRGINIA BIRDING AND WILDLIFE TRAIL SITES IN YOUR LOCALITY? **77**

TABLE 57. WHAT LEVEL OF INVOLVEMENT DID YOU HAVE IN HELPING TO ESTABLISH THE VIRGINIA BIRDING AND WILDLIFE TRAIL SITES IN YOUR LOCALITY? **78**

TABLE 58. HAVE YOU NOTICED SIGNS MARKING VIRGINIA BIRDING AND WILDLIFE TRAIL SITES/ROADS? **78**

TABLE 59. DO YOU KNOW THE LOCATION OF VIRGINIA BIRDING AND WILDLIFE TRAIL SITES (OTHER THAN YOUR OWN) IN YOUR AREA? **78**

TABLE 60. HAVE YOU VISITED ANY OF THE VIRGINIA BIRDING AND WILDLIFE TRAILS WITHIN YOUR LOCALITY? **79**

TABLE 61. HAVE YOU VISITED VIRGINIA BIRDING AND WILDLIFE TRAIL SITES OUTSIDE OF YOUR LOCALITY? **79**

TABLE 62. ARE YOU AWARE OF ANY RESIDENTS OR VISITORS REQUESTING INFORMATION ABOUT THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **80**

TABLE 63. HOW MANY REQUESTS PERTAINING TO THE VIRGINIA BIRDING AND WILDLIFE TRAIL DO YOU ESTIMATE YOUR SITE RECEIVES ANNUALLY? (IF YOU HAVE MORE THAN ONE SITE PLEASE AVERAGE THE NUMBER OF REQUEST ACROSS ALL SITES) **80**

TABLE 64. DO YOU FEEL THAT YOU CAN PROVIDE ADEQUATE INFORMATION TO ADDRESS VIRGINIA BIRDING AND WILDLIFE TRAIL INFORMATION REQUESTS? **82**

TABLE 65. DO YOU (OR SOMEONE IN YOUR OFFICE) HAVE VIRGINIA BIRDING AND WILDLIFE TRAIL LITERATURE ON HAND TO DISTRIBUTE FOR INFORMATION REQUEST? **82**

TABLE 66. DOES YOUR WEBSITE LINK TO THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **85**

TABLE 67. DO YOU HAVE A PARTICULAR INDIVIDUAL THAT YOU REFER INFORMATION REQUESTS TO? **86**

TABLE 68. ARE THEY THE PRIMARY CONTACT BECAUSE OF THEIR PERSONAL INTEREST OR BECAUSE OF THEIR JOB POSITION? **87**

TABLE 69. HAS YOUR LOCALITY WORKED WITH NEIGHBORING LOCALITIES TO PROMOTE THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **87**

TABLE 70. HAVE LOCAL GOVERNMENT OFFICIALS CONTACTED YOU FOR ASSISTANCE IN PROMOTING THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **89**

TABLE 71. DO YOU THINK LOCAL BUSINESSES ARE AWARE OF THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **91**

TABLE 72. DO YOU THINK LOCAL BUSINESSES PROMOTE THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **91**

TABLE 73. DO YOU BELIEVE LOCAL BUSINESSES VIEW THE VIRGINIA BIRDING AND WILDLIFE TRAIL AS AN ECONOMIC BENEFIT? **91**

TABLE 74. ARE YOU AWARE OF OUT OF TOWN INDIVIDUALS VISITING YOUR LOCALITY BECAUSE OF THE VIRGINIA BIRDING AND WILDLIFE TRAIL'S EXISTENCE? **92**

TABLE 75. DO THESE INDIVIDUALS REQUEST INFORMATION PERTAINING TO OTHER LOCAL ATTRACTIONS? **92**

TABLE 76. DO THESE VISITORS REQUEST INFORMATION PERTAINING TO LODGING? **93**

TABLE 77. WHAT TYPE OF INFORMATION IS REQUESTED MORE FREQUENTLY? **93**

TABLE 78. OF THE INDIVIDUALS VISITING YOUR SITE/SITES, WHAT PERCENTAGE IS MADE UP OF INDIVIDUALS THAT ARE AWARE THEY ARE ON A VIRGINIA BIRDING AND WILDLIFE TRAIL SITE? **93**

TABLE 79. OF THE INDIVIDUALS THAT ARE AWARE OF THE VIRGINIA BIRDING AND WILDLIFE TRAIL, WHAT PERCENTAGE OF THE FOLLOWING GROUPS DO YOU ESTIMATE VISIT YOUR SITE/SITES? **94**

TABLE 80. DO YOU CONSIDER THE VIRGINIA BIRDING AND WILDLIFE TRAIL AN ASSET TO YOUR LOCALITY? **96**

TABLE 81. DO YOU CONSIDER THE VIRGINIA BIRDING AND WILDLIFE TRAIL AN ECONOMIC DRAW FOR YOUR LOCALITY? **96**

TABLE 82. IS ECOTOURISM AN INTEGRAL PART OF TOURISM PLANNING FOR YOUR LOCALITY? **96**

TABLE 83. DO YOU PERCEIVE A NEED FOR GREATER HABITAT/CONSERVATION PLANNING IN YOUR LOCALITY? **98**

List of Figures

FIGURE 1. ALL VBWT SITES **6**

FIGURE 2. VBWT RANDOMLY SELECTED SURVEY SITES **7**

FIGURE 3. AGE DISTRIBUTION OF RESPONDENTS. **11**

FIGURE 4. EDUCATIONAL ATTAINMENT OF RESPONDENTS. **11**

FIGURE 5. INCOME DISTRIBUTION OF RESPONDENTS. **12**

FIGURE 6. RACE AND ETHNICITY OF RESPONDENTS. **12**

FIGURE 7. Q20B. "ARE YOU A VIRGINIA RESIDENT?" CROSS TABBED WITH Q17. "WAS VISITING THE VBWT THE PRIMARY REASON FOR BEING IN THE AREA?" CHI-SQUARE = 7.15, DF = 1, P = .0075 ..... **13**

FIGURE 8. AVERAGE DISTANCED TRAVELED TO VISIT A VBWT. (US RESIDENTS ONLY) **14**

FIGURE 9. AVERAGE DISTANCE TRAVELED BY VA RESIDENTS TO VISIT A VBWT. (US RESIDENTS ONLY) **14**

FIGURE 10. NUMBER OF RESPONDENTS BY STATE OF RESIDENCY. **15**

FIGURE 11. (Q.9) HOW MANY LOOPS DID YOU VISIT? SUMMARIZED BY RESIDENCY. **17**

FIGURE 12. (Q.10) DURING YOUR LAST VISIT TO THE VBWT DID YOU VISIT MORE THAN ONE SITE? SUMMARIZED BY RESIDENCY **18**

FIGURE 13. (Q.24) DID YOU STAY OVERNIGHT FOR THE PURPOSE OF VISITING A VBWT LOOP OR SITE? SUMMARIZED BY RESIDENCY **19**

FIGURE 14. (Q.24B) HOW MANY NIGHTS DID YOU STAY IN ORDER TO VISIT VBWT LOOPS OR SITES? SUMMARIZED BY RESIDENCY. **19**

FIGURE 15. (Q.8) AVERAGE NUMBER OF HOURS SPENT AT VBWT SITES IN THE LAST YEAR. SUMMARIZED BY RESIDENCY. **20**

FIGURE 16. (Q.7) AVERAGE NUMBER OF VBWT VISITS IN THE LAST YEAR SUMMARIZED BY RESIDENCY. **21**

FIGURE 17. AVERAGE HOURS PER TRIP BASED ON DATA FROM Q.7 AND Q.8. ..... **21**

FIGURE 18. (Q.24C) WHERE DID YOU STAY OVERNIGHT? **22**

FIGURE 19. (Q.21) IF YOU ARE NOT A VIRGINIA RESIDENT, WHAT WAS YOUR PRIMARY REASON FOR TRAVELING TO VIRGINIA? **23**

FIGURE 20. (Q.17) WAS VISITING THE VBWT YOUR PRIMARY REASON FOR BEING IN THE AREA? SUMMARIZED BY RESIDENCY. **23**

FIGURE 21. (Q.29) WHAT OTHER ACTIVITIES DID YOU PARTAKE IN DURING YOUR VISIT? (ANSWER ALL THAT APPLY) **24**

FIGURE 22. (Q.23A) IMPORTANCE OF DISTANCE BETWEEN HOME AND SITE LOCATION WHEN CHOOSING A SITE OR LOOP TO VISIT. SUMMARIZED BY RESIDENCY. **25**

FIGURE 23. (Q.23B) IMPORTANCE OF THE PRESENCE OF A WALKING OR HIKING TRAIL WHEN CHOOSING A SITE OR LOOP TO VISIT. SUMMARIZED BY RESIDENCY. **25**

FIGURE 24. (Q.23D) IMPORTANCE OF SITE FEES WHEN CHOOSING A SITE OR LOOP TO VISIT. SUMMARIZED BY RESIDENCY. **26**

FIGURE 25. (Q.23E) IMPORTANCE OF LOCAL ATTRACTIONS WHEN CHOOSING A SITE OR LOOP TO VISIT. SUMMARIZED BY RESIDENCY. **27**

FIGURE 26. (Q.23F) IMPORTANCE OF THE PROBABILITY OF SEEING A SPECIFIC WILDLIFE SPECIES WHEN CHOOSING A SITE OR LOOP TO VISIT. SUMMARIZED BY RESIDENCY. **28**

FIGURE 27. (Q. 45) WHAT AREAS OF THE VBWT HAVE YOU VISITED OVER ALL TRIPS? PERCENTAGES TOTAL MORE THAN 100% SINCE RESPONDENTS COULD ANSWER FOR MULTIPLE AREAS. **29**

FIGURE 28. PERCENTAGE OF SITES IN EACH OF THE THREE VBWT AREAS. **29**

FIGURE 29. (Q.30) DID YOU USE INFORMATION IN THE VBWT TRAIL GUIDE TO DECIDE WHICH SPECIFIC LOOPS/SITES TO VISIT? SUMMARIZED BY RESIDENCY. **30**

FIGURE 30. (Q.31) DID YOU USE INFORMATION IN THE VBWT TRAIL GUIDE ON LODGING AND SERVICES AVAILABLE IN THE AREA YOU WERE PLANNING TO VISIT? SUMMARIZED BY RESIDENCY. **31**

FIGURE 31. (Q.24 + Q.31) COMPARES NON-RESIDENT RESPONSES TO THE TWO QUESTIONS "DID YOU STAY OVERNIGHT FOR THE PURPOSE OF VISITING A VBWT LOOP OR SITE?" AND "DID YOU USE INFORMATION IN THE VBWT TRAIL GUIDE ON LODGING AND SERVICES AVAILABLE IN THE AREA YOU WERE PLANNING TO VISIT?" **31**

FIGURE 32. (Q.24 + Q.31) COMPARES VIRGINIA RESIDENT RESPONSES TO THE TWO QUESTIONS "DID YOU STAY OVERNIGHT FOR THE PURPOSE OF VISITING A VBWT LOOP OR SITE?" AND "DID YOU USE INFORMATION IN THE VBWT TRAIL GUIDE ON LODGING AND SERVICES AVAILABLE IN THE AREA YOU WERE PLANNING TO VISIT?" **32**

FIGURE 33. (Q.31B) DID YOU ACTUALLY BOOK RESERVATIONS OR STAY AT ANY OF THE LISTED LODGINGS? SUMMARIZED BY RESIDENCY. **32**

FIGURE 34. (Q.32) DID YOU USE THE VBWT TRAIL GUIDE TO NAVIGATE FROM SITE TO SITE ON ANY OF THE LOOPS? SUMMARIZED BY RESIDENCY. **33**

FIGURE 35. (Q.33) HOW WOULD YOU RATE THE ACCURACY OF THE TRAIL GUIDE INFORMATION FOR NAVIGATING TO SPECIFIC SITES? SUMMARIZED BY RESIDENCY **33**

FIGURE 36. (Q.34) HOW WOULD YOU RATE THE EASE OF USE OF THE TRAIL GUIDE INFORMATION FOR NAVIGATING TO SPECIFIC SITES? **34**

FIGURE 37. (Q.35) DID YOU FIND THE SITE-SPECIFIC INFORMATION IN THE TRAIL GUIDE USEFUL? **34**

FIGURE 38. (Q.36) DID YOU FIND THE SITE-SPECIFIC INFORMATION IN THE TRAIL GUIDE INFORMATIVE? **35**

FIGURE 39. (Q.37) WAS THE SITE-SPECIFIC INFORMATION IN THE TRAIL GUIDE REGARDING LIKELY SPECIES TO BE OBSERVED USEFUL? **35**

FIGURE 40. (Q.22) HOW SATISFIED WERE YOU WITH PAST VISITS TO VBWT SITES OR LOOPS? **40**

FIGURE 41. (Q.28) HOW LIKELY ARE YOU TO VISIT THE VBWT AGAIN? **40**

FIGURE 42. (Q.24) WHAT YEAR WERE YOU BORN? (DATA MODIFIED TO OBTAIN AGE) **43**

FIGURE 43. (Q.25) WHAT IS THE HIGHEST LEVEL OF EDUCATION YOU HAVE COMPLETED? **44**

FIGURE 44. (Q.27) WHAT IS YOUR ANNUAL INCOME? **44**

FIGURE 45. (Q.26) IN WHICH OF THE FOLLOWING GROUPS WOULD YOU INCLUDE YOURSELF? **45**

FIGURE 46. (Q.4) HOW FAMILIAR ARE YOU WITH BIRD WATCHING/WILDLIFE WATCHING? (RESPONSES TO Q.3 = 0 WERE REMOVED) **46**

FIGURE 47. (Q.10A) HOW SATISFIED WERE YOU WITH PAST VISITS TO VBWT SITES OR LOOPS? **50**

FIGURE 48. (Q.12A) WHERE DID YOU GET INFORMATION ABOUT THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **51**

FIGURE 49. (Q. 11A-E) IMPORTANCE OF EACH VARIABLE IN CHOOSING A VIRGINIA BIRDING AND WILDLIFE TRAIL LOOP/SITE TO VISIT. **56**

FIGURE 50. (Q.20) WHAT OTHER ACTIVITIES HAVE YOU ENGAGED IN DURING YOUR VISIT? INDIVIDUALS COULD ANSWER MULTIPLE ACTIVITIES. PERCENTAGES ARE BASED ON TOTAL NUMBER OF RECORDED ACTIVITIES AND NOT THE NUMBER OF INDIVIDUALS THAT RESPONDED. **57**

FIGURE 51. (Q.11F) PLEASE RANK THE IMPORTANCE OF EACH VARIABLE IN CHOOSING A VIRGINIA BIRDING AND WILDLIFE TRAIL LOOP/SITE TO VISIT. PROBABILITY OF SEEING A SPECIFIC WILDLIFE SPECIES. **58**

FIGURE 52. WHERE DID YOU OBTAIN YOUR KNOWLEDGE ABOUT THE VIRGINIA BIRDING AND WILDLIFE TRAIL? PERCENTAGE BASED ON NUMBER OF RESPONDENTS, SOME RESPONDENTS ANSWERED MULTIPLE CATEGORIES **77**

FIGURE 53. CORRELATION BETWEEN Q.11 "DO YOU FEEL THAT YOU CAN PROVIDE ADEQUATE INFORMATION TO ADDRESS VIRGINIA BIRDING AND WILDLIFE TRAIL INFORMATION REQUESTS?" AND Q.20 "DO YOU (OR SOMEONE IN YOUR OFFICE) HAVE VIRGINIA BIRDING AND WILDLIFE TRAIL LITERATURE ON HAND TO DISTRIBUTE FOR INFORMATION REQUEST? **83**

FIGURE 54. (Q12.) DO YOU PROMOTE THE VIRGINIA BIRDING AND WILDLIFE TRAIL SITES WITHIN YOUR LOCALITY? AND Q13. DO YOU PROMOTE THE VIRGINIA BIRDING AND WILDLIFE TRAIL SITES OUTSIDE OF YOUR LOCALITY? **84**

FIGURE 55. (Q12A) HOW DO YOU PROMOTE THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **84**

FIGURE 56. (Q26) PERCENTAGE OF SITE VISITORS BY RESIDENCY AS ESTIMATED BY SITE OWNERS. **94**

FIGURE 57. (Q.36) DOES YOUR LOCALITY TAKE OPEN SPACE INTO PLANNING CONSIDERATION? AND (Q.37) DOES YOUR LOCALITY TAKE WILDLIFE HABITAT INTO PLANNING CONSIDERATION? **98**

FIGURE 58. (Q.38) DO YOU BELIEVE LOCAL GOVERNMENT OFFICIALS TAKE HABITAT PLANNING INTO CONSIDERATION AS THEY ENCOURAGE NEW BUSINESS/INDUSTRY/COMPANIES INTO THE AREA? **99**

FIGURE 59. DO YOU BELIEVE THAT THE VIRGINIA BIRDING AND WILDLIFE TRAIL/ECOTOURISM PROVIDES ECONOMIC JUSTIFICATION FOR HABITAT PRESERVATION? **100**

FIGURE 60. (Q32) DO YOU BELIEVE THE VDGIF PROVIDES ADEQUATE VIRGINIA BIRDING AND WILDLIFE TRAIL INFORMATION FOR TRAIL USERS? **101**

FIGURE 61. (Q33) DO YOU BELIEVE VDGIF PROVIDES ADEQUATE VIRGINIA BIRDING AND WILDLIFE TRAIL INFORMATION TO EDUCATE LOCALITIES ABOUT THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **101**

FIGURE 62. (Q34) DO YOU BELIEVE THE VDGIF PROVIDES YOU/YOUR LOCALITY ADEQUATE SUPPORT PROMOTING THE VIRGINIA BIRDING AND WILDLIFE TRAIL? **102**

List of Appendices

APPENDIX A: 108

APPENDIX B: 115

APPENDIX C: 123

APPENDIX D: 129

APPENDIX E: 135

APPENDIX F: 151

APPENDIX G: 163

APPENDIX H: 176

Introduction

The Virginia Birding and Wildlife Trail (VBWT) is a driving trail that provides travelers opportunities to view a wide variety of wildlife and have a quality recreational experience. The trail, modeled off the successful Great Texas Coastal Birding Trail, currently includes 65 loops across the state totaling about 670 individual sites. The VBWT is the first statewide wildlife trail of its kind in the United States. The trail was designed in three phases (Coastal, Piedmont, and Mountain). The Coastal phase was the first phase completed in October of 2002, the Mountain phase was completed second in September of 2003, and the third (Piedmont) phase was completed in September of 2004. The three phases afford visitors of the VBWT the opportunity to observe the nearly 400 residential and migratory bird species found in Virginia, as well as the 3,000+ documented species of amphibians, butterflies, crayfish, dragonflies, fish, mammals, mussels, and reptiles in the Commonwealth.

The VBWT, established and maintained by the Virginia Department of Game and Inland Fisheries (VDGIF), has many potentially important impacts on the surrounding local communities including significant economic input from visitors of the Trail. These economic benefits may ultimately benefit the wildlife resource by encouraging local communities to include habitat conservation and recreation planning in their planning and economic development processes. Travelers interested in watchable wildlife may obtain a copy of the VBWT guides through a variety of venues, including the Virginia Tourism Corporation's web site and toll-free phone number, the DGIF web site, and other electronic request resources.

The VBWT guide is a 380 page spiral bound guide that is designed to help visitors select and navigate to sites around the Commonwealth.. The guide provides specific information such as detailed driving directions to sites on each loop, maps of each loop, and local amenity contacts. Each site in the guide is supplemented with information including the sites' history, special features, species likely to be observed, possible side trips, and symbols that indicate services and activities available.

This study was designed to assess the economic impacts of the VBWT. We employed three separate user surveys to gather the data necessary to complete this assessment. These surveys were referred to as the "Visitor Survey", the "Encounter Survey" and the "Locality Survey".

In order to fully study the usage of the VBWT it was necessary to survey two separate populations; those that obtained a copy of the VBWT guide, and those that were actually using the trail. The Visitor Survey was created to survey the individuals that had obtained a copy of the VBWT guide. Many individuals had requested a copy of the VBWT guide but it was not known whether these individuals were actually visiting the trail and if so, where they using the guide they received.

The second survey of VBWT users designed was the Encounter survey. This survey intended to access the individuals that were actually using the VBWT. The survey was implemented by placing individuals on the ground to survey actual users of the VBWT. One of the primary objectives of this survey was to determine the percentage of trail users that actually knew they were on the VBWT. Most of the VBWT sites were in existence prior to the creation of the VBWT resulting in two types of users, those that only knew of the site by itself (i.e. not knowing it was part of the VBWT) and those that knew the site was part of VBWT. Individuals who knew they were on the VBWT were then asked a series of questions to obtain their usage characteristics such as distance traveled, preferences for site selection, and expenses among other topics.

The third survey (Locality Survey) was designed to find the community planning/habitat conservation-related impacts of the VBWT as well as perceptions of how well the trail is used and promoted This survey was conducted by sampling three groups, VBWT site owners who consist of the individuals that own the property where the sites are located and are responsible for the day to day management and upkeep of the sites, tourism officials who are typically the group of individuals that would promote local activities and resources such as the VBWT, and planning developers who are primarily responsible for creating long term plans for their community growth. The remainder of this report is broken into four sections. The first three sections relay the finding from the three implemented surveys mentioned above and the fourth section consist of the appendices reporting on the surveys used and the statistical analysis from the three surveys.

Objectives

The objectives of this project were to:

1. Survey persons whom requested a copy of the VBWT guide (Visitor Survey) to assess:
    a. whether the guide recipients visited the VBWT,
    b. details about their trip:
        i. length
        ii. distance traveled
        iii. loops/sites visited
        iv. other activities participated in during their visit

2. Survey users of the VBWT (Encounter Survey) to:
    a. measure actual use of the VBWT and the economic impacts of the VBWT
    b. determine details about their trip:
        i. length
        ii. distance traveled
        iii. loops/sites visited
        iv. other activities participated in during their visit

3. Survey VBWT site owners, tourism officials, and planning personnel (Locality Survey) to address:
    a. the respondents' familiarity and experience with the VBWT
    b. their level of consideration for habitat conservation and recreation planning in their activities
    c. their perceived community needs regarding habitat conservation and recreation/tourism development
    d. their expectations of DGIF and the VBWT

Methods

Visitor Survey Methods

The Virginia Department of Game and Inland Fisheries (VDGIF) provided a database of individuals that had contacted the Virginia Tourism Corporation for a copy of the Virginia Birding and Wildlife Trail guide. The database contained the name and mailing address, and in some instances the email address, of 90,023 individuals who had requested a copy of the VBWT guide. This database only included individuals who requested the guide through the Virginia Department of Tourism. The VDGIF has distributed 450,000 copies of their guide through the Virginia Tourism Corporation and other avenues. The database was filtered into two lists: those that provided an email address (31,863) and those that only provided a US Postal Service mailing address (58,160).

In order to determine an approximate incidence rate from the trail guide request database maintained by the Virginia Tourism Commission, 500 email addresses were randomly selected and sent an email explaining the project. In the email the individual was asked "Have you visited the Virginia Birding and Wildlife Trail since receiving the guide" and "Would you be willing to participate in the full survey". The emails were sent to gauge:

- the percentage of emails that were not deliverable (deliverable rate),
- the response rate, and
- the percentage of individuals that have visited the VBWT since receiving their guide (incidence rate).

The pre-test was sent via email with a follow up reminder email 1 week later. In response to the two emails 28 responses and 40 delivery errors were received, for a response rate of 5.6% and a bounced email rate of 8% (Table 1). Of the 28 individuals that responded, 64% (18) had not visited the VBWT since receiving their guide and 36% (10) of the respondents had. The individuals that indicated they had visited the VBWT since receiving their guide represented 2% of the survey population.

Table 1. Response rate and deliverable rate of the 500 email pretest.

Table 1	N		Responses Rate	Undeliverable Rate
Total Emails	500	#	28	40

		%	5.6	8.0

The 2% response rate was a much lower than anticipated. In an effort to achieve statistical validity all 31,863 individuals that requested a copy of the guide and provided an email address were surveyed via email. Due to the high cost of sending surveys via mail only 5,000 of the 58,160 (8.6%) individuals who provided physical mailing addresses were sent surveys.

The 5,000 individuals were randomly selected from the database of 58,160. Those individuals who provided email addresses were omitted from the mailed survey sample. We also chose to exclude individuals with international addresses; however those with international email were included in the email survey.

The mail survey recipients were sent an initial mailing, a postcard reminder after one week, a second survey after 3 weeks, and a third survey mailing after seven weeks. Each mail recipient received in their survey packet a letter describing the project, the survey, and directions for returning the survey to take advantage of the prepaid postage. A copy of the Visitor Survey can be found in

Appendix A.

Before implementing the email survey the database of address were reviewed to remove duplicate email address and incorrect email formats. This cleaning resulted in the removal of 1,421 records resulting in a final pool of 30,439 individuals. We created an Internet survey using Limesurvey software (www.limesurvey.org). Emails were sent to individuals with a description of the project and a link to connect them to an Internet survey start page. Each link was unique with a security key that prevented non-invited users from participating. The email survey was conducted with an initial emailing and a reminder sent after 1, 2, and 4 weeks.

Encounter Survey Methods

The purpose of the Encounter Survey was to measure actual use and the local economic impacts of the VBWT. A draft Encounter Survey was developed by the Conservation Management Institute (CMI) in conjunction with the VDGIF. The Encounter Survey was very similar to the

Visitor Survey, but focused more on actual use and prior knowledge of the trail. A copy of the Encounter survey can be found in Appendix B.

At the time of the survey the VBWT consisted of approximately 617 sites throughout the Commonwealth of Virginia (Figure 1).

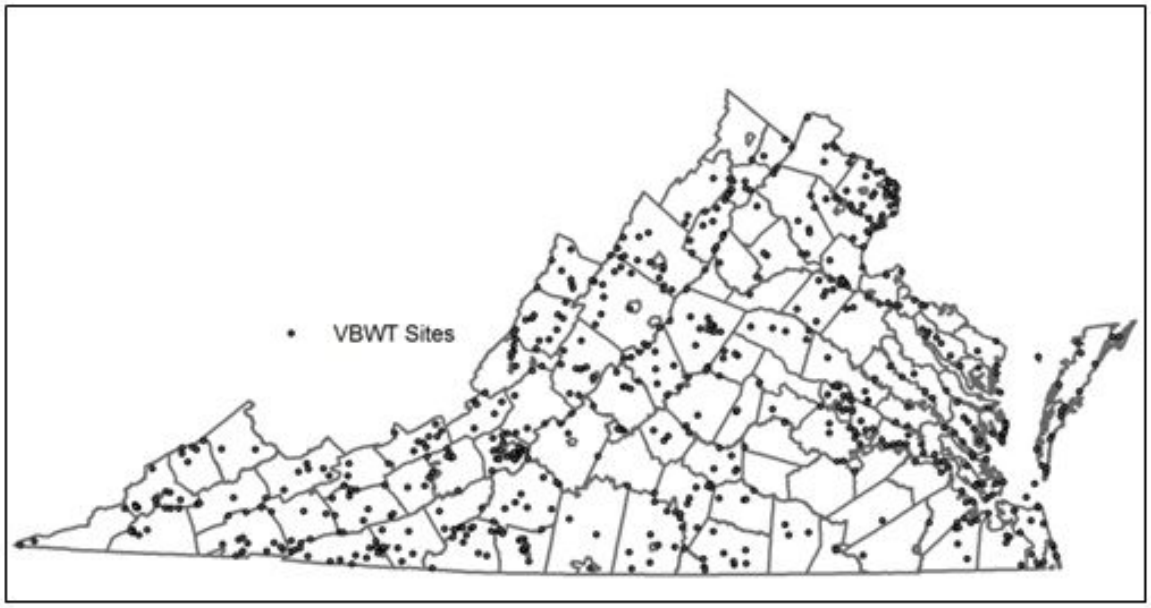

Figure 1. All VBWT Sites

Of the 617 sites, 70 were randomly selected to be surveyed between the months of April and October (Figure 2). We assumed that most visitors would be using the VBWT in these months. Survey sites were randomly selected to ensure that a representative sample of trail sites were included in the survey since it is known that not all VBWT sites receive equal visitation rates and that rates vary by season and proximity to urban areas, in addition to other variables.

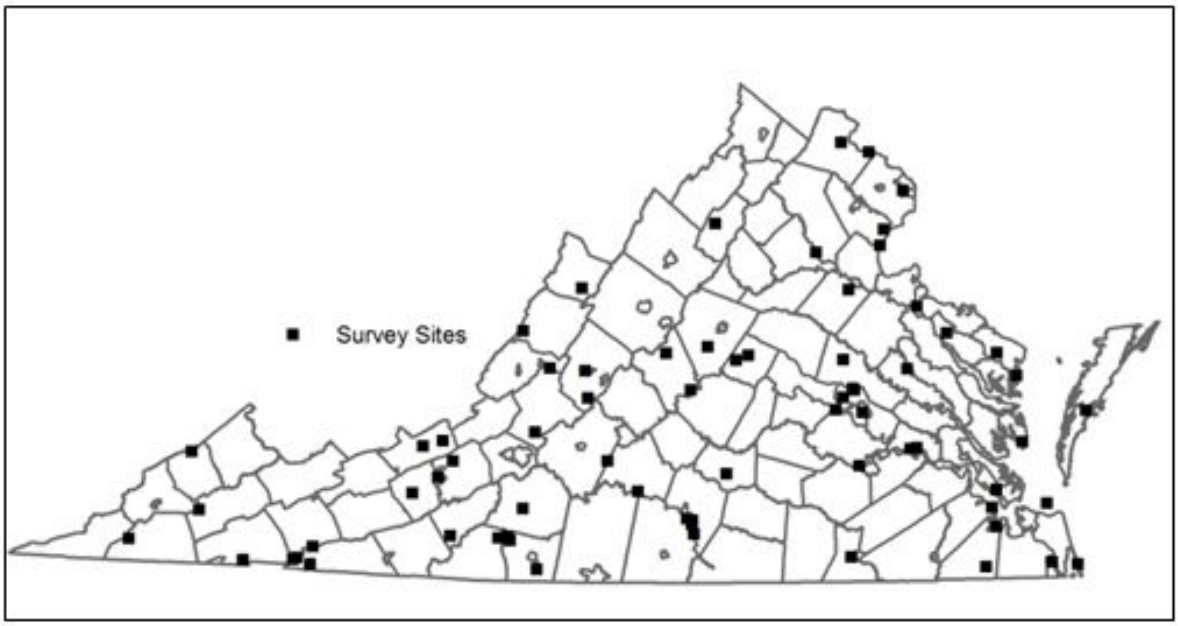

Figure 2. VBWT Randomly Selected Survey Sites

Sites were sampled on weekends to maximize the number of visitors encountered. Each survey crew consisted of 1 or 2 trained individuals. Selected VBWT sites were surveyed once for a total of 8 hours. Surveys began either one hour after sunrise or ended one hour before sunset (randomly assigned). The survey times were designed to capture not only knowledgeable birders but also novice wildlife watchers and recreational wildlife watchers and naturalists.

At each site, surveyors chose a location they felt would sample the greatest number of target users. Since many VBWT sites are multi-use and have other activates (e.g. organized sports), target users in this study were those that appeared to be using the resource for a nature-oriented experience.

Surveyors approached all individuals that exhibited characteristics of using a site for a nature oriented outing and explained the goals and objectives of the project using a prepared script (Appendix B). If the individual indicated that they were over the age of 18 then they were asked to participate in the survey. For parties of multiple individuals only one person from the group was asked to participate. If individuals indicated that they currently did not have time to participate they were asked if they would be willing to take a copy of the survey with them to be filled out at a later date. If the individual agreed to fill out a survey at a later date, the surveyor placed a postage stamp on the back of the pre-addressed survey and provided instructions of how to mail the survey.

The first five questions of the survey obtained information pertaining to the number of individuals in their group, whether they had participated in the survey before, how often they bird/wildlife, and their familiarity with birding/wildlife watching. Individuals were then asked

if they were aware of the VBWT and if they were aware that they were currently on it. If the individual responded that they were aware of being on the VBWT then they were asked the remaining questions in the survey. If they were not aware of being on the VBWT then they were thanked for their time and the survey was discontinued.

Locality Survey Methods

The Locality Survey was conducted by surveying three groups of individuals: 1) VBWT site owners/managers; 2) local Virginia tourism officials; and 3) local Virginia planning personnel. A similar survey instrument was developed for all three groups, with the exception of two questions added to the site owner surveys to gauge estimated user observation interest and user residency. Copies of the surveys can be found in Appendices C and D. The VDGIF maintained a list of contacts for the first two groups (approximately 450 site owners/mangers, 80 economic development, and 75 tourism officials). The list of planning personnel was compiled from online resources and/or government directories. The survey was conducted as an Internet survey, with an email follow-up 1 and 3 weeks after the initial email contact and a final non-respondent follow-up via mail after one month.

Data Analysis

We used standard analytical techniques (SAS Version 8.2) to describe user responses and to assess whether responses differed between user groups (and sometimes survey types). Data from respondents that indicated they had taken the survey before (question 2 in Encounter Survey) was not included in analyses. For analysis purposes, questions were divided into two basic types: 1) questions about population means, such as “How many birding/wildlife trips do you take in a year?” and, 2) questions involving proportions, such as “Since receiving your VBWT guide, have you visited any of the VBWT sites?” In the first case, we used t-tests to assess whether the mean response differed between user groups. For each question we also assessed whether variances differed between user groups and then used the appropriate test statistic to assess significance.

For questions relating to proportions, we used chi-squared tests to assess whether the proportion of responses differed between user groups (or survey types) or to assess the equality of proportions within one user group. For example, did the same proportion of individuals respond “yes” (or “no”) in two different user groups? Likewise, for questions where only one user group was identified, did the same proportion of individuals respond “yes” and “no”? In situations where cells (answer types) had expected counts of less than 5, chi-square tests are invalid; in these situations we used the related Fisher’s Exact Test to assess significance. Regardless of test type, we used an alpha value of 0.05 to determine significance.

Comparison of Responses Between Online and Mail Survey

As described in Visitor Survey Methods, individuals that requested the VBWT guide were surveyed using one of two survey methods—either an email/online survey or mail/paper survey. Both survey methods were intended to reach the same population of trail users (i.e. those people who requested the VBWT guide) and questions were identical in both surveys.

We tested to determine whether responses between the survey types were similar in order to pool them for analysis purposes. We used t-tests and chi-squared tests, as described above, to address this question. Appendix E provides detailed statistical output for each question.

Visitor Survey

Unless the report states "of all returned surveys," all data reported is based on individuals that have received a VBWT guide and have visited the trail since receiving the guide.

Response Rate

Of the 5,000 surveys mailed, 864 (17.2%) were returned as undeliverable by the US Post Office and 772 were returned completed for a response rate of 18.7%[1]. Of the 30,439 email surveys, 6,595 (21.6%) were returned as undeliverable and 1,609 were returned for a response rate of 6.8%[2]. Sample sizes were adequate to complete the objectives of this project, though the scope inference varies by question, depending on sample size.

Demographics

The gender of survey respondents were 56.4% male and 43.6% female (Table 2). The mean age of respondents was 52.7 years (Table 3). The youngest respondent was 11 years of age and the oldest was 84. The age distribution of respondents can be found in Figure 3.

Table 2. What is your gender?

Q42	N		Male	Female	Chi-Square
Trail Guide Users	528	#	298	230	χ^2 = 8.7576, DF=1 p<0.0031
		%	56.4	43.6	

Table 3. In what year were you born? Table indicates user age in years.

		Age					
Q43	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Trail Guide Users	516	52.7	0.552	11	84	51.70	53.76

[1] Mail response rate (772 / (5000-864)).
[2] Email response rate (1609 / (30439 – 6595))

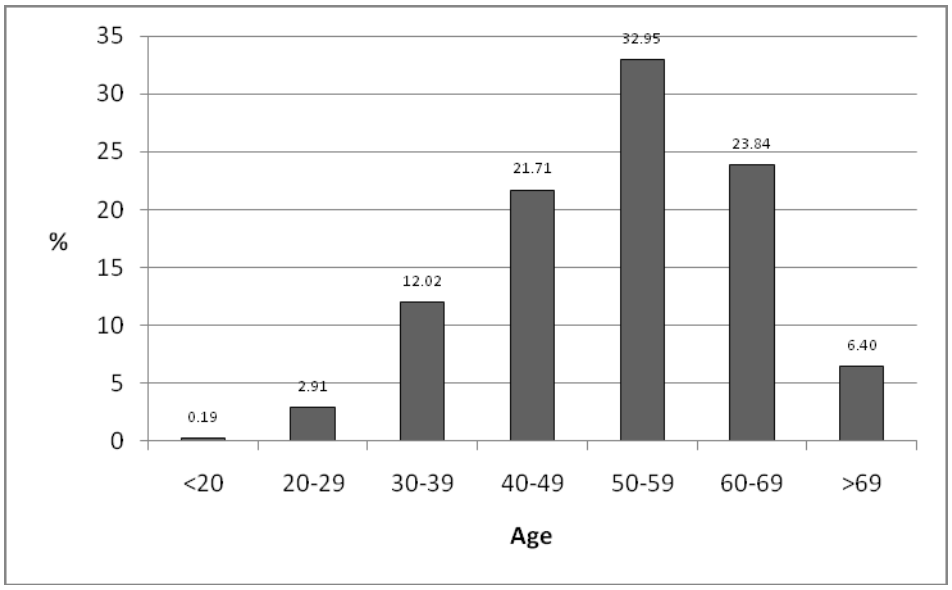

Figure 3. Age distribution of respondents.

Overall, respondents were highly educated. Greater than 72% of all respondents had completed at least 4 years of college and more than 40% of respondents had earned a graduate degree (Figure 4Figure 4). Median annual income of the respondents exceeded $75,000. Fewer than 1 in 4 of the respondents earned less than $50,000 per year (Figure 5).

The racial diversity of respondents was low, with 95% of all respondents classifying themselves as white/Caucasian. No other group in any survey type exceeded 2% (Figure 6).

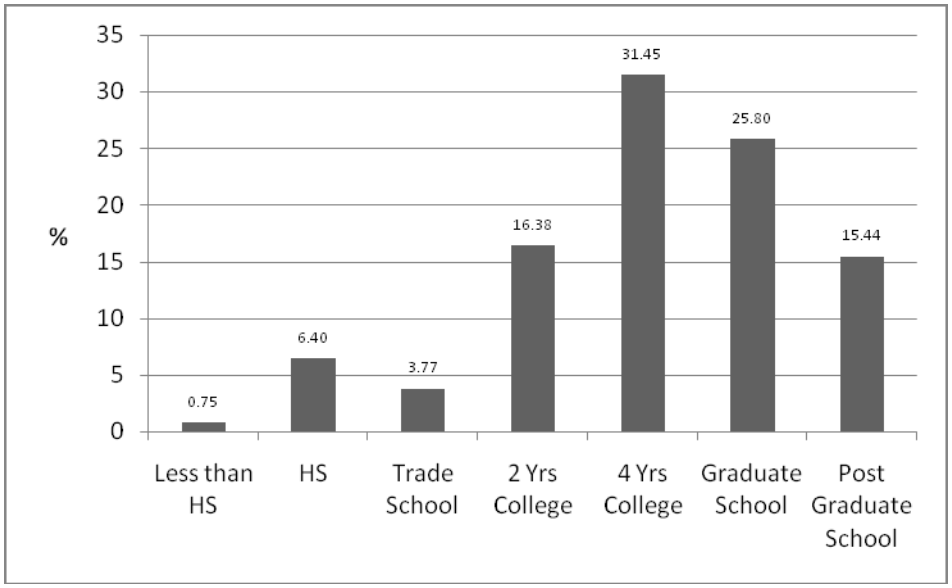

Figure 4. Educational attainment of respondents.

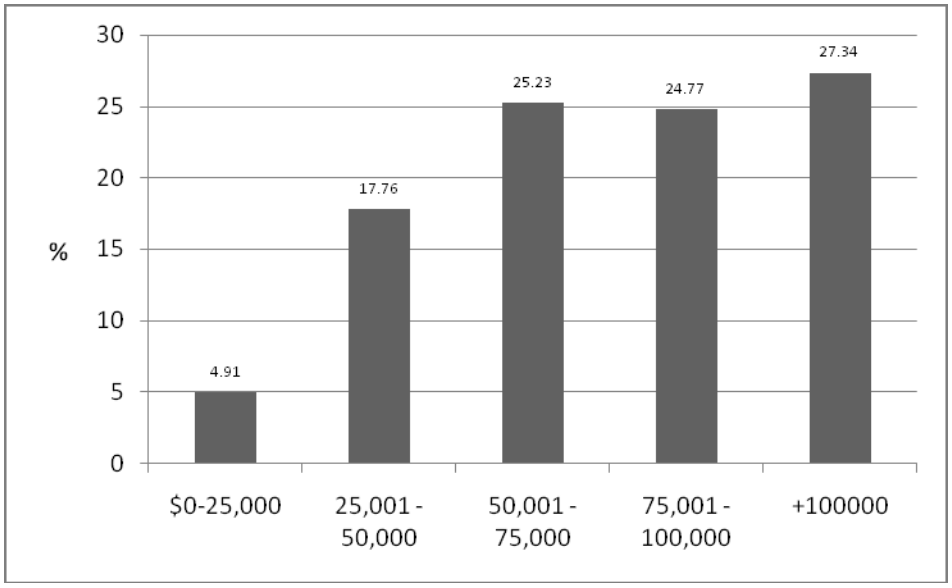

Figure 5. Income distribution of respondents.

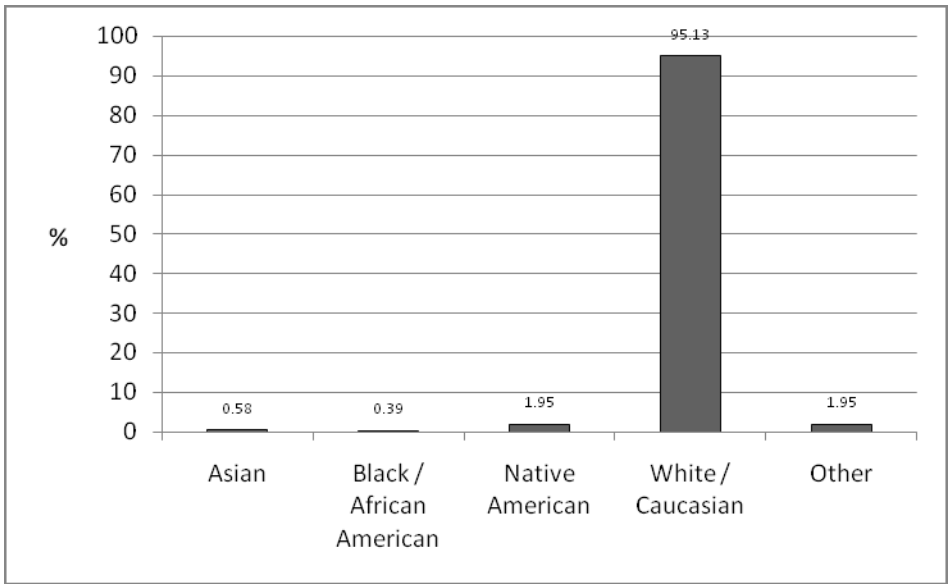

Figure 6. Race of respondents.

Trail Usage

Of those that requested a VBWT guide and responded to the survey, 63% were Virginia residents and 37% were from outside of Virginia. When asked about their last visit to the VBWT, 38% of survey respondents reported that they traveled to the area for the primary purpose of visiting the Trail while the remaining 62% reported that visiting the VBWT was not their primary reason for being in an area (

Table 4).

Table 4. Was visiting the VBWT the primary reason for being in the area?

Q17	N		Yes	No	Chi-Square
Trail Guide Users	522	#	200	322	$\chi^2 = 28.51$ $p < .0001$
		%	38.3	61.7	

Respondents were asked if their primary reason for being in the area was to visit the VBWT. When this response data was compared by residency (VA respondents vs non-resident respondents), 58% of Virginia respondents and 70% of non-resident respondents indicated that the VBWT was not their primary reason for being in the area. This indicates that visiting the VBWT was a secondary activity for most VBWT users regardless of residency (Figure 7).

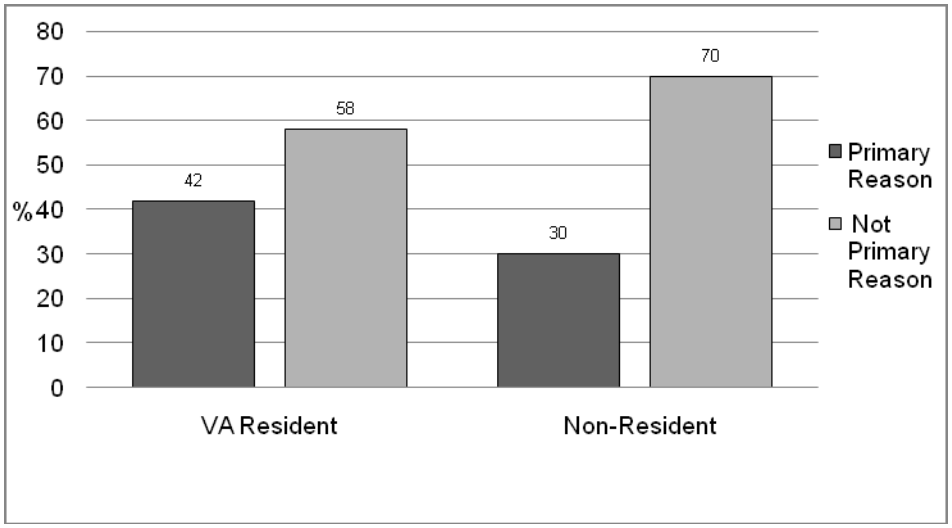

Figure 7. Q20b. “Are you a Virginia resident?” cross tabbed with Q17. “Was visiting the VBWT the primary reason for being in the area?” Chi-Square = 7.15, DF = 1, p = .0075

Of those that responded to the survey, 3% (16 individuals) were visitors from outside of the United States. Of these, 6 were from Canada, 2 from the United Kingdom and one each from the Netherlands, Australia, Belgium, France, Germany, Israel, Netherlands, Singapore, South Africa, and Switzerland.

Virginia residents traveled an average of 52 miles to visit VBWT sites while non-resident respondents traveled an average of 436 miles (Figure 8). A large proportion of VA Residents (45%) drove 30 or fewer miles to visit a VBWT (Figure 9). Most non-Virginia residents were from states close to Virginia (Figure 10)

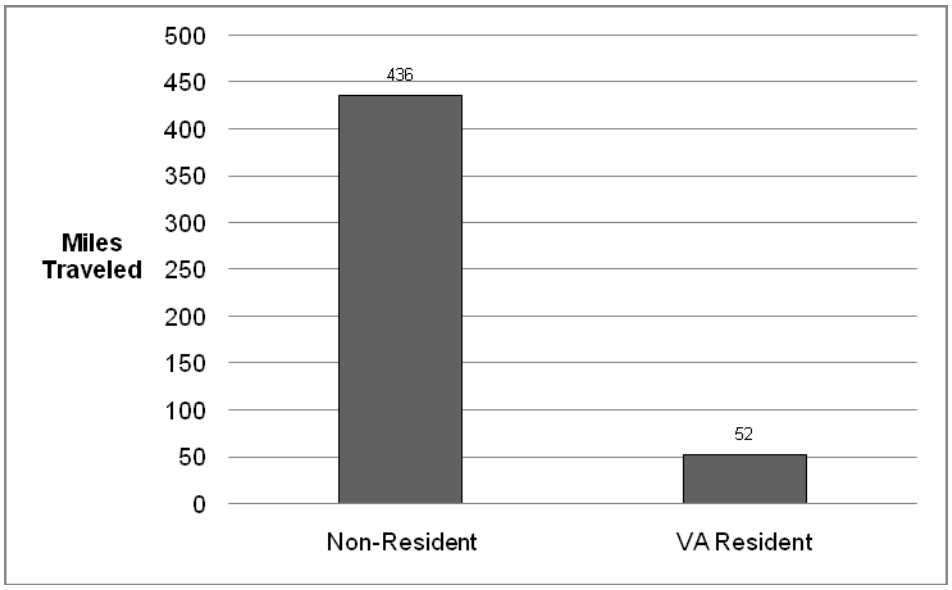

Figure 8. Average distanced traveled to visit a VBWT. (US residents only)

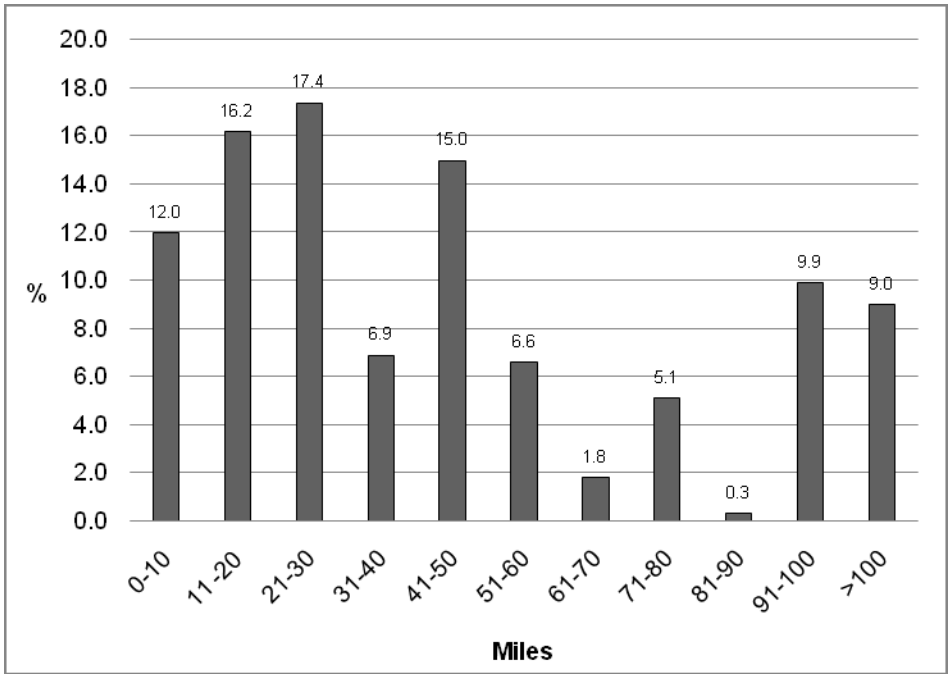

Figure 9. Average distance traveled by VA residents to visit a VBWT. (US residents only)

Figure 10. Number of respondents by state of residency.

Trail Use Demographics

Individuals were asked if they had visited any VBWT sites since receiving their guide. Individuals that answered no were asked to stop the survey. This question served two functions: it allowed non-users to be removed from the survey keeping with survey objectives to target VBWT users, and it provided an estimate of the proportion of individuals that requested a VBWT guide that actually visited a VBWT site.

Based on all returned surveys**,** 28% of respondents had visited a VBWT site since receiving their guide. Of those, individuals had visited on average 7.4 sites since receiving their trail guide. These same respondents indicated they visited an average of 3.8 sites prior to receiving the guide. Respondents visited the VBWT an average of 3.9 trips in the last year (

Table 5.)

Table 5. Visitation rate of VBWT users based on when pre and post obtaining a trail guide.

Q5 How many VBWT SITES have you visited since receiving your trail guide? Answer can span multiple years.							
		Site Visits Since Receiving Guide					
	N	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	536.0	7.4	0.5	0.0	175.0	6.3	8.4
Q6 How many VBWT sites have you visited total PRIOR to receiving your trail guide?							
		Site Visits Prior to Receiving Guide					
	N	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	519	3.8	0.4	0.0	100.0	3.0	4.5
Q7 How many VBWT visits have you taken so far this year?							
	N	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	533	3.9	0.3	0.0	50.0	3.3	4.4

Of the 72% percent that reported they had not visited the VBWT since receiving their guide, 55% indicated that they intended to visit the VBWT in the next 24 months. A total of 67% of all returned survey respondents had visited or intended to visit the VBWT in the next two years (Table 6)

Table 6 Visitation of the VBWT since receiving a trail guide and planned visitation.

Q3 Since receiving your Virginia Birding and Wildlife Trail (VBWT) guide have you visited any VBWT sites?					
	N		**Yes**	**No**	**Chi-Square**
Trail Guide Users	1969	#	553	1416	χ^2 = 378.24 DF=1 p< .0001
		%	28.1	71.9	
Q3a Do you plan to visit the VBWT in the next 24 months?					
	N		**Yes**	**No**	**Chi-Square**
Trail Guide Users	1395	#	773	622	χ^2 = 16.344 DF=1 p< .0001
		%	55.4	44.6	

More than 50% of respondents only visited one site or loop during their last visit to the VBWT (Table 7). Those who visited multiple loops (38%) visited an average of 2.8 loops and the 43% of respondents who visited multiple sites reported visiting an average of 3.8 sites during their last trip (Table 8).

When the same data is compared by residency, non-residents did not show a preference for visiting multiple loops but they did show that they are more likely to visit multiple sites than not.

Virginia residents indicated they were more likely to only visit one loop and one site per VBWT outing (Figure 11, Figure 12).

Table 7. User visitation of multiple loops and sites.

Q9 During your LAST visit to the VBWT did you visit more than one loop?					
	N		**Yes**	**No**	**Chi-Square**
Trail Guide Users	504	#	189	315	χ^2 = 31.50 DF=1 p< .0001
		%	37.5	62.5	
Q10 During your LAST visit to the VBWT did you visit more than one site?					
	N		**Yes**	**No**	**Chi-Square**
Trail Guide Users	504	#	217	287	χ^2 = 9.72 DF=1 p< .0018
		%	43.1	56.9	

Table 8. Number of loops and sites visited during your last VBWT visit.

Q9a How many Loops did you visit during your LAST visit to the VBWT?							
		Loops Visited Last Trip					
	N	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	182	2.8	0.1	1.0	10.0	2.6	3.0
Q10a During your LAST visit to the VBWT, how many sites did you visit?							
		Sites Visited Last Trip					
	N	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	216	3.8	0.2	1.0	25.0	3.4	4.3

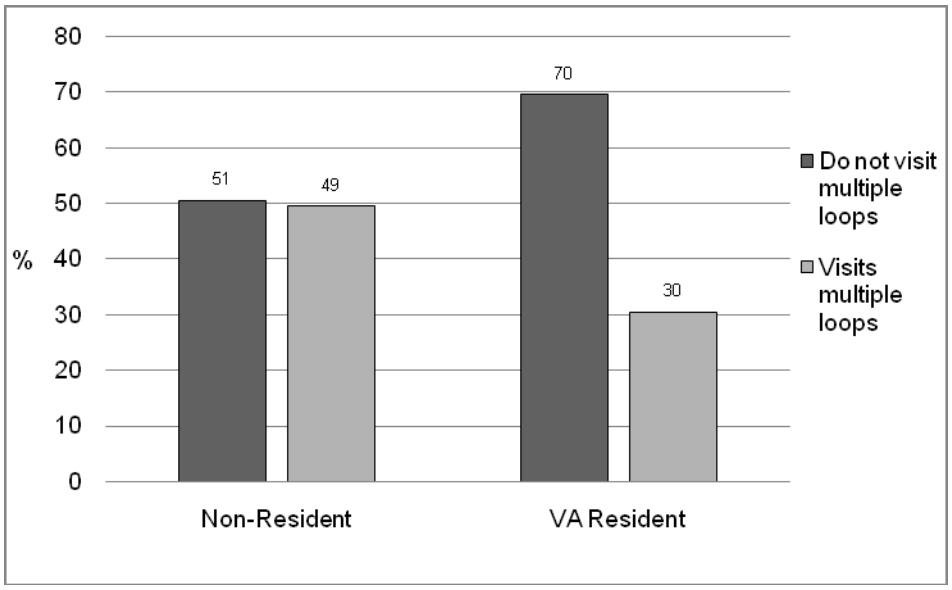

Figure 11 (Q.9) How many Loops did you visit? Summarized by residency.

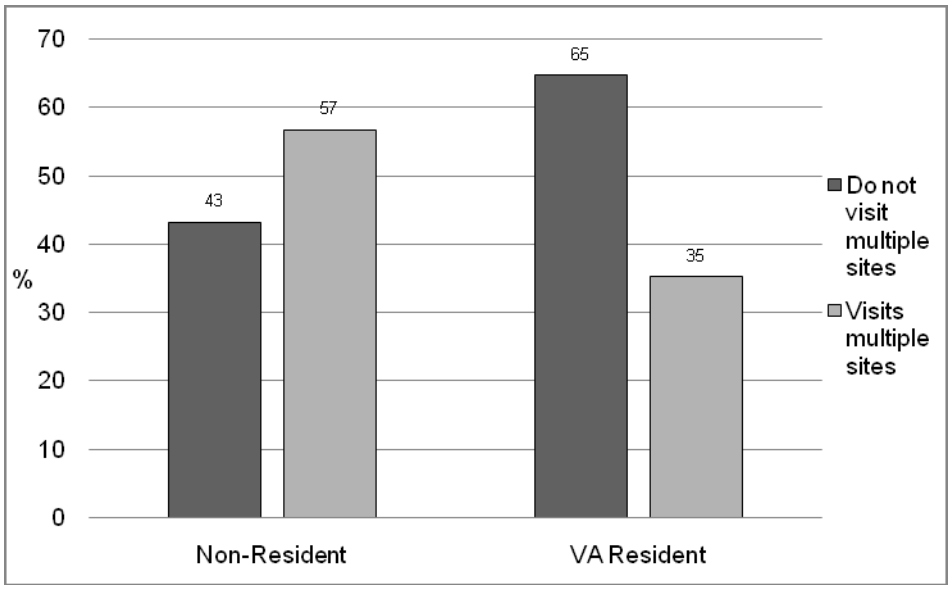

Figure 12. (Q.10) During your LAST visit to the VBWT did you visit more than one site? Summarized by residency.

Thirty-nine percent of all respondents who traveled **for the purpose of visiting the VBWT** stayed overnight during their last trip (Table 9). Non-residents were more likely to stay overnight (59%) than Virginia residents (28%;

Figure 13). On average, respondents who indicated they stayed overnight to visit the VBWT reported that they stayed 3.3 nights per trip. Virginia residents reported that they stayed overnight an average of 2.8 nights per trip while non-residents stayed an average of 3.7 nights per trip (

Figure 14). When interpreting these data, it is important to remember that these questions pertain only to individuals that stayed overnight for the purpose of visiting the VBWT. Therefore it should not be assumed that 41% (

Figure 13) of non-resident respondents returned home after visiting the VBWT--it is likely these individuals were in Virginia for reasons other than the VBWT and may have stayed multiple days but did not stay overnight for the primary reason of visiting the VBWT.

Table 9. Did you stay overnight for the purpose of visiting a VBWT loop or site?

Q24	N		Yes	No	Chi-Square
Trail Guide Users	525	#	205	320	χ^2 = 25.1905 DF=1 p< .0001
		%	39.1	60.9	

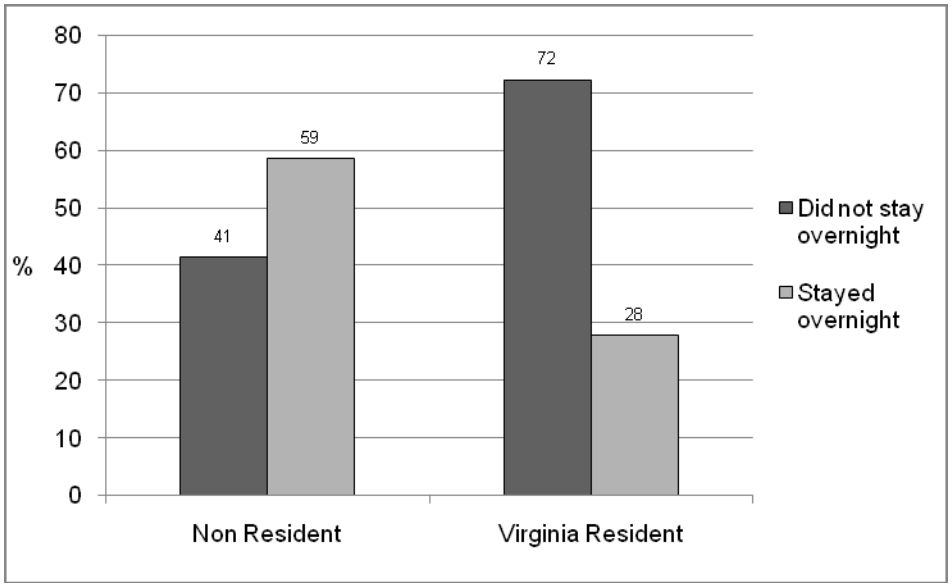

Figure 13. (Q.24) Did you stay overnight for the purpose of visiting a VBWT loop or site? Summarized by residency.

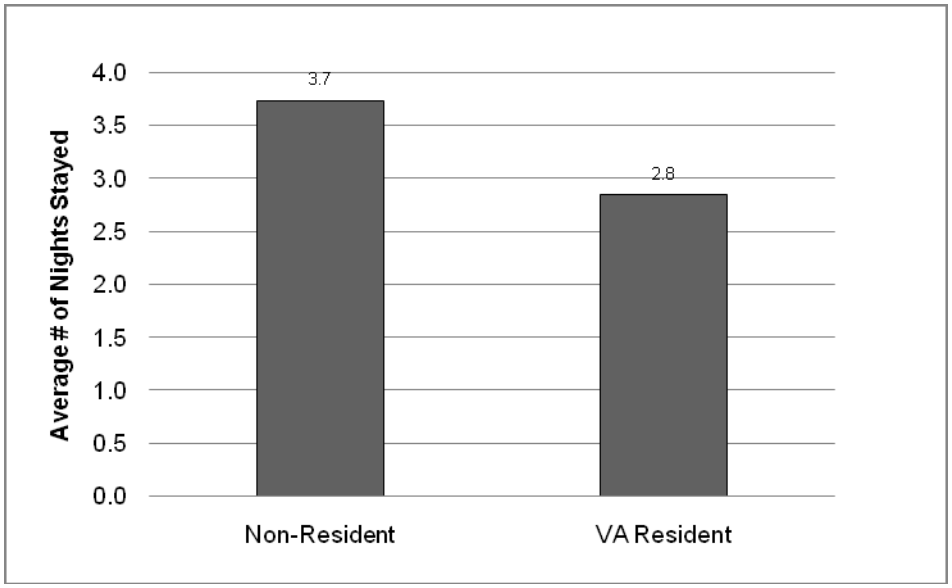

Figure 14. (Q.24b) How many nights did you stay in order to visit VBWT loops or sites? Summarized by residency.

Respondents were asked the number of hours they estimate they have spent in the last year at VBWT sites. Respondents averaged 35.7 hours at VBWT sites in the last year. By residency, Virginian's spent 41 hours per year at VBWT sites and non-residents spent 27 hours (Figure 15).

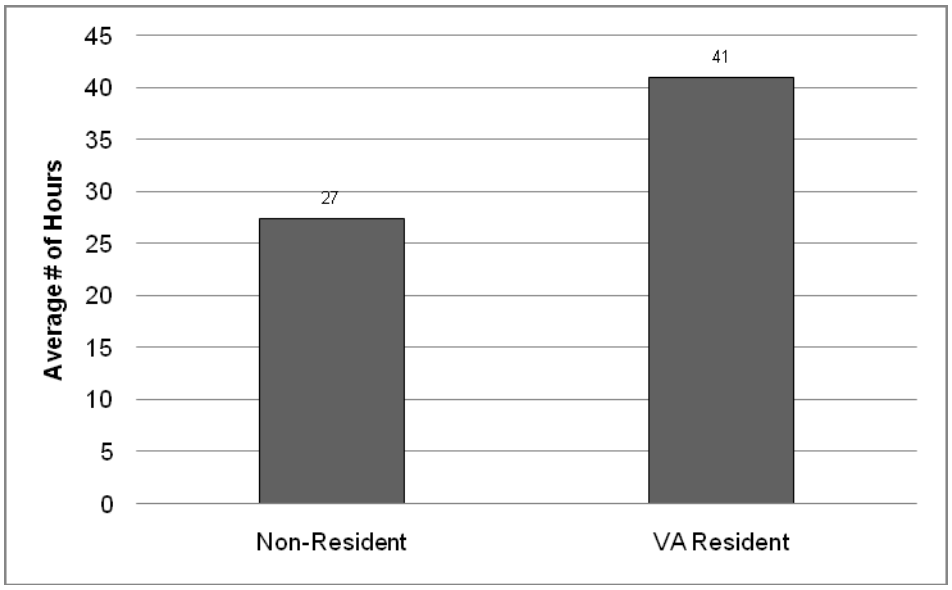

Figure 15. (Q.8) Average number of hours spent at VBWT sites in the last year. Summarized by residency.

Virginia respondents visited the VBWT more than twice as often as non-residents. Virginia respondents on average visited the VBWT 4.9 times in the last year while non-residents visited the VBWT an average of 2.2 times in the last year (Figure 16). However, non-residents spent more time per trip (12.6 vs. 8.4 hrs) at the VBWT than Virginia residents (Figure 17). It is important to note that the number of hours spent per visit in the last year does not represent how many hours respondents spent at individual sites or hours spent per day. This value represents how many hours were spent for an entire visit. As reported earlier (Figure 13) non-resident visitors stayed overnight more frequently than Virginia residents thus their average trip length was longer than Virginia respondents. As a result of having longer trip lengths, it is likely that they would also have had more hours per trip.

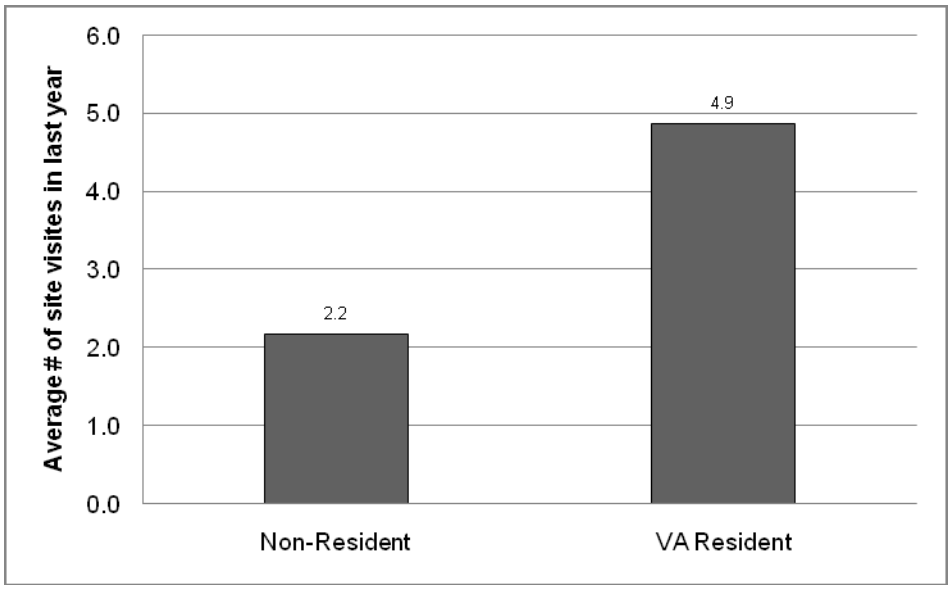

Figure 16. (Q.7) Average number of VBWT visits in the last year summarized by residency.

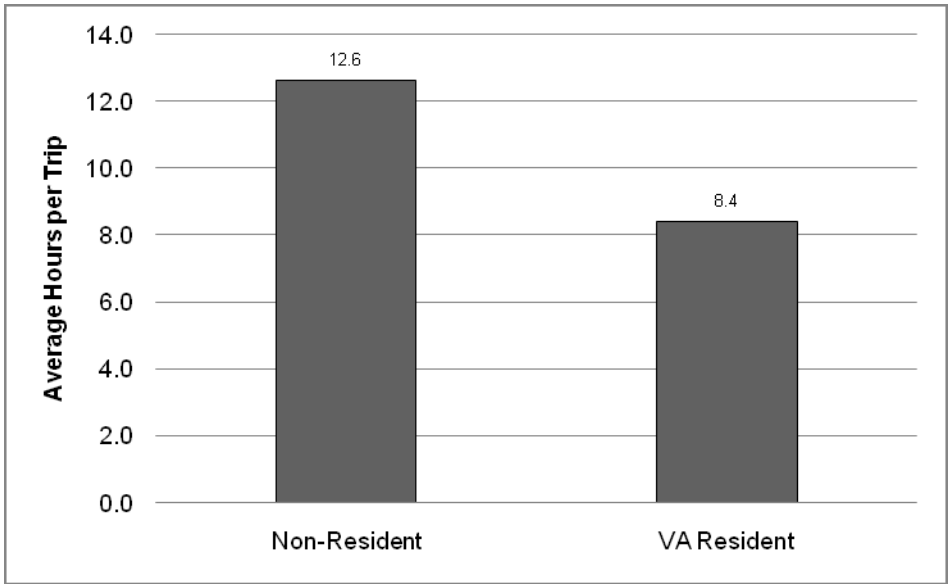

Figure 17. Average hours per trip based on data from Q.7 and Q.8.

When staying overnight for the purpose of visiting the VBWT, most respondents (53%) stayed in a hotel or motel. Campgrounds were the second most popular choice with 21% of respondents electing to camp. The remaining 26% percent indicated they stayed at bed and breakfasts, with friends and family, and other (

Figure 18). Respondents who reported "other" were asked to write-in where they stayed. The most common responses were Virginia State Park cabins and National Park Service lodges. All write-in answers for this question can be found in Appendix F under question 24c.

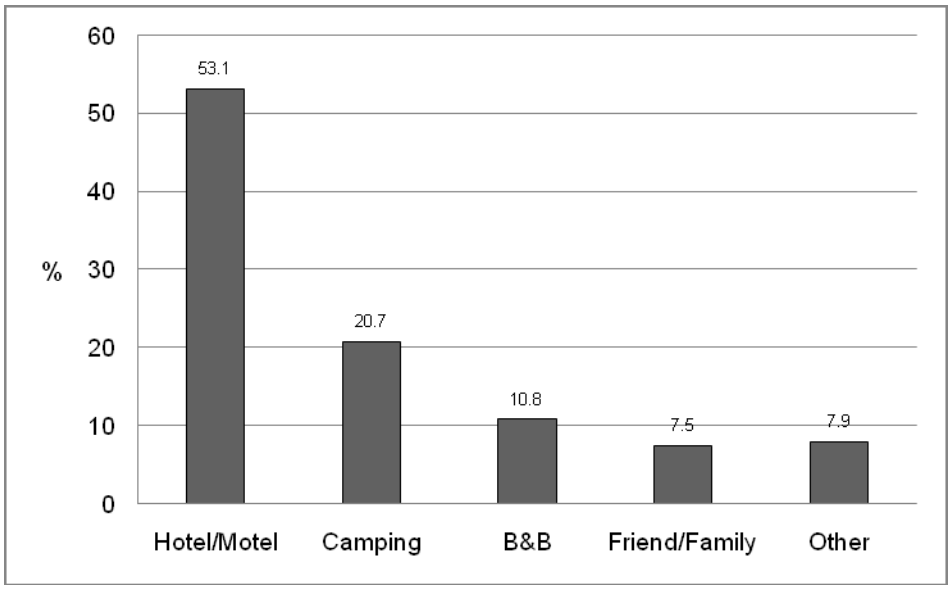

Figure 18. (Q.24c) Where did you stay overnight?

Based on responses to question 21, sixty-one percent of non-residents indicated that vacationing was their primary reason for travelling to Virginia. The Virginia Birding and Wildlife Trail was a distant second at 28% (

Figure 19). This indicates that visiting the VBWT was typically a secondary activity for non-resident respondents. This is further supported by data from question 17 "Was visiting the VBWT your primary reason for being in the area?" Most (70%) non-residents indicated that they were in Virginia for reasons other than the VBWT, further suggesting that non-resident respondents typically traveled to Virginia for vacation and utilized the VBWT as one of their many vacation activities (

Figure 20).

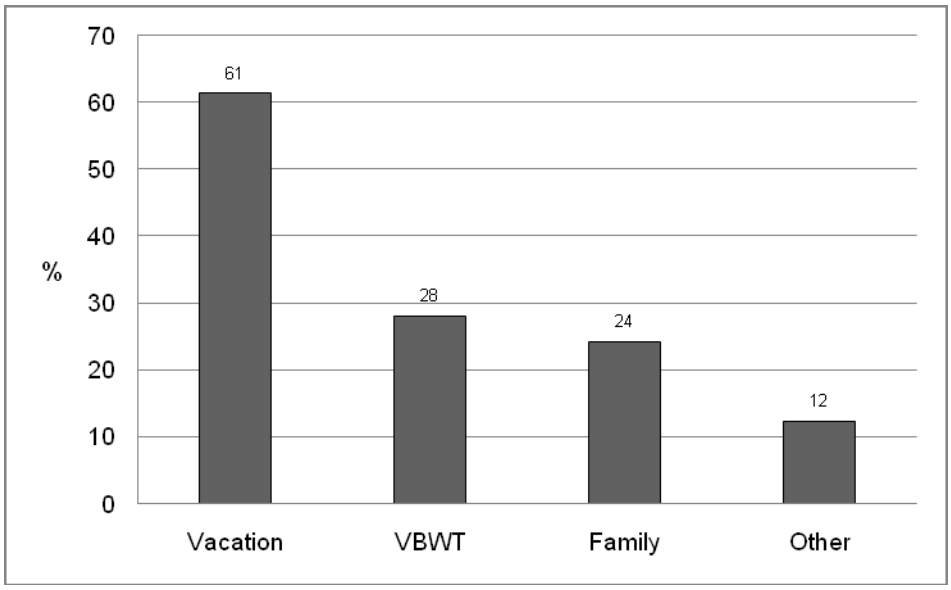

Figure 19. (Q.21) If you are not a Virginia resident, what was your primary reason for traveling to Virginia?

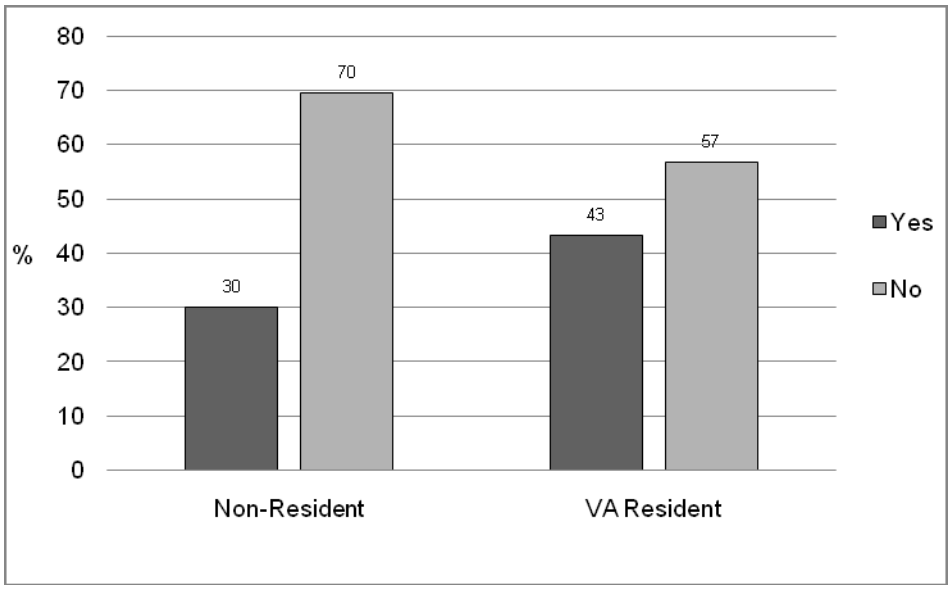

Figure 20. (Q.17) Was Visiting the VBWT your primary reason for being in the area? Summarized by residency.

Survey respondents were asked what other activities they participated in during their visit. Eighty-one percent of respondents stated that they had visited historical sites. Other activities included visiting museums 48%, visiting cultural sites 43%, shopping 38%, visiting family 25%, and 16% reported other (

Figure 21). The most common activities reported under “other” were fishing and hiking (Appendix F, question 29). Respondents were asked to indicate all the activities that they

participated in, as a resulting in percentages across all activities totaling more than 100% ; thus results should be interpreted as the percentage of respondents that participated in each activity.

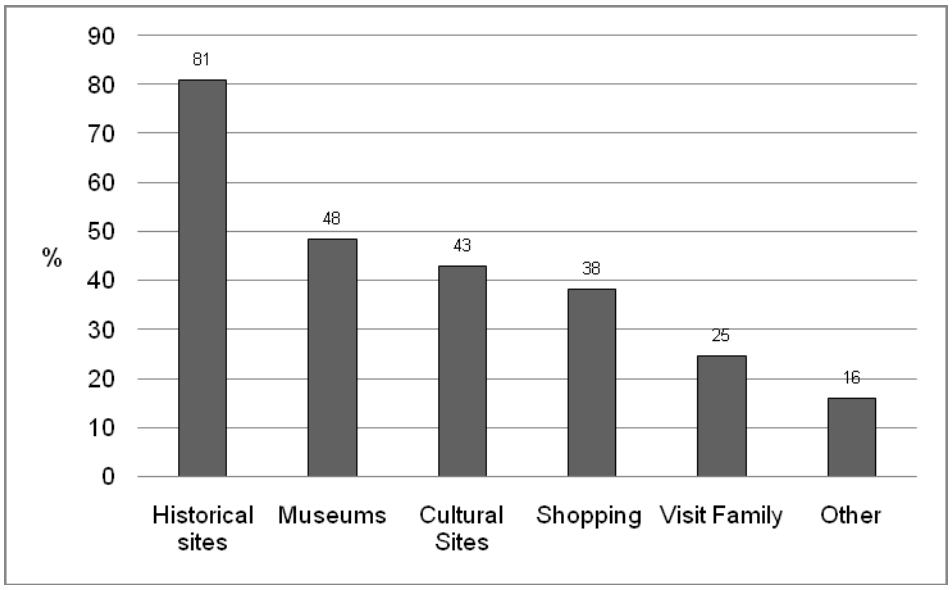

Figure 21. (Q.29) What other activities did you partake in during your visit? (Answer all that apply)Activities participated in while visiting the VBWT by percentage. Respondents were asked to answer all that apply so percentages are based on the number of individuals that responded. Therefore, activity percentages total more than 100%.

Site Selection

Respondents were asked multiple questions to help determine what factors they considered when choosing a VBWT site to visit. Virginia residents indicated that distance from home was an important factor in selecting sites but this was not as important for non-residents (Figure 22).

One explanation for the difference in responses between Virginia residents and non-residents is that Virginia residents typically traveled to a VBWT site and then returned home. Most non-residents indicated that their primary reason for being in Virginia was for vacation not the VBWT, so it is unlikely they would return home directly after their VBWT visit.

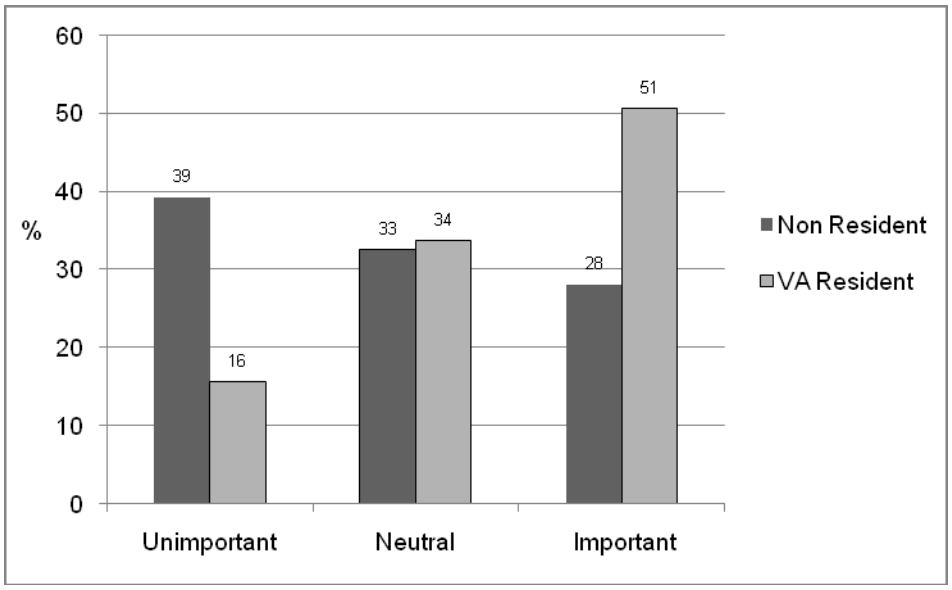

Figure 22. (Q.23a) Importance of distance between home and site location when choosing a site or loop to visit. Summarized by residency.

Respondents were asked the importance of a walking or hiking trail when choosing a site to visit. A majority of both Virginia residents and non-residents indicated that a walking or hiking trail was important in their decision (Figure 23).

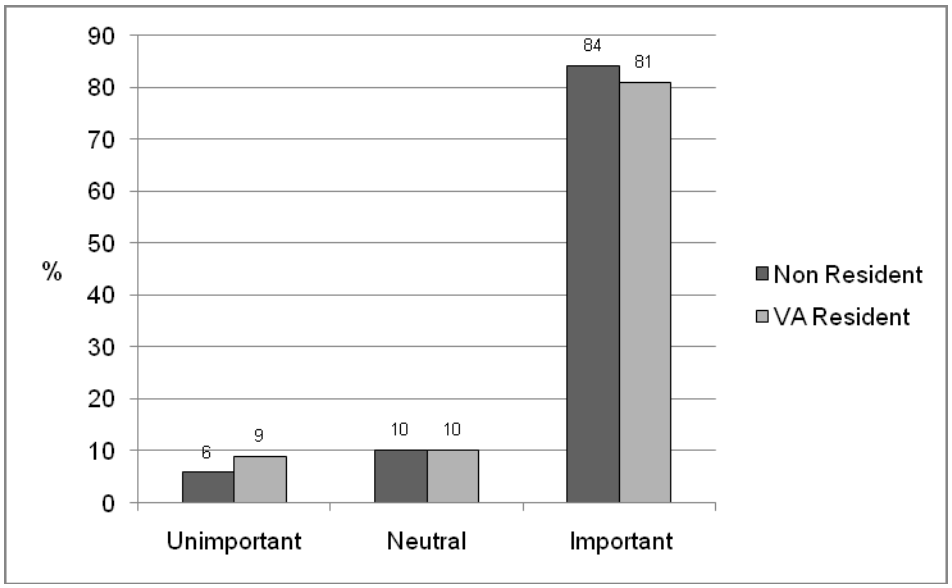

Figure 23. (Q.23b) Importance of the presence of a walking or hiking trail when choosing a site or loop to visit. Summarized by residency.

Respondents were asked if a site fee factored into their decision for choosing a site or loop to visit. Virginia respondents and non-resident respondents had similar responses. Thirty-two percent of both groups reported (Figure 24) that a site fee was an unimportant variable in their choice of site or loop to visit. However, nearly an equal percentage indicated that site fees were important. Therefore, sites that charge a fee may see fewer visitors than free sites. It is important to note, however, that a site fee is only one variable that visitors consider when choosing a site.

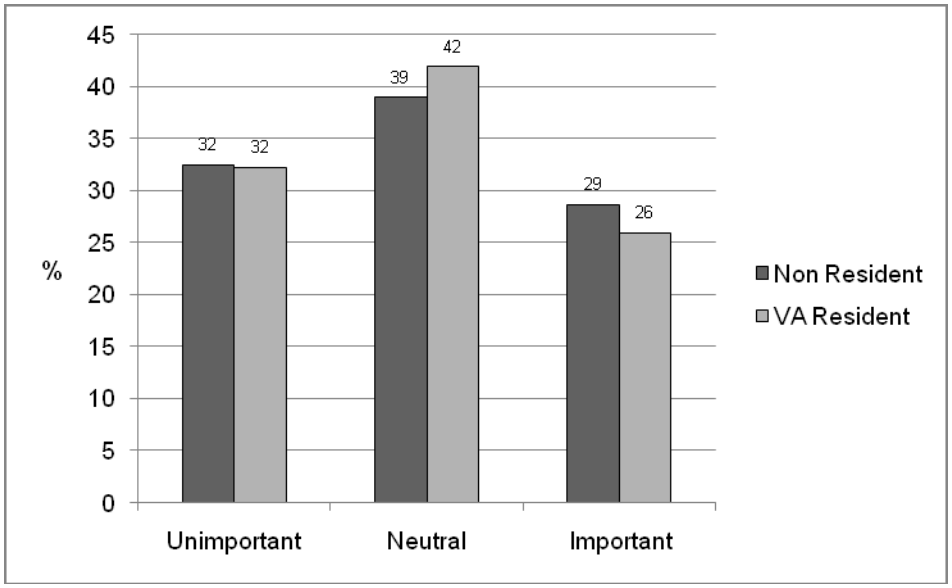

Figure 24. (Q.23d) Importance of site fees when choosing a site or loop to visit. Summarized by residency.

Local attractions appear to be more important when choosing a site to visit for non-resident respondents than Virginia respondents. While most non-resident respondents indicated that local attractions are an important variable, Virginia respondents did not indicate a clear preference. Thirty-four percent of Virginia respondents indicated that local attractions were important and 31% indicated they were unimportant while 35% indicated they were neutral (Figure 25).

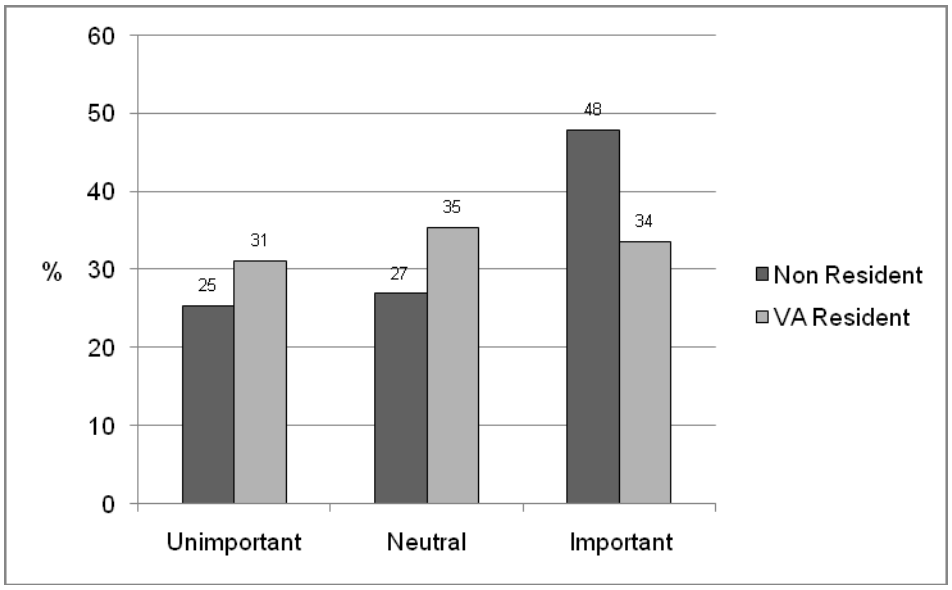

Figure 25. (Q.23e) Importance of local attractions when choosing a site or loop to visit. Summarized by residency.

Both Virginia and non-resident respondents considered the probability of seeing a specific wildlife species an important variable in their choice of site to visit (55% and 62% respectively) (Figure 26). Less than 20% of respondents considered the probability of seeing specific species unimportant.

While both Virginia respondents and non-resident respondents indicated that the probability of seeing a specific wildlife species was an important variable in choosing sites or loops to visit, they did not necessarily use it as one of their main variables in determining where to visit. In a related question (Q.15) respondents were asked if they chose their last VBWT visit based on the opportunity of seeing a specific group or species of wildlife (Table 10). Of those that responded 62% reported they did not. The fact that respondents indicated that the probability of seeing a specific wildlife species was important in their site selection yet they also indicated that during their last visit they did not select the site and loops visited for seeing specific wildlife species suggests that respondents consider many variables in selecting a site or loop to visit. Some variables weigh heavier than others when selecting loops and sites to visit and all variable are not weighed evenly when selecting sites. After high priority variables have been meet then secondary variables such as the probability of seeing specific wildlife species or user fees factor into their decision. Encountering a specific species is just one of many factors in choosing a site to visit for respondents.

Respondents who had visited a site for the opportunity of seeing a specific wildlife species were asked to list the species. The most common response was “birds” followed by “birds of prey”. A complete list of responses can be found in Appendix F under question 15a.

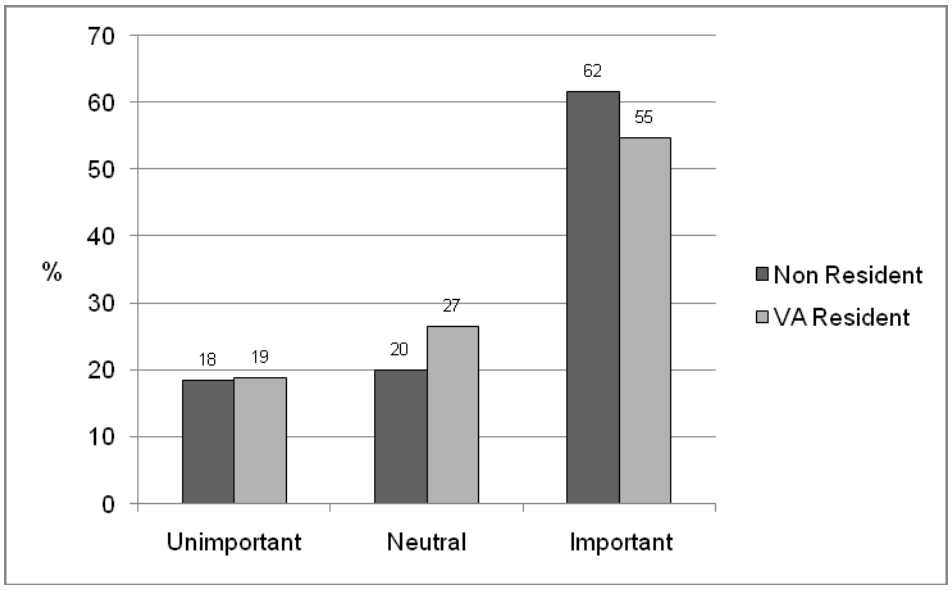

Figure 26. (Q.23f) Importance of the probability of seeing a specific wildlife species when choosing a site or loop to visit. Summarized by residency.

Table 10. Do you choose loops/sites based on the opportunity of seeing a specific group or species of wildlife?

Q15	N		Yes	No	Chi-Square
Trail Guide Users	509	#	192	317	$\chi^2 = 30.69$
		%	37.7	62.3	$p < .0001$

Respondents were asked what areas of the VBWT they had visited over the course of all trips to the VBWT. Sixty-seven percent of respondents indicated that they had visited the Coastal Area, 68% had visited the Mountain area, and 47% have visited the Piedmont area (Figure 27). When the areas respondents indicated that they visited is compared to the percentage of sites in each region (Figure 28) it appears that there no direct correlation to the number of sites in each area of the VBWT (Coastal, Mountain, Piedmont) in comparison to areas the respondents visited.

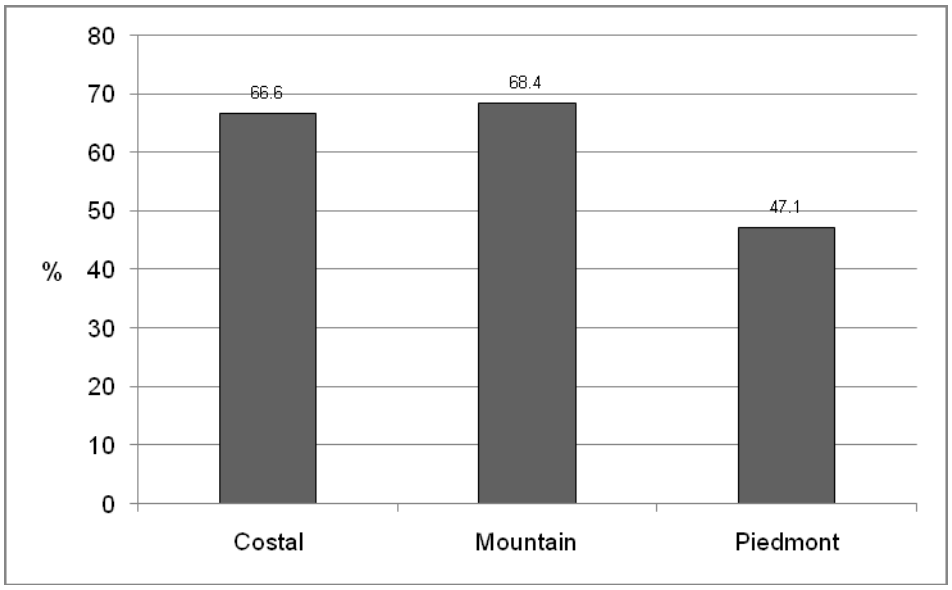

Figure 27. (Q. 45) What areas of the VBWT have you visited over all trips? Percentages total more than 100% since respondents could answer for multiple areas.

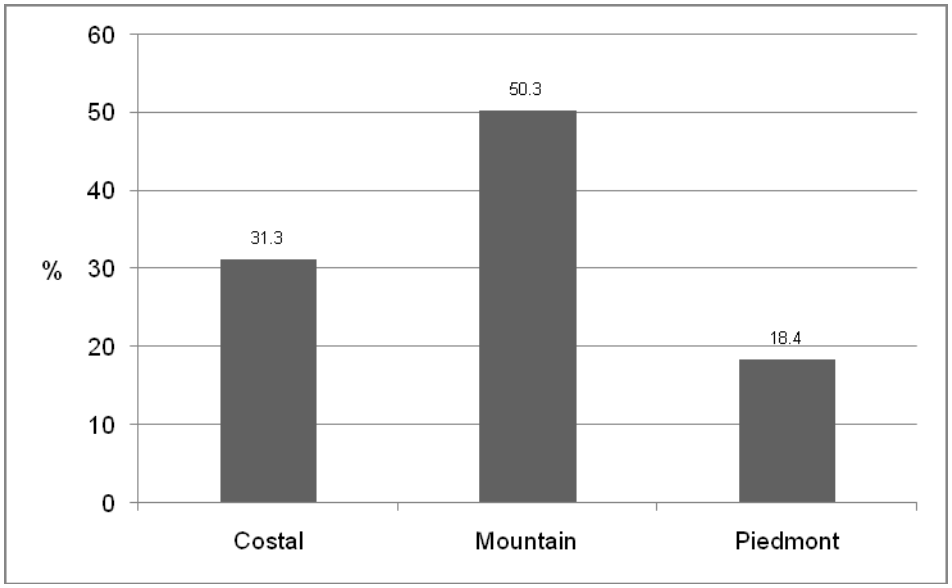

Figure 28. Percentage of sites in each of the three VBWT areas.

Guide Use and Satisfaction

Respondents were asked a series of questions to gauge their use of the VBWT guide and their satisfaction with it. More than 80% of respondents indicated that they used the VBWT guide to decide which sites and loops to visit (Figure 29). However, most respondents (43% non-residents and 27% Virginia residents) did not use the VBWT guide to obtain information related to lodging and services (Figure 30).

To obtain a better understanding of who is using the lodging and services information, the data was further analyzed by filtering for individuals that reported they stayed overnight for the purpose of visiting the VBWT. This analysis revealed that non-resident respondents tended to use the lodging and service information more so than VA resident respondents who stayed overnight. Fifty percent of non-resident respondents who stayed overnight for the purpose of visiting the VBWT indicated that they used lodging and service information (Figure 31), in comparison to 31% of VA respondents (Figure 32).

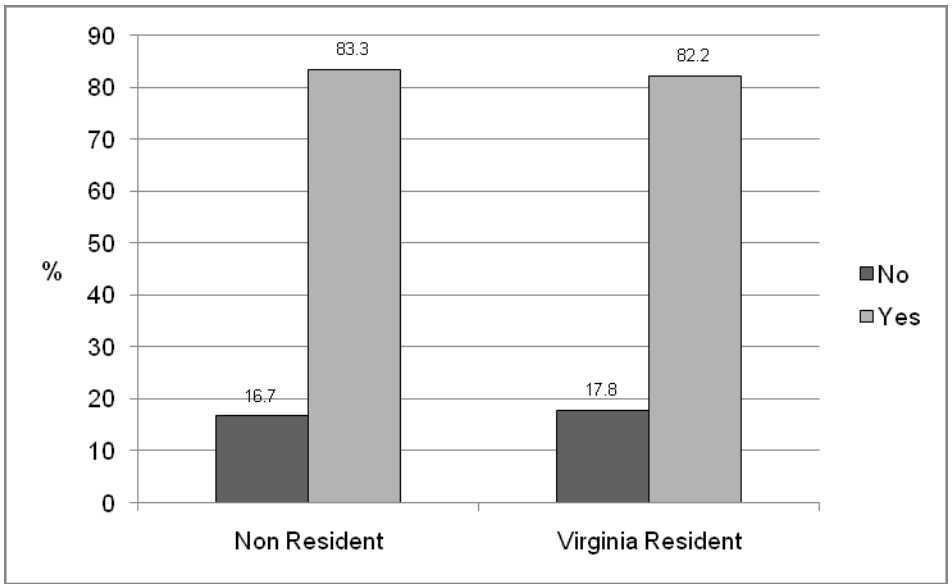

Figure 29. (Q.30) Did you use information in the VBWT trail guide to decide which specific loops/sites to visit? Summarized by residency.

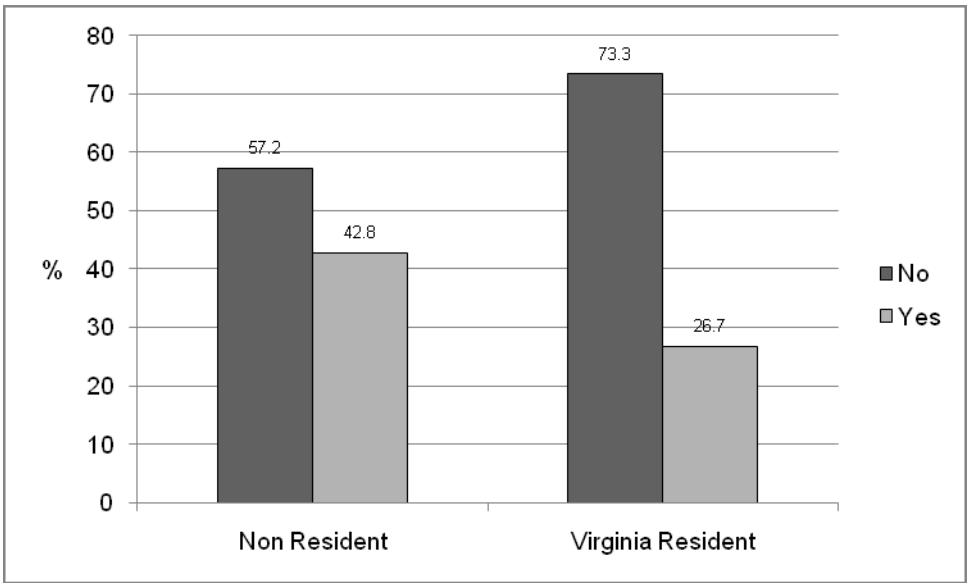

Figure 30. (Q.31) Did you use information in the VBWT trail guide on lodging and services available in the area you were planning to visit? Summarized by residency.

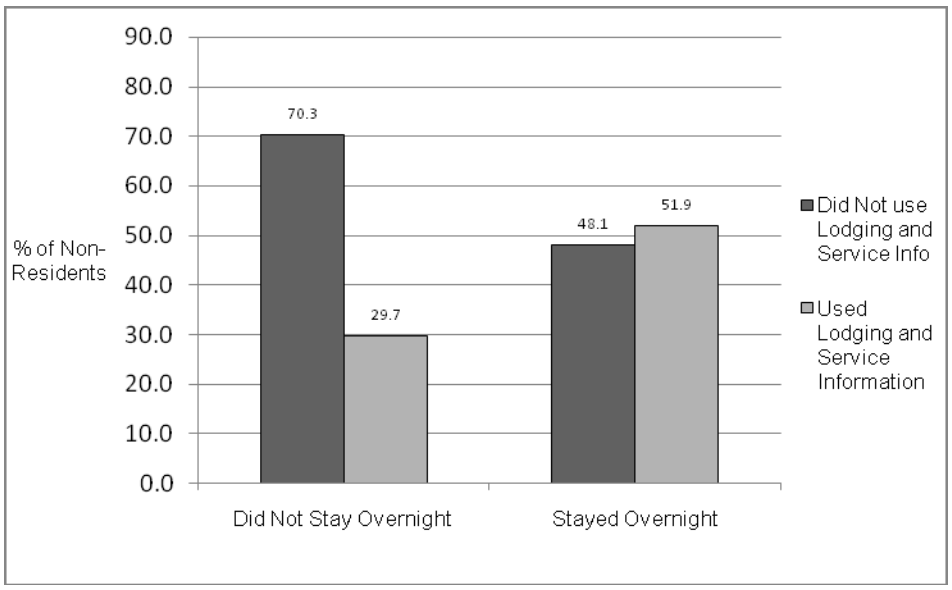

Figure 31. (Q.24 + Q.31) Compares non-resident responses to the two questions “Did you stay overnight for the purpose of visiting a VBWT loop or site?” and “Did you use information in the VBWT trail guide on lodging and services available in the area you were planning to visit?”

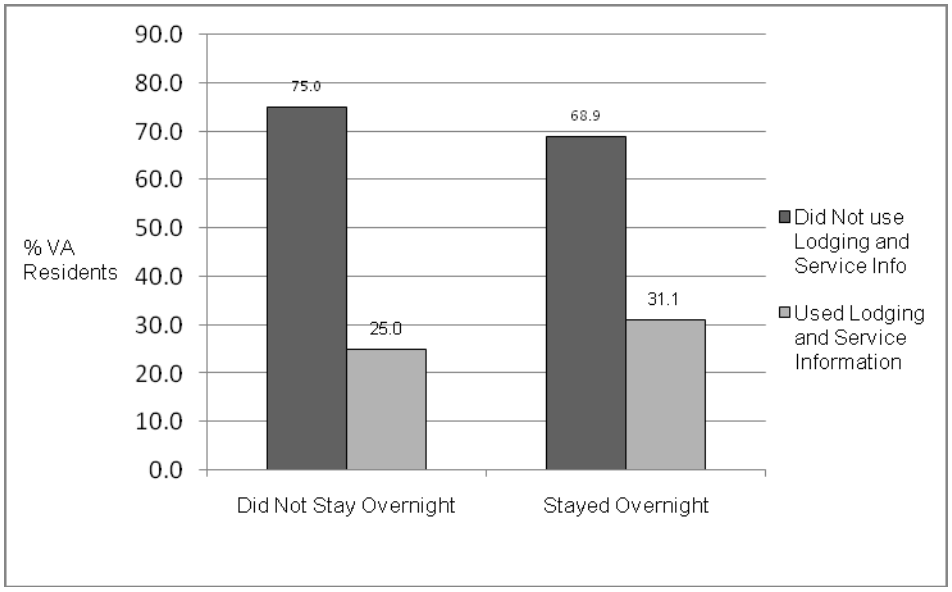

Figure 32. (Q.24 + Q.31) Compares Virginia resident responses to the two questions "Did you stay overnight for the purpose of visiting a VBWT loop or site?" and "Did you use information in the VBWT trail guide on lodging and services available in the area you were planning to visit?"

Of the individuals that reported of using the VBWT guide to select lodging and services, a larger percentage of non-resident respondents actually booked lodging reservations. Of those that responded, 59% of the non-residents and 26% of Virginia residents actually booked lodging reservations using the guide (Figure 33).

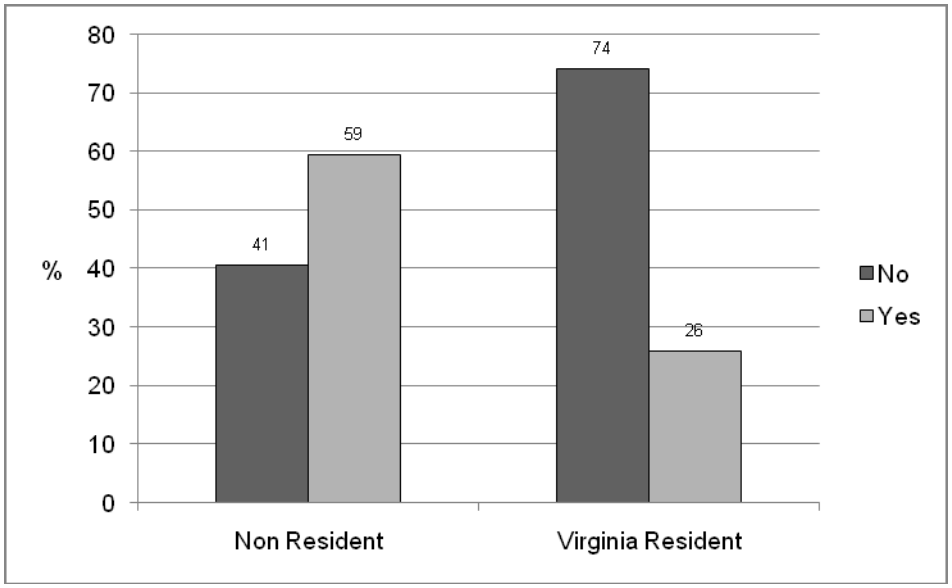

Figure 33. (Q.31b) Did you actually book reservations or stay at any of the listed lodgings? Summarized by residency.

A large percentage of respondents used the VBWT guide to navigate to specific sites. Seventy percent of non-residents and respondents and 63% of Virginia residents used the guide for navigation purposes (Figure 34). Of those that used the guide for navigating, 84% considered this information accurate and only 2% reported the information as inaccurate (Figure 35). Most respondents (85%) reported that the trail guide was easy to use for navigating purposes; only 2% reported that the guide was difficult to use for this purpose (Figure 36).

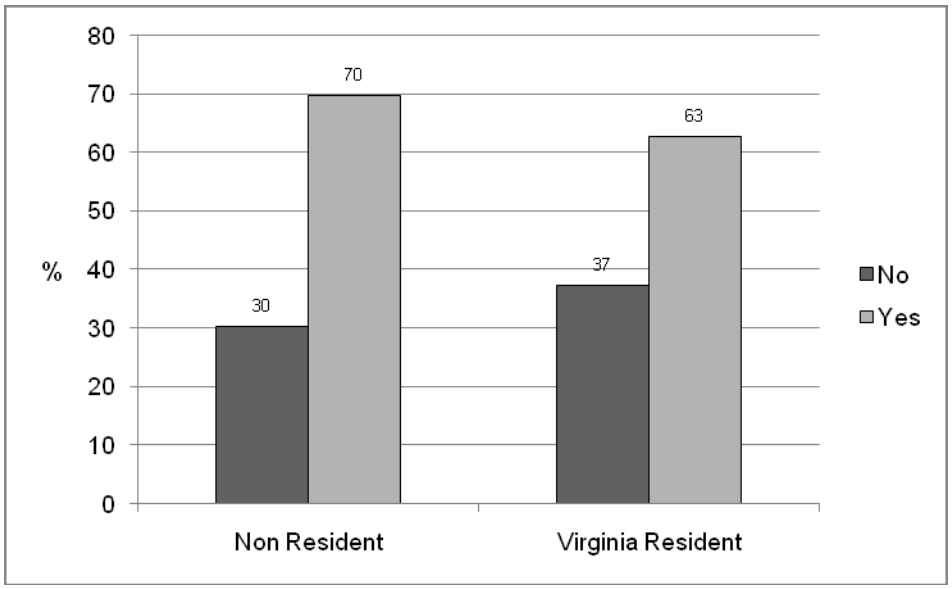

Figure 34. (Q.32) Did you use the VBWT trail guide to navigate from site to site on any of the loops? Summarized by residency.

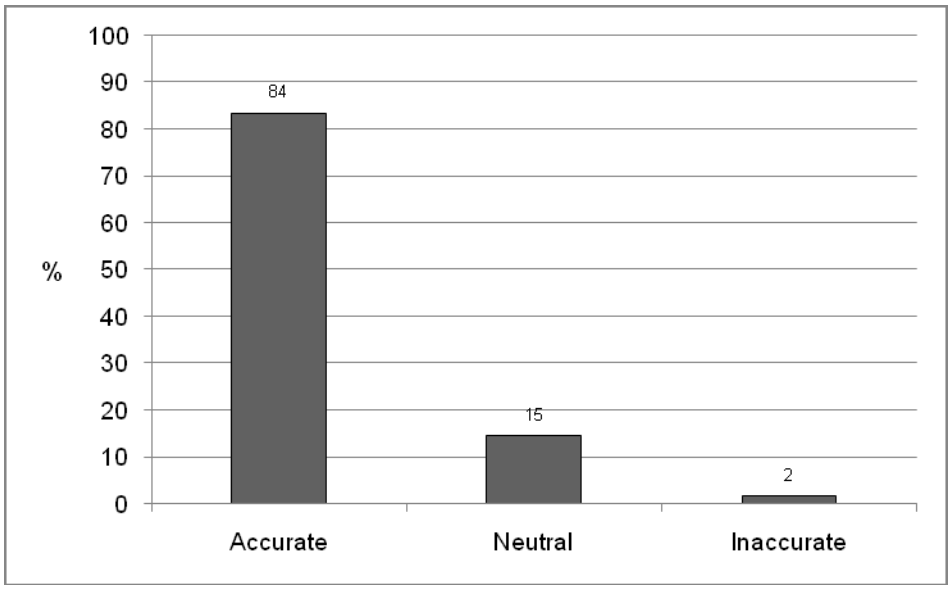

Figure 35. (Q.33) How would you rate the accuracy of the trail guide information for navigating to specific sites?

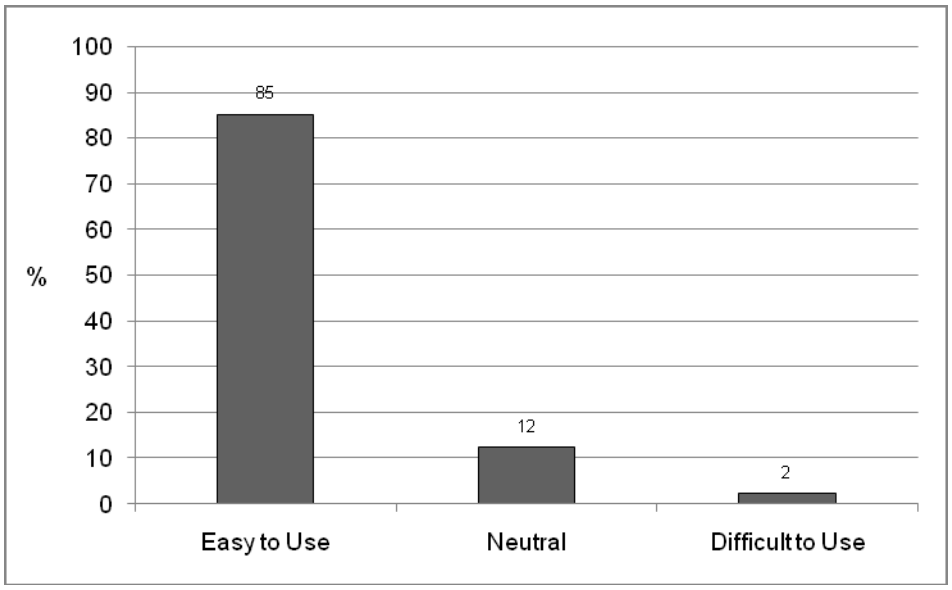

Figure 36. (Q.34) How would you rate the ease of use of the trail guide information for navigating to specific sites?

Overall, respondents were very satisfied with the trail guide, its accuracy, and the information that it provided. Ninety percent of respondents found the guide useful and informative while only 1% found the guide not useful and not informative (Figure 37, Figure 38). When considering their probability of encountering specific species, nearly 80% of respondents found the guide useful and only1% did not (Figure 39). Ninety-six percent of respondents indicated they would use the VBWT guide to plan future birding and wildlife observation trips (Table 11).

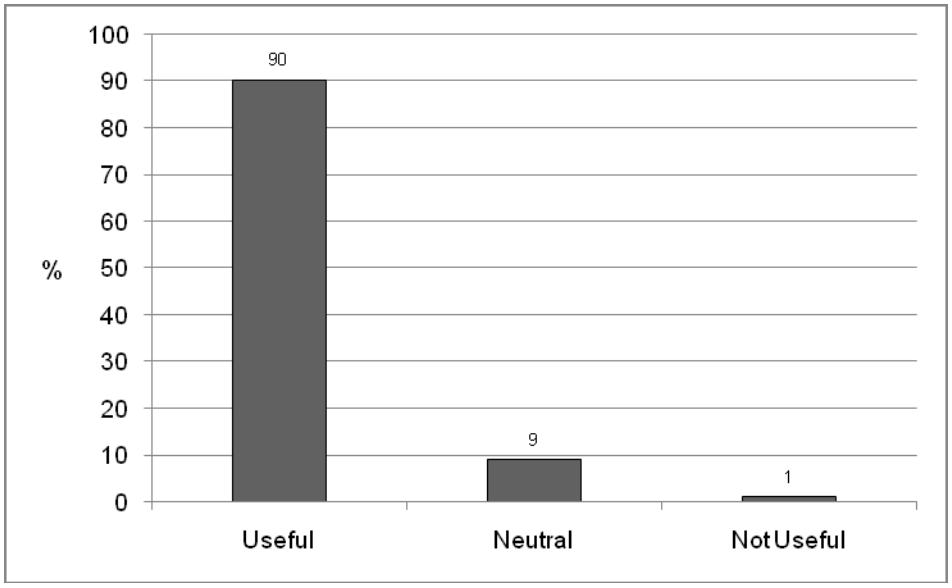

Figure 37. (Q.35) Did you find the site-specific information in the trail guide useful?

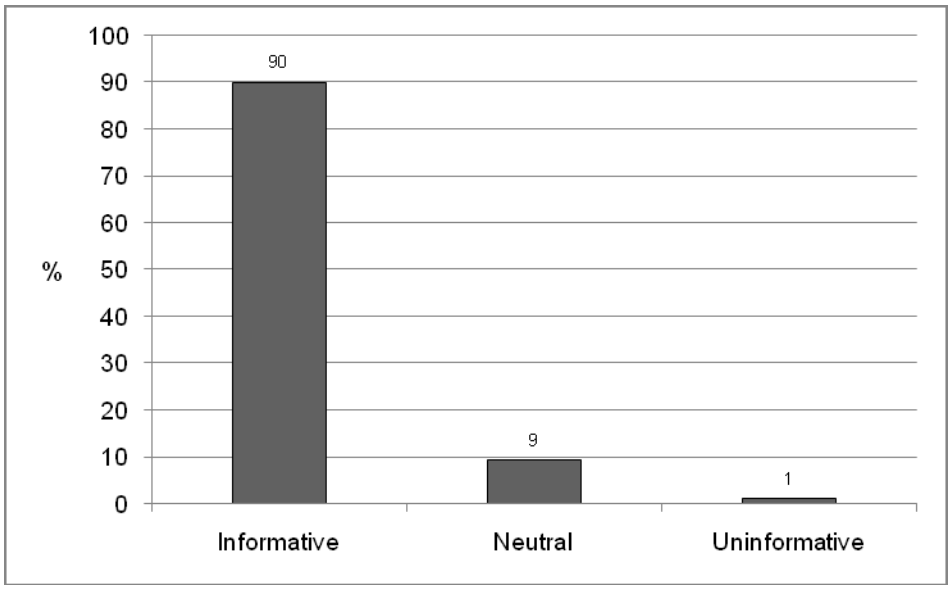

Figure 38. (Q.36) Did you find the site-specific information in the trail guide informative?

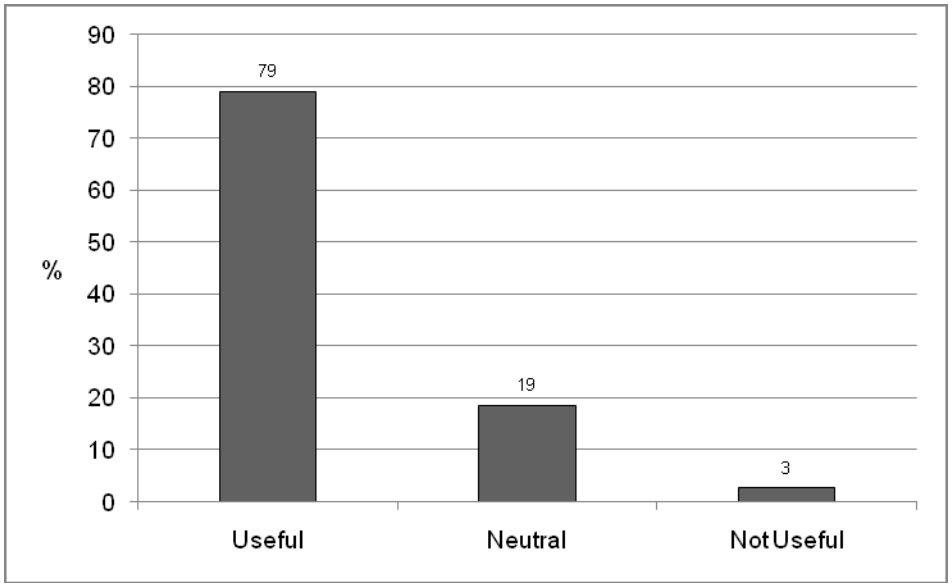

Figure 39. (Q.37) Was the site-specific information in the trail guide regarding likely species to be observed useful?

Table 11. Would you use information in the trail guide to plan future birding and wildlife observation trips?

Q39	N		Yes	No	Chi-Square
Trail Guide Users	526	#	506	20	χ^2 = 449.0418 DF=1 p< .0001
		%	96.2	3.8	

Spending

To estimate what the average user spends when visiting the VBWT respondents were asked how much they spent on food, gas, lodging, shopping, and other items. Food was typically the largest expense related to visiting the VBWT followed by fuel (Table 12). In order to better understand actual expenditures, the data were filtered into two tables based on the response to question 24 "Did you stay overnight for the purpose of visiting a VBWT loop or site". Expenditures values were then divided by the number of day or night's respondents indicated they stayed to visit the VBWT.

Respondents who did not stay overnight (for the primary reason of visiting the VBWT) reported a mean expenditure of $91.54 per day. Respondents of this group reported spending nearly equal amounts on gas, food, and shopping (

Table 13)

Individuals that indicated they stay overnight for the primary purpose of visiting the VBWT had a mean expenditure of $173.32 per night. Total trip expenditures were divided by the number of nights respondents indicated they stayed for the primary purpose of visiting the VBWT. Respondents reported that lodging was their greatest expenditure (

Table 14).

Table 12. During your last trip, about how much did you spend related to visiting the VBWT? (Please answer in dollar amounts). Table values are in US Dollars.

Q. 26	Food						
Q.26a	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	452	63.72	5.27	0.0	1600	53.36	74.08
	Gas						
Q.26b	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	452	48.70	2.91	0.0	490	42.97	54.43
	Lodging						
Q.26c	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	190	177.53	17.17	0.0	2000	143.64	211.42
	Shopping						
Q.26d	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	452	41.58	4.98	0.0	1000	31.78	51.39
	Other						
Q.26e	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	452	10.23	2.10	0.0	600	6.10	14.37

Table 13. Daily expenditures (US Dollars) by respondents who did not stay overnight for the primary reason of visiting the VBWT.

Q. 26	Food						
Q.26a	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	262	28.94	2.54	0.0	250.00	23.92	33.95
	Gas						
Q.26b	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	262	29.39	1.94	0.0	250	25.57	33.21
	Lodging						
Q.26c	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Shopping						
Q.26d	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	262	27.60	5.63	0.0	1000	16.50	20.00
	Other						
Q.26e	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	262	5.60	1.40	0.0	200	2.83	8.38
	Total						

Q.26f	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	262	91.54	8.94	0.0	1350	73.93	109.16

Table 14. Nightly expenditures by respondents who stayed overnight for the primary reason of visiting the VBWT.

Q. 26	Food						
Q.26a	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	179	46.55	5.15	0.0	800	36.39	36.39
Gas							
Q.26b	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	179	32.51	3.26	0.0	490	25.57	26.07
Lodging							
Q.26c	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	179	68.79	6.56	0.0	1000	0.0	55.83
Shopping							
Q.26d	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	179	21.22	2.75	0.0	250	16.50	15.79
Other							
Q.26e	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	179	4.23	0.92	0.0	100	2.83	2.40
Total							
Q.26f	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Visitor Survey	179	173.32	14.55	0.0	2175	73.93	144.59

Overall Satisfaction

Respondents were very happy with their experience while visiting the VBWT. When asked specifically how satisfied they were, 61% of the respondents reported that they were very satisfied and 30% reported that they were satisfied. Thus 91% of respondents were satisfied or very satisfied and only 5% were not satisfied with their past visits to the VBWT (Figure 40). Ninety of respondents reported that they are likely to visit the VBWT again (Figure 41). Having 90% of respondents report that they would likely visit the VBWT again is an accomplishment, especially considering that 37% of the respondents were not Virginia residents. Further, that 81% of respondents had shared information about the VBWT with friends or family also indicates a high level of satisfaction with the VBWT (Table 15). Those who did share information about the VBWT on average shared information with 8.8 individuals (

Table 16). Respondents were provided the opportunity to list what they liked most and what they liked least when visiting the VBWT. Most respondents indicated that they enjoyed being outside in nature (or similar response) and that they had few, if any, complaints about the VBWT. A complete list of likes and dislikes of the VBWT can be found in the electronic master dataset.

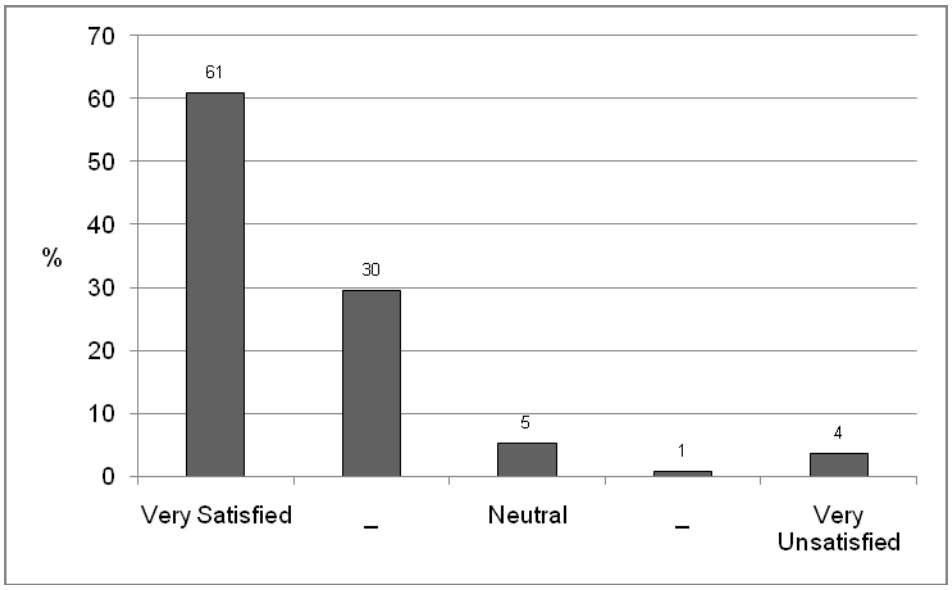

Figure 40. (Q.22) How satisfied were you with past visits to VBWT sites or loops?

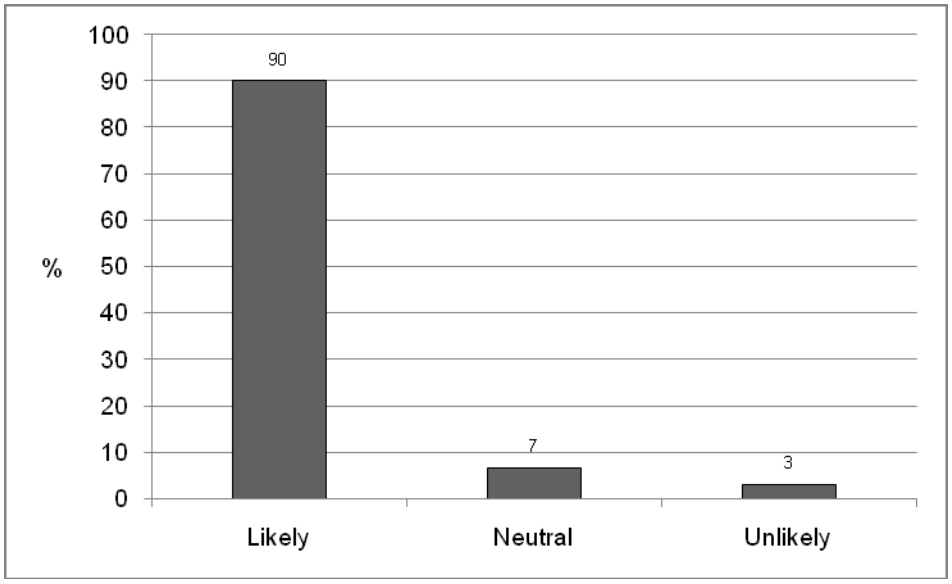

Figure 41. (Q.28) How likely are you to visit the VBWT again?

Table 15. Have you shared information about the VBWT to friends or family?

Q25	N		Yes	No	Chi-Square
Trail Guide Users	533	#	432	101	χ^2 = 205.55 DF=1 p<.0001
		%	81.1	19.0	

Table 16. How many individuals have you shared VBWT information with?

Q25b	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Trail Guide Users	424	8.8	1.2	1.0	368.0	6.4	11.2

Encounter Survey

Response Rate

The purpose of the Encounter Survey was to measure actual use and economic impacts of the VBWT. The questions posed by the Encounter Survey were very similar to the Visitor Survey, but focused on actual use and prior knowledge of the trail. The Encounter Survey was implemented by sending survey crews to randomly selected sites. Five survey crews of one or two individuals were assigned to 70 randomly selected sites. In addition to the sites being randomly selected from all VBWT sites and being randomly selected for which month they would be surveyed, sites were also randomly selected for the hours they would be surveyed. Not all sites on the VBWT are strictly nature oriented trails, many sites are multiuse and have other activates taking place daily (e.g. organized sports). Due to these other activities surveyors tried to strategically set themselves up in locations where they were likely to encounter visitors of the VBWT but not individuals that were at the site to use other facilities. Crews surveyed the randomly selected sites for a total of 536 hours and surveyed 285 individuals.

Demographics

The gender composition was 56% female and 44% male (Table 17). The mean age of respondents was 49.8 (Table 18). The youngest respondent was 25 years of age and the oldest was 84 (Figure 42).

Table 17. What is your gender?

Q. 23	N		Female	Male	Chi-Square
Encounter Survey	80	#	45	35	X^2 =1.25 DF=1 p< 0.2636
		%	56.3	43.7	

Table 18. What year were you born? (data modified to obtain age in years)

Q24	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Encounter Survey	78	49.8	1.37	25.0	84.0	47.0	52.5

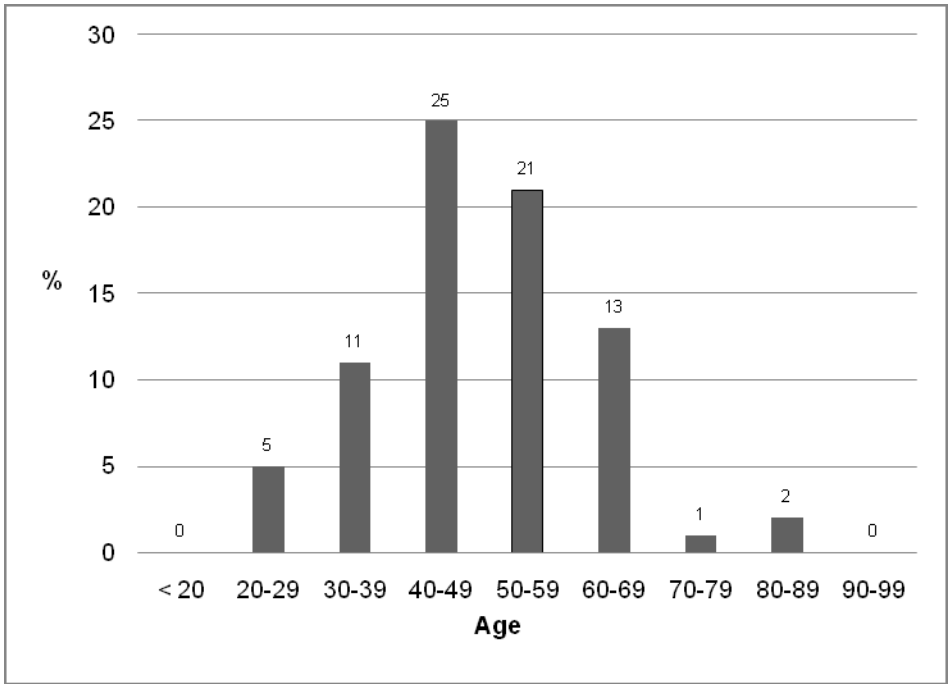

Figure 42 (Q.24) What Year were you born? (data modified to obtain age in years)

Greater than 70% of all respondents completed at least 4 years of college and more than 40% of respondents had earned a graduate degree (Figure 43). The median reported annual income exceeded $75,000 and fewer than 30% of respondents earned less than $50,000.

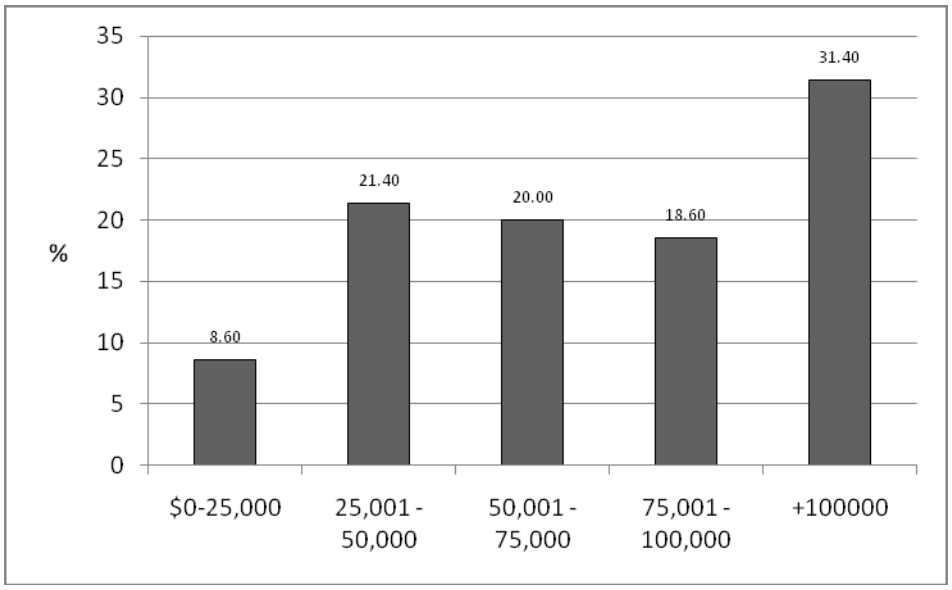

Figure 44 illustrates the income distribution of respondents. The ethnic and racial diversity of respondents was low—91% of all respondents classified themselves as White/Caucasian. No other group in any survey type exceeded 3.6% (Figure 45).

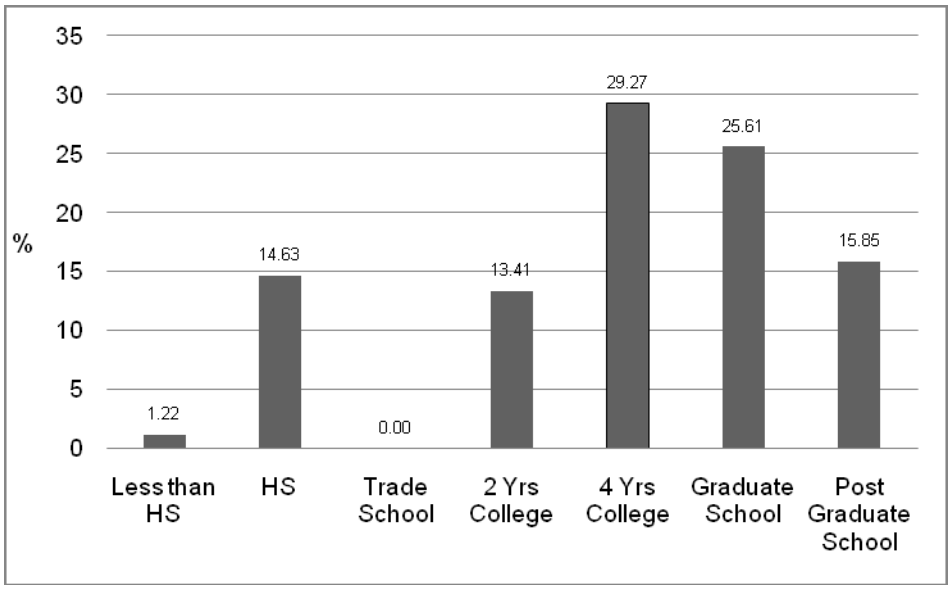

Figure 43. (Q.25) What is the highest level of education you have completed?

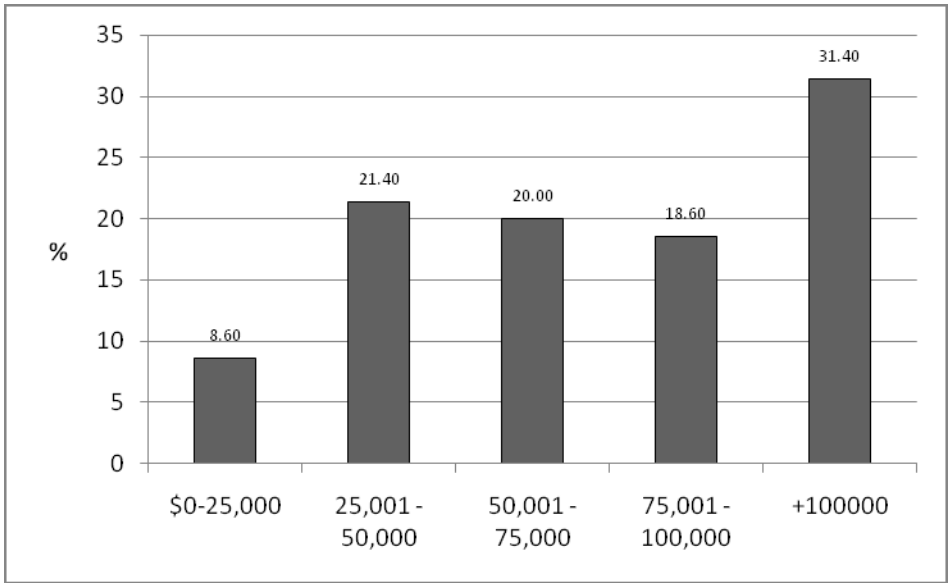

Figure 44. (Q.27) What is your annual income?

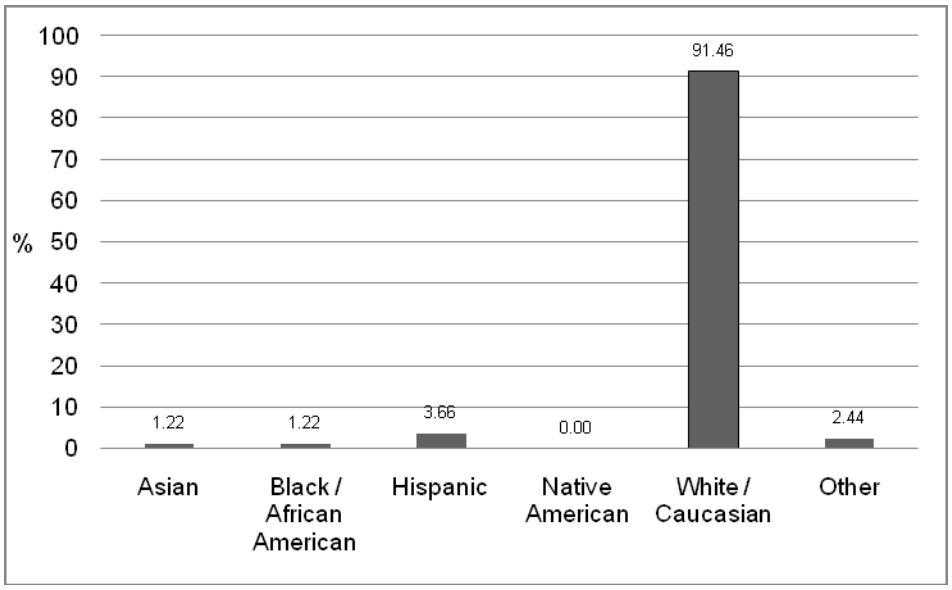

Figure 45. (Q.26) In which of the following groups would you include yourself?

Trail Usage and Knowledge

One individual from each group encountered at a VBWT site was asked how many birding or wildlife watching trips they take per year. On average, respondents took 26 trips a year (Table 19). Excluding individuals who reported not take any birding/wildlife watching trips, the average increased to 43.7 trips per year

Table 20). Many users of the VBWT visit a site daily if not multiple times a day. Sixty-three percent of individuals who reported taking at least 1 birding/wildlife watching trip per year considered themselves less than an intermediate in their familiarity with birding/wildlife watching. Only 15% of those encountered consider themselves more than an intermediate birding or wildlife watcher (Figure 46).

Table 19. How many birding/wildlife watching trips do you take in a year? (Not necessarily on the Virginia Birding and Wildlife Trail (VBWT))

Q.3	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Encounter Survey	272	26.2	4.9	0.0	730.0	16.6	35.9

Table 20. How many birding/wildlife watching trips do you take in a year? (Responses of zero were removed from the average)

Q.3 with zeros removed	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Encounter Survey	163	43.77	7.89	1	730	28.20	59.35

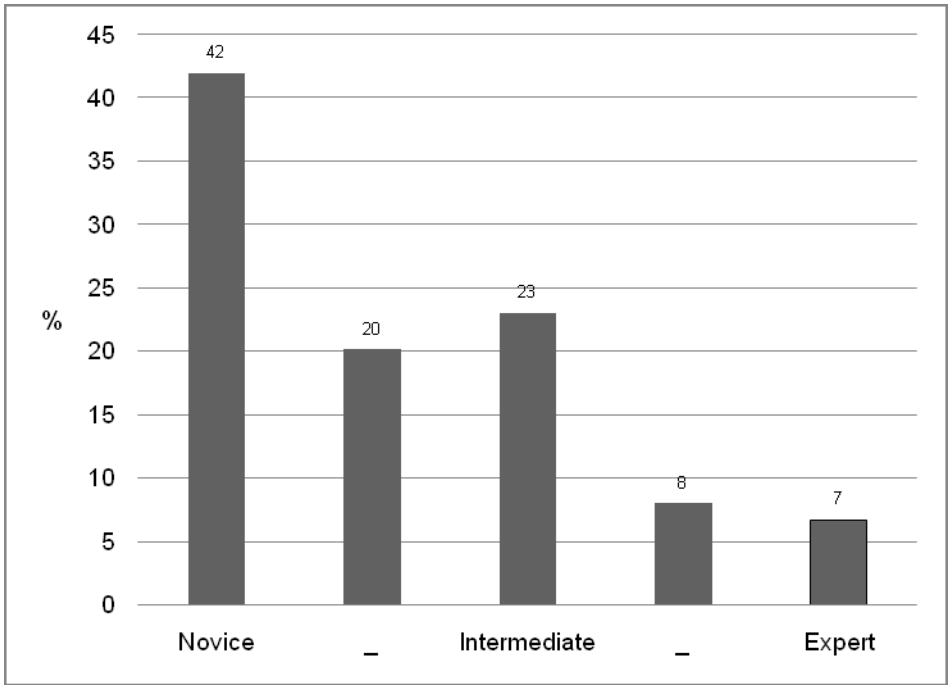

Figure 46. (Q.4) How familiar are you with bird watching/wildlife watching? (Responses to Q.3 = 0 were removed)

The average group size was 2.9 individuals per group (

Table 21). Only a third of respondents were aware of the VBWT (

Table 22), and in a related question 31% were aware that they were at a VBWT site (

Table 23).

The remainder of the analyses for the Encounter Survey is based on responses received from the 85 individuals (31%) that were aware they were on the VBWT.

Table 21. How many people are traveling in your group this trip?

Q.1	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Encounter Survey	279	2.9	0.2	1.0	41.0	2.5	3.3

Table 22. Are you aware of the Virginia Birding and Wildlife trail?

Q. 5	N		Yes	No	Chi-Square
Encounter Survey	279	#	92	187	χ^2 = 32.34 DF=1 p< 0.0001
		%	33.0	67.0	

Table 23. Are you aware that you are on the Virginia Birding and Wildlife Trail?

Q. 6	N		Yes	No	Chi-Square
Encounter Survey	279	#	86	193	χ^2 = 41.04 DF=1 p< 0.0001
		%	30.8	69.2	

Respondent's zip codes were compared to the zip code for each site in order to estimate the distance traveled between home and VBWT site. Since zip codes can span large areas, travel estimates are not exact. The average distance traveled by respondents was 56 miles (Table 24). Of the surveyed individuals six respondents indicated that they were from out of state. Excluding non Virginia residents, the average distance traveled was 40 miles (Table 25). Of those out of state encounters, three individuals were from North Carolina, two from Maryland, and one from Tennessee. Two individuals indicated that they were visiting Virginia to see family and four indicated they were on vacation (Appendix G under question 9A)

Table 24. Average distance in miles traveled based on zip code.

Q.8	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Encounter Survey	81	56.0	9.3	0.0	340.0	37.5	74.5

Table 25. Average distance in miles traveled by VA residents.

Q.8	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Encounter Survey	75	39.5	6.8	0.0	293.0	26.1	52.9

Forty-four percent of individuals indicated that the VBWT was their primary reason for being in the area (

Table 26). Twenty-three percent of individuals surveyed indicated that they intended to visit other sites on the loop later that day (

Table 27), and these individuals intended to visit an average of 2.4 sites (

Table 28).

Table 26. Was visiting the VBWT your primary reason for being in the area?

Q. 7	N		Yes	No	Chi-Square
Encounter Survey	84	#	37	47	χ^2 = 1.1905 DF=1 p< 0.2752
		%	44.1	56.0	

Table 27. Do you plan on visiting other sites on the loop today?

Q. 6b	N		Yes	No	Chi-Square
Encounter Survey	79	#	18	61	χ^2 = 23.40 DF=1 p< 0.0001
		%	22.8	77.2	

Table 28. How many of the sites do you plan on visiting?

Q.6b1	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Encounter Survey	13	2.4	0.4	1.0	5.0	1.6	3.2

Eighty-five percent of respondents indicated that they had previously visited a VBWT site (Table 29). Of those individuals, 80% indicated that they were satisfied with their past visits to the VBWT (Figure 47) as opposed to 11% that were not. When asked about their VBWT visitation frequency, respondents reported that, on average, they had previously visited 3.6 loops for the year and estimated that they will visit 5.5 loops total by the year end. Respondents indicated that on average they have visited 7.7 loops total since learning about the VBWT (.

Table 30).

Table 29. Is this your first time on the Virginia Birding and Wildlife Trail?

Q. 10	N		Yes	No	Chi-Square
Encounter Survey	84	#	13	71	χ^2 = 40.047 DF=1 p< 0.0001
		%	15.5	84.5	

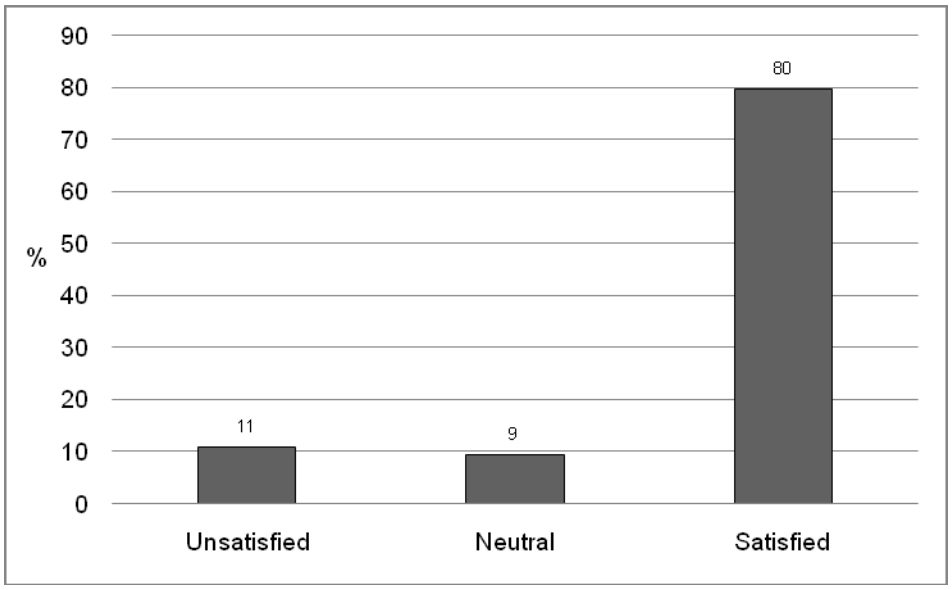

Figure 47. (Q.10a) How satisfied were you with past visits to VBWT sites or loops.

Table 30. Average visitation rates.

Q.10b How many Virginia Birding and Wildlife Trail loops have you visited in the last year?							
	N	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	68	3.6	0.5	0.0	25.0	2.5	4.6
Q.10d How many Virginia Birding and Wildlife Trail loops do you expect to visit this year?							
	N	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	68	5.5	0.9	0.0	50.0	3.7	7.2
Q.10c How many Virginia Birding and Wildlife Trail loops have you visited total?							
	N	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	65	7.7	1.7	0.0	80.0	4.3	11.1

Ninety-five percent of respondents indicated that they did not intend to stay overnight for the purpose of visiting the VBWT (Table 31). Of the four individuals that did stay overnight, three camped and one stayed at a hotel. The average stay was 2.25 nights (Appendix G under Q14b).

Table 31. Did you stay overnight for the purpose of visiting a VBWT loop or site?

Q. 14	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	79	#	4	75	χ^2 =63.81 DF=1
		%	5.1	94.9	p< 0.0001

Trail Information

Forty percent of survey respondents indicated that they had obtained information about the VBWT prior to their visit (

Table 32). The most common source for information was the VDGIF web site. Respondents who indicated that they received information from sources not listed on the survey were asked to provide the source of information they did receive. These write-in comments can be found in Appendix G under Q12a. Survey results indicate that roughly half (52% total)[3] of the surveyed individuals received their information pertaining to the VBWT from sources other than the VDGIF.

Table 32. Did you obtain any information about the Virginia Birding and Wildlife Trail prior to your visit?

Q. 12	N		Yes	No	Chi-Square
Encounter Survey	83	#	33	50	χ^2 =3.48 DF=1
		%	39.8	60.2	p< 0.0620

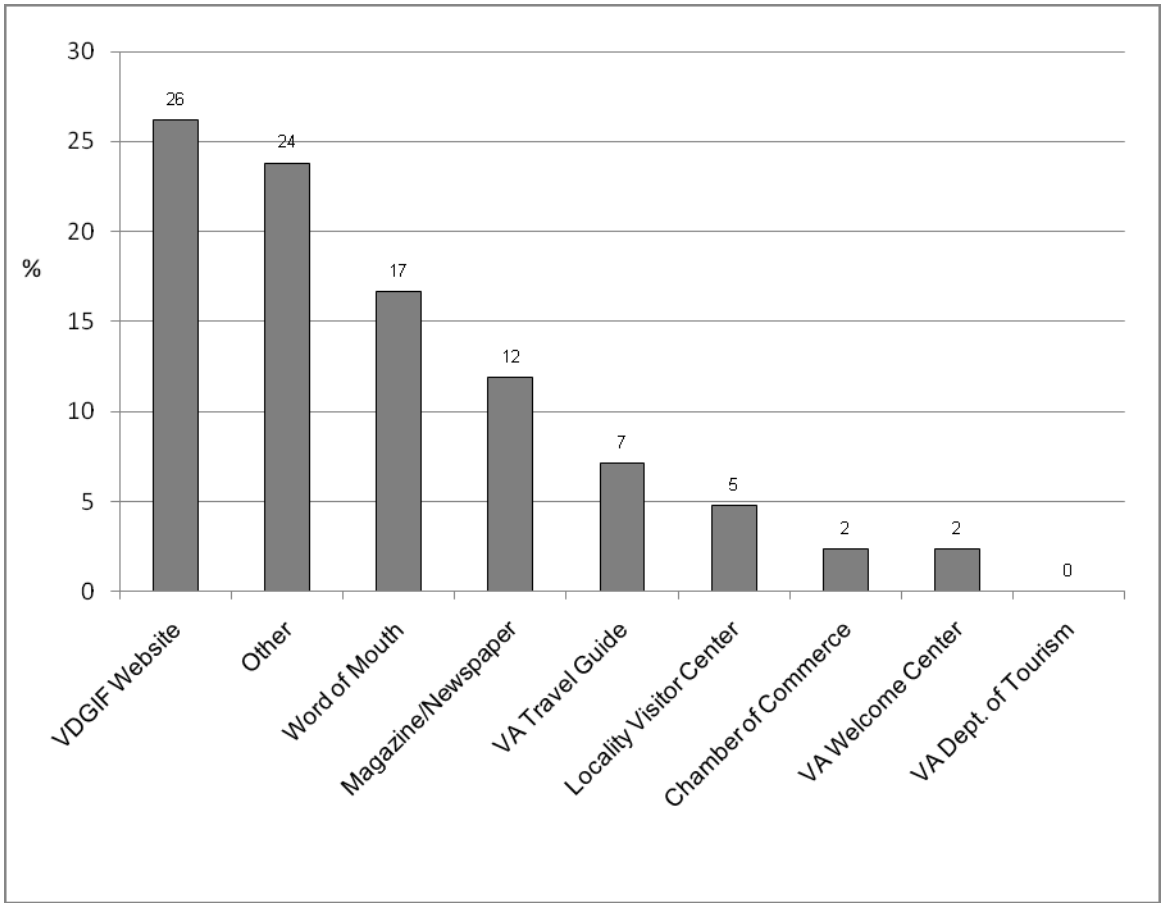

Figure 48. (Q.12a) Where did you get information about the Virginia Birding and Wildlife Trail?

[3] (Word of Mouth (17%) + magazines/newspapers (12%) + other (24%)) = 52%

Fifteen percent of respondents indicated that they owned a VBWT guide (Table 33). Of those, most indicated that they used it for site and loop selection as well as for the site specific information regarding likely species to be observed. Respondents did not use the guide for the lodging and services information (Table 34). Respondents indicated that they were happy with the trail guide and used it as a tool for deciding which sites to visit. They also indicated that they found the guide accurate and easy to use for navigating to sites and liked having information that was specific to individual sites (

Table 35). It is important to note the sample size for questions pertaining to the trail guide was relatively small (N=12) so caution is warranted with interpreting these results.

Table 33. Do you have a trail guide of the Virginia Birding and Wildlife Trail?

Q. 13	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	81	#	12	69	χ^2 =40.111 DF=1 p< 0.0001
		%	14.8	85.2	

Table 34. Respondents use of the VBWT guide.

Did you use information in the VBWT trail guide to decide which specific loops/sites to visit?					
Q. 13a	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	12	#	10	2	χ^2 =5.333 DF=1 p< 0.0209
		%	83.3	16.7	
Did you use the site-specific information regarding likely species to be observed to determine which sites to visit?					
Q. 13f	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	12	#	10	2	χ^2 =5.33 DF=1 p< 0.0209
		%	83.3	16.7	
Did you use information in the VBWT trail guide on lodging and services available in the area you were planning to visit?					
Q. 13b	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	12	#	1	11	χ^2 =8.333 DF=1 p< 0.0039
		%	8.3	91.7	

Table 35. Trail guide use and satisfaction

Q.13c How would you rate the ease of use and accuracy of the trail guide for the purpose of navigating to specific sites on a loop?							
	N		**Easy & Accurate**	**Neutral**	**Difficult & Inaccurate**	**Did not use information**	**Chi-Square**
Encounter Survey	12	#	7	2	3	0	Insufficient data
		%	58.3	16.7	25.0	0.0	
Q.13d Did you find the site specific information in the trail guides informative and useful?							
	N		**Informative & Useful**	**Neutral**	**Non Informative & Useful**	**Did not use information**	**Chi-Square**
Encounter Survey	11	#	10	0	1	0	Insufficient data
		%	90.9	0.0	9.1	0.0	
Q.13e Was the site-specific information in the trail guide regarding likely species to be observed useful?							
	N		**Useful**	**Neutral**	**Not Useful**	**Did not use information**	**Chi-Square**
Encounter Survey	12	#	8	1	1	2	Insufficient data
		%	66.7	8.3	8.3	16.7	

Respondents were asked a series of questions to help evaluate factors that determine how they chose a VBWT site to visit. More than half (54%) of respondents indicated that distance from home was an important factor in their choice of sites to visit (Figure 49 a). Participants were also asked if the presence or absence of hiking or walking trail was an important factor in VBWT site selection. Eighty-three percent of respondents indicated that having a trail present was important in their decision of selecting a site to visit (Figure 49 b). While most respondents indicated that they prefer sites with a walking or hiking trail, only 25% of respondents indicated that the absence of a trail was important in their site selection decision (Figure 49 c). This suggests that most visitors to the VBWT prefer having a trail to walk on when visiting a site but a significant proportion of users may appreciate sites that do not have a trail and enjoy visiting areas that are in a more natural state among other reasons.

Respondents did not show a strong preference with regard to site fees as a factor for selecting which VBWT sites to visit. Thirty-five percent of respondents indicated that site fees were an important factor while an equal percentage indicated that it was not. The remaining 30% indicated that they were neutral on the subject (Figure 49 e). The lack of any indication of strong preference to this question suggests that sites that charge a fee are likely to receive less visitors relative to comparable free sites but that most visitors (65%[4]) decisions to visit a VBWT site are not dictated solely based on the presence or absence of a fee.

[4] 35% Unimportant + 30% Neutral = 65%

Respondents did not indicate a preference towards local attractions when selecting a loop or site to visit. Thirty-eight percent of respondents reported that local attractions are important in their decision and 39% indicated that it is unimportant (Figure 49 f).

Respondents were asked about the other activities that they participated in during their trip. Of all individuals surveyed, 47% indicated that they participated in other activities. The most common response was visiting a nature center reported by 28 % of respondents followed by shopping (13%) (

Figure 50). Write-ins for other can be found in Appendix G under Q.20[5].

[5] Five individuals reported that they visited the visitor center under other. This response was treated as a unique answerer and was not included in the Nature Center count.

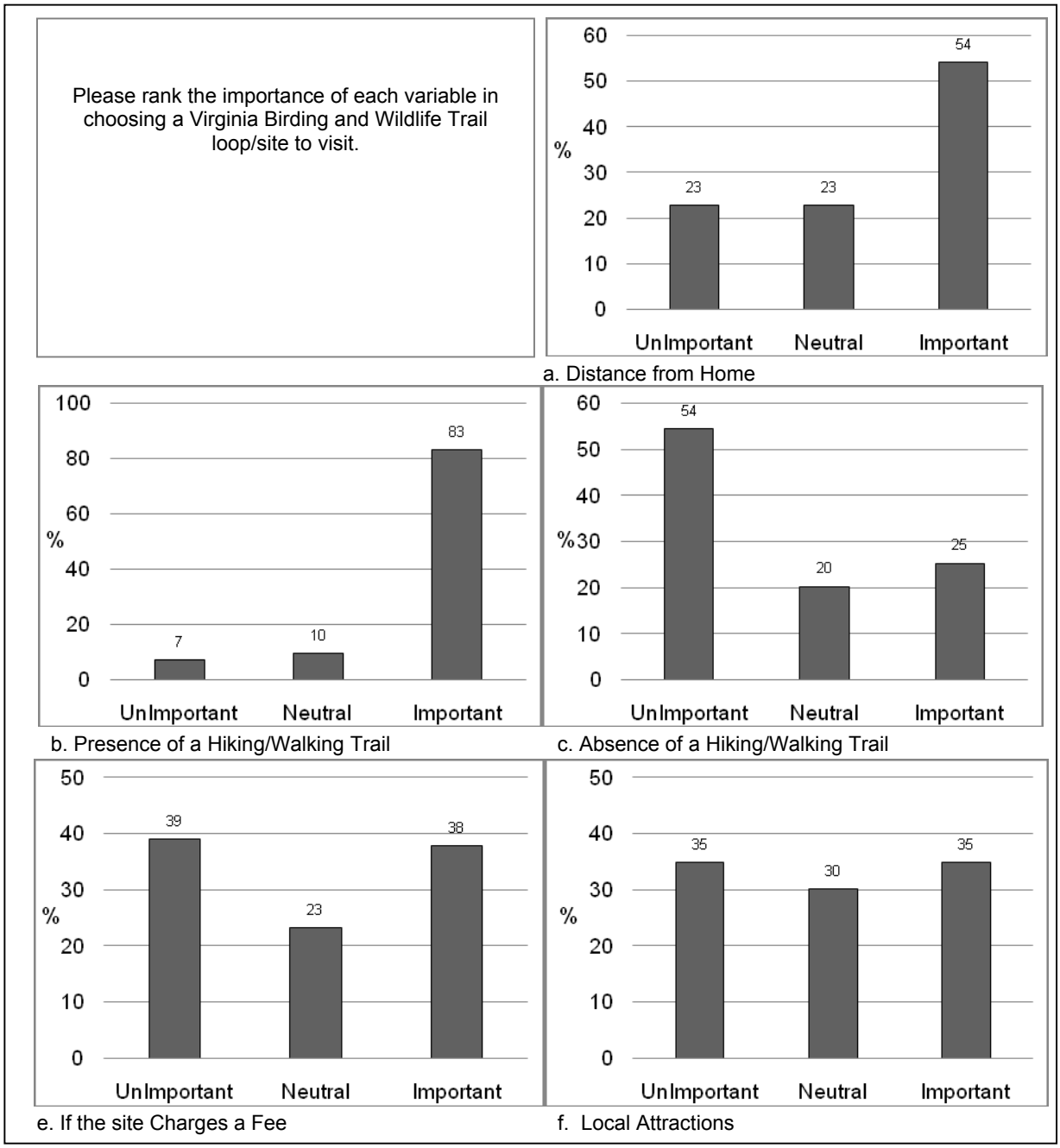

Figure 49. (Q. 11a-e) importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.

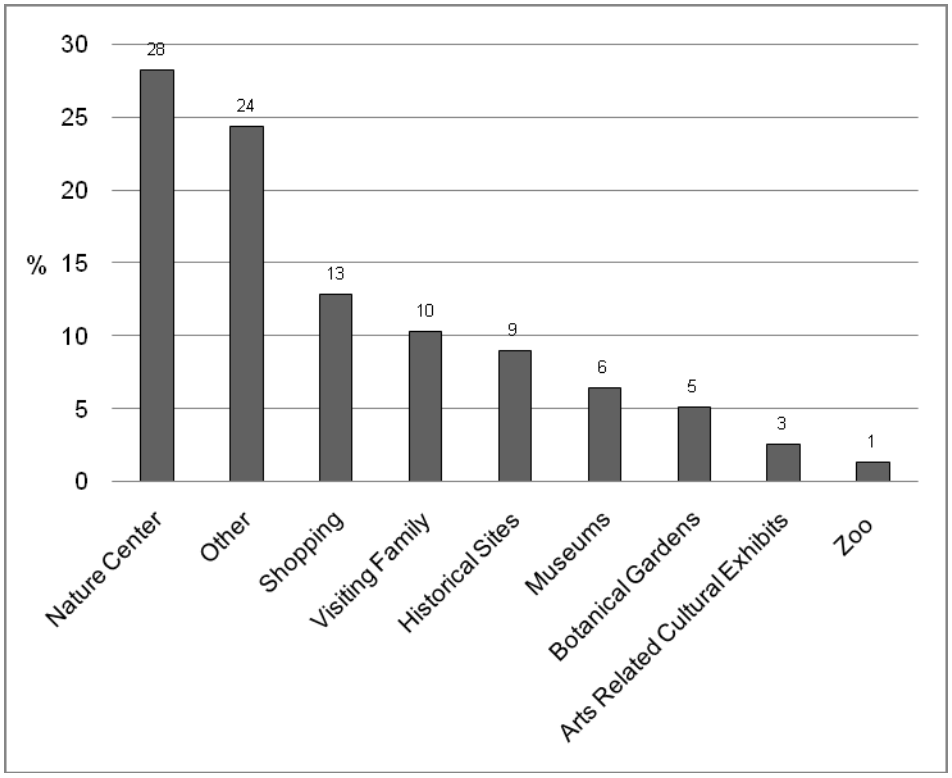

Figure 50. (Q.20) What other activities have you engaged in during your visit? Individuals could answer multiple activities. Percentages are based on total number of recorded activities and not the number of individuals that responded.

Forty-five percent of respondents indicated that the probability of seeing a specific wildlife species is an important factor in deciding which sites to visit (Figure 51). Respondents were also asked if they chose the loop that they were visiting that day for the purpose of seeing a specific wildlife species (Table 36). Only 24% of respondents indicated that they chose the loop they were on for the purpose of seeing a specific group or wildlife species. The fact that 45% of respondents indicated that the probability of seeing a specific wildlife species is an important factor in deciding which sites to visit yet only 24% actually were at the surveyed loop for the purpose of seeing a specific group or wildlife species suggest that individuals use multiple variables when deciding what sites to visit. The specific species that individuals reported they were targeting can be found in Appendix G under question 6ai.

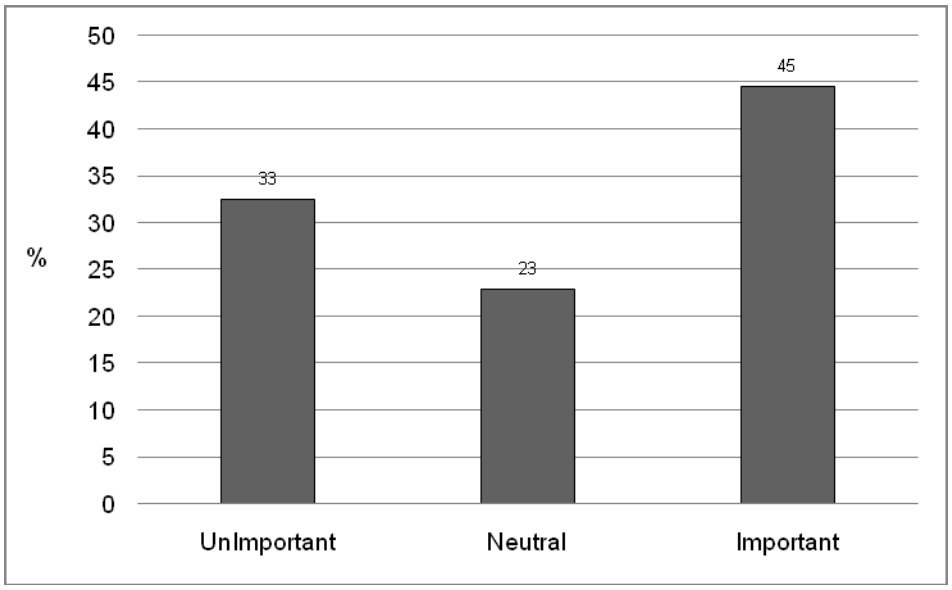

Figure 51. (Q.11f) Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Probability of seeing a specific wildlife species.

Table 36. Did you choose this loop to target seeing a specific group or wildlife species?

Q. 6a	N		Yes	No	Chi-Square
Encounter Survey	81	#	19	62	χ^2 = 22.8272 DF=1
		%	23.5	76.5	p< 0.0001

Spending

To estimate what the average user spends when visiting the VBWT respondents were asked how much they spent on food, gas, lodging, shopping, and other items. Fuel was typically the largest expense related to visiting the VBWT followed by food. For overnight visitors to the VBWT, the single largest expense was for lodging (

Table 37).

Table 37. During your last trip, about how much did you spend related to visiting the VBWT? (Please answer in dollar amounts)

Food							
Q.15a	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	7.04	1.89	0.0	100.0	3.3	10.8
Gas							
Q.15b	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	7.94	1.6	0.0	63.0	4.8	11.2
Lodging							
Q.15c	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	1.01	1.01	0.0	70.0	-24.87	52.87
Shopping							
Q.15d	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	1.2	0.8	0.0	40.0	-0.4	2.8
Other							
Q.15e	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	0.38	0.24	0.0	15.0	-.10	0.85
Total							
Q.15f	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	71	19.37	3.69	0.0	163.0	12.0	26.74

VBWT User Satisfaction

Overall respondents were very satisfied with their visit to VBWT sites. Over 95% of respondents indicated that they are likely to visit the VBWT again (Table 38). Sixty-six percent of respondents enjoy the trail enough that they have passed VBWT information on to an average of 8.5 individuals (Table 39,Table 40). Respondents were provided the opportunity to indicate what they enjoyed most about the VBWT and what they liked least. Overall respondents indicated that they enjoyed the trail, the opportunity to see wildlife, scenery, and peace and quiet. Many respondents indicated that they did not have any dislikes about their VBWT experience. The presence of litter was the most common dislike of the VBWT. The full list of respondent write-ins can be found in Appendix G under questions 21 and 22.

Table 38. How likely are you to visit the VBWT again?

Q. 19	N		Unlikely	Neutral	Likely	Chi-Square
Encounter Survey	79	#	1	2	76	χ^2 =140.53 DF=2 p< 0.0001
		%	1.3	2.5	96.2	

Table 39. Have you shared information about the VBWT with friends or family?

Q. 18	N		Yes	No	Chi-Square
Encounter Survey	81	#	54	27	χ^2 =9.00 DF=1 p< 0.0027
		%	66.7	33.3	

Table 40. How many individuals have you shared VBWT information with?

Q.18a	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Encounter Survey	49	8.5	1.7	1.0	75.0	5.1	11.9

Economics

Estimation of Total Visitor Trips

As described in detail in the Visitor Survey methods, we surveyed 66 VBWT sites for 8 hours each and two sites for 4 hours each (weather shortened survey length). All surveys were 8 hours in length (except two mentioned above) and began either one hour after sunrise or ended one hour before sunset. Sites, survey days (Saturdays and Sundays only) and survey times were randomly assigned. Because sites were randomly selected and had an equal chance of being sampled, given adequate sample size, generalizations about the population of VBWT site users from this research are valid.

We encountered a total of 284 groups of visitors using the VBWT. A group was considered one or more persons travelling together. Average group size was 2.9 individuals, for a total of 824 persons encountered. We asked one member from each group to participate in the survey.

Eighty-six groups (30% of all groups) were aware that they were on the VBWT. We assumed that if one person in the group was aware they were on the VBWT that all members of the group were aware. As described in Visitor Survey Methods, these persons represented our target group for the survey and were asked a suite of questions about their trail use preferences, demographics, and economic expenditures. Average size of these groups (groups aware they were on the VBWT) was 2.81 persons, for total of 242 individuals encountered.

The encounter rate for individuals aware that they were on the VBWT was 3.61[6] persons per 8 hours. Because average day length during the survey period was 13.4 hours and surveys were only 8 hours, we adjusted our estimate of the number of trail users for the entire day by pro-rating for un-surveyed hours. To do this, we multiplied the number of daily encounters by 1.675[7] to estimate the weekend daily visitor use rate of 6.05 persons per site per day. This number represents the estimated number of users per site on a weekend day between the months of April and October, inclusive. Total weekend use for individuals aware that they were on the VBWT is estimated to be 12.1 persons per site.

To estimate the number of visitors to the VBWT in non-survey periods (i.e. Monday-Friday and November-March) we obtained visitor usage data from the Virginia State Parks System. Though Virginia State Parks offer more than the VBWT, we believe these data represent the best available information describing outdoor activity within the Commonwealth and are likely a good surrogate for relative activity at VBWT sites. In fact, most Virginia State Parks have one

[6] 242 individuals / 67 full survey days = 3.61 persons per day
[7] 13.4 hours sunlight / 8 survey hours= 1.675

or more VBWT sites within their boundaries. These data indicate that 57.4% and 42.6% of park usage occurs on weekdays and weekends, respectively. Given these values and the estimate of 12.1 visitors per weekend (see above), we estimate a total of 28.4 weekly visitors and a total of 16.3 visitors Monday through Friday. Weekday use between the months of April and October, inclusive, was estimated at 3.3 persons per site per day.

To estimate visitation outside of the survey period (November-March), we used data from the Virginia State Parks System that indicated that daily visitation rates during these months (in 2007) were approximately 28.35% of April-November values. Using this information, November-March visitation can be estimated at 1.72[8]and 0.92[9] visitors per day per site, respectively, for weekend and weekdays (Table 41).

Table 41. Estimated number of daily visitors to the VBWT per site by visitation period. These values represent only those persons aware of their presence on the VBWT.

Estimated Number of Daily Visitors		
	April-October	**November-March**
Sat-Sun	6.05	1.72
Mon-Fri	3.26	0.92

The number of annual visitors per site was estimated by multiplying the estimated usage for each type of day (Apr-Oct weekend day, Apr-Oct weekday, Nov-Mar weekend day, Nov-Mar weekday) by the number of days in that class in 2007. This process yields an estimate of 1,041 visitors actively using the VBWT per year per site (Table 42).

Table 42. Estimated number of annual visitors to the VBWT per site by day and visitation period. These values represent only those persons aware of their presence on the VBWT.

Per Site									
	April-October				**November-March**				**Annual**
	Visitors / Day	**Days in Period**	**Total Visitors**		**Visitors / Day**	**Days in Period**	**Total Visitors**		**Total Visitors**
Sat-Sun	6.05	61	369		1.71	43	74		443
Mon-Fri	3.26	153	499		0.92	108	100		598
			868				174		**1,041***

*Small rounding errors may be apparent in this table.

[8] 6.05 X 0.2835 = 1.72
[9] 3.26 X 0.2835 = 0.92

Annual VBWT usage for all sites combined was calculated as the number of sites[10] (617) multiplied by the estimated number of annual visits per trail (1,041; Table 42). This calculation yields an estimate of 642,297 visitors per year (Table 43).

Table 43. Estimated number of annual visitors to the VBWT system by day and visitation period. These values represent only those persons aware of their presence on the VBWT.

Annual Visitors per Site	# Sites	Estimated Annual Visitors--All Sites
1,041	617	642,297

Economic Effects of the VBWT

Economic benefits of the VBWT system are derived from direct and secondary economic effects of visitor spending. Direct effects arise from visitor expenditures on goods such as gasoline, lodging, and food that are directly related to the use of the VBWT. Direct effects accrue largely to tourism-related business in the area. Secondary economic effects can be categorized as either indirect effects or induced effects. Indirect economic effects are generated as a byproduct of direct economic effects as supporting industries for gas stations, restaurants and other beneficiaries of direct spending by visitors and were beyond the scope of this project.

Direct Spending by Trail Visitors

Trail users were asked about their expenditures directly related to visiting the VBWT. Specifically, visitors were asked how much they expected to spend on the day of the survey in the following categories: food, gas, lodging, shopping, and other. Sixty-nine individuals answered questions related to their economic expenditures. Though we anticipated that persons in groups would report only their individual expenditures, during the data analysis stage of this project we discovered that many survey participants likely reported their gas expenditures for the entire group. For example, if 3 persons traveling together (i.e. carpooling) spent a total $9 on gasoline, the survey respondent should have divided $9 by 3 persons to achieve an individual expenditure of $3. It is likely that many respondents may have reported $9. To correct for this inconsistency, we divided respondent gasoline expenditures by group size to conservatively

[10] As of April 2008

estimate gasoline expenditures. All other expenditures were unmodified in the analysis stage of this project.

Visitors to the VBWT spent, on average, a total of $13.45 per day (

Table 44). Individual category means comprising this estimate were food, $7.04; gasoline, $3.80; shopping, $1.22; lodging, $1.01; and other, $0.38 (

Table 44). Upper and lower 95% confidence intervals were $19.52 and $7.39, respectively. The wide range between the upper and lower estimates of annual spending indicates low precision of the mean estimate. For this reason, users of this information are advised to interpret the mean estimate of $13.45 with caution and rely on the upper and lower bounds for greater accuracy. The estimate of $13.45 is consistent with other economic assessments of Virginia's trails. For example, an economic assessment of the Virginia Creeper Trail, a popular trail that stretches 35 miles from Abingdon, Virginia to the North Carolina State Line, revealed average per person expenditures for primary day users was approximately $17 (Bowker et al. 2004). A study by Chmura Economics & Analytics projected that local and non-local users of the High Bridge Rail-Trail in Central Virginia would spend $7.00 and $14.00 per day, respectively (Chmura 2004).

Visitors were asked whether the primary reason for being in the area was to visit the VBWT. Primary visitors/users were those persons that were in the area for the primary purpose of visiting the VBWT; non-primary visitors/users were those persons that were in the area for another reason. Primary visitors spent, on average, a total of $10.52 for the primary purpose of visiting the VBWT (

Table 45), whereas non-primary visitors spent $16.87 (Table 46), but these groups were not significantly different (t-test, unequal variance, DF=63.5, t=1.02, p=0.31)

Table 44. Expenditures, in dollars, per day of VBWT visitors (primary and non-primary). Average expenditures per person were $13.45 per day. Q15. "How much do you expect to spend TODAY directly related to visiting the Virginia Birding and Wildlife Trail?"

		Expenditures					
Q15	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Food	69	7.04	1.90	0.00	100.00	3.26	10.83
Gas	69	3.80	0.80	0.00	31.00	2.20	5.40
Lodging	69	1.01	1.01	0.00	70.00	-24.87	52.87
Shopping	69	1.22	0.81	0.00	40.00	-1.01	2.84
Other	69	0.38	0.24	0.00	15.00	-0.10	0.85
Total	**69**	**13.45**	**3.04**	**0.00**	**131.50**	**7.39**	**19.52**

Table 45. Expenditures, in dollars, per day of primary VBWT visitors. Q15. "How much do you expect to spend TODAY directly related to visiting the Virginia Birding and Wildlife Trail?"

		Expenditures					
Q15	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Food	33	3.76	1.25	0.00	30.00	1.20	6.31
Gas	33	3.28	1.13	0.00	30.00	0.98	5.58
Lodging	33	2.12	2.12	0.00	70.00	-2.20	6.44
Shopping	33	1.27	1.21	0.00	40.00	-1.19	3.74
Other	33	0.09	0.09	0.00	3.00	-0.09	0.28
Total	33	**10.52**	**4.02**	**0.00**	**110.00**	**2.33**	**18.71**

Table 46. Expenditures, in dollars, per day of non-primary VBWT visitors. Q15. "How much do you expect to spend TODAY directly related to visiting the Virginia Birding and Wildlife Trail?"

		Expenditures					
Q15	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Food	34	10.65	3.57	0.00	100.00	3.38	17.91
Gas	34	4.32	1.20	0.00	31.50	1.87	6.77
Lodging	34	0.00	0.00	0.00	0.00	.	.
Shopping	34	1.24	1.18	0.00	40.00	-1.16	3.63
Other	34	0.68	0.47	0.00	15.00	-0.28	1.64
Total	34	**16.87**	**4.76**	**0.00**	**131.50**	**7.19**	**26.56**

Estimates of expenditures for other user types, such as non-Virginia residents, VBWT trail guide owners and overnight visitors, etc, are imprecise or untenable due to low sample sizes of user type respondents. Only 4 individuals indicated that they were from out of state and only 11 respondents indicated that they owned a VBWT guide. Further, sample sizes were insufficient to perform statistical hypothesis testing of these user type expenditures. Some user type spending patterns may still be evident and, for this reason, we present some limited results based on user types.

Virginia residents, on average, spent $10.42 on food, gas, lodging, shopping and other items combined (Table 47). The upper and lower 95% confidence limits for this estimate were $24.29 and $5.38, respectively. On average, Non-Virginia residents spent $67.75 (N=4). Owners of the VBWT guide spent, on average, a total of $17.53, compared to $12.90 for non-guide owners (Table 48). Four individuals stayed overnight for the purpose of visiting the VBWT with an average expenditure of $85.56; non-overnight users spent, on average, $9.16 (

Table 49).

Table 47. Are you from out of state? Table indicates average expenditure in dollars for both Virginia and non-Virginia residents.

Expenditures							
Q9	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Virginia Residents	63	10.42	2.52	0.00	131.50	5.38	24.29
Non-Virginia Residents	4	67.75	21.99	6.00	110.00	Insufficient data	

Table 48. Do you have a trail guide of the Virginia Birding and Wildlife Trail? Table indicates average expenditure in dollars for both Virginia and non-Virginia residents.

Expenditures							
Q13	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
No	57	12.90	3.44	0.00	131.50	6.02	19.79
Yes	11	17.53	6.93	0.00	75.00	Insufficient data	

Table 49. Are you staying overnight for the purpose of visiting a Virginia Birding and Wildlife Trail loop or site? Table indicates average expenditure in dollars for both Virginia and non-Virginia residents.

Expenditures							
Q14	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
No	64	9.16	1.99	0.00	80.00	5.18	13.14
Yes	4	85.56	20.87	45.73	131.50	Insufficient data	

Total Direct Economic Effects

Total direct economic effects can be calculated as the estimated number of visitors multiplied by expenditures per visitor. The value used for expenditures can be derived from all visitors or from just primary visitors (i.e., those visitors that were in the area for the primary purpose of using the VBWT). In this analysis we used expenditure values for all visitors (i.e. primary and non-primary) that were aware they were using the VBWT, regardless of their reason for being in the area. This option was chosen because respondents indicated that their expenditures were *directly* related to the use of the VBWT, and therefore these expenditures should be attributed to the VBWT regardless of the reason visitors were in the area.

On an annual basis, given an estimated 642,297 visitors (Table 43), and mean expenditures of $13.45 (

Table 44) per person, the total direct economic effects of the VBWT are estimated at $8,638,895 per year (Table 50). This value represents the estimate of annual total direct spending throughout the Commonwealth by visitors of the VBWT. Upper and lower estimates, based upon the 95% confidence limits of mean visitor expenditures, are $12,537,637 and $4,746,575, respectively. The wide range between the upper and lower estimates of annual spending are a result of low precision. For this reason, users of this information are advised to interpret the mean estimate of $8,638,895 with caution and rely on the upper and lower bounds for greater accuracy. That is, the likelihood that actual annual expenditures are exactly $8,638,895 is low, but the probability that actual spending is between $4,746,575 and $12,537,637 is high.

These estimates can be viewed in the context of research by the US Fish and Wildlife Service and the US Census Bureau on wildlife watching-related expenditures in Virginia (US Dept of Interior 2001). These data indicate that total expenditures by US residents in Virginia exceed $788 million annually. Approximately $172 million of this can be attributed to trip-related activities within Virginia.

Table 50. Annual cumulative direct economic effects of the VBWT. Annual expenditures based upon an annual estimate of 642,297 visitors.

Estimate	Daily Expenditures	Annual Expenditures
Lower	$7.39	$4,746,575
Middle	$13.45	$8,638,895
Upper	$19.52	$12,537,637

The categories with the greatest expenditures were food ($4.5 million; 52% of total) and gasoline ($2.4 million; 28% of total) (Table 51). Food and transportation were also the two greatest trip-related expenditures among wildlife watchers in Virginia according to the 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR). Spending on lodging, shopping and other were $0.65 million, $0.78 million, and $0.24 million, respectively. These values represent annual estimates based upon mean expenditures from visitors surveyed, and only include expenditures directly related to the use of the VBWT. Lower and upper estimates can be derived using the information provided in

Economics

Table 44.

Table 51. Annual visitor spending estimates by spending category.

Spending Category	% of Total Expenditures	Spending Per Person/Day	Total Expenditures
Food	52.34%	$7.04	$ 4,521,771
Gas	28.25%	$3.80	$2,440,729
Lodging	7.51%	$1.01	$648,720
Shopping	9.07%	$1.22	$783,602
Other	2.83%	$ 0.38	$244,073
		$13.45	$8,638,895

Locality Survey

Response Rate

The locality survey was designed to survey planning personnel, tourism professionals, and site owners for trail awareness, trail usage, community planning/habitat conservation-related impacts of the VBWT as well as their evaluation of VDGIF support. All three groups were asked the same questions, except site owners were asked two additional questions to estimate site usage. To implement the locality survey, surveys were sent to VBWT site owners, planning personnel, and tourism officials around the Commonwealth. The survey was conducted primarily as an Internet survey, with an email reminder 1 and 3 weeks after the initial email contact and a final non-respondent hard copy of the survey via mail after a month. Response rates were over 50% for all survey groups with the highest response rate coming from planning personnel (Table 52)

Table 52. Response rates for Locality Survey

	Sent	Bounced	% Bounced	Completed	Return Rate
Site Owners	302	23	7.6	171	61%
Planning	142	8	6%	90	67%
Tourism	159	58	36.4%	51	50.4%

Trail Awareness

Ninety-eight percent of site owners that responded indicated that they were aware of the VBWT (

Table 53). This high number was anticipated as this group oversees specific sites on the trail and is typically responsible for the day-to-day activities associated with them. Sixty-seven percent of planning personnel were aware of the VBWT. Since planning personnel are typically not actively managing or promoting the VBWT as part of their daily activities, we expected a lower rate of awareness. Respondents that were not aware of the VBWT were asked to skip survey questions relating to information transfer, trail usage, and VDGIF expectations. These respondents were asked only to answer questions pertaining to habitat conservation within their locality instead. Individuals that indicated they were not aware of the VBWT are not included in the rest of this report with the exception of the segment titled “Habitat Conservation”.

Table 53. Are you aware of the Virginia Birding and Wildlife Trail?

Q1	N		Yes	No	Chi-Square
Site Owner	171	#	168	3	χ^2 =159.2105 , DF = 1 p< 0.0001
		%	98.25	1.75	
Planning	89	#	60	29	χ^2 = 10.7978, DF = 1 p< 0.0010
		%	67.42	32.58	
Tourism	51	#	40	11	χ^2 = 16.4902, DF = 1 p< 0.0001
		%	78.43	21.57	

Of those that knew of the VBWT, most indicated that they are aware that the VDGIF manages the VBWT. A similar percentage (18-24%) of planning and tourism respondents reported that they did not know the VDGIF managed the VBWT (Table 54). Nearly 75% of site owners and tourism officials, but only 47% of planning personnel, knew who to contact for information about the VBWT (Table 55).

Table 54. Do you know what agency manages the Virginia Birding and Wildlife Trail?

Q2	N		Yes	No	Chi-Square
Site Owner	168	#	157	11	χ^2 =126.8810 , DF = 1 p< 0.0001
		%	93.45	6.55	
Planning	60	#	49	11	χ^2 = 24.0667, DF = 1 p< 0.0001
		%	81.67	18.33	
Tourism	40	#	31	9	χ^2 =12.100 , DF = 1 p< 0.0005
		%	77.5	22.5	

Table 55. Do you know who to contact about information pertaining to the Virginia Birding and Wildlife Trail?

Q3	N		Yes	No	Chi-Square
Site Owner	168	#	123	45	χ^2 = 36.2143, DF = 1 p< 0.0001
		%	73.21	26.79	
Planning	60	#	28	32	χ^2 = 0.2667, DF = 1 p< 0.6056
		%	46.67	53.33	
Tourism	40	#	29	11	χ^2 = 8.1000, DF = 1 p< 0.0044
		%	72.5	27.5	

Between 63% (tourism officials) and 86% (site owners) of respondents obtained their knowledge about the VBWT from the VDGIF (Figure 52). Other responses are presented in Appendix H under question 4.

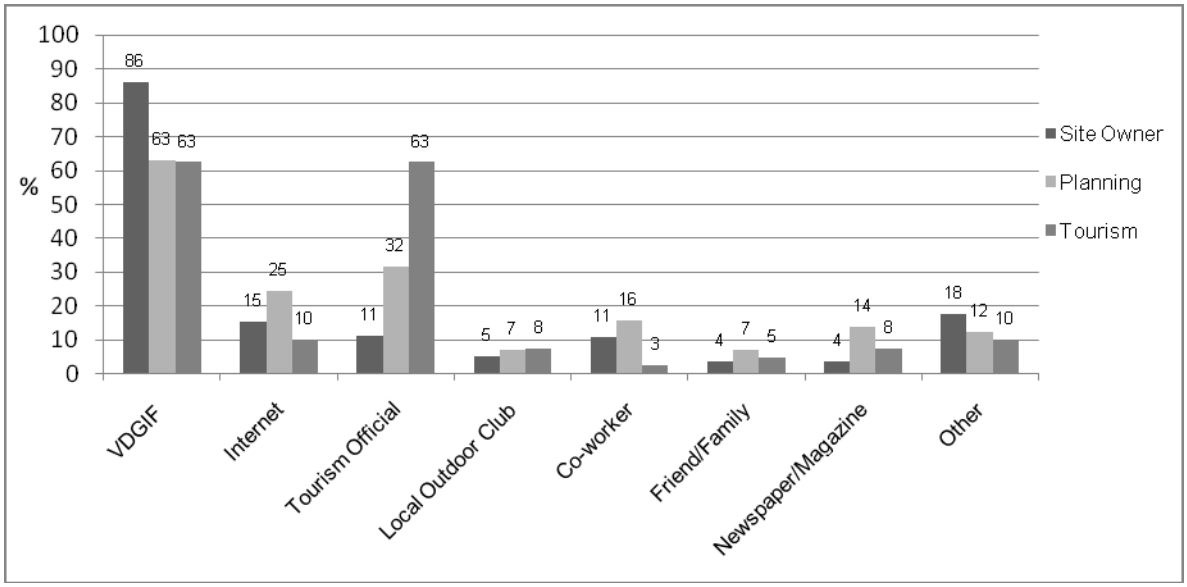

Figure 52. Where did you obtain your knowledge about the Virginia Birding and Wildlife Trail? *Percentage based on number of respondents, some respondents answered multiple categories.*

Most site owners (73%) indicated that they were involved in helping to establish the VBWT sites in their locality. A smaller portion of planning (37%) and tourism (45%) officials indicated that they were involved in helping to establish the VBWT in their locality (Table 56). Of those involved, most indicated that they were either "involved" or "very involved" in the process. Of those "involved" in establishing the VBWT in the locality, over 70% of site owners and planning personnel reported that they were "very involved" in the process and over 90% of the Tourism individuals indicated that they were "involved" to "very involved" in the process (Table 57).

Table 56. Were you involved in helping to establish Virginia Birding and Wildlife Trail sites in your locality?

Q6	N		Yes	No	Chi-Square
Site Owner	166	#	122	44	χ^2 = 36.6506, DF = 1 p< 0.0001
		%	73.5	26.5	
Planning	59	#	22	37	χ^2 = 3.8136, DF = 1 p< 0.0508
		%	37.3	62.7	
Tourism	38	#	17	21	χ^2 =0.4211 , DF = 1 p< 0.5164
		%	44.7	55.3	

Table 57. What level of involvement did you have in helping to establish the Virginia Birding and Wildlife Trail sites in your locality?

Q6a	N		Little/No Involvement	Medium	Involved/Very Involved	Chi-Square
Site Owner	122	#	10	22	90	χ^2 = 91.5410, DF = 2 p< 0.0001
		%	8.2	18.0	73.8	
Planning	21	#	5	1	15	χ^2 = 14.8571, DF = 2 p< 0.0006
		%	23.8	4.8	71.4	
Tourism	17	#	0	1	17	χ^2 = 13.2353, DF = 2 p< 0.0003
		%	0	5.9	94.1	

VDGIF's advertising strategy of placing signs at VBWT sites was effective, at least for these three groups. Sixty-nine percent or greater of all respondents indicated that they had noticed the VBWT signs (Table 58). Further, between 73-83% of respondents indicated that they were aware of VBWT sites other than those within their own in their area of management (Table 59).

Table 58. Have you noticed signs marking Virginia Birding and Wildlife Trail sites/roads?

Q5	N		Yes	No	Chi-Square
Site Owner	168	#	161	7	χ^2 = 141.1667, DF = 1 p< 0.0001
		%	95.8	4.2	
Planning	59	#	46	13	χ^2 = 18.4576, DF = 1 p< 0.0001
		%	77.9	22.0	
Tourism	39	#	27	12	χ^2 = 5.7692, DF = 1 p< 0.0163
		%	69.2	30.8	

Table 59. Do you know the location of Virginia Birding and Wildlife Trail sites (other than your own) in your area?

Q7	N		Yes	No	Chi-Square
Site Owner	167	#	139	28	χ^2 = 73.7784, DF = 1 p< 0.0001
		%	83.2	16.8	
Planning	60	#	44	16	χ^2 =13.0667 , DF = 1 p< 0.0003
		%	73.3	26.7	
Tourism	38	#	30	8	χ^2 = 12.7368, DF = 1 p< 0.0004
		%	78.9	21.1	

Seventy-nine percent of site owner respondents and 69% of tourism respondents indicated that they had visited VBWT sites within their locality. A much smaller percentage (43%) of planning respondents indicated that they had (Table 60). In response to question 9 "Have you visited Virginia Birding and Wildlife Trail sites outside of your locality?" slightly less than 50% of site

owner respondents reported that they had visited sites outside of their locality while only 35% of planning and 23% of tourism respondents indicated that they had (Table 61).

Table 60. Have you visited any of the Virginia Birding and Wildlife Trails within your locality?

Q8	N		Yes	No	Chi-Square
Site Owner	166	#	131	35	χ^2 = 55.5181, DF = 1 p< 0.0001
		%	78.92	21.08	
Planning	58	#	25	33	χ^2 = 1.1034, DF = 1 p< 0.2935
		%	43.1	56.9	
Tourism	39	#	27	12	χ^2 = 5.7692, DF = 1 p< 0.0163
		%	69.23	30.77	

Table 61. Have you visited Virginia Birding and Wildlife Trail sites outside of your locality?

Q9	N		Yes	No	Chi-Square
Site Owner	168	#	78	90	χ^2 = 0.8571 , DF = 1 p< .3545
		%	46.43	53.57	
Planning	60	#	21	39	χ^2 = 5.4000, DF = 1 p< 0.0201
		%	35	65	
Tourism	39	#	9	30	χ^2 = 11.3077, DF = 1 p< 0.0008
		%	23.08	76.92	

Information Transfer

The Locality Survey asked respondents questions pertaining to the number of VBWT information requests they receive and how they distribute information. When asked about their awareness level for individuals requesting information about the VBWT, responses indicated that individuals seeking VBWT information were most likely to seek their information from tourism offices. Seventy-six percent of tourism officials reported having received VBWT information requests from residents or visitors (Table 62) as opposed to 52% of site owners and 27% of planners. When respondents estimated the number of VBWT information request they received annually, response means ranged from 23 for site owners to a of 35 for planning respondents (Table 63). There are many possibilities for the wide range in request including annual number of visitors to each site, the number of sites that each respondent represents, and marketing strategies used. Due to the variability it is important to pay more attention to means rather than the range of responses.

Table 62. Are you aware of any residents or visitors requesting information about the Virginia Birding and Wildlife Trail?

Q10	N		Yes	No	Chi-Square
Site Owner	164	#	85	79	χ^2 = 0.2195, DF = 1 p< 0.6394
		%	51.8	48.2	
Planning	59	#	16	43	χ^2 = 12.3559, DF = 1 p< 0.0004
		%	27.1	72.9	
Tourism	38	#	29	9	χ^2 = 10.5263, DF = 1 p< 0.0012
		%	76.3	23.7	

Table 63. How many requests pertaining to the Virginia Birding and Wildlife Trail do you estimate your site receives annually? (If you have more than one site please average the number of request across all sites)

Q10a	N	Mean	Std Error	Min	Max	Lower CL Mean	Upper CL Mean
Site Owner	79	22.6	4.4	1	300	13.91	31.31
Planning	14	34.6	13.5	2	200	5.44	63.85
Tourism	20	27.5	5.2	5	100	16.57	38.43

Of the three respondent groups, planning personnel felt they were least capable of adequately providing information about the VBWT (21%). Sixty-two percent of tourism respondents and 69% of site owner respondents indicated they could provide adequate information for requests pertaining to the VBWT (

Table 64).

Respondents were also asked if they had VBWT literature on hand to distribute for information requests. Seventy percent of tourism respondents, 54% of site owners, and 31% of planning respondents indicated having information to distribute (Table 65). Respondents who do not feel they can adequately answer questions about the VBWT typically do not have information available for distribution (Figure 53). This suggests that having literature available is essential for respondents to adequately answer questions pertaining to the VBWT.

Table 64. Do you feel that you can provide adequate information to address Virginia Birding and Wildlife Trail information requests?

Q11	N		Yes	No	Chi-Square
Site Owner	160	#	111	49	χ^2 = 24.0250, DF = 1 p< 0.0001
		%	69.38	30.63	
Planning	58	#	21	37	χ^2 = 4.4138, DF = 1 p< 0.0356
		%	36.21	63.79	
Tourism	37	#	23	14	χ^2 = 2.1892, DF = 1 p< 0.1390
		%	62.16	37.84	

Table 65. Do you (or someone in your office) have Virginia Birding and Wildlife Trail literature on hand to distribute for information request?

Q20	N		Yes	No	Chi-Square
Site Owner	161	#	87	74	χ^2 = 1.0497, DF = 1 p< 0.3056
		%	54.04	45.96	
Planning	58	#	18	40	χ^2 = 8.3448, DF = 1 p< 0.0039
		%	31.03	68.97	
Tourism	39	#	27	12	χ^2 = 5.7692, DF = 1 p< 0.0163
		%	69.23	30.77	

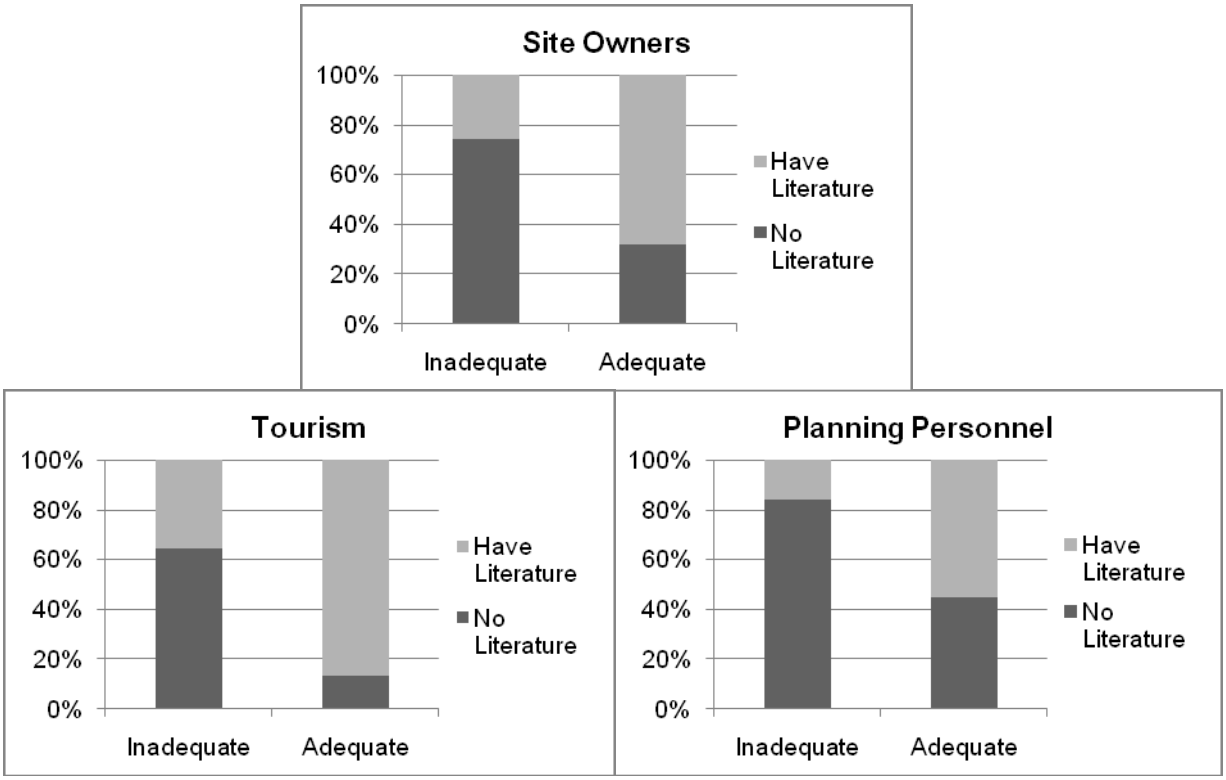

Figure 53. Correlation between Q.11 "Do you feel that you can provide adequate information to address Virginia Birding and Wildlife Trail information requests?" and Q.20 "Do you (or someone in your office) have Virginia Birding and Wildlife Trail literature on hand to distribute for information request?.

Nearly 80% of site owners and tourism officials reported that they promoted the VBWT within their locality compared 50% of planning personnel. Few of these officials promoted trails outside of their locality (Figure 54). Of those that did promote the VBWT, most indicated that they used VDGIF produced literature and "word of mouth". Respondents also indicated (33%-48%) that they promoted the VBWT through the use of local literature (Figure 55). This indicates that some localities deem the VBWT important enough to dedicate time and resources to create their own promotional material in addition to VDGIF produced literature.

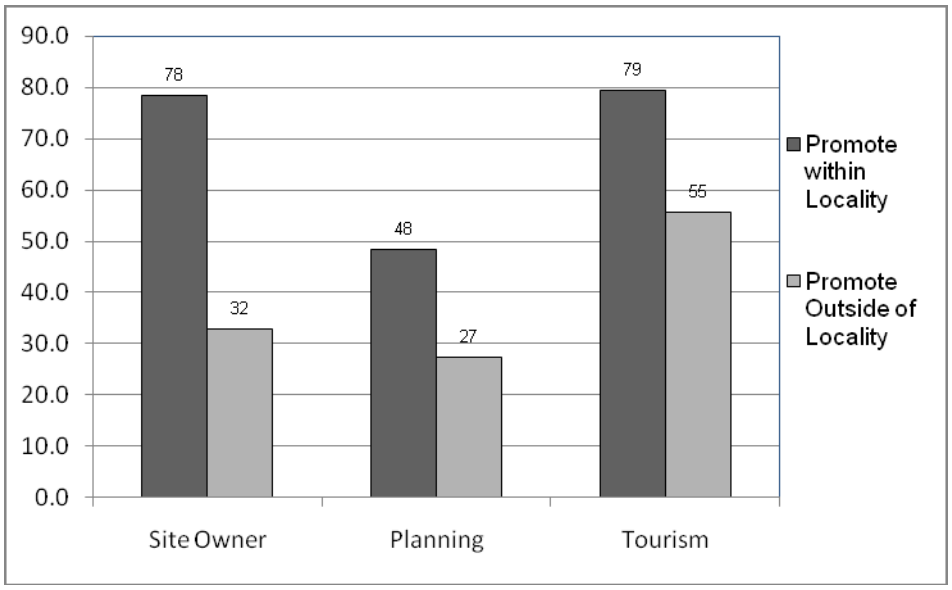

Figure 54. (Q12.) Do you promote the Virginia Birding and Wildlife Trail sites within your locality? and Q13. Do you promote the Virginia Birding and Wildlife Trail sites outside of your locality?

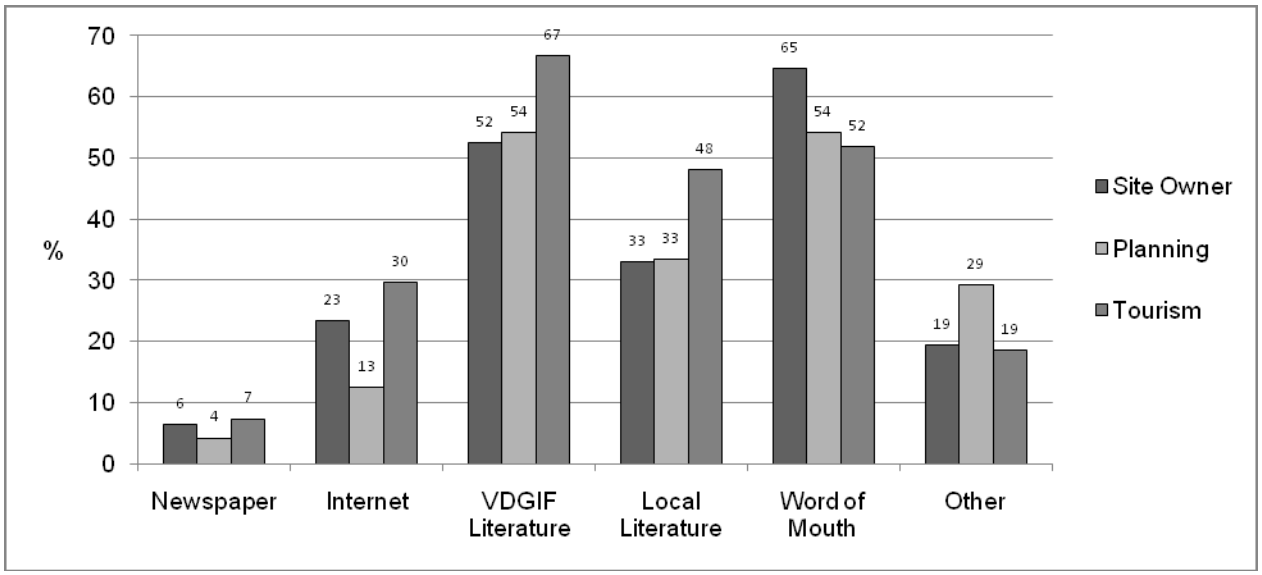

Figure 55. (Q12a) How do you promote the Virginia Birding and Wildlife Trail?

Most respondents for all three groups indicated that their website does not link to the VBWT website (Table 66). The VDGIF has an excellent website that was designed around the VBWT guides. Links on websites are a very cost efficient way of advertising and it appears that most respondents have not utilized the resource to its fullest capabilities. Many individuals that responded via mail survey replied (unsolicited) that they currently do not have a link on their site but plan to add one. This may indicates that these individuals did not know of the VBWT website, or they had never considered linking their site to it. An awareness campaign to the three

survey groups to inform/remind them of the VBWT site would likely result in an increase in the proportion of localities that provide Internet links to the VBWT site.

Table 66. Does your website link to the Virginia Birding and Wildlife Trail?

Q15	N		Yes	No	Chi-Square
Site Owner	136	#	32	104	χ^2 = 38.1176, DF = 1 p< 0.0001
		%	23.53	76.47	
Planning	50	#	3	47	χ^2 = 38.7200, DF = 1 p< 0.0001
		%	6	94	
Tourism	38	#	7	31	χ^2 = 15.1579, DF = 1 p< 0.0001
		%	18.42	81.58	

Fewer than 50% of site owner and planning respondents indicated that they had a particular individual that they referred VBWT information request to while 54% of tourism respondents indicated that they did (Table 67). Of those that responded that they had a specific individual for information requests, 68-72% responded that the individual is the primary contact because of their job responsibility and not because of their interest in the VBWT (

Table 68).

The survey asked respondents to provide the position title of the individual the handled their information request pertaining to the VBWT. Most site owners indicated that their VBWT questions are fielded by biologists, naturalists, or environmental educators, while tourism officials indicated that information requests were directed to their tourism director or tourism coordinator. Planning personnel referred most requests for information to their local tourism department. A full list of responses can be found in Appendix H under Q.21ai.

Table 67. Do you have a particular individual that you refer information requests to?

Q21	N		Yes	No	Chi-Square
Site Owner	157	#	58	99	χ^2 = 10.7070, DF = 1 p< 0.0011
		%	36.94	63.06	
Planning	56	#	22	34	χ^2 = 2.5714, DF = 1 p< 0.1088
		%	39.29	60.71	
Tourism	37	#	17	20	χ^2 = 0.2432, DF = 1 p< 0.6219
		%	54.05	45.95	

Table 68. Are they the primary contact because of their personal interest or because of their job position?

Q21a	N		Personal Interest	Job Position
Site Owner	71	#	20	51
		%	28.2	71.8
Planning	27	#	8	19
		%	29.6	70.4
Tourism	19	#	6	13
		%	31.6	68.4

Most site owner and planning officials indicated that their locality had not worked with neighboring localities to promote the VBWT. This contrasts with the 56% of tourism officials that had worked with neighboring localities (Table 69). This discrepancy may be related to the job responsibility of the groups. Of the three surveyed groups, tourism individuals are more likely to be actively involved in promoting activities in their community compared to the other two groups.

Table 69. Has your locality worked with neighboring localities to promote the Virginia Birding and Wildlife Trail?

Q14	N		Yes	No	Chi-Square
Site Owner	132	#	27	105	χ^2 = 46.0909, DF = 1 p< 0.0001
		%	20.6	79.6	
Planning	50	#	12	38	χ^2 = 13.5200, DF = 1 p< 0.0002
		%	24.0	76.0	
Tourism	34	#	19	15	χ^2 = 0.4706, DF = 1 p< 0.4927
		%	55.9	44.1	

Very few respondents indicated that they were contacted by local government officials for assistance in promoting the VBWT. Only 11% of site owner respondents and 13% of tourism respondents (

Table 70) indicated that they have been contacted by local government officials for assistance in promoting the VBWT. This suggests that local government officials are not aware of the potential economic stimulus that could be provided by the VBWT, do not believe the VBWT provides enough stimulus to justify such a promotion, or they are unaware of the VBWT.

Table 70. Have local government officials contacted you for assistance in promoting the Virginia Birding and Wildlife Trail?

Q16	N		Yes	No	Chi-Square
Site Owner	161	#	19	142	χ^2 = 93.9689, DF = 1 p< 0.0001
		%	11.08	88.2	
Planning	53	#	5	48	χ^2 = 34.8868, DF = 1 p< 0.0001
		%	9.43	90.57	
Tourism	38	#	5	33	χ^2 = 20.6316, DF = 1 p< 0.0001
		%	13.16	86.84	

Eighteen percent of site owner and planning respondents and 25% of tourism officials indicated that they think businesses in their locality were aware of the VBWT (

Table 71). Because such a small percentage of respondents indicated that business were even aware of the VBWT, few of the respondents could answer the survey question pertaining to whether they thought local businesses promoted the VBWT. The general trend reported by planning and tourism respondents was that when businesses are aware of the VBWT they promote it. In contrast, site owner respondents indicate that most businesses aware of the VBWT do not promote it (Table 72).

Site owners and tourism officials indicated that they believe 32-39% of business that are aware of the VBWT view it as an economic benefit. Sixty-two percent of planning respondents reported that they believe business aware of the VBWT view it as an economic benefit. It is important to note that many individuals that reported they did not believe local business were aware of the VBWT also reported that businesses view the VBWT as an economic benefit. These responses are directly contradictory. If respondents believe that local businesses are not aware of the VBWT then it is not possible for them to state that the same local business view it as an economic benefit to the locality. The only substantiated conclusion from this series of questions is that respondents believe that only 18-25% of localities in Virginia have businesses that are aware of the VBWT.

Table 71. Do you think local businesses are aware of the Virginia Birding and Wildlife Trail?

Q17	N		Yes	No	Chi-Square
Site Owner	141	#	25	116	χ^2 = 58.7305, DF = 1 p< 0.0001
		%	17.7	82.3	
Planning	45	#	9	36	χ^2 = 17.8182, DF = 1 p< 0.0001
		%	20.0	80.0	
Tourism	36	#	9	27	χ^2 = 9.000, DF = 1 p< 0.0027
		%	25	75	

Table 72. Do you think local businesses promote the Virginia Birding and Wildlife Trail?

Q18	N		Yes	No	Chi-Square
Site Owner	39	#	12	27	χ^2 = 5.7692, DF = 1 p< 0.0163
		%	30.8	69.23	
Planning	9	#	6	3	Insufficient data
		%	66.7	33.3	
Tourism	6	#	4	2	Insufficient data
		%	66.7	33.3	

Table 73. Do you believe local businesses view the Virginia Birding and Wildlife Trail as an economic benefit?

Q19	N		Yes	No	Chi-Square
Site Owner	107	#	42	65	χ^2 = 4.9439, DF = 1 p< 0.0262
		%	39.3	60.8	
Planning	26	#	16	10	χ^2 = 1.3846, DF = 1 p< 0.2393
		%	61.5	38.5	
Tourism	19	#	6	13	χ^2 = 2.5789, DF = 1 p< 0.1083
		%	31.6	68.4	

Trail Usage

Respondents of the Locality Survey were asked a series of questions to obtain estimates of usage for their VBWT sites. Not all questions were asked of all three groups since planning and tourism respondents are not likely to provide accurate estimates of site usage since they likely do not actively observe sites on a daily basis.

Less than 50% of respondents were aware of out-of-town individuals visiting their locality as a result of the VBWT. Only 49% or tourism respondents, 34% of site owner respondents and 26% of planning respondents indicated they were aware of out of town individuals visiting their locality because of the VBWT (Table 74). Surveyed individuals were also asked if out of town visitors requested information pertaining to local attractions and lodging. Of those that responded, survey results showed that most out-of-town visitors request information pertaining to local attractions (Table 75) and far fewer request information pertaining to lodging (

Table 76).

In a similar question, respondents were asked to rank what information is requested more frequently, information pertaining to lodging or local attractions. Responses further supported findings of the previous questions that out of town visitors request information pertaining to local attraction more frequently than they request information on lodging (Table 77). Because of low sample size, these data should be interpreted with caution.

Table 74. Are you aware of out of town individuals visiting your locality because of the Virginia Birding and Wildlife Trail's existence?

Q22	N		Yes	No	Chi-Square
Site Owner	159	#	54	105	χ^2 = 16.358, DF = 1 p< 0.0001
		%	34.0	66.0	
Planning	58	#	15	43	χ^2 = 13.517, DF = 1 p< 0.0002
		%	25.9	74.1	
Tourism	39	#	19	20	χ^2 = 0.0256, DF = 1 p< 0.8728
		%	48.7	51.3	

Table 75. Do these individuals request information pertaining to other local attractions?

Q22a	N		Yes	No	Chi-Square
Site Owner	48	#	37	11	χ^2 =14.08 , DF = 1 p< 0.0002
		%	77.1	22.9	
Planning	10	#	7	3	χ^2 = 1.60, DF = 1 p< 0.21
		%	70.0	30.0	
Tourism	13	#	13	0	Insufficient data
		%	100.0	0.0	

Table 76. Do these visitors request information pertaining to lodging?

Q24	N		Yes	No	Chi-Square
Site Owner	53	#	23	30	χ^2 = 0.9245, DF = 1 p< 0.3363
		%	43.4	56.6	
Planning	10	#	4	6	χ^2 = 0.40, DF = 1 p< 0.5271
		%	40.0	60.0	
Tourism	13	#	13	0	Insufficient data
		%	100.0	0.0	

Table 77. What type of information is requested more frequently?

Q25	N		Lodging	-	Same	-	Local Attractions	Chi-Square
Site Owner	59	#	1	2	15	16	25	χ^2 = 35.1525, DF = 4 p< 0.0001
		%	1.69	3.39	25.42	27.12	42.37	
Planning	7	#	0	0	4	1	2	Insufficient data
		%	0	0	57.14	14.29	28.57	
Tourism	13	#	0	3	3	4	3	χ^2 = 0.2308, DF = 3 p< 0.9725
		%	0	23.08	23.08	30.77	23.08	

Survey respondents indicated they believe 21-29% of visitors to their sites are aware that they are on the VBWT (Table 78). This estimate matches very closely to results from the encounter survey that found 30% of those surveyed were aware that they were on the VBWT (Table 23).

Table 78. Of the individuals visiting your site/sites, what percentage is made up of individuals that are AWARE they are on a Virginia Birding and Wildlife Trail site?

Q27	N	Mean	Std Error	Min	Max	Lower CL Mean	Upper CL Mean
Site Owner	105	28.6	3.15	0	100	22.31	34.8
Planning	20	26.8	6.81	0	80	12.54	41.06
Tourism	15	21.4	5.34	1	75	9.95	32.84

Site owners were asked to estimate if their visitors were local visitors, out-of-town Virginia residents, and non-Virginia residents. This question was only asked to site owners. Respondents indicated that most (72%) of their visitors were local residents, 18% were out-of-town residents

and 10% were non-Virginia residents (Figure 56). For the purpose of reporting, visitation estimates were converted to percentages, actual visitation numbers can be found in Appendix H under question 26.

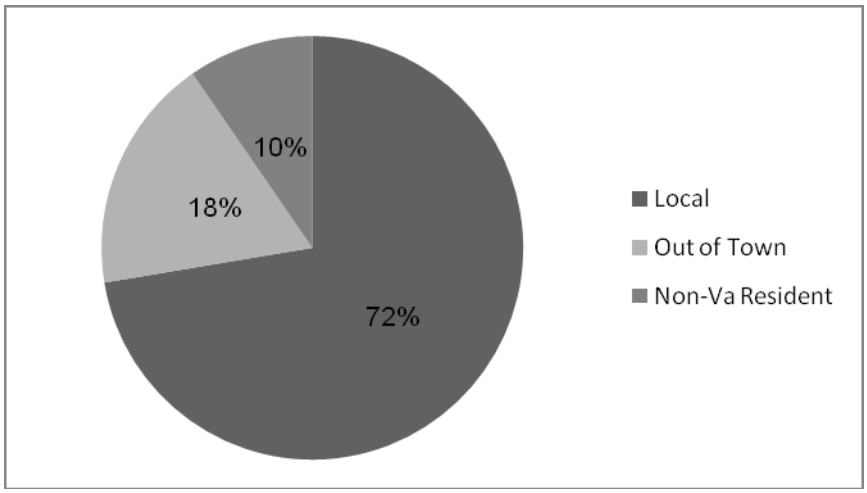

Figure 56. (Q26) Percentage of site visitors by residency as estimated by site owners.

Site owners were also asked to estimate what type of user visits their VBWT site. Respondents indicated that most visitors (45%) were bird specialists, 29% were general wildlife watchers and 10% were individuals that were interested in wildlife species other than birds (Table 79). Reported percentage are based on the means of estimated percentages provided by site owner respondents, since values are averages of reported percentages the total does on equal 100%.

Table 79. Of the individuals that are AWARE of the Virginia Birding and Wildlife Trail, what percentage of the following groups do you estimate visit your site/sites?

Q28		N	Mean	Std Error	Min	Max	Lower CL Mean	Upper CL Mean
Site Owner								
	Bird Specialist	80	45.0	4.01	0	100	37.03	52.98
	General Wildlife Watcher	88	29.3	3.25	0	100	22.78	35.71
	Other Wildlife Specialist	53	9.5	1.84	0	80	5.8	13.19

Overwhelmingly, all three groups surveyed indicated (98-100%) that they believe the VBWT is an asset to their locality (

Table 80). Tourism and planning respondents (74-80%) indicated that they also consider the VBWT and economic draw for their locality while a smaller percentage (63%) of site owners believe the VBWT provides an economic draw (Table 81). When respondents were asked if ecotourism is an integral part of tourism planning for their locality all three groups to varying degrees indicated that it is (Table 82).

Table 80. Do you consider the Virginia Birding and Wildlife Trail an asset to your locality?

Q29	N		Yes	No	Chi-Square
Site Owner	162	#	158	4	χ^2 = 146.39, DF = 1 p< 0.0001
		%	97.53	2.47	
Planning	53	#	52	1	χ^2 = 49.075, DF = 1 p< 0.0001
		%	98.11	1.89	
Tourism	34	#	34	0	
		%	100	0	

Table 81. Do you consider the Virginia Birding and Wildlife Trail an economic draw for your locality?

Q30	N		Yes	No	Chi-Square
Site Owner	144	#	91	53	χ^2 = 10.027, DF = 1 p< 0.0015
		%	63.19	36.81	
Planning	51	#	41	10	χ^2 = 18.843, DF = 1 p< 0.0001
		%	80.39	19.61	
Tourism	34	#	25	9	χ^2 = 7.5294, DF = 1 p< 0.0061
		%	73.53	26.47	

Table 82. Is ecotourism an integral part of tourism planning for your locality?

Q31	N		Yes	No	Chi-Square
Site Owner	139	#	82	57	χ^2 = 4.4964, DF = 1 p< 0.0340
		%	58.99	41.01	
Planning	57	#	39	18	χ^2 = 7.7368, DF = 1 p< 0.0054
		%	68.42	31.58	
Tourism	34	#	29	5	χ^2 = 16.941, DF = 1 p< 0.0001
		%	85.29	14.71	

Habitat Conservation

All respondents were asked a series of questions pertaining to habitat conservation to gauge how important it is to localities, if they take steps to include it in planning, and if the VBWT helps localities reach their goals of habitat conservation. The following five questions were answered by all survey respondents including those that indicated at the beginning of the survey that they were not aware of the VBWT.

Most respondents (87-91%) from the three surveyed groups believe that there is a need for greater habitat/conservation planning within their locality (Table 83). Most (92%) planning respondents indicated that their locality takes open space planning into consideration compared to 77% of site owners and 68% of tourism respondents. Respondents indicated that wildlife habitat is not taken into planning consideration as much as open space planning, yet 55-62% of respondents reported that their locality does take wildlife habitat into consideration (Figure 57).

Survey responses suggest that most localities are aware of the importance of open space and wildlife habitat planning within their communities. Many of the respondents indicated that their localities do take open space and wildlife habitat into consideration but they believe that their locality could do more. While respondents indicate that their locality may take wildlife planning into consideration when planning, they believe more do not consider it than do when encouraging new business/industry/companies into the locality (Figure 58). Respondents from all three survey groups believe that the VBWT and ecotourism provides economic justification for habitat preservation (

Figure 59)

Table 83. Do you perceive a need for greater habitat/conservation planning in your locality?

Q35	N		Yes	No	Chi-Square
Site Owner	166	#	151	15	X^2 = 111.42, DF = 1 p< 0.0001
		%	90.96	9.04	
Planning	85	#	74	11	X^2 = 46.694, DF = 1 p< 0.0001
		%	87.06	12.94	
Tourism	49	#	44	5	X^2 = 31.040, DF = 1 p< 0.0001
		%	89.8	10.2	

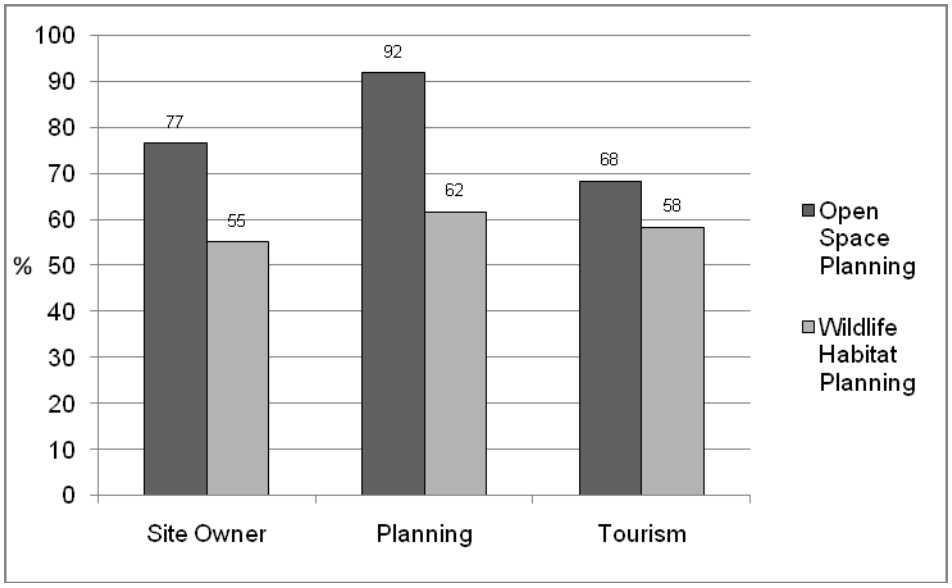

Figure 57. (Q.36) Does your locality take open space into planning consideration? And (Q.37) Does your locality take wildlife habitat into planning consideration?

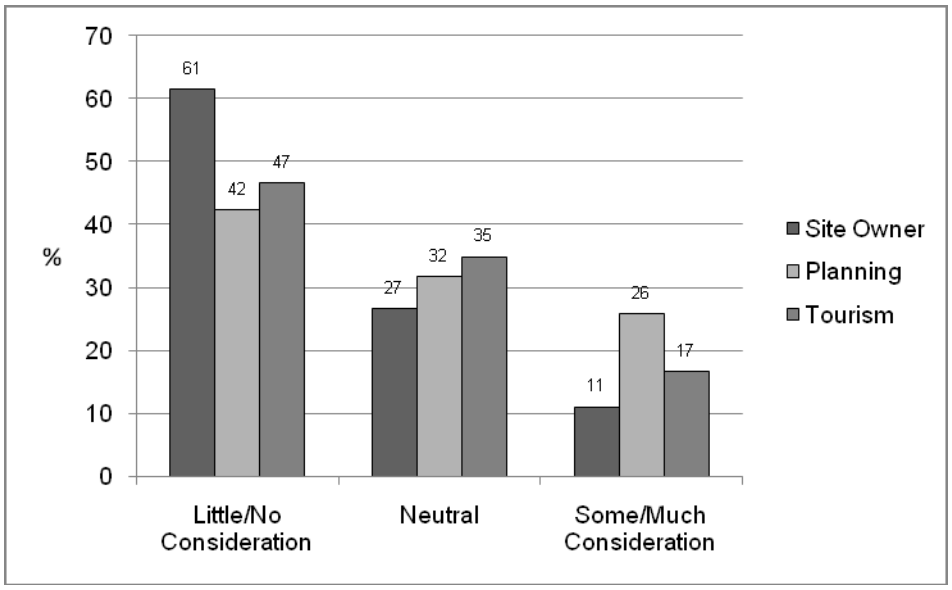

Figure 58. (Q.38) Do you believe local government officials take habitat planning into consideration as they encourage new business/industry/companies into the area?

Figure 59. Do you believe that the Virginia Birding and Wildlife Trail/ecotourism provides economic justification for habitat preservation?

Q39	N		Yes	No	Chi-Square
Site Owner	146	#	124	22	χ^2 = 71.260, DF = 1 p< 0.0001
		%	84.93	15.07	
Planning	59	#	46	13	χ^2 = 18.457, DF = 1 p< 0.0001
		%	77.97	22.03	
Tourism	39	#	35	4	χ^2 = 24.641, DF = 1 p< 0.0001
		%	89.74	10.26	

VDGIF Satisfaction

Respondents were asked three questions pertaining to the materials and support they have received from the VDGIF. The purpose of asking these questions was to gauge what areas VDGIF needs improve upon to further support localities with the promotion of the VBWT.

Overall most respondents were satisfied with the information the VDGIF provides to trail users. Responses showed that 72-91% of respondents felt that the VDGIF has done an adequate to great job providing information to trail users (Figure 60). When educating localities about the VBWT, respondents indicated that the VDGIF is not as successful. Thirty to forty-seven percent of respondents indicated that they feel the VDGIF is doing only a fair to poor job at educating localities (Figure 61) about the VBWT. Site owners and tourism respondents indicated that they were equally divided about the support they receive from the VDGIF for promoting the VBWT however planning respondents indicated that they were not as pleased with the promotion support from the VDGIF as the other two surveyed groups (Figure 62).

There appeared to be a trend that planning respondents were less satisfied with the information and support they have received from the VDGIF compared to responses from site owners and tourism respondents. Based on all responses it appears that the VDGIF current efforts towards information dissemination and promotional support are adequate, although there is room to improve their efforts if it fits their priorities.

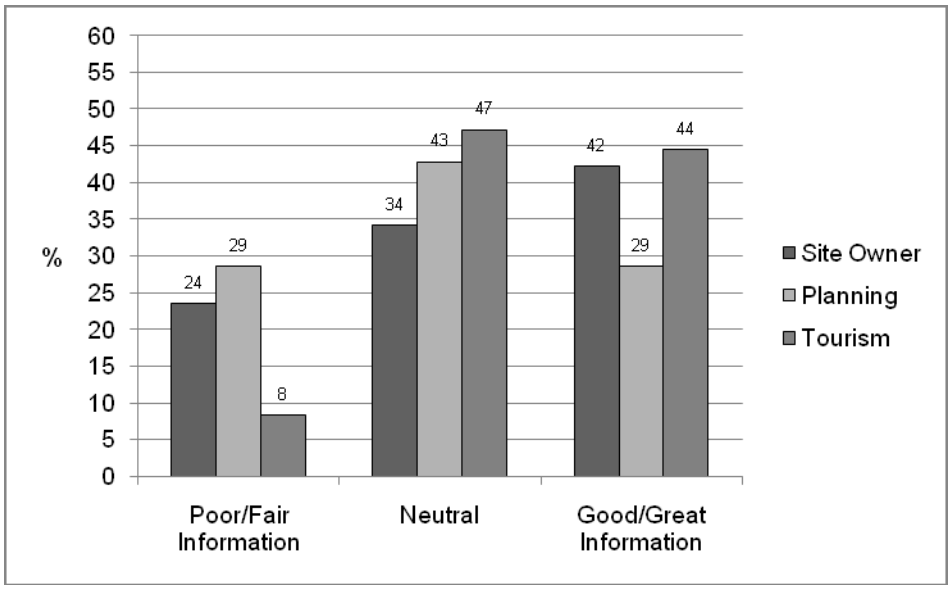

Figure 60. (Q32) Do you believe the VDGIF provides adequate Virginia Birding and Wildlife Trail information for trail users?

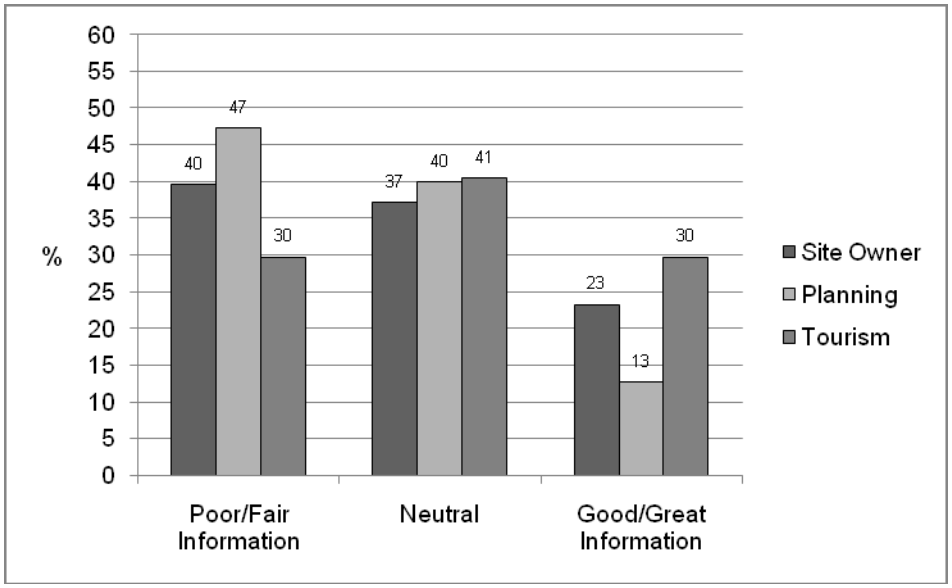

Figure 61. (Q33) Do you believe VDGIF provides adequate Virginia Birding and Wildlife Trail information to educate LOCALITIES about the Virginia Birding and Wildlife Trail?

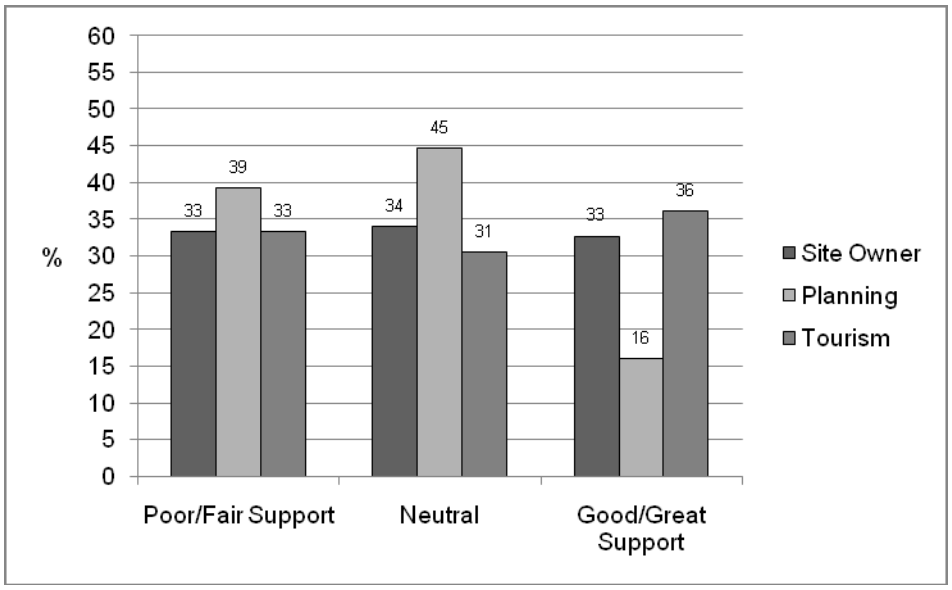

Figure 62. (Q34) Do you believe the VDGIF provides you/your locality adequate support promoting the Virginia Birding and Wildlife Trail?

Discussion

This research was intended to assess the usage of the VBWT and its economic impact on the Commonwealth. Three distinct surveys were implemented to address the project objectives. Two of the surveys (Visitor and Encounter) were similar in content but given to two separate populations—the Encounter Survey sampled users of the VBWT *in situ* while the Visitor Survey sampled trail users who had requested a copy of the VBWT guide. The third survey (Locality Survey) sampled VBWT site owners, planning personnel, and tourism coordinators. Because each survey sampled a different population, sometimes using a unique delivery method, it is worthwhile to identify the limitations of this research, the appropriateness of making comparisons between surveys, and the rationale for some decisions in the analysis phase of this project.

The Encounter Survey was intended to sample users of the VBWT who were aware of their presence at a VBWT site and who appeared to be engaged in nature-oriented recreation. Individuals encountered that were not aware of their presence on the trail were not fully surveyed, nor were those engaged n non-nature oriented recreation, such as sporting events. The goal of the Encounter Survey was to assess individuals that were aware of the VBWT and at a site for nature-oriented recreation and not to estimate total site visitation since many sites have visitors participating in activities unrelated to the VBWT. Most of the sites that comprise the VBWT were in existence prior to the creation of the VBWT and many sites are multi-use facilities. Some sites had hundreds if not thousands of daily visitors yet most visitations were unrelated to the VBWT. Since surveying such a large number of individuals was not possible we focused on individuals that appeared to be using sites for nature-oriented recreation in an effort to focus and maximize field survey time to encounter those individuals at a site because of the VBWT.

For this reason, the estimates provided here represent a subsample of all VBWT site visitors—user preferences, use-patterns and economics of non-surveyed visitors may differ. Approximately 70% of those persons encountered during the Encounter Survey were not aware of their presence on the VBWT and were not fully surveyed. For this reason, actual visitation rates (including all visitors) are likely significantly higher than the values presented here. Likewise, total direct spending by all users of the VBWT system is undoubtedly higher than reported here; however, since non-target users were not surveyed, we were unable to estimate their economic contribution to the Commonwealth.

Visitor and Encounter Survey results showed both similarities and differences. Similarities between the two populations included: demographics, preferences for site selection, satisfaction with their last trip, usage of the guide, and overall satisfaction with their VBWT experience. In comparison to the Encounter Survey respondents to the Visitor Survey reported longer visits, visited more sites, traveled farther, and had greater expenditures in comparison to respondents of

the Encounter Survey. However, as described below, because mail and online surveys (i.e. the Visitor Survey) are subject to "self-selection" bias, the extent of these differences, if valid, is unclear.

We used data from the Encounter Survey to estimate the economic contribution of VBWT visitors to the Commonwealth. We chose to use data from the Encounter Survey rather than the Visitor Survey for several important reasons. First, we believe these respondents were the most accurate representation of all VBWT users since the Encounter Survey sampled visitors actually using the trail. The Visitor Survey, on the other hand, sampled only those persons that had previously requested the VBWT guide. Undoubtedly, respondents of the Visitor Survey comprise some percentage of all VBWT users; however data obtained from both the Encounter and Visitor Surveys did not enable us to determine that percentage with any degree of confidence. Second, and more importantly, since the Encounter Survey sampled all target users encountered on the VBWT, it was an unbiased sample. The Visitor Survey, on the other hand, which was conducted via mail and email, was a biased sample because respondents were self-selected. In other words, only a small percentage of those that were asked to participate in the survey actually did so, and these persons may not be representative of the entire population of VBWT guide owners. Previous research (Wainer 1986) indicates that self-selected individuals tend to be motivated to respond for one reason or another—typically they have strong opinions and wish to share them. On the contrary, indifferent or apathetic individuals are less likely to respond to the survey request. Ultimately, this leads to over-representation of individuals with strong opinions and under representation of indifferent individuals. We felt it was exceptionally important to eliminate extreme or polarized responses in the economic analysis section of this report. For this reason estimates of economic expenditures are derived from the less biased and more representative Encounter Survey.

Based on reported results of individuals from the Encounter Survey, we found that the average daily expenditure for users of the VBWT was $13.45. The estimate is consistent with other economic assessments of Virginia's trails. For example, an economic assessment of the Virginia Creeper Trail, a popular trail that stretches 35 miles from Abingdon, Virginia to the North Carolina State Line, revealed average per person expenditures for primary day users was approximately $17 (Bowker et al. 2004). A study by Chmura Economics & Analytics projected that local and non-local users of the High Bridge Rail-Trail in Central Virginia would spend $7.00 and $14.00 per day, respectively (Chmura 2004).

Although the Encounter Survey was unbiased, conducting the survey was labor intensive, and as a result, we were unable to obtain a suitable sample size for some analyses. In particular, low sample size limited the extent of and confidence in conclusions that could be drawn about specific user groups, such as overnight users or VBWT guide owners. For example, of all respondents to the Encounter Survey only 4 individuals reported staying overnight for the

purpose of visiting the VBWT and of those 3 camped. Thus, the percentage of visitors who stayed overnight to visit the VBWT could be estimated; however further analysis of subgroups (those who camped, stayed in hotels, or stayed with friends and family) requires a much larger sample size. Based on the encounter rate of individuals that stayed overnight, it would have been necessary to survey nearly all VBWT sites to accurately report on the subgroups of where these individuals stayed.

Overall, we learned that individuals who were aware of the VBWT were very happy with their experience and localities felt the VBWT system is an asset to Virginia. Although only 30% of individuals encountered on the VBWT were aware of being at a VBWT site, their cumulative annual economic contributions (mean estimate of $8,638,895 per year) would seem to justify the initial and future expenses of the VBWT. The VBWT is still in its infancy; all three phases of the trail have only been completed for a few years. Based on respondent's satisfaction and reported willingness to share VBWT information with friends and family it is likely that visitation rates will increase in the future. It is recommended that future studies of the VBWT focus on monitoring visitation growth and if there is an increased knowledge of the VBWT's existence as time progresses.

Based on findings from the Locality survey we suggest that the VDGIF initiate education programs with individuals targeted in the Locality survey. The survey revealed that there is a correlation between having VBWT literature on hand to distribute and site owners, planning personnel, and tourism coordinators comfort in being able to adequately answer questions pertaining to the VBWT. The survey also found that most VBWT site owners, planning personnel, and tourism coordinators do not link their webpage to the VBWT webpage created by the VDGIF. We believe an education campaign informing site owners, planning personnel, and tourism coordinators about the VBWT webpage and VBWT literature would help promote the VBWT and serve as a way to reestablish contact with the individuals promoting the VBWT.

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Appendices

Appendix A:

Visitor Survey Questions

Assessment of the Economic Impact of
Virginia Birding and Wildlife Trail

Below is a key to help you understand the appropriate terminology for the Virginia Birding and Wildlife Trail (VBWT) survey.

SITES = There are 636 sites on the Virginia Birding and Wildlife Trail.
LOOPS = There are 65 Birding Loops on the Virginia Birding and Wildlife Trail.

Each Loop consists of a collection of geographically similar sites to make a loop.

For example: The Saint Paul Loop consists of 6 sites.

MSP01: Hidden Valley Lake WMA
MSP02: Pinnacle Natural Area Preserve
MSP03: Oxbow Lake Park
MSP04: Sugar Hill Loop Trail
MSP05: Wetlands Estonoa
MSP06: A.R. Matthews Memorial Park

The purpose of this survey is to measure actual use of the VBWT and the economic impacts of the VBWT above and beyond any impact of the sites on their own. Participation in this study is voluntary and confidential, meaning that you may withdraw from the survey at any time and we will not ask you any information such as your name, mailing address or any other information that would allow us to identify you with your answers or enable us to contact you after the survey.

VBWT GUIDE SURVEY

1. How many birding/wildlife watching trips do you take in a year? (Not necessarily on the VBWT)
(Numeric answer please) ……._____

2. How many hours a year do you spend birding or wildlife watching? (Not necessarily on the VBWT)
(Numeric answer please) …….. _____

3. Since receiving your Virginia Birding and Wildlife Trail (VBWT) guide, have you visited any VBWT sites?

☐ Yes (Please go to **question 4**) ☐ No

If No
3a. Do you plan to visit the VBWT in the next 24 months?

☐ Yes **(If Yes, discontinue the survey)** ☐ No **(If No, discontinue the survey)**

4. While visiting a site, have you encountered a surveyor surveying about the VBWT?

☐ Yes ☐ No (Please go to **question 5**)

If Yes
4a. Did you participate in the survey?

☐ Yes (**If Yes, discontinue the survey)** ☐ No

5. How many VBWT sites have you visited since receiving your trail guide? Answer can span multiple years.
……. _____

6. How many VBWT sites have you visited total PRIOR to receiving your trail guide?
…… _____

7. How many VBWT visits have you taken so far this year? ..…… _____

8. How many more VBWT visits do you estimate you will take this year? ...…… _____

9. During your LAST visit to the VBWT did you visit more than one loop?

☐ Yes ☐ No

If Yes
9a. How many Loops? …….. _____

10. During your LAST visit to the VBWT did you visit more than one site?

☐ Yes ☐ No

If Yes
10a. How many sites? …….. _____

11. How many VBWT visits have you taken since receiving your Trail Guide? Answer can span multiple years.
…….. _____

12. How many hours have you spent in the last year at VBWT sites? …….._____

13. During your last visit, about how many hours did you spend at VBWT sites? _____

14. Do you typically visit more than one site on a loop? …….. _____

15. Do you choose loops/sites based on the opportunity of seeing a specific group or species of wildlife?

☐ Yes ☐ No

If Yes
15a. Please list the group or species. ……..... _____

16. What areas of the VBWT did you visit on your last trip? (Select all that apply)

☐ Coastal Phase

☐ Mountain Phase

☐ Piedmont Phase

17. Was visiting the VBWT your primary reason for being in the area?

☐ Yes ☐ No

18. What is your ZIP code? …… _____

19. On average, what distance do you travel to visit a VBWT site? (Answer in miles)
……_____

20. What is the farthest you have traveled for the purpose of visiting a VBWT site? (Answer in miles)
……_____

20b. Are you a Virginia Resident?

☐ Yes ☐ No

21. If you are not a Virginia resident, what was your primary reason for traveling to Virginia?

☐ N/A ☐ Vacation

☐ VBWT ☐ Other _____

☐ Family

22. How satisfied were you with past visits to VBWT sites or loops?

1	2	3	4	5
Very satisfied		Neutral		Very unsatisfied

23. Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop to visit.
(Check only one answer for each variable.)

How important is the following variable?	Very important		Neutral		Very unimportant
Distance from home	☐	☐	☐	☐	☐
Presence of walking/hiking trail	☐	☐	☐	☐	☐
Absence of walking/hiking trail	☐	☐	☐	☐	☐
If the site charges a fee	☐	☐	☐	☐	☐
Local attractions	☐	☐	☐	☐	☐
Probability of seeing a specific wildlife species	☐	☐	☐	☐	☐

24. Did you stay overnight for the purpose of visiting a Virginia Birding and Wildlife Trail loop or site?

☐ Yes ☐ No

If Yes
24b. How many nights did you stay in order to visit Virginia Birding and Wildlife Trail loops or sites?
……_____

24c. Where did you stay overnight?

☐ Bed and Breakfast ☐ Friends and Family

☐ Hotel/Motel ☐ Other _____

☐ Camping/RV

25. Have you shared information about the Virginia Birding and Wildlife Trail with anyone?

☐ Yes ☐ No

If Yes

25b. How many individuals do you estimate you have shared Virginia Birding and Wildlife Trail information with? (Numeric answer please) ……. _____

26. During your last trip, how much did you spend related to visiting the Virginia Birding and Wildlife Trail? (Please answer in dollar amounts)

_____ Food _____ Shopping
_____ Gas _____ Other
_____ Lodging

27. If different than the previous question, how much did you expect to spend on your ENTIRE trip?

_____ Food _____ Shopping
_____ Gas _____ Other
_____ Lodging _____ Total

28. How likely are you to visit a Virginia Birding and Wildlife Trail again?

1 2 3 4 5
Very likely Very unlikely

29. What other activities did you partake in during your visit? (Answer all that apply)

☐ Historical Sites ☐ Museums

☐ Cultural sites ☐ Shopping

☐ Visit Family ☐ Other _____

30. Did you use information in the Virginia Birding and Wildlife Trail guides to decide which specific loops/sites to visit?

☐ Yes ☐ No

31. Did you use information in the Virginia Birding and Wildlife Trail guides on lodging and services available in the area you were planning to visit?

☐ Yes ☐ No

If Yes

31b. Did you actually book reservations or stay at any of the listed lodging?

☐ Yes ☐ No

32. Did you use the VBWT trail guide to navigate from site to site on any of the loops?

☐ Yes ☐ No

33. How would you rate the ACCURACY of the trail guide for the purpose of navigating to specific sites on a loop? (*Please select one*)

Very accurate		Neutral		Very inaccurate
☐	☐	☐	☐	☐

34. How would you rate the EASE OF USE of the trail guide for the purpose of navigating to specific sites on a loop? (*Please select one*)

Very easy		Neutral		Very Difficult
☐	☐	☐	☐	☐

35. Did you find the site-specific information in the trail guides useful? (*Please select one*)

Very Useful		Neutral		Very Non-useful
☐	☐	☐	☐	☐

36. Did you find the site-specific information in the trail guides informative? (*Please select one*)

Very Informative		Neutral		Very Uninformative
☐	☐	☐	☐	☐

37. Was the site-specific information in the trail guides regarding likely species to be observed useful? (*Please select one*)

Very useful		Neutral		Very Non-useful
☐	☐	☐	☐	☐

38. Did you use the site-specific information regarding likely species to be observed to determine which sites to visit?

☐ Yes ☐ No

39. Would you use information in the trail guide to plan future birding and wildlife observation trips?

☐ Yes ☐ No

40. What did you enjoy most about your visit to a Virginia Birding and Wildlife Trail?

_____

41. What did you enjoy least about your visit to a Virginia Birding and Wildlife Trail?

_____

DEMOGRAPHICS

42. What is your sex?

☐ Male ☐ Female

43. What year were you born? ……..... _____

44. What is the highest level of education you have completed?

☐ Less than high school
☐ High school
☐ 2 years of college
☐ 4 years of college
☐ Trade school
☐ Graduate school
☐ Post graduate school

45. In which of the following groups would you include yourself?

☐ Native American
☐ Asian
☐ Black/African American
☐ White/Caucasian
☐ Other

46. What is your annual income?

☐ $0 – $25, 000
☐ $25,001 - $50,000
☐ $50,001 - $75,000
☐ $75,001 - $100,000
☐ + $100,000

Appendix B:
Encounter Survey Questions

Assessment of the Economic Impact of Virginia Birding and Wildlife Trail

Observer name: _____ Wind: _____

Site: ....…… _____ Notes: _____

Date: ……. _____ _____

Weather: _____ _____

FIRST ENCOUNTER: (**SUBJECT MUST BE 18 OR OLDER) Hello, my name is _____. I'm working for the Conservation Management Institute at Virginia Tech on a project with the Virginia Department of Game and Inland Fisheries. Would you be willing to take a survey for us that will help us better understand the economic impact and use of the Virginia Birding and Wildlife Trail? The survey should take less than 10 minutes.**

IF NO: **Would you be willing to take a copy with you to fill out on your own?**

IF NO: **Thank you, enjoy your outing!**

IF YES: **The purpose of the encounter survey will be to measure actual use of the VBWT and the economic impacts of the VBWT above and beyond any impact of the sites on their own. Participation in this study is voluntary and confidential, meaning that you may withdraw from the survey at any time and we will not ask you any information such as your name, mailing address, or any other information that would allow us to identify you with your answers or enable us to contact you after the survey.**

IRB approval # 07-200
Expiration Date: 04-03-2008

ENCOUNTER SURVEY

1. How many people are traveling in your group this trip? ……. _____

2. Have you participated in this survey before?

☐ No ☐ Yes (If Yes, please only answer **questions 14-17**)

3. How many birding/wildlife watching trips do you take in a year? (Not necessarily on the Virginia Birding and Wildlife Trail) …….._____

4. How familiar are you with bird watching/wildlife watching based on a scale from 1 to 5, with 1 being novice and 5 being expert?

1	2	3	4	5
Novice		Intermediate		Expert

5. Are you aware of the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

6. Are you aware that you are on the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No (If No, **discontinue survey**, thank you for your time)

If Yes
6a. Did you choose this loop to target seeing a specific group or species of wildlife?

☐ Yes ☐ No

If Yes
6a.i. Please list the group or species. ……..... _____

6b. Do you plan on visiting other sites on the loop today?

☐ Yes ☐ No

If Yes
6b.i. How many of the sites do you plan on visiting? …….. _____

7. Is visiting the Virginia Birding and Wildlife Trail loop your primary reason for being in the area?

☐ Yes ☐ No

8. What is your ZIP code? …….. _____

9. Are you from out of state?

☐ Yes ☐ No (If No, go to **question 10**)

If Yes
9a. If you are from out of state, what is your primary reason for traveling to Virginia?

☐ Virginia Birding and Wildlife Trail

☐ Family

☐ Vacation

☐ Other _____

9b. How many Virginia Birding and Wildlife Trail LOOPS do you intend to visit during your trip?
…….._____

9c. How many Virginia Birding and Wildlife Trail SITES do you intend to visit on your trip?
…… _____

10. Is this your first time on the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

If No

10a. How satisfied were you with past visits to Virginia Birding and Wildlife Trail sites or loops?

1 2 3 4 5

Very satisfied Neutral Very unsatisfied

10b. How many Virginia Birding and Wildlife Trail loops have you visited in the last year?
(Numeric answer please) ....._____

10c. How many Virginia Birding and Wildlife Trail loops have you visited total?
(Numeric answer please) ....._____

10d. How many Virginia Birding and Wildlife Trail loops do you expect to visit this year?
(Numeric answer please) ....._____

10e. Do you typically visit more than one site on a loop?

☐ Yes ☐ No

11. Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop to visit.
(Check only one answer for each variable.)

How important is the following variable?	**Very important**		**Neutral**		**Very unimportant**
Distance from home	☐	☐	☐	☐	☐
Presence of walking/hiking trail	☐	☐	☐	☐	☐
Absence of walking/hiking trail	☐	☐	☐	☐	☐
If the site charges a fee	☐	☐	☐	☐	☐
Local attractions	☐	☐	☐	☐	☐
Probability of seeing a specific wildlife species	☐	☐	☐	☐	☐

12. Did you obtain any information about the Virginia Birding and Wildlife Trail prior to your visit?

☐ Yes ☐ No

If yes

12a. Where did you get information about the Virginia Birding and Wildlife Trail?
(Check any that apply.)

- ☐ Local Chamber of Commerce
- ☐ Locality Visitor Center
- ☐ Magazine/newspaper
- ☐ Virginia Department of Game and Inland Fisheries, Internet
- ☐ Word of mouth
- ☐ Virginia Department of Game and
- ☐ Inland Fisheries, Regional Office
- ☐ Virginia Department of Tourism
- ☐ Virginia Travel Guide Virginia Welcome Center
- ☐ Other _____

13. Do you have a trail guide of the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

If yes

13a. Did you use information in the Virginia Birding and Wildlife Trail guides to decide which specific loops/sites to visit?

☐ Yes ☐ No

13b. Did you use information in the Virginia Birding and Wildlife Trail guides on lodging and services available in the area you were planning to visit?

☐ Yes ☐ No

13c. How would you rate the ease of use and accuracy of the trail guide for the purpose of navigating to specific sites on a loop? (*Please select one*)

Very easy		Neutral		Very Difficult	Did not use information
☐	☐	☐	☐	☐	☐

13d. Did you find the site-specific information in the trail guides informative and useful? (*Please select one*)

Very Informative/ Useful		Neutral		Not Informative/ Useful	Did not use information
☐	☐	☐	☐	☐	☐

13e. How useful was the site-specific information in the trail guides regarding likely species to be observed? (*Please select one*)

Very useful		Neutral		Not useful	Did not use information
☐	☐	☐	☐	☐	☐

13f. Would you use information in the trail guides to plan future birding and wildlife observation trips?

☐ Yes ☐ No

14. Are you staying overnight for the purpose of visiting a Virginia Birding and Wildlife Trail loop or site?

☐ Yes ☐ No

If Yes

14a. How many nights do you plan to stay in order to visit Virginia Birding and Wildlife Trail loops or sites?

1 night	2 nights	3 nights	4 nights	5 nights	6 nights	More than 6
☐	☐	☐	☐	☐	☐	☐

14b. Where are you staying overnight?

☐ Bed and Breakfast ☐ Friends and Family

☐ Hotel/Motel ☐ Other _____

☐ Camping/RV

15. How much do you expect to spend TODAY directly related to visiting the Virginia Birding and Wildlife Trail? (Please answer in dollar amounts)

_____ Food _____ Shopping
_____ Gas _____ Other
_____ Lodging _____ Total

16. If different than the previous question, how much do you expect to spend on your ENTIRE trip?

_____ Food _____ Shopping
_____ Gas _____ Other
_____ Lodging _____ Total

17. What percentage of your entire trip do you have budgeted directly to visiting Virginia Birding and Wildlife Trail loops or sites? …….._____

18. Have you passed information about the Virginia Birding and Wildlife Trail to friends and family?

☐ Yes ☐ No

If Yes

18a. How many individuals do you estimate you have passed Virginia Birding and Wildlife Trail information to? (Numeric answer please) …… _____

19. How likely are you to visit a Virginia Birding and Wildlife Trail again?

1 2 3 4 5

Very likely Very unlikely

20. What other activities have you engaged in during your visit? (Answer all that apply)

☐ Arts Related Cultural Exhibits ☐ Botanical Garden

☐ Historical Sites ☐ Museums

☐ Nature Center ☐ Shopping

☐ Visit Family ☐ Zoo

☐ Other _____

21. What did you enjoy most about your visit to a Virginia Birding and Wildlife Trail?

_____

22. What did you enjoy least about your visit to a Virginia Birding and Wildlife Trail?

_____

23. What is your gender?

☐ Male ☐ Female

24. In what year were you born? ……..... _____

25. What is the highest level of education you have completed?

☐ Less than high school ☐ Trade school

☐ High school ☐ Graduate school

☐ 2 years of college ☐ Post graduate school

☐ 4 years of college

26. In which of the following groups would you include yourself?

☐ Native American ☐ Hispanic

☐ Asian ☐ White/Caucasian

☐ Black/African American ☐ Other

27. What is your annual income?

- ☐ $0 – $25, 000
- ☐ $25,001 - $50,000
- ☐ $50,001 - $75,000
- ☐ $75,001 - $100,000
- ☐ + $100,000

END OF USER SURVEY Thank you, your time is greatly appreciated.

Appendix C:
Locality Survey Questions (Site Owners)

Virginia Birding and Wildlife Trail

The purpose of this survey is to measure actual use of the VBWT and the economic impacts of the VBWT above and beyond any impact of the sites on their own. Participation in this study is voluntary and confidential, meaning that you may withdraw from the survey at any time and we will not ask you any information such as your name, mailing address or any other information that would allow us to identify you with your answers or enable us to contact you after the survey.

SITE OWNER SURVEY

TRAIL AWARENESS

1. Are you aware of the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No (If No, go to **question 37**)

2. Do you know what agency manages the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

3. Do you know who to contact about information pertaining to the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

4. Where did you obtain your knowledge about the Virginia Birding and Wildlife Trail?
Check any that apply

☐ Virginia Department of Game and Inland Fisheries ☐ Co-worker

☐ Internet ☐ Friends or Family

☐ Tourism Officials ☐ Newspaper/Magazine

☐ Local Outdoor Clubs ☐ Other _____

5. Have you noticed signs marking the Virginia Birding and Wildlife Trail sites/roads?

☐ Yes ☐ No

6. Were you involved in helping to establish Virginia Birding and Wildlife Trail sites in your locality?

☐ Yes ☐ No

If Yes

6a. What level of involvement did you have in helping to establish the Virginia Birding and Wildlife Trail sites in your locality?

1	2	3	4	5
Not Involved				Very Involved

7. Do you know the location of Virginia Birding and Wildlife Trail sites (other than your own) in your area?

☐ Yes ☐ No

8. Have you visited any of the Virginia Birding and Wildlife Trails within your locality?

☐ Yes ☐ No

9. Have you visited Virginia Birding and Wildlife Trail sites outside of your locality?

☐ Yes ☐ No

INFORMATION TRANSFER

10. Are you aware of any residents or visitors requesting information about the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

11. How many requests pertaining to the Virginia Birding and Wildlife Trail do you estimate your site receives annually? *If you have more than one site, please average the number of requests across all sites. (Numeric answer please)* ……. _____

12. Do you feel that you can provide adequate information to address Virginia Birding and Wildlife Trail information requests?

☐ Yes ☐ No

13. Do you promote the Virginia Birding and Wildlife Trail sites within your locality?

☐ Yes ☐ No

14. Do you promote the Virginia Birding and Wildlife Trail sites outside of your locality?

☐ Yes ☐ No

15. Has your locality worked with neighboring localities to promote the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

16. How do you promote the Virginia Birding and Wildlife Trail? *Check any that apply*

☐ Newspaper ☐ Virginia Department of Game and Inland Fisheries produced literature

☐ Internet ☐ Locality produced literature

☐ Word of mouth ☐ Other _____

17. Does your website link to the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

18. Have local government officials contacted you for assistance in promoting the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

19. Do you think local businesses are aware of the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

20. Do you think local businesses promote the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

21. Do you believe local businesses view the Virginia Birding and Wildlife Trail as an economic benefit?

☐ Yes ☐ No

22. Do you (or someone in your office) have Virginia Birding and Wildlife Trail literature on hand to distribute for information request?

☐ Yes ☐ No

23. Do you have a particular individual that you refer information requests to?

☐ Yes ☐ No (If No, go to **question 24**)

If yes

23a. Are they the primary contact because of their personal interest or because of their job position? *Check any that apply*

☐ Job position ☐ Personal interest

23a.i. What is the individual's position title? …….. _____

TRAIL USAGE

24. Are you aware of out of town individuals visiting your locality because of the Virginia Birding and Wildlife Trail's existence?

☐ Yes ☐ No (If No, go to **question 25**)

If yes

24a. Do these individuals request information pertaining to other local attractions?

☐ Yes ☐ No

25. How many individuals would you estimate request information pertaining to local attractions annually?
(*Numeric answer please)* …….……..…… _____

26. Do these visitors request information pertaining to lodging?

☐ Yes ☐ No

27. What type of information is requested more frequently?

1	2	Neutral 3	4	5
Lodging Information				Local Attraction Information

28. What is the estimated number of visits per year for each of the following groups at your site? If you manage more than one site, please average the sites together.
*(Example: You manage 2 sites, and estimate **site A** has **3** non VA residents visit the trail each year. You estimate **site B** has **1** non VA resident visit the trail each year. **Average number** of non VA resident visits is **2**.)* (Numeric answer please) *Check any that apply*

☐ Local Residents _____

☐ Out of Town Residents _____

☐ Non Virginia Residents _____

29. Of the individuals visiting your site/sites, what percentage are made up of individuals that are AWARE they are on a Virginia Birding and Wildlife Trail site? (Numeric answer please)
…….. _____

30. Of the individuals that are AWARE of the Virginia Birding and Wildlife Trail, what percentage of the following groups do you estimate visit your site/sites? (Numeric answer please) *Check all that apply*

☐ Bird Specialist _____

☐ General wildlife watcher/nature enthusiast _____

☐ Other wildlife specialist (ex. Dragonflies _____

31. Do you consider the Virginia Birding and Wildlife Trail an asset to your locality?

☐ Yes ☐ No

32. Do you consider the Virginia Birding and Wildlife Trail an economic draw for your locality?

☐ Yes ☐ No

33. Is ecotourism an integral part of tourism planning for your locality?

☐ Yes ☐ No

DGIF EXPECTATIONS

34. Do you believe the VDGIF (Virginia Department of Game and Inland Fisheries) provides adequate Virginia Birding and Wildlife Trail information for trail users?

1	2	3	4	5
Poor Information				Great Information

35. Do you believe the VDGIF provides adequate Virginia Birding and Wildlife Trail information to educate LOCALITIES about the Virginia Birding and Wildlife Trail?

1	2	3	4	5
Poor Support				Great Support

36. Do you believe VDGIF provides you/your locality adequate support promoting the Virginia Birding and Wildlife Trail?

1	2	3	4	5
Poor Support				Great Support

HABITAT CONSERVATION

37. Do you perceive a need for greater habitat/conservation planning in your locality?

☐ Yes ☐ No

38. Does your locality take open space into planning consideration?

☐ Yes ☐ No

39. Does your locality take wildlife habitat into planning consideration?

☐ Yes ☐ No

40. Do you believe local government officials take into consideration habitat planning as they encourage new business/industry/companies into the area?

1	2	3	4	5
No Consideration				Much Consideration

41. Do you believe that the Virginia Birding and Wildlife Trail/ecotourism provides economic justification for habitat preservation?

☐ Yes ☐ No

END OF USER SURVEY

Thank you, your time is greatly appreciated.
Virginia Department of Game and Inland Fisheries
http://www.dgif.state.va.us/

Appendix D:
Locality Survey Questions (Planning and Tourism Personnel)

Assessment of the Economic Impact of Virginia Birding and Wildlife Trail

The purpose of this survey is to measure actual use of the VBWT and the economic impacts of the VBWT above and beyond any impact of the sites on their own. Participation in this study is voluntary and confidential, meaning that you may withdraw from the survey at any time and we will not ask you any information such as your name, mailing address or any other information that would allow us to identify you with your answers or enable us to contact you after the survey.

PLANNING & TOURISM SURVEY

TRAIL AWARENESS

1. Are you aware of the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No (If No, go to **question 28**)

2. Do you know what agency manages the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

3. Do you know who to contact about information pertaining to the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

4. Where did you obtain your knowledge about the Virginia Birding and Wildlife Trail?
Check any that apply

☐ Virginia Department of Game and Inland Fisheries ☐ Co-worker

☐ Internet ☐ Friends or Family

☐ Tourism Officials ☐ Newspaper/Magazine

☐ Local Outdoor Clubs ☐ Other _____

5. Have you noticed signs marking the Virginia Birding and Wildlife Trail sites/roads?

☐ Yes ☐ No

6. Were you involved in helping to establish Virginia Birding and Wildlife Trail sites in your locality?

☐ Yes ☐ No (If no, go to **question 7**)

If Yes

6a. What level of involvement did you have in helping to establish the Virginia Birding and Wildlife Trail sites in your locality?

1 2 3 4 5
Not Involved — Very Involved

7. Do you know the location of Virginia Birding and Wildlife Trail sites (other than your own) in your area?

☐ Yes ☐ No

8. Have you visited any of the Virginia Birding and Wildlife Trails within your locality?

☐ Yes ☐ No

9. Have you visited Virginia Birding and Wildlife Trail sites outside of your locality?

☐ Yes ☐ No

INFORMATION TRANSFER

10. Are you aware of any residents or visitors requesting information about the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No (If No, go to **question 11**)

If Yes

10a. How many requests pertaining to the Virginia Birding and Wildlife Trail do you estimate your site receives annually? (If you have more than one site, please average the number of requests across all sites.) ……. _____

11. Do you feel that you can provide adequate information to address Virginia Birding and Wildlife Trail information requests?

☐ Yes ☐ No

12. Do you promote the Virginia Birding and Wildlife Trail sites within your locality?

☐ Yes ☐ No

If Yes

12a. How does your office promote the Virginia Birding and Wildlife Trail?
(*Check any that apply*)

☐ Newspaper ☐ Virginia Department of Game and Inland Fisheries produced literature

☐ Internet ☐ Locality produced literature

☐ Word of mouth ☐ Other _____

13. Do you promote the Virginia Birding and Wildlife Trail sites outside of your locality?

☐ Yes ☐ No

14. Has your locality worked with neighboring localities to promote the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

15. Does your website link to the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

16. Have local government officials contacted you for assistance in promoting the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

17. Do you think local businesses are aware of the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

If Yes

17a. Do you think local businesses promote the Virginia Birding and Wildlife Trail?

☐ Yes ☐ No

17b. Do you believe local businesses view the Virginia Birding and Wildlife Trail as an economic benefit?

☐ Yes ☐ No

18. Do you (or someone in your office) have Virginia Birding and Wildlife Trail literature on hand to distribute for information request?

☐ Yes ☐ No

19. Do you have a particular individual that you refer information requests to?

☐ Yes ☐ No (If No, go to **question 24**)

If yes

19a. Are they the primary contact because of their personal interest or because of their job position? *Check any that apply*

☐ Job position ☐ Personal interest

19a.i. What is the individual's position title? ……._____

TRAIL USAGE

20. Are you aware of out of town individuals visiting your locality because of the Virginia Birding and Wildlife Trail's existence?

☐ Yes ☐ No (If No, go to **question 25**)

If yes

20a. Do these individuals request information pertaining to other local attractions?

☐ Yes ☐ No

20a.i. How many individuals would you estimate request information pertaining to local attractions annually? (*Numeric answer please)* ……
_____

20b. Do these visitors request information pertaining to lodging?

☐ Yes ☐ No

20c. What type of information is requested more frequently?

		Neutral		
1	2	3	4	5
Lodging Information				Local Attraction Information

21. Of the individuals visiting your site/sites, what percentage is made up of individuals that are AWARE they are on a Virginia Birding and Wildlife Trail site? (Numeric answer please)
…….. _____

22. Do you consider the Virginia Birding and Wildlife Trail an asset to your locality?

☐ Yes ☐ No

23. Do you consider the Virginia Birding and Wildlife Trail an economic draw for your locality?

☐ Yes ☐ No

24. Is ecotourism an integral part of tourism planning for your locality?

☐ Yes ☐ No

DGIF EXPECTATIONS

25. Do you believe the VDGIF (Virginia Department of Game and Inland Fisheries) provides adequate Virginia Birding and Wildlife Trail information for trail users?

1	2	3	4	5
Poor Information				Great Information

26. Do you believe the VDGIF provides adequate Virginia Birding and Wildlife Trail information to educate LOCALITIES about the Virginia Birding and Wildlife Trail?

1	2	3	4	5
Poor Support				Great Support

27. Do you believe VDGIF provides you/your locality adequate support promoting the Virginia Birding and Wildlife Trail?

1	2	3	4	5
Poor Support				Great Support

HABITAT CONSERVATION

28. Do you perceive a need for greater habitat/conservation planning in your locality?

☐ Yes ☐ No

29. Does your locality take open space into planning consideration?

☐ Yes ☐ No

30. Does your locality take wildlife habitat into planning consideration?

☐ Yes ☐ No

31. Do you believe local government officials take into consideration habitat planning as they encourage new business/industry/companies into the area?

1	2	3	4	5
No Consideration				Much Consideration

32. Do you believe that the Virginia Birding and Wildlife Trail/ecotourism provides economic justification for habitat preservation?

☐ Yes ☐ No

END OF USER SURVEY

Appendix E:
Visitor Survey Responses and Statistics

How many birding/wildlife watching trips do you take in a year? (Not necessarily on the Virginia Birding and Wildlife Trail (VBWT))									
Q1	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	761	9.4	1.4	0.0	700.0	6.7	12.1	35.8	36.6
Email	1181	6.56	0.984	0.0	1012	4.63	8.49	32.5	35.2
T-test, Unequal, DF = 1496, t Value = 1.67, p< =0 .0942									

How many hours a year do you spend birding or wildlife watching? (Not necessarily on the VBWT)									
Q2	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	749	112.3	11.1	0.0	4980.0	90.5	134.0	288.6	319.4
Email	1161	131.9	9.7	0.0	6000.0	113.0	150.9	316.4	343.3
T-test, Unequal, DF = 1689, t Value = -1.34, p< = 0.1821									

Since receiving your Virginia Birding and Wildlife Trail (VBWT) guide have you visited any VBWT sites?					
Q3	**N**		**Yes**	**No**	**Chi-Square**
Mail	770	n	207	563	χ^2 = 0.9049, DF = 1 p< 0.3415
		%	26.9	73.1	
Email	1199	n	346	853	
		%	28.9	71.1	

Do you plan to visit the VBWT in the next 24 months?					
Q3a	**N**		**Yes**	**No**	**Chi-Square**
Mail	540	n	214	326	χ^2 =88.8250, DF = 1 p< 0.0001
		%	39.6	60.4	
Email	855	n	559	296	
		%	65.4	34.6	

While visiting a site have you encountered a surveyor surveying about the VBWT?					
VQ4	**N**		**Yes**	**No**	**Chi-Square**
Mail	208	n	7	201	χ^2 = 10.0999, DF = 1 p< 0.0015
		%	3.4	96.6	
Email	346	n	38	308	
		%	37.5	89.0	

How many VBWT SITES have you visited since receiving your trail guide? Answer can span multiple years. (Numeric Answer Please)									
Q5	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	198	6.1	1.1	0.0	175.0	6.1	10.5	14.1	17.2
Email	338	5.8	0.5	0.0	100.0	5.8	7.9	9.21	10.72
T-test, Unequal, DF = 293, t Value =1.22, p< = 0.2243									

How many VBWT sites have you visited total PRIOR to receiving your trail guide? (Numeric Answer Please)									
Q6	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	190	4.3	0.7	0.0	81.0	3.0	5.6	8.4	10.2
Email	329	3.4	0.4	0.0	100.0	2.6	4.3	7.54	8.79
T-test, Unequal, DF = 355, t Value = 1.11, p< = 0.2685									

How many VBWT visits have you taken so far this year?									
Q7	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	200	4.3	7.4	0.0	50.0	3.2	5.3	6.7	8.2
Email	333	3.6	5.3	0.0	40.0	3.0	4.2	4.9	5.7
T-test, Unequal, DF = 321, t Value = 1.13, p< = 0.2606									

How many more VBWT visits do you estimate you will take this year? (Numeric Answer Please)									
Q8	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	200	4.3	0.5	0.0	50.0	3.2	5.3	6.7	8.2
Email	333	3.6	0.3	0.0	40.0	3.0	4.2	4.9	5.7
T-test, Unequal, DF = 321, t Value = 1.13, p< = 0.2606									

During your LAST visit to the VBWT did you visit more than one loop?					
VQ9	**N**		**Yes**	**No**	**Chi-Square**
Mail	200	n	75	125	χ^2 = 0.00, DF = 1 p< 1.00
		%	37.5	62.5	
Email	304	n	114	190	
		%	37.5	62.5	

How many Loops did you visit?									
Q9a	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	69	2.6	2.8	1.0	6.0	2.4	2.8	0.8	1.2
Email	113	3.0	3.3	1.0	10.0	2.7	3.3	1.3	1.7
T-test, Unequal, DF = 179, t Value = -2.07, p< = 0.0399									

During your LAST visit to the VBWT did you visit more than one site?					
Q10	**N**		**Yes**	**No**	**Chi-Square**
Mail	199	n	93	106	χ^2 = 1.8145, DF = 1 p< 0.1780
		%	46.7	53.3	
Email	305	n	124	181	
		%	40.7	59.3	

During your LAST visit to the VBWT, how many sites did you visit?									
Q10a	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	92	4.2935	0.416	1	25	3.4671	5.1199	3.4854	4.668
Email	124	3.5161	0.1965	1	15	3.1272	3.9051	1.9456	2.5005
T-test, Unequal, DF = 131, t Value = 1.69, p< = 0.0935									

How many VBWT visits (number of trips) have you taken since receiving your Trail Guide? Answer can span multiple years.									
Q11	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	186	8.3	1.4	0.0	201.0	5.6	10.9	16.8	20.6
Email	330	8.0	0.9	0.0	200.0	6.2	9.8	15.7	18.3
T-test, Equal, DF = 514, t Value = 0.16, p< = 0.8759									

How many hours have you spent in the last year at VBWT sites?									
Q12	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	192	29.4	6.8	0.0	1200.0	16.0	42.9	86.0	105.2
Email	327	39.4	7.1	0.0	1500.0	25.3	53.4	119.9	139.8
T-test, Unequal, DF = 492, t Value = -1.00, p< = 0.3161									

During your last visit, about how many hours did you spend at VBWT sites?									
Q13	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	185	9.9	58.7	0.0	715.0	2.3	17.6	47.8	58.7
Email	330	7.7	22.4	0.0	288.0	5.5	10.0	19.2	22.4
T-test, Unequal, DF = 216, t Value = .55, p< = .5810									

Do you typically visit more than one site on a loop?					
VQ14	**N**		**Yes**	**No**	**Chi-Square**
Mail	200	n	109	91	χ^2 = 0.0134, DF=1 p< 0.9077
		%	54.5	45.5	
Email	302	n	163	139	
		%	54.0	46.0	

Do you choose loops/sites based on the opportunity of seeing a specific group or species of wildlife?					
VQ15	**N**		**Yes**	**No**	**Chi-Square**
Mail	201	n	77	124	χ^2 = 0.0488, DF = 1 p< 0.8252
		%	38.3	61.7	
Email	308	n	115	193	
		%	37.3	62.7	

Please list the group or species that lead you to choose a specific loop or site.	
Q15a	Statistical analyses are not relevant. See Appendix F for responses.

What areas of the VBWT did you visit on your last trip? (Select all that apply)					
Q16	**N**		**Coastal**	**Mountain**	**Piedmont**
Mail	540	n	93	61	46
		%	46.5	30.50	23.00
Email	855	n	144	127	65
		%	42.86	37.80	19.35

Was visiting the VBWT your primary reason for being in the area?					
Q17	**N**		**Yes**	**No**	**Chi-Square**
Mail	201	n	76	125	χ^2 = 0.0350, DF = 1 p< 0.8515
		%	37.8	62.2	
Email	321	n	124	197	
		%	38.6	61.4	

What is your Zip code?	
Q18	Statistical analyses is not relevant

On average what distance do you travel to visit a VBWT site?									
Q19	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	184	209.3	33.3	0.0	3800.0	143.6	274.9	409.3	502.7
Email	331	219.0	29.8	0.0	5000.0	160.3	277.6	504.2	587.4
T-test, Unequal, DF = 438, t Value = -0.22, p< = 0.8283									

What is the farthest you have traveled for the purpose of visiting a VBWT site?									
Q20	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	175	268.7	34.8	0.0	4000.0	200.0	337.5	417.1	514.9
Email	328	279.7	31.1	0.0	5000.0	218.4	340.9	523.9	610.9
T-test, Unequal, DF = 420 t Value = -0.23, p< = .8150									

Are you a Virginia resident?					
Q20b	**N**		**Yes**	**No**	**Chi-Square**
Mail	194	n	117	77	χ^2 = 1.1053, DF = 1 p< 0.2931
		%	60.3	14.5	
Email	336	n	218	118	
		%	64.9	35.1	

If you are not a Virginia resident, what was your primary reason for traveling to Virginia?						
Q21	**N**		**VBWT**	**Family**	**Vacation**	**Other**
Mail	81	n	15	19	40	23
		%	18.52	23.46	49.38	28.40
Email	117	n	37	26	74	13
		%	31.62	22.22	63.25	11.11

How satisfied were you with past visits to VBWT sites or loops?							
Q22	**N**		**Very Satisfied**	**1**	**Neutral**	**-1**	**Very Unsatisfied**
Mail	201	n	104	76	12	1	8
		%	51.74	37.81	5.97	0.50	3.98
Email	331	n	220	81	16	3	11
		%	66.47	24.47	4.83	0.91	3.32
T-test, DF = 4 t Value = 12.72, p< = 0.0127							

How satisfied were you with past visits to VBWT sites or loops?					
Q22	**N**		**Satisfied**	**Neutral**	**Unsatisfied**
Mail	201	n	180	12	9
		%	89.55	5.97	4.48
Email	331	n	301	16	14
		%	90.94	4.83	4.23
T-test, DF = 2 t Value = 0.3511, p< = 0.8390					

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Distance from Home (1=Very Unimportant, 5=Very Important)

Q23a	N		Very Unimportant	2	Neutral	4	Very Important	Chi-Square
Mail	195	n	24	29	57	51	34	χ^2 = 3.8932 DF=4 p< 0.4270
		%	12.31	14.87	29.23	26.15	17.44	
Email	318	n	37	35	113	88	45	
		%	11.64	11.01	35.53	27.67	14.15	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Distance from Home (1=Very Unimportant, 5=Very Important)

Q23a	N		Unimportant	Neutral	Important	Chi-Square
Mail	195	n	53	57	85	χ^2 = 2.5598, DF=2 p< 0.2781
		%	27.18	29.23	43.59	
Email	318	n	72	113	133	
		%	22.64	35.53	41.82	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Presence of Walking/hiking trail (1=Very Unimportant, 5=Very Important)

Q23b	N		Very Unimportant	2	Neutral	4	Very Important	Chi-Square
Mail	199	n	7	8	23	54	107	χ^2 = 0.8079, DF = 4 p< 0.9374
		%	3.52	4.02	11.46	27.14	53.77	
Email	325	n	13	13	30	92	177	
		%	4.00	4.00	9.23	28.31	54.46	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Presence of Walking/hiking trail (1=Very Unimportant, 5=Very Important)

Q23b	N		Unimportant	Neutral	Important	Chi-Square
Mail	199	n	15	23	161	χ^2 = 0.7468, DF=2 p< 0.6919
		%	7.54	11.56	80.90	
Email	325	n	26	30	269	
		%	8.00	9.23	82.77	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.
Absence of walking/hiking trail (1=Very Unimportant, 5=Very Important)

Q23c	N		Very Unimportant	2	Neutral	4	Very Important	Chi-Square
Mail	193	n	32	37	52	26	46	X^2 = 7.5063, DF=4 p< 0.1114
		%	16.58	19.17	26.94	13.47	23.83	
Email	272	n	71	50	71	34	46	
		%	26.10	18.38	26.10	12.50	16.91	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.
Absence of walking/hiking trail (1=Very Unimportant, 5=Very Important)

Q23c	N		Unimportant	Neutral	Important	Chi-Square
Mail	193	n	69	52	72	X^2 = 4.8693, DF=2 p<0.0876
		%	35.75	26.94	37.31	
Email	272	n	121	71	80	
		%	44.48	26.10	29.41	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.
If the site Charges a fee (1=Very Unimportant, 5=Very Important)

Q23d	N		Very Unimportant	2	Neutral	4	Very Important	Chi-Square
Mail	199	n	35	28	75	36	25	X^2 = 3.5740, DF=4 p< 0.4667
		%	17.59	14.07	37.69	18.09	12.56	
Email	314	n	51	53	133	41	36	
		%	16.24	16.88	42.36	13.06	11.46	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.
If the site Charges a fee (1=Very Unimportant, 5=Very Important)

Q23d	N		Unimportant	Neutral	Important	Chi-Square
Mail	199	n	63	75	61	X^2 = 2.4367 DF=2 p<0.2957
		%	31.66	37.69	30.65	
Email	314	n	104	133	77	
		%	33.12	42.36	24.52	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Local attractions (1=Very Unimportant, 5=Very Important)

Q23e	N		Very Unimportant	2	Neutral	4	Very Important	Chi-Square
Mail	198	n	29	35	57	53	24	χ^2 = 2.3586, DF=4 p< 0.6701
		%	14.64	17.68	28.79	26.77	12.12	
Email	315	n	40	47	109	79	40	
		%	12.70	14.92	34.60	25.08	12.70	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Local attractions (1=Very Unimportant, 5=Very Important)

Q23e	N		Unimportant	Neutral	Important	Chi-Square
Mail	198	n	64	57	77	χ^2 = 2.2239, DF=2 p<0.3289
		%	32.32	28.79	38.89	
Email	315	n	87	109	119	
		%	27.62	34.60	37.78	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Probability of seeing a specific wildlife species (1=Very Unimportant, 5=Very Important)

Q23f	N		Very Unimportant	2	Neutral	4	Very Important	Chi-Square
Mail	199	n	15	28	53	57	46	χ^2 = 5.7439, DF=4 p< 0.2191
		%	7.54	14.07	26.63	28.64	23.12	
Email	318	n	21	32	73	91	101	
		%	6.60	10.06	22.96	28.62	31.76	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Probability of seeing a specific wildlife species (1=Very Unimportant, 5=Very Important)

Q23f	N		Unimportant	Neutral	Important	Chi-Square
Mail	199	n	43	53	103	χ^2 = 3.8821, DF=2 p<0.1436
		%	21.61	26.63	51.76	
Email	318	n	53	73	192	
		%	16.67	22.96	60.38	

Did you stay overnight for the purpose of visiting a VBWT loop or site?

Q24	N		Yes	No	Chi-Square
Mail	202	n	73	129	χ^2 = 1.1674, DF=1 p< 0.2799
		%	36.1	63.9	
Email	323	n	132	191	
		%	40.9	59.1	

Q24b How many nights did you stay in order to visit VBWT loops or sites?									
Q24b	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	71	2.75	0.22	1	7	2.31	3.18	1.57	2.20
Email	132	3.59	0.33	1	30	2.93	4.25	3.00	3.65
T-test, Unequal variance, DF = 199 t Value = -2.11, p< = 0.0358									

Where did you stay overnight? [Hotel/Motel]				
Q24c	**N**		**Yes**	**No**
Mail	76	n	44	32
		%	57.89	42.11
Email	132	n	71	61
		%	46.21	53.79

Where did you stay overnight? [Camping/RV]				
Q24c	**N**		**Yes**	**No**
Mail	76	n	10	66
		%	13.16	86.84
Email	132	n	27	105
		%	20.45	79.55

Where did you stay overnight? [Bed & Breakfast]				
Q24c	**N**		**Yes**	**No**
Mail	76	n	10	66
		%	13.16	86.84
Email	132	n	16	116
		%	12.12	87.88

Where did you stay overnight? [Friends or Family]				
Q24c	**N**		**Yes**	**No**
Mail	76	n	5	71
		%	6.58	93.42
Email	132	n	6	126
		%	4.55	95.45

Where did you stay overnight? [Other]				
Q24c	**N**		**Yes**	**No**
Mail	76	n	7	69
		%	9.21	90.79
Email	132	n	12	120
		%	9.09	90.91

Have you shared information about the VBWT to friends or family?					
VQ25	**N**		**Yes**	**No**	**Chi-Square**
Mail	202	n	149	53	X^2 = 11.2499, DF = 1 p< 0.0008
		%	73.8	26.2	
Email	331	n	283	48	
		%	85.5	14.5	

How many individuals have you shared VBWT information with?									
Q25b	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	143	6.8	1.6	1.0	201.0	3.6	10.0	17.2	21.8
Email	281	9.9	1.6	1.0	368.0	6.6	13.1	25.5	30.1
T-test, Unequal, DF = 382 t Value = -1.33, p< = 0.1854									

During your last trip, about how much did you spend related to visiting the VBWT? (Totals of food, gas, lodging, shopping, and other)									
Q26	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	160	232.3	38.1	2.0	4350.0	157.0	307.6	434.5	541.6
Email	287	266.1	21.3	0.0	2550.0	224.2	307.9	333.0	392.5
T-test, Unequal, DF =259, t Value = -0.77, p< = .4401									

Q27 If diff from previous	Data was not used for analysis due inconsistencies in responses

How likely are you to visit the VBWT again?							
Q28	**N**		**Very Likely**	**1**	**Neutral**	**-1**	**Very Unlikely**
Mail	202	n	138	37	19	3	5
		%	68.32	18.32	9.41	1.49	2.48
Email	334	n	263	45	17	5	4
		%	78.74	13.47	5.09	1.50	1.20
Fishers Exact Test, p< = 0.0669							

How likely are you to visit the VBWT again?						
Q28	**N**		**Likely**	**Neutral**	**Unlikely**	**Chi-Square**
Mail	202	n	175	19	8	X^2 = .4.56, DF=2 p< 0.1094
		%	86.63	9.41	3.96	
Email	334	n	308	17	9	
		%	92.22	5.09	2.69	

What other activities did you partake in during your visit? (Answer all that apply)								
Q29	**N**		**Historical sites**	**Cultural Sites**	**Museums**	**Visit Family**	**Shopping**	**Other**
Mail	159	n	127	67	84	42	55	31
		%	79.87	42.14	52.83	26.42	34.59	19.50
Email	292	n	238	127	134	70	117	41
		%	81.51	42.79	48.34	24.61	38.14	15.96

Did you use information in the VBWT trail guide to decide which specific loops/sites to visit?					
VQ30	**N**		**Yes**	**No**	**Chi-Square**
Mail	201	n	158	43	X^2 = 3.13, DF = 1 p< 0.0789
		%	78.6	21.4	
Email	320	n	271	49	
		%	84.7	15.3	

Did you use information in the VBWT trail guide on lodging and services available in the area you were planning to visit?					
Q31	**N**		**Yes**	**No**	**Chi-Square**
Mail	198	n	44	154	X^2 =15.2606, DF = 1 p< .0001
		%	22.2	77.8	
Email	306	n	119	187	
		%	38.9	61.1	

Did you actually book reservations or stay at any of the listed lodgings?					
Q31b	**N**		**Yes**	**No**	**Chi-Square**
Mail	44	n	18	26	X^2 = 0.0320, DF = 1 p< 0.8581
		%	40.9	59.1	
Email	113	n	48	65	
		%	42.5	57.5	

Did you use the VBWT trail guide to navigate from site to site on any of the loops?					
Q32	**N**		**Yes**	**No**	**Chi-Square**
Mail	199	n	121	78	X^2 = 2.9035, DF = 1 p< .0884
		%	23.9	15.4	
Email	308	n	210	98	
		%	68.2	31.8	

How would you rate the ACCURACY of the trail guide information for navigating to specific sites?							
Q33	**N**		**Very Accurate**	**1**	**Neutral**	**-1**	**Very Inaccurate**
Mail	188	n	75	74	33	2	4
		%	39.89	39.36	17.55	1.06	2.13
Email	304	n	96	166	39	2	1
		%	31.54	54.61	12.83	0.66	0.33
Fishers Exact Test, p< = 0.0051							

How would you rate the ACCURACY of the trail guide information for navigating to specific sites?						
Q33	**N**		**Accurate**	**Neutral**	**Inaccurate**	**Chi-Square**
Mail	188	n	149	33	6	χ^2 = 5.5257, DF=2 p< .0631
		%	79.26	17.55	3.19	
Email	304	n	262	39	3	
		%	86.18	12.83	0.99	

How would you rate the EASE OF USE of the trail guide information for navigating to specific sites?							
Q34	**N**		**Very Easy**	**1**	**Neutral**	**-1**	**Very Difficult**
Mail	189	n	64	84	35	3	3
		%	33.86	44.44	18.52	1.59	1.59
Email	310	n	135	142	27	5	1
		%	43.55	45.81	8.71	1.61	0.32
Fishers Exact Test, p< = 0.0049							

How would you rate the EASE OF USE of the trail guide information for navigating to specific sites?						
Q34	**N**		**Easy**	**Neutral**	**Difficult**	**Chi-Square**
Mail	189	n	148	35	6	χ^2 = 11.5245, DF=2 p< 0.0031
		%	78.31	18.52	3.17	
Email	310	n	277	27	6	
		%	89.35	8.71	1.94	

Did you find the site-specific information in the trail guide useful?							
Q35	**N**		**Very Useful**	**1**	**Neutral**	**-1**	**Very Not Useful**
Mail	191	n	81	84	23	2	1
		%	42.41	43.98	12.04	1.05	0.52
Email	314	n	166	124	22	1	1
		%	52.87	39.49	7.01	0.32	0.32
Fishers Exact Test, p< = 0.0554							

Did you find the site-specific information in the trail guide useful?						
Q35	**N**		**Useful**	**Neutral**	**Not Useful**	**Chi-Square**
Mail	191	n	165	23	3	χ^2 = 4.8948, DF=2 p< 0.0865
		%	86.39	12.04	1.57	
Email	314	n	290	22	2	
		%	92.36	7.01	0.64	

Did you find the site-specific information in the trail guide informative?							
Q36	**N**		**Very Informative**	**1**	**Neutral**	**-1**	**Very Non-Informative**
Mail	191	n	80	80	28	2	1
		%	41.88	41.88	14.66	1.05	0.52
Email	320	n	180	119	19	1	1
		%	56.25	37.19	5.94	0.31	0.31
Fishers Exact Test, p< = 7.588E-04							

Did you find the site-specific information in the trail guide informative?						
Q36	**N**		**Informative**	**Neutral**	**Non-Informative**	**Chi-Square**
Mail	191	n	160	28	3	χ^2 = 12.2310, DF=2 p< 0.0022
		%	83.77	14.66	1.57	
Email	320	n	299	19	2	
		%	93.44	5.94	0.63	

Was the site-specific information in the trail guide regarding likely species to be observed useful?							
Q37	**N**		**Very Useful**	**1**	**Neutral**	**-1**	**Very Non-Useful**
Mail	190	n	65	78	39	6	2
		%	34.21	41.05	20.53	3.16	1.05
Email	307	n	134	115	53	5	0
		%	43.65	37.46	17.26	1.63	0.00
Fishers Exact Test, p< = 0.0793							

Was the site-specific information in the trail guide regarding likely species to be observed useful?						
Q37	**N**		**Useful**	**Neutral**	**Non-Useful**	**Chi-Square**
Mail	190	n	143	39	8	X^2 = 4.1741, DF = 2 p< 0.1241
		%	75.26	20.53	4.21	
Email	307	n	249	53	5	
		%	81.11	17.26	1.63	

Did you use the site-specific information regarding likely species to be observed to determine which sites to visit?					
Q38	**N**		**Yes**	**No**	**Chi-Square**
Mail	196	n	86	110	X^2 = 3.0015, DF = 1 p< 0.0832
		%	43.9	56.1	
Email	303	n	157	146	
		%	51.8	48.2	

Would you use information in the trail guide to plan future birding and wildlife observation trips?					
Q39	**N**		**Yes**	**No**	**Chi-Square**
Mail	200	n	189	11	X^2 = 2.5428, DF = 1 p< 0.0071
		%	94.5	5.5	
Email	326	n	317	9	
		%	97.2	2.8	

What did you enjoy most about your visit to the VBWT?	
Q40	Statistical analyses is not relevant

What do you like least about your visit to the VBWT?	
Q41	Statistical analyses is not relevant

What is your sex?					
VQ42	**N**		**Female**	**Male**	**Chi-Square**
Mail	199	n	108	91	X^2 =0.6106, DF=1 p<0.4346
		%	54.3	45.7	
Email	326	n	190	139	
		%	57.8	42.3	

What year were you born?									
Q43	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**	**Lower CL Std Dev**	**Upper CL Std Dev**
Mail	195	53.9	0.9	11.0	84.0	53.9	57.6	11.7	14.3
Email	321	49.7	0.6	22.0	75.0	49.7	52.1	10.1	11.8
T-test, Unequal, DF = 359, t Value = 4.39, p< = 0.0001									

What is the highest level of education you have completed?										
Q44	**N**		**> High school**	**High school**	**Trade School**	**2 yr of College**	**4 yr of college**	**Grad School**	**Post Grad School**	**Chi-Square**
Mail	199	n	2	20	6	32	55	48	36	χ^2 = 10.6388 DF=6 p< 0.1002
		%	1.0	10.1	3.0	16.1	27.6	24.1	18.1	
Email	332	n	2	14	14	55	112	89	46	
		%	0.6	4.2	4.2	16.6	33.7	26.8	13.9	

What areas of the VBWT have you visit over all trips?					
Q45	**N**		**Piedmont Phase**	**Mountain Phase**	**Coastal Phase**
Mail	366	n	97	132	137
		%	26.5	36.1	37.4
Email	602	n	153	232	217
		%	25.4	38.5	36.0

In which of the following groups would you include yourself?							
Q46	**N**		**Asian**	**African American**	**Native American**	**Caucasian**	**Other**
Mail	197	n	0	0	4	191	2
		%	0.0	0.0	2.0	97.0	1.0
Email	316	n	3	2	6	297	8
		%	1.0	0.6	1.9	94.0	2.5
Fishers Exact Test, p< = 0.4393							

What is your annual income?								
Q47	**N**		**0-25,000**	**$25,001-$50,000**	**$50,001-$75,000**	**$75,001-$100,000**	**> $100,000**	**Chi-Square**
Mail	172	n	7	32	45	44	44	χ^2 = 1.0263 DF=4 p< 0.9042
		%	4.1	18.6	26.2	25.6	25.6	
Email	256	n	14	44	63	62	73	
		%	5.5	17.2	24.6	24.2	28.5	

Appendix F:
Visitor Survey Responses and Statistics (Email &Mail Combined)

How many birding/wildlife watching trips do you take in a year? (Not necessarily on the Virginia Birding and Wildlife Trail (VBWT))							
Q1	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	1942.0	7.7	0.8	0.0	1012.0	6.1	9.24

How many hours a year do you spend birding or wildlife watching? (Not necessarily on the VBWT)							
Q2	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	1910.0	124.2	7.3	0.0	6000.0	109.9	138.55

Since receiving your Virginia Birding and Wildlife Trail (VBWT) guide have you visited any VBWT sites?					
Q3	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	1969	n	553	1416	χ^2 = 378.24, DF=1 p< .0001
		%	28.1	71.9	

Do you plan to visit the VBWT in the next 24 months?					
Q3a	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	1395	n	773	622	χ^2 = 16.344, DF=1 p< .0001
		%	55.4	44.6	

While visiting a site have you encountered a surveyor surveying about the VBWT?					
Q4	**N**		**Yes**	**No**	**Yes, But did not Participate**
Trail Guide Users	1395	n	34	509	11
		%	6.14	91.88	1.99

How many VBWT SITES have you visited since receiving your trail guide? Answer can span multiple years. (Numeric Answer Please)							
Q5	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	536.0	7.4	0.5	0.0	175.0	6.3	8.4

How many VBWT sites have you visited total PRIOR to receiving your trail guide? (Numeric Answer Please)							
Q6	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	519	3.8	0.4	0.0	100.0	3.0	4.5

How many VBWT visits have you taken so far this year? (Numeric Answer Please)							
Q7	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	533	3.9	0.3	0.0	50.0	3.3	4.4

How many more VBWT visits do you estimate you will take this year? (Numeric Answer Please)							
Q8	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	530.0	2.1	0.2	0.0	40.0	1.8	2.38

During your LAST visit to the VBWT did you visit more than one loop?					
Q9	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	504	n	189	315	χ^2 = 31.50, DF=1 p< .0001
		%	37.5	62.5	

How many Loops did you visit during your LAST visit to the VBWT?							
Q9a	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	182	2.8	0.1	1.0	10.0	2.6	3.0

During your LAST visit to the VBWT did you visit more than one site?					
Q10	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	504	n	217	287	χ^2 = 9.72, DF=1 p< .0018
		%	43.1	56.9	

During your LAST visit to the VBWT, how many sites did you visit?							
Q10a	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	216	3.8	0.2	1.0	25.0	3.4	4.3

How many VBWT visits (number of trips) have you taken since receiving your Trail Guide? Answer can span multiple years.							
Q11	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	516.0	8.1	0.8	0.0	201.0	6.6	9.61

How many hours have you spent in the last year at VBWT sites?							
Q12	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	519	35.7	5.2	0.0	1500.0	25.6	45.8

During your last visit, about how many hours did you spend at VBWT sites?							
Q13	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	515.0	8.5	1.6	0.0	715.0	5.4	11.59

Do you typically visit more than one site on a loop?					
Q14	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	502	n	272	230	χ^2 = 3.5, DF=1 p< .0609
		%	54.2	45.8	

Do you choose loops/sites based on the opportunity of seeing a specific group or species of wildlife?					
Q15	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	509	n	192	317	χ^2 = 30.69, DF=1 p< .0001
		%	37.7	62.3	

Please list the group or species that lead you to choose a specific loop or site. (Only Spp listed multiple times reported)			
Species	N	**Species**	**N**
Birds	52	Ducks	4
Warblers	23	Hummingbirds	4
Raptors	16	Mammals	4
Eagles	14	Sparrows,	4
Hawks	13	Osprey	3
Water Birds	12	Owls	3
Shore Birds	11	Squirrels	3
Deer	9	Turkey	3
Butterflies	6	Woodpecker	3
Reptiles	6	Amphibians	2
Song Birds	5	birds of prey	2
Wading birds	5	Fox	2
Waterfowl	5	Herons	2
Bear	4	Wildflowers	2

What areas of the VBWT did you visit on your last trip? (Select all that apply)					
Q16	**N**		**Costal**	**Mountain**	**Piedmont**
Trail Guide Users	607	n	237	239	131
		%	66.6	68.4	47.1

Was visiting the VBWT your primary reason for being in the area?					
Q17	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	522	n	200	322	$\chi^2 = 28.51$, DF=1 $p < .0001$
		%	38.3	61.7	

What is your Zip code?	
Q18	Statistical analyses is not relevant

On average what distance do you travel to visit a VBWT site? (Answer in Miles)							
Q19	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	515	215.5	22.5	0.0	5000.0	171.2	259.8

What is the farthest you have traveled for the purpose of visiting a VBWT site? (Answer in Miles)							
Q20	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	503	275.9	23.6	0.0	5000.0	229.4	322.3

Are you a Virginia resident?					
Q20b	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	531	n	336	195	χ^2 = 36.98 DF=1 p< .0001
		%	63.3	36.7	

If you are not a Virginia resident, what was your primary reason for traveling to Virginia?						
Q21	**N**		**VBWT**	**Family**	**Vacation**	**Other**
Trail Guide Users	237	n	52	45	114	26
		%	28	24.2	61.3	14

Q21 "Other"	**N**	**Q21 "Other"**	**N**
Business	4	Fishing	1
Civil War Sites	2	Just to enjoy VA	1
looking to relocate	2	Leading Nature Tours	1
Military Reunion	2	Military Reunion	1
Used to live in Virginia	2	Own property in VA	1
2 Yr Fellowship in DC	1	Wedding	1
Appalachian Trail	1	Wildlife Photography,	1
Assateague, Chincoteague	1	Wildlife plants historic areas	1
Blue Ridge Parkway	1		

How satisfied were you with past visits to VBWT sites or loops? [1]								
Q22	**N**		**Very Satisfied**	**-**	**Neutral**	**-**	**Very Unsatisfied**	**Chi-Square**
Trail Guide Users	532	n	324	157	28	4	19	χ^2 = 697.1917 DF=4 p< .0001
		%	60.9	29.5	5.3	0.8	3.6	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Distance from Home								
Q23a	**N**		**Very Important**	**-**	**Neutral**	**-**	**Very Unimportant**	**Chi-Square**
Trail Guide Users	513	n	79	139	170	64	61	χ^2 = 94.0078 DF=4 p< .0001
		%	15.4	27.10	33.14	12.48	11.89	

Q23a	**N**		**Important**	**Neutral**	**Unimportant**	**Chi-Square**
Trail Guide Users	513	n	218	170	125	χ^2 = 23.2982 DF=2 p< .0001
		%	42.50	33.14	24.37	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.
Presence of Walking/hiking trail

Q23b	N		Very Important	-	Neutral	-	Very Unimportant	Chi-Square
Trail Guide Users	524	n	284	146	53	21	20	χ^2 = 483.8435 DF=4 p< .0001
		%	54.2	27.86	10.11	4.01	3.82	

Q23b	N		Important	Neutral	Unimportant	Chi-Square
Trail Guide Users	524	n	430	53	41	χ^2 = 560.2939 DF=2 p< .0001
		%	82.06	10.11	7.82	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.
Absence of Walking/hiking trail

Q23c	N		Very Important	-	Neutral	-	Very Unimportant	Chi-Square
Trail Guide Users	465	n	92	60	123	87	103	χ^2 = 22.8602 DF=4 p< .0001
		%	19.78	12.90	26.45	18.71	22.15	

Q23c	N		Important	Neutral	Unimportant	Chi-Square
Trail Guide Users	465	n	152	123	190	χ^2 = 37.1704 DF=2 p< .0001
		%	82.06	10.11	7.82	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.
If the site Charges a fee

Q23d	N		Very Important	-	Neutral	-	Very Unimportant	Chi-Square
Trail Guide Users	513	n	61	77	208	81	86	χ^2 = 138.76 DF=4 p< .0001
		%	11.89	15.01	40.55	15.79	16.76	

Q23d	N		Important	Neutral	Unimportant	Chi-Square
Trail Guide Users	513	n	167	208	167	χ^2 = 14.4678 DF=2 p< .0007
		%	32.55	40.55	32.55	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.
Local attractions

Q23e	N		Very Important	-	Neutral	-	Very Unimportant	Chi-Square
Trail Guide Users	513	n	64	132	166	82	69	χ^2 = 77.2632 DF=4 p< .0001
		%	12.48	25.73	32.36	15.98	13.45	

Q23e	N		Important	Neutral	Unimportant	Chi-Square
Trail Guide Users	513	n	196	166	151	χ^2 = 14.4678 DF=2 p< .0007
		%	38.21	32.36	29.43	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit.
Probability of seeing a specific wildlife species

Q23f	N		Very Important	-	Neutral	-	Very Unimportant	Chi-Square
Trail Guide Users	517	n	147	148	126	60	36	χ^2 = 22.8602 DF=4 p< .0001
		%	28.43	28.63	24.37	11.61	6.96	

Q23f	N		Important	Neutral	Unimportant	Chi-Square
Trail Guide Users	517	n	295	126	96	χ^2 = 133.5822 DF=2 p< .0001
		%	57.06	24.37	18.57	

Did you stay overnight for the purpose of visiting a VBWT loop or site?

Q24	N		Yes	No	Chi-Square
Trail Guide Users	525	n	205	320	χ^2 = 25.1905 DF=1 p< .0001
		%	39.1	60.95	

How many nights did you stay in order to visit VBWT loops or sites?

Q24b	N	Mean	Std Error	Min	Max	Lower CL	Upper CL
Trail Guide Users	203	3.3	0.2	1.0	30.0	2.8	3.8

Where did you stay overnight? [Bed and Breakfast]

Q24c	N		Yes	No	Chi-Square
Trail Guide Users	208	n	26	182	χ^2 = 117, DF=1 p< .0001
		%	12.5	87.50	

Where did you stay overnight? [Camping/RV]

Q24c	N		Yes	No	Chi-Square
Trail Guide Users	208	n	37	171	χ^2 = 86.3269 DF=1 p< .0001
		%	17.9	82.21	

Where did you stay overnight? [Hotel/Motel]

Q24c	N		Yes	No	Chi-Square
Trail Guide Users	208	n	115	93	χ^2 = 2.3269 DF=1 p< 0.1272
		%	55.29	44.71	

Where did you stay overnight? [Friends and Family]

Q24c	N		Yes	No	Chi-Square
Trail Guide Users	208	n	11	197	χ^2 = 166.3269 DF=1 p< .0001
		%	5.29	94.71	

Where did you stay overnight? [Other]

Q24c	N		Yes	No	Chi-Square
Trail Guide Users	208	n	19	189	χ^2 = 138.9423 DF=1 p< .0001
		%	9.13	90.87	

24c "Other"	N
State Park	5
Cabin Rental	3
National Park Lodge	3
Time Share	2
Blue Green Resort	1
Navy Lodge	1
Rental Home	1
Rented Cottage	1
School Trip	1

Have you shared information about the VBWT to friends or family?					
Q25	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	533	n	432	101	χ^2 = 205.55 DF=1 p<.0001
		%	81.1	19.0	

How many individuals have you shared VBWT information with?							
Q25b	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	424	8.8	1.2	1.0	368.0	6.4	11.2

During your last trip, about how much did you spend related to visiting the VBWT? (Totals of food, gas, lodging, shopping, and other)							
			Expenditures				
Q26a-e	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Food	452	63.72	5.27	0	1600	53.36	74.08
Gas	452	48.7	2.91	0	490	42.98	54.43
Lodging	190	177.53	17.18	0	2000	143.65	211.42
Shopping	452	41.59	4.99	0	1000	31.78	51.39
Other	452	10.24	2.10	0	600	6.10	14.37

Q27 If diff from previous	Data was not used for analysis due inconsistencies in responses

How likely are you to visit the VBWT again?								
Q28	**N**		**Very Likely**	**-**	**Neutral**	**-**	**Very Unlikely**	**Chi-Square**
Trail Guide Users	536	n	401	82	36	8	9	χ^2 = 697.1917 DF=4 p< .0001
		%	74.8	15.3	6.7	1.5	1.7	

Q28	**N**		**Likely**	**Neutral**	**Unlikely**	**Chi-Square**
Trail Guide Users	536	n	483	36	17	χ^2 = 778.5933 DF=2 p< .0001
		%	90.11	6.72	3.17	

What other activities did you partake in during your visit? (Answer all that apply)								
Q29	**N**		**Historical sites**	**Cultural Sites**	**Museums**	**Visit Family**	**Shopping**	**Other**
Trail Guide Users	451	n	365	193	218	111	172	72
		%	80.93	42.79	48.34	24.61	38.14	15.96

Q29 "Other"	**N**	**Q29 "Other"**	**N**
Fishing	11	Library	1
Hiking	10	Local Restaurants	1
Sight Seeing	5	Marinas, Boating	1
Beach	4	Medical	1
Hunting	4	Meeting of Tennessee Ornithological Society	1
Visit wineries	4	Military reunion at Ft. Eustis,	1
Camping	3	Music Festival	1
Photography	3	National Parks	1
Amusement Parks	2	Nature Center,	1
Nature Tours,	2	Recreation	1
Sports	2	Scenic Drives	1
Stargazing	2	School Reunion	1
walking	2	Sit by Campfire	1
Antiquing	1	State Parks	1
Attended festival	1	Swimming	1
Bicycling	1	Theater	1
Birding other spots	1	Travel	1
Caving	1	Vacation	1
Conduct and participate in training	1	Visit Battle Fields	1
Friends	1	Visit Lighthouses	1
Genealogy	1	Visit Remote Locations	1
Guided Tours	1	Whitewater Rafting.	1

Did you use information in the VBWT trail guide to decide which specific loops/sites to visit?					
Q30	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	521	n	429	92	χ^2 =217.98 DF=1 p< .0001
		%	82.3	17.7	

Did you use information in the VBWT trail guide on lodging and services available in the area you were planning to visit?					
Q31	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	504	n	163	341	χ^2 =62.86 DF=1 p< .0001
		%	32.3	67.7	

Appendix F

Did you use information in the VBWT trail guide on lodging and services available in the area you were planning to visit?					
Q31b	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	157	n	66	91	χ^2 =3.98 DF=1 p< 0.0460
		%	42.0	58.0	

Did you use the VBWT trail guide to navigate from site to site on any of the loops?					
Q32	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	507	n	331	176	χ^2 =47.38 DF=1 p< .0001
		%	65.3	34.7	

How would you rate the ACCURACY of the trail guide information for navigating to specific sites?								
Q33	**N**		**Completely Accurate**	**-**	**Neutral**	**-**	**Completely Inaccurate**	**Chi-Square**
Trail Guide Users	492	n	171	240	72	4	5	χ^2 = 443.6301 DF=4 p< .0001
		%	34.8	48.8	14.6	0.1	1.0	

Q33	**N**		**Accurate**	**Neutral**	**Inaccurate**	**Chi-Square**
Trail Guide Users	492	n	411	72	9	χ^2 = 570.1098DF=2 p< .0001
		%	83.54	14.63	1.83	

How would you rate the EASE OF USE of the trail guide information for navigating to specific sites?								
Q34	**N**		**Very Easy to Use**	**-**	**Neutral**	**-**	**Very Difficult to Use**	**Chi-Square**
Trail Guide Users	499	n	199	226	62	8	4	χ^2 = 448.9058 DF=4 p< .0001
		%	39.9	45.3	12.4	1.6	0.8	

Q34	**N**		**Easy to Use**	**Neutral**	**Difficult to Use**	**Chi-Square**
Trail Guide Users	499	n	425	62	12	χ^2 = 610.8978 DF=2 p< .0001
		%	85.17	12.42	2.40	

Did you find the site-specific information in the trail guide useful?								
Q35	**N**		**Very Useful**	**-**	**Neutral**	**-**	**Very Non-Useful**	**Chi-Square**
Trail Guide Users	505	n	247	208	45	3	2	χ^2 = 547.58 DF=4 p< .0001
		%	48.9	41.2	8.9	0.6	0.4	

Q35	**N**		**Useful**	**Neutral**	**Not Useful**	**Chi-Square**
Trail Guide Users	505	n	455	45	5	χ^2 = 737.0297 DF=2 p< .0001
		%	90.10	8.91	0.99	

Did you find the site-specific information in the trail guide informative?								
Q36	**N**		**Very Informative**	**-**	**Neutral**	**-**	**Very Uninformative**	**Chi-Square**
Trail Guide Users	511	n	260	199	47	3	2	χ^2 = 559.67 DF=4 p< .0001
		%	50.9	38.9	9.2	0.6	0.4	

Q36	**N**		**Informative**	**Neutral**	**Uninformative**	**Chi-Square**
Trail Guide Users	511	n	459	47	5	χ^2 = 738.9902 DF=2 p< .0001
		%	89.82	9.20	0.98	

Was the site-specific information in the trail guide regarding likely species to be observed useful?								
Q37	**N**		**Very Useful**	**-**	**Neutral**	**-**	**Very Non-Useful**	**Chi-Square**
Trail Guide Users	497	n	199	193	92	11	2	χ^2 = 362.5473 DF=4 p< .0001
		%	40.0	38.8	18.5	2.2	0.4	

Q37	**N**		**Useful**	**Neutral**	**Not Useful**	**Chi-Square**
Trail Guide Users	497	n	392	92	13	χ^2 = 482.6600 DF=2 p< .0001
		%	78.87	18.51	2.62	

Did you use the site-specific information regarding likely species to be observed to determine which sites to visit?					
Q38	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	499	n	243	256	χ^2 = 0.3387 DF=1 p< 0.5606
		%	48.7	51.3	

Would you use information in the trail guide to plan future birding and wildlife observation trips?					
Q39	**N**		**Yes**	**No**	**Chi-Square**
Trail Guide Users	526	n	506	20	χ^2 = 449.0418 DF=1 p< .0001
		%	96.2	3.8	

What did you enjoy most about your visit to the VBWT?	
Q40	Statistical analyses is not relevant. See raw data for all responses.

What did you like least about your visit to the VBWT?	
Q41	Statistical analyses is not relevant. See raw data for all responses.

What is your sex?					
Q.42	**N**		**Female**	**Male**	**Chi-Square**
Trail Guide Users	528	n	298	230	χ^2 =8.7576 DF=1 p< 0.0031
		%	56.43	43.56	

What year were you born? (Data modified to obtain age.)							
Q43	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Trail Guide Users	516	52.73	0.524	11	84	51.70	53.76

What is the highest level of education you have completed										
Q44	**N**		**Less than HS**	**HS**	**Trade School**	**2 Yrs College**	**4 Yrs College**	**Grad School**	**Post Graduate School**	**Chi-Square**
Trail Guide Users	531	n	4	34	20	87	167	137	82	χ^2 = 293.22 DF=6 p<0.0001
		%	0.75	6.40	3.77	16.38	31.45	25.80	15.44	

What areas of the VBWT have you visit over all trips?					
Q45	**N**		**Coastal**	**Mountain**	**Piedmont**
Trail Guide Users	531	n	354	363	250
		%	66.6	68.4	47.1

In which of the following groups would you include yourself?								
Q46	**N**		**Asian**	**Black / African American**	**Native American**	**White / Caucasian**	**Other**	**Chi-Square**
Trail Guide Users	513	n	3	2	10	488	10	χ^2 = 1810.1676 DF=4 p<0.0001
		%	0.58	0.39	1.95	95.13	1.95	

Appendix G:
Encounter Survey Responses and Statistics

How many people are traveling in your group this trip?							
Q.1	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	279	2.9	0.2	1.0	41.0	2.5	3.3

Have you participated in this survey before?					
Q. 2	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	284	n	5	279	χ^2 = 264.3521 DF=1 p< 0.0001
		%	1.8	98.2	

The following results exclude responses from individuals that answered "Yes" to question 2.

How many birding/wildlife watching trips do you take in a year? (Not necessarily on the Virginia Birding and Wildlife Trail (VBWT))							
Q.3	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	272	26.2	4.9	0.0	730.0	16.6	35.9

How familiar are you with bird watching/wildlife watching?								
Q. 4	**N**		**Expert**	**-**	**Intermediate**	**-**	**Novice**	**Chi-Square**
Encounter Survey	276	n	12	18	48	45	153	χ^2 = 234.9783 DF=4 p< 0.0001
		%	4.4	6.5	17.4	16.3	55.4	

Are you aware of the Virginia Birding and Wildlife trail					
Q. 5	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	279	n	92	187	χ^2 = 32.3477 DF=1 p< 0.0001
		%	33.0	67.0	

Are you aware that you are on the Virginia Birding and Wildlife Trail?					
Q. 6	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	279	n	86	193	χ^2 = 41.048 DF=1 p< 0.0001
		%	30.8	69.2	

Did you choose this loop to target seeing a specific group or wildlife species?					
Q. 6a	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	81	n	19	62	χ^2 = 22.8272 DF=1 p< 0.0001
		%	23.5	76.5	

6ai Please list this group or species	
Birds	5
Eagles	5
Foxes	1
Owls	1
Plants and birds	1
Spring Migrants	1
Turtles	1
Waterfowl	1
Wildlife	1
Yellow Finch	1

Do you plan on visiting other sites on the loop today?					
Q. 6b	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	79	n	18	61	χ^2 = 23.40 DF=1 p< 0.0001
		%	22.8	77.2	

How many of the sites do you plan on visiting?							
Q.6bi	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	13	2.4	0.4	1.0	5.0	1.6	3.2

Was visiting the VBWT your primary reason for being in the area?					
Q.7	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	84	n	37	47	χ^2 = 1.1905 DF=1 p< 0.2752
		%	44.1	56.0	

What is your Zip code?	
Q8	Statistical analyses is not relevant

Are you from out of state?					
Q. 9	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	83	n	6	77	χ^2 = 60.7349 DF=1 p< 0.0001
		%	7.2	92.8	

If you are not a Virginia resident, what was your primary reason for traveling to Virginia? [Virginia Birding and Wildlife Trail]							
Q. 9a	**N**		**VBWT**	**Family**	**Vacation**	**Other**	**Chi-Square**
Encounter Survey	6	n	0	2	4	0	Insufficient data
		%	0.0	33.3	66.67	0	

How many Virginia Birding and Wildlife Trail Loops do you intend to visit during your trip?							
Q.9b	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	6	1.0	0.0	1.0	1.0	0.0	0.0

How many Virginia Birding and Wildlife Trail sites do you intend to visit during your trip?							
Q.9c	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	6	2.5	0.6	1.0	5.0	0.9	4.1

Is this your first time on the Virginia Birding and Wildlife Trail?					
Q. 10	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	84	n	13	71	χ^2 = 40.048 DF=1 p< 0.0001
		%	15.5	84.5	

How satisfied were you with past visits to VBWT sites or loops?								
Q. 10a	**N**		**Very Unsatisfied**	**-**	**Neutral**	**-**	**Very Satisfied**	**Chi-Square**
Encounter Survey	64	n	6	1	6	7	44	χ^2 = 96.7813 DF=4 p< 0.0001
		%	9.4	1.6	9.4	10.9	68.8	

Q. 10a	**N**		**Unsatisfied**	**Neutral**	**Satisfied**	**Chi-Square**
Encounter Survey	64	n	7	6	51	χ^2 = 61.90 DF=2 p< 0.0001
		%	10.9	9.4	79.7	

How many Virginia Birding and Wildlife Trail loops have you visited in the last year?							
Q.10b	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	68	3.6	0.5	0.0	25.0	2.5	4.6

How many Virginia Birding and Wildlife Trail loops have you visited total?							
Q.10c	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	65	7.7	1.7	0.0	80.0	4.3	11.1

How many Virginia Birding and Wildlife Trail loops do you expect to visit this year?							
Q.10d	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	68	5.5	0.9	0.0	50.0	3.7	7.2

Do you typically visit more than one site on a loop?					
Q. 10e	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	70	n	24	46	χ^2 = 6.9143 DF=1 p< 0.0086
		%	34.3	65.7	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Distance from home.								
Q. 11a	**N**		**Very Unimportant**	**-**	**Neutral**	**-**	**Very Important**	**Chi-Square**
Encounter Survey	83	n	11	8	19	13	32	χ^2 = 21.7590 DF=4 p< 0.0002
		%	13.3	9.6	22.9	15.7	38.6	

Q. 11a	**N**		**Unimportant**	**Neutral**	**Important**	**Chi-Square**
Encounter Survey	83	n	19	19	45	χ^2 = 16.2892 DF=2 p< 0.0003
		%	22.9	22.9	54.2	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Presence of a Walking/hiking trail.

Q. 11b	N		Very Unimportant	-	Neutral	-	Very Important	Chi-Square
Encounter Survey	83	n	5	1	8	16	53	χ^2 = 107.060 DF=4 p< 0.0001
		%	6.0	1.2	9.6	19.3	63.9	

Q. 11b	N		Unimportant	Neutral	Important	Chi-Square
Encounter Survey	83	n	6	8	69	χ^2 = 92.69 DF=2 p< 0.0001
		%	7.2	9.6	83.1	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Absence of a walking/hiking trail.

Q. 11c	N		Very Unimportant	-	Neutral	-	Very Important	Chi-Square
Encounter Survey	79	n	37	6	16	5	15	χ^2 = 41.9494 DF=4 p< 0.0001
		%	46.8	7.6	20.3	6.3	19.0	

Q. 11c	N		Unimportant	Neutral	Important	Chi-Square
Encounter Survey	79	n	43	16	20	χ^2 = 16.1266 DF=2 p< 0.0003
		%	54.4	20.3	25.3	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. If the site charges a fee.

Q. 11d	N		Very Unimportant	-	Neutral	-	Very Important	Chi-Square
Encounter Survey	83	n	26	3	25	11	18	χ^2 = 22.723 DF=4 p< 0.0003
		%	31.3	3.6	30.1	13.3	21.7	

Q. 11d	N		Unimportant	Neutral	Important	Chi-Square
Encounter Survey	83	n	29	25	29	χ^2 = 0.3855 DF=2 p< 0.8247
		%	34.9	30.1	34.9	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Local Attractions

Q. 11e	N		Very Unimportant	-	Neutral	-	Very Important	Chi-Square
Encounter Survey	82	n	22	10	19	10	21	χ^2 = 8.6098 DF=4 p< 0.0716
		%	26.8	12.2	23.2	12.2	25.6	

Q. 11e	N		Unimportant	Neutral	Important	Chi-Square
Encounter Survey	82	n	32	19	31	χ^2 = 3.829 DF=2 p< 0.147
		%	39.0	23.2	37.8	

Please rank the importance of each variable in choosing a Virginia Birding and Wildlife Trail loop/site to visit. Probability of seeing a specific wildlife species.								
Q. 11f	**N**		**Very Unimportant**	**-**	**Neutral**	**-**	**Very Important**	**Chi-Square**
Encounter Survey	83	n	22	5	19	9	28	X^2 = 21.5181 DF=4 p< 0.0002
		%	26.5	6.0	22.9	10.8	33.7	

Q. 11f	**N**		**Unimportant**	**Neutral**	**Important**	**Chi-Square**
Encounter Survey	82	n	27	19	37	X^2 = 5.8795 DF=2 p< 0.0529
		%	32.5	22.9	44.6	

Did you obtain any information about the Virginia Birding and Wildlife Trail prior to your visit?					
Q. 12	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	83	n	33	50	X^2 =3.48 DF=1 p< 0.0620
		%	39.8	60.2	

Where did you get information about the Virginia Birding and Wildlife Trail?							
Q. 12a	**N**		**Chamber of Commerce**	**Locality Visitor Center**	**Magazine/ Newspaper**	**VDGIF Internet**	**VDGIF Regional Office**
Encounter Survey	42	n	1	2	5	11	2
		%	2.4	4.8	11.9	26.2	4.8
			VA Dept of Tourism	**VA Travel Guide**	**VA Welcome Center**	**Word of Mouth**	**Other**
		n	0	3	1	7	10
		%	0.0	7.1	2.4	16.7	23.8

Q12a "Other"
60 trails in No. VA book
Alexandria's webpage
Float fishermen of VA, R. Carter
Internet
Online
Signs
Site sign from road
Trail guide
VA mountain bike
Visitor's center

Do you have a trail guide of the Virginia Birding and Wildlife Trail?					
Q. 13	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	81	n	12	69	X^2 =40.111 DF=1 p< 0.0001
		%	14.8	85.2	

Did you use information in the VBWT trail guide to decide which specific loops/sites to visit?					
Q. 13a	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	12	n	10	2	X^2 =5.333 DF=1 p< 0.0209
		%	83.3	16.7	

Did you use information in the VBWT trail guide on lodging and services available in the area you were planning to visit?					
Q. 13b	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	12	n	1	11	χ^2 =8.333 DF=1 p< 0.0039
		%	8.3	91.7	

How would you rate the ease of use and accuracy of the trail guide for the purpose of navigating to specific sites on a loop?									
Q. 13c	**N**		**Very Easy**	**-**	**Neutral**	**-**	**Very Difficult**	**Did not use information**	**Chi-Square**
Encounter Survey	12	n	4	3	2	1	2	0	Insufficient data
		%	33.3	25.0	16.7	8.3	16.7	0.0	

Q. 13c	**N**		**Easy & Accurate**	**Neutral**	**Difficult & Inaccurate**	**Did not use information**	**Chi-Square**
Encounter Survey	12	n	7	2	3	0	Insufficient data
		%	58.3	16.7	25.0	0.0	

Did you find the site specific information in the trail guides informative and useful?									
Q. 13d	**N**		**Very Informative/ Useful**	**-**	**Neutral**	**-**	**Very Non Informative/ Useful**	**Did not use information**	**Chi-Square**
Encounter Survey	12	n	4	6	0	0	1	1	Insufficient data
		%	33.3	25.0	0.0	0.0	8.3	8.3	

Q. 13d	**N**		**Informative & Useful**	**Neutral**	**Non Informative & Useful**	**Did not use information**	**Chi-Square**
Encounter Survey	12	n	10	0	1	0	Insufficient data
		%	83.3	0.0	8.3	0.0	

Was the site-specific information in the trail guide regarding likely species to be observed useful?									
Q. 13e	**N**		**Very Useful**	**-**	**Neutral**	**-**	**Very Not Useful**	**Did not use information**	**Chi-Square**
Encounter Survey	12	n	4	4	1	1	0	2	Insufficient data
		%	33.3	33.3	8.3	8.3	0.0	16.7	

Q. 13e	**N**		**Useful**	**Neutral**	**Not Useful**	**Did not use information**	**Chi-Square**
Encounter Survey	12	n	8	1	1	2	Insufficient data
		%	66.7	8.3	8.3	16.7	

Did you use the site-specific information regarding likely species to be observed to determine which sites to visit?					
Q. 13f	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	12	n	10	2	χ^2 =5.33 DF=1 p< 0.0209
		%	83.3	16.7	

Did you stay overnight for the purpose of visiting a VBWT loop or site?					
Q. 14	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	79	n	4	75	χ^2 =63.81 DF=1 p< 0.0001
		%	5.06	94.94	

How many nights did you stay in order to visit VBWT loops or sites?									
Q. 14a	**N**		**1**	**2**	**3**	**4**	**5**	**6**	**Chi-Square**
Encounter Survey	4	n	1	1	2	0	0	0	Insufficient data
		%	25.0	25.0	50.0	0.0	0.0	0.0	

Where did you stay overnight?								
Q. 14b	**N**		**B&B**	**Hotel/Motel**	**Camping/RV**	**Friends/Family**	**Other**	**Chi-Square**
Encounter Survey	4	n	0	1	3	0	0	Insufficient data
		%	0.0	25.0	75.0	0.0	0.0	

During your last trip, about how much did you spend related to visiting the VBWT? (Please answer in dollar amounts)							
Food							
Q.15a	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	7.04	1.9	0.0	100.0	3.26	10.83
Gas							
Q.15b	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	7.94	1.6	0.0	63.0	4.74	11.15
Lodging							
Q.15c	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	1.01	1.01	0.0	70.0	-24.87	52.87
Shopping							
Q.15d	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	1.22	.81	0.0	40.0	-0.4	2.84
Other							
Q.15e	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	69	.38	.24	0.0	15.0	-0.1	0.85
Total							
Q.15f	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	71	19.37	3.69	0.0	163.0	12.00	26.74

Q27 If diff from previous	Data was not used for analysis due inconsistencies in responses

What percentage of your entire trip do you have budgeted directly to visiting Virginia Birding and Wildlife Trail loops or sites?							
Q.17	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	71	54.85	5.58	0.0	100.0	43.72	65.97

Have you shared information about the VBWT to friends or family?					
Q. 18	**N**		**Yes**	**No**	**Chi-Square**
Encounter Survey	81	n	54	27	χ^2 =9.00 DF=1 p< 0.0027
		%	66.7	33.3	

How many individuals have you shared VBWT information with?							
Q.18a	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	49	8.5	1.69	1.0	75.0	5.11	11.9

How likely are you to visit the VBWT again?								
Q. 19	**N**		**Very Unlikely**	**-**	**Neutral**	**-**	**Very Likely**	**Chi-Square**
Encounter Survey	79	n	0	1	2	0	76	χ^2 =140.53 DF=2 p< 0.0001
		%	0.0	1.27	2.53	0.0	96.20	

Q. 19	**N**		**Unlikely**	**Neutral**	**Likely**	**Chi-Square**
Encounter Survey	79	n	1	2	76	χ^2 =140.53 DF=2 p< 0.0001
		%	1.27	2.53	96.20	

What other activities have you engaged in during your visit?							
Q. 20	**N**		**Arts Related Cultural Exhibits**	**Botanical Gardens**	**Historical Sites**	**Museums**	**Nature Center**
Encounter Survey	78	n	2	4	7	5	22
		%	2.6	5.1	9.0	6.4	28.2
			Shopping	**Visiting Family**	**Zoo**	**Other**	
		n	9	8	1	19	
		%	12.8	10.3	1.3	24.4	

Q.20 "Other"	**N**
Recreation Center	5
Hiking/Walking	3
Beach	2
Biking/site seeing	1
Bird watch	1
Child's play	1
Fishing	1
GDS NWR	1
Landscape Painting	1
Other Park Resources	1
RV Group Campout	1

Q.21 What did you enjoy most about your visit to the Virginia Birding and Wildlife Trail?	
Response	**N**
Beauty, solitude	1
Being close to river	1
Being outdoors	1
Being outside	1
Birds	1
Birds, exercise	1
Boat dock	1
Clean, quiet, well kept	1
Cleanliness	1
Convenience	1
Eagles	1
Finding lady slippers	1
Good walking	1
Hiking	1
Indoor/outdoor site, walking, organic feel	1
Looking for scat, tracks, wildlife, plants, exercise	1
Nature	3
Nature close to city	1
Nature sounds, wilderness	1
Nature, close to home	1
Nature, peaceful	1
Nature, river, wildlife	1
Nature, scenery	1
Not many people	1
Outside	1
Outside in nature	1
Peace and quiet	3
Peaceful	1
Quiet	2
Quiet, nice people	1
Quiet, seeing ducklings	1
Quietness, wildlife	1
Riparian ecosystem	1
Safe, secluded trails	1
Scenery	2
Scenery and birds	1
Scenery, outdoors	1
Seclusion	1
Seeing season changes	1
Seeing the donkey, great trail	1
Sights	1
Singing birds, trees	1
Solitude	1
Species diversity	1
The weather, no humidity	1

The wildlife and weather	1
Trail condition	1
Trails	1
Trails, solitude	1
Trees and trails	1
Trees, water, nature	1
Walking trail	1
Walking, peaceful	1
Walking, wildlife	1
Water	1
Water, bog area	1
Weather	1
Well maintained	1
Wild flowers	1
Wildlife	3
Wildlife and birds	1
Wildlife viewing	1
Wildlife, peaceful	1
Wooded forest, wildlife, creek	1
beauty	1
fishing	1
peace and quiet	2
scenery	1
unlikely finds	1
water	1

Q.22 What did you like least about your visit to the Virginia Birding and Wildlife Trail?	
Response	N
Accessibility sometimes difficult	1
Bugs	1
Bugs, need lights for night walks	1
Dogs not on leash	1
Hard to find	1
Houses nearby	1
It's being destroyed	1
Lack of information	1
No bathrooms	1
Noise	1
Noise from beltway	1
Signs not always obvious	1
Trash	1
Travel thru VA beach	1
bathrooms no water and too far apart, no picnic table	1
bugs	2
chiggers	1
crowded with non-birders	1

dog's can't swim there	1
dogs, muddy trails	1
dying trees	1
fees	2
full hookups (RV), no AC bathrooms	1
graffiti near trails	1
heat	2
litter	2
litter in river	1
litter, broken glass	1
map	1
missing/torn signs	1
no pavement	1
not enough signs on trails	1
nothing	24
out of trail maps and species pamphlets	1
over-developed and pollution	1
people	3
poison ivy	1
soccer apparatus nature inhibiting	1
sometimes noisy kids/dogs	1
survey	1
traffic	1
trash	1
trash, bad smells	1
trash, graffiti	1
trash, people loitering	1

What is your sex?					
Q. 23	**N**		**Female**	**Male**	**Chi-Square**
Encounter Survey	80	n	45	35	X^2 =0.1.25 DF=1
		%	56.3	43.75	p< 0.2636

What year were you born? (converted to age)							
Q24	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL**	**Upper CL**
Encounter Survey	78	49.7	1.4	25.0	84.0	47.2	52.5

What is the highest level of education you have completed										
Q25	**N**		**Less than HS**	**HS**	**Trade School**	**2 Yrs College**	**4 Yrs College**	**Grad School**	**Post Graduate School**	**Chi-Square**
Encounter Survey	82	n	1	12	0	11	24	21	13	X^2 = 24.24 DF=5
		%	1.22	14.6	0.00	13.4	29.27	25.61	15.85	p<0.0002

In which of the following groups would you include yourself?								
Q26	**N**		**Asian**	**Black / African American**	**Hispanic**	**Native American**	**White / Caucasian**	**Other**
Encounter Survey	82	n	1	1	3	0	75	2
		%	1.22	1.22	3.66	0.00	97.56	2.44

What is your annual income?							
Q27	**N**	**$0-25,000**	**25,001 - 50,000**	**50,001 - 75,000**	**75,001 - 100,000**	**+100,000**	**Chi-Square**
Encounter Survey	70	6	15	14	13	22	$\chi^2 = 9.29$ DF=4 $p<0.0584$
	%	8.57	21.43	20.00	18.57	31.43	

Appendix H:
Locality Survey Responses and Statistics

Are you aware of the Virginia Birding and Wildlife Trail?					
Q1	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	171		168	3	χ^2 =159.2105 , DF = 1 p< 0.0001
		%	98.25	1.75	
Planning	89	n	60	29	χ^2 = 10.7978, DF = 1 p< 0.0010
		%	67.42	32.58	
Tourism	51	n	40	11	χ^2 = 16.4902, DF = 1 p< 0.0001
		%	78.43	21.57	

Do you know what agency manages the Virginia Birding and Wildlife Trail?					
Q2	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	168	n	157	11	χ^2 =126.8810 , DF = 1 p< 0.0001
		%	93.45	6.55	
Planning	60	n	49	11	χ^2 = 24.0667, DF = 1 p< 0.0001
		%	81.67	18.33	
Tourism	40	n	31	9	χ^2 =12.100 , DF = 1 p< 0.0005
		%	77.5	22.5	

Do you know who to contact about information pertaining to the Virginia Birding and Wildlife Trail?					
Q3	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	168	n	123	45	χ^2 = 36.2143, DF = 1 p< 0.0001
		%	73.21	26.79	
Planning	60	n	28	32	χ^2 = 0.2667, DF = 1 p< 0.6056
		%	46.67	53.33	
Tourism	40	n	29	11	χ^2 = 8.1000, DF = 1 p< 0.0044
		%	72.5	27.5	

Where did you obtain your knowledge about the Virginia Birding and Wildlife Trail?										
Q4	**N**		**VDGIF**	**Internet**	**Tourism Official**	**Local Outdoor Club**	**Co-worker**	**Friend/ Family**	**Newspaper/ Magazine**	**Other**
Site Owner	157	n	135	24	18	8	17	6	6	28
		%	86.0	15.3	11.5	5.1	10.8	3.8	3.8	17.8
Planning	57	n	36	14	18	4	9	4	8	7
		%	63.2	24.6	31.6	7.0	15.8	7.0	14.0	12.3
Tourism	40	n	25	4	25	3	1	2	3	4
		%	62.5	10	62.5	7.5	2.5	5	7.5	10

Q4 "Other"	N
Involved in Planning	7
Signs	7
Have a Trail site	4
VA State Parks	4
Through Work	3
VBWT Presentation	3
Bird Club	1
Chamber of Commerce	1
DCR	1
Local Parks & Recreation Dept.	1
Municipal Government	1
Parks and rec worker	1
St.Paul IDA board	1
Texas parks and Wildlife	1
VA society of ornithology	1
VDOT	1

Have you noticed signs marking Virginia Birding and Wildlife Trail sites/roads?					
Q5	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	168	n	161	7	χ^2 = 141.166, DF = 1 p< 0.0001
		%	95.83	4.17	
Planning	59	n	46	13	χ^2 = 18.4576, DF = 1 p< 0.0001
		%	77.97	22.03	
Tourism	39	n	27	12	χ^2 = 5.7692, DF = 1 p< 0.0163
		%	69.23	30.77	

Were you involved in helping to establish Virginia Birding and Wildlife Trail sites in your locality?					
Q6	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	166	n	122	44	χ^2 = 36.6506, DF = 1 p< 0.0001
		%	73.49	26.51	
Planning	59	n	22	37	χ^2 = 3.8136, DF = 1 p< 0.0508
		%	37.29	62.71	
Tourism	38	n	17	21	χ^2 =0.4211 , DF = 1 p< 0.5164
		%	44.74	55.26	

What level of involvement did you have in helping to establish the Virginia Birding and Wildlife Trail sites in your locality?

Q6a	N		Not Involved	-	Medium	-	Very Involved	Chi-Square
Site Owner	122	n	1	9	22	45	45	χ^2 = 67.1803, DF = 4 p< 0.0001
		%	0.82	7.38	18.03	36.89	36.89	
Planning	21	n	2	3	1	11	4	χ^2 = 14.9524, DF = 4 p< 0.0048
		%	9.52	14.29	4.76	52.38	19.05	
Tourism	17	n	0	0	1	12	4	χ^2 = 11.4118, DF = 2 p< 0.0033
		%	0	0	5.88	70.59	23.53	

Q6a	N		Little/No Involvement	Medium	Involved/Very Involved	Chi-Square
Site Owner	122	n	10	22	90	χ^2 = 91.5410, DF = 2 p< 0.0001
		%	8.2	18.03	73.77	
Planning	21	n	5	1	15	χ^2 = 14.8571, DF = 2 p< 0.0006
		%	23.81	4.76	71.43	
Tourism	17	n	0	1	17	χ^2 = 13.2353, DF = 2 p< 0.0003
		%	0	5.88	94.12	

Do you know the location of Virginia Birding and Wildlife Trail sites (other than your own) in your area?

Q7	N		Yes	No	Chi-Square
Site Owner	167	n	139	28	χ^2 = 73.7784, DF = 1 p< 0.0001
		%	83.23	16.77	
Planning	60	n	44	16	χ^2 =13.0667 , DF = 1 p< 0.0003
		%	73.33	26.67	
Tourism	38	n	30	8	χ^2 = 12.7368, DF = 1 p< 0.0004
		%	78.95	21.05	

Have you visited any of the Virginia Birding and Wildlife Trails within your locality?

Q8	N		Yes	No	Chi-Square
Site Owner	166	n	131	35	χ^2 = 55.5181, DF = 1 p< 0.0001
		%	78.92	21.08	
Planning	58	n	25	33	χ^2 = 1.1034, DF = 1 p< 0.2935
		%	43.1	56.9	
Tourism	39	n	27	12	χ^2 = 5.7692, DF = 1 p< 0.0163
		%	69.23	30.77	

Have you visited Virginia Birding and Wildlife Trail sites outside of your locality?					
Q9	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	168	n	78	90	χ^2 = 0.8571 , DF = 1 p< .3545
		%	46.43	53.57	
Planning	60	n	21	39	χ^2 = 5.4000, DF = 1 p< 0.0201
		%	35	65	
Tourism	39	n	9	30	χ^2 = 11.3077, DF = 1 p< 0.0008
		%	23.08	76.92	

Are you aware of any residents or visitors requesting information about the Virginia Birding and Wildlife Trail?					
Q10	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	164	n	85	79	χ^2 = 0.2195, DF = 1 p< 0.6394
		%	51.83	48.17	
Planning	59	n	16	43	χ^2 = 12.3559, DF = 1 p< 0.0004
		%	27.12	72.88	
Tourism	38	n	29	9	χ^2 = 10.5263, DF = 1 p< 0.0012
		%	76.32	23.68	

How many requests pertaining to the Virginia Birding and Wildlife Trail do you estimate your site receives annually? (If you have more than one site please average the number of request across all sites)							
Q10a	**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**
Site Owner	79	22.61	4.37	1	300	13.91	31.31
Planning	14	34.64	13.52	2	200	5.44	63.85
Tourism	20	27.5	5.22	5	100	16.57	38.43

Do you feel that you can provide adequate information to address Virginia Birding and Wildlife Trail information requests?					
Q11	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	160	n	111	49	χ^2 = 24.0250, DF = 1 p< 0.0001
		%	69.38	30.63	
Planning	58	n	21	37	χ^2 = 4.4138, DF = 1 p< 0.0356
		%	36.21	63.79	
Tourism	37	n	23	14	χ^2 = 2.1892, DF = 1 p< 0.1390
		%	62.16	37.84	

Do you promote the Virginia Birding and Wildlife Trail sites within your locality?					
Q12	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	162	n	127	35	χ^2 = 52.2469, DF = 1 p< 0.0001
		%	78.4	21.6	
Planning	58	n	28	30	χ^2 = 0.0690, DF = 1 p< 0.7928
		%	48.28	51.72	
Tourism	34	n	27	7	χ^2 = 11.7647, DF = 1 p< 0.0006
		%	79.41	20.59	

How do you promote the Virginia Birding and Wildlife Trail?								
Q12a	**N**		**Newspaper**	**Internet**	**VDGIF Literature**	**Local Literature**	**Word of Mouth**	**Other**
Site Owner	124	n	8	29	65	41	80	24
		%	6.45	23.39	52.42	33.06	64.52	19.35
Planning	24	n	1	3	13	8	13	7
		%	4.17	12.50	54.17	33.33	54.17	29.17
Tourism	27	n	2	8	18	13	14	5
		%	7.41	29.63	66.67	48.15	51.85	18.52

Q12a "Other"	**N**
Signs	6
Display/Kiosk	5
Through Education Programs	4
comprehensive plans	2
Tourism Office	2
Advertising	1
Bedford County Welcome Center on Rt 460	1
Birding Festival	1
Greenways plan	1
Local birding club	1
Museum Events	1
Newsletter	1
Park Fact Sheet and Park Radio	1
Press Trips	1
Regional Greenway Commission	1
Trail Guide	1
Virginia Master Naturalists and local nature organizations	1
Willcox Watershed Conservancy	1

Do you promote the Virginia Birding and Wildlife Trail sites outside of your locality?					
Q13	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	162	n	53	109	χ^2 = 19.3580, DF = 1 p< 0.0001
		%	32.72	67.28	
Planning	55	n	15	40	χ^2 = 11.3636, DF = 1 p< 0.0007
		%	27.27	72.73	
Tourism	36	n	20	16	χ^2 = 0.4444, DF = 1 p< 0.5050
		%	55.56	44.44	

Has your locality worked with neighboring localities to promote the Virginia Birding and Wildlife Trail?					
Q14	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	132	n	27	105	χ^2 = 46.0909, DF = 1 p< 0.0001
		%	20.45	79.55	
Planning	50	n	12	38	χ^2 = 13.5200, DF = 1 p< 0.0002
		%	24	76	
Tourism	34	n	19	15	χ^2 = 0.4706, DF = 1 p< 0.4927
		%	55.88	44.12	

Does your website link to the Virginia Birding and Wildlife Trail?					
Q15	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	136	n	32	104	χ^2 = 38.1176, DF = 1 p< 0.0001
		%	23.53	76.47	
Planning	50	n	3	47	χ^2 = 38.7200, DF = 1 p< 0.0001
		%	6	94	
Tourism	38	n	7	31	χ^2 = 15.1579, DF = 1 p< 0.0001
		%	18.42	81.58	

Have local government officials contacted you for assistance in promoting the Virginia Birding and Wildlife Trail?					
Q16	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	161	n	19	142	χ^2 = 93.9689, DF = 1 p< 0.0001
		%	11.08	88.2	
Planning	53	n	5	48	χ^2 = 34.8868, DF = 1 p< 0.0001
		%	9.43	90.57	
Tourism	38	n	5	33	χ^2 = 20.6316, DF = 1 p< 0.0001
		%	13.16	86.84	

Do you think local businesses are aware of the Virginia Birding and Wildlife Trail?					
Q17	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	141	n	25	116	χ^2 = 58.7305, DF = 1 p< 0.0001
		%	17.73	82.27	
Planning	44	n	8	36	χ^2 = 17.8182, DF = 1 p< 0.0001
		%	18.18	81.82	
Tourism	36	n	9	27	χ^2 = 9.000, DF = 1 p< 0.0027
		%	75	25	

Do you think local businesses promote the Virginia Birding and Wildlife Trail?					
Q18	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	39	n	12	27	χ^2 = 5.7692, DF = 1 p< 0.0163
		%	30.77	69.23	
Planning	9	n	6	3	N too small For Statistics
		%	66.67	33.33	
Tourism	6	n	4	2	N too small For Statistics
		%	66.67	33.33	

Do you believe local businesses view the Virginia Birding and Wildlife Trail as an economic benefit?					
Q19	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	107	n	42	65	χ^2 = 4.9439, DF = 1 p< 0.0262
		%	39.25	60.75	
Planning	26	n	16	10	χ^2 = 1.3846, DF = 1 p< 0.2393
		%	61.54	38.46	
Tourism	19	n	6	13	χ^2 = 2.5789, DF = 1 p< 0.1083
		%	31.58	68.42	

Do you (or someone in your office) have Virginia Birding and Wildlife Trail literature on hand to distribute for information request?					
Q20	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	161	n	87	74	χ^2 = 1.0497, DF = 1 p< 0.3056
		%	54.04	45.96	
Planning	58	n	18	40	χ^2 = 8.3448, DF = 1 p< 0.0039
		%	31.03	68.97	
Tourism	39	n	27	12	χ^2 = 5.7692, DF = 1 p< 0.0163
		%	69.23	30.77	

Do you have a particular individual that you refer information requests to?					
Q21	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	157	n	58	99	χ^2 = 10.7070, DF = 1 p< 0.0011
		%	36.94	63.06	
Planning	56	n	22	34	χ^2 = 2.5714, DF = 1 p< 0.1088
		%	39.29	60.71	
Tourism	37	n	17	20	χ^2 = 0.2432, DF = 1 p< 0.6219
		%	54.05	45.95	

Are they the primary contact because of their personal interest or because of their job position?				
Q21a	**N**		**Personal Interest**	**Job Position**
Site Owner	71	n	20	51
		%	28.16901	71.83099
Planning	27	n	8	19
		%	29.62963	70.37037
Tourism	19	n	6	13
		%	31.57895	68.42105

Q21ai What is this individual's position title?					
Site Owner	**N**	**Planning**	**N**	**Tourism**	**N**
Biologist	5	Director of Tourism	8	Director	7
Director of Tourism	4	Environmental Planner	2	Tourism Coordinator	3
Natural Resources Manager	4	Director of Technology	1	Chairman / Friends of the Lower Appomattox River	1
Environmental Educator	3	Convention and Visitors Bureau	1	Receptionist	1
Outdoor Recreation Planner	3	Environmental Engineer	1	State Park Specialist	1
Marketing	2	Office manager / Piedmont Surveying	1	Visitor Center Staff	1
Office Services Specialist	2	Park and Trails planner	1		
Park Naturalist	2	Parks and Recreation Manager	1		
Park Programmer	2	Principle Planner	1		
Park Ranger	2	Regional Development Specialist	1		
Visitor Center attendant	2	River Country Tourism Council Coordinator	1		
Anthony J. Widmer , Park Manager	1	Senior Planner	1		
Assistant Professor of Biology	1	South Hill Chamber of Commerce	1		
Director	1				
Forest Technician	1				
Fred Frenzel	1				

Greenway/Blueway Supervisor	1
Grounds Preservation Supervisor	1
Howard Spencer	1
Jeff Trollinger	1
Manager/owner of business	1
Museum Director	1
Naturalist	1
Parks and Recreation Supervisor	1
Raonoke Valley Greenway Coordinator	1
Site Administrator	1
Staff	1
Team mentor	1
Town manager	1
VDOT District Environmental Manager	1

Are you aware of out of town individuals visiting your locality because of the Virginia Birding and Wildlife Trail's existence?					
Q22	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	159	n	54	105	χ^2 = 16.358, DF = 1 p< 0.0001
		%	33.96	66.04	
Planning	58	n	15	43	χ^2 = 13.517, DF = 1 p< 0.0002
		%	25.86	74.14	
Tourism	39	n	19	20	χ^2 = 0.0256, DF = 1 p< 0.8728
		%	48.72	51.28	

Do these individuals request information pertaining to other local attractions?					
Q22a	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	48	n	37	11	χ^2 =14.08 , DF = 1
		%	77.08	22.92	p< 0.0002
Planning	10	n	7	3	χ^2 = 1.60, DF = 1
		%	70	30	p< 0.21.
Tourism	13	n	13	0	Insufficient data
		%	100	0	

How many individuals would you estimate request information pertaining to local attractions annually?

Q23	N	Mean	Std Error	Min	Max	Lower CL Mean	Upper CL Mean
Site Owner	51	2038.39	710.04	0	20000	612.22	3464.56
Planning	5	282.4	182.54	12	1000	-224.4	789.2
Tourism	9	22923.33	22139.04	10	200000	-28129.4	73976.05

Do these visitors request information pertaining to lodging?

Q24	N		Yes	No	Chi-Square
Site Owner	53	n	23	30	χ^2 = 0.9245, DF = 1 p< 0.3363
		%	43.4	56.6	
Planning	10	n	4	6	χ^2 = 0.40, DF = 1 p< 0.5271
		%	40	60	
Tourism	13	n	13	0	
		%	100	0	

What type of information is requested more frequently?

Q25	N		Lodging	-	Same	-	Local Attractions	Chi-Square
Site Owner	59	n	1	2	15	16	25	χ^2 = 35.1525, DF = 4 p< 0.0001
		%	1.69	3.39	25.42	27.12	42.37	
Planning	7	n	0	0	4	1	2	N too Small For Statistics
		%	0	0	57.14	14.29	28.57	
Tourism	13	n	0	3	3	4	3	χ^2 = 0.2308, DF = 3 p< 0.9725
		%	0	23.08	23.08	30.77	23.08	

What is the estimated number of visits per year for each of the following groups at your site? If you manage multiple sites please average all the sites together

Q26		N	Mean	Std Error	Min	Max	Lower CL Mean	Upper CL Mean
Site Owner	**Local**	92	69178.92	37512.47	0	3272606	-5334.98	143692.8
	Out of Town	88	16568.68	5766.38	0	400000	5107.38	28029.98
	Non-Residents	78	7988.9	2920.36	0	200000	2173.71	13804.09

Of the individuals visiting your site/sites, what percentage is made up of individuals that are AWARE they are on a Virginia Birding and Wildlife Trail site? (Numeric answers please, no need for the % sign)

Q27	N	Mean	Std Error	Min	Max	Lower CL Mean	Upper CL Mean
Site Owner	105	28.5619	3.15	0	100	22.31	34.8
Planning	20	26.8	6.812	0	80	12.54	41.057
Tourism	15	21.4	5.337	1	75	9.95	32.84

Of the individuals that are AWARE of the Virginia Birding and Wildlife Trail, what percentage of the following groups do you estimate visit your site/sites?								
Q28		**N**	**Mean**	**Std Error**	**Min**	**Max**	**Lower CL Mean**	**Upper CL Mean**
Site Owner								
	Bird Specialist	80	45	4.01	0	100	37.03	52.98
	General Wildlife Watcher	88	29.25	3.25	0	100	22.78	35.71
	Other Wildlife Specialist	53	9.5	1.84	0	80	5.8	13.19

Do you consider the Virginia Birding and Wildlife Trail an asset to your locality?					
Q29	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	162	n	158	4	χ^2 = 146.39, DF = 1 p< 0.0001
		%	97.53	2.47	
Planning	53	n	52	1	χ^2 = 49.075, DF = 1 p< 0.0001
		%	98.11	1.89	
Tourism	34	n	34	0	
		%	100	0	

Do you consider the Virginia Birding and Wildlife Trail an economic draw for your locality?					
Q30	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	144	n	91	53	χ^2 = 10.027, DF = 1 p< 0.0015
		%	63.19	36.81	
Planning	51	n	41	10	χ^2 = 18.843, DF = 1 p< 0.0001
		%	80.39	19.61	
Tourism	34	n	25	9	χ^2 = 7.5294, DF = 1 p< 0.0061
		%	73.53	26.47	

Is ecotourism an integral part of tourism planning for your locality?					
Q31	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	139	n	82	57	χ^2 = 4.4964, DF = 1 p< 0.0340
		%	58.99	41.01	
Planning	57	n	39	18	χ^2 = 7.7368, DF = 1 p< 0.0054
		%	68.42	31.58	
Tourism	34	n	29	5	χ^2 = 16.941, DF = 1 p< 0.0001
		%	85.29	14.71	

Do you believe the VDGIF provides adequate Virginia Birding and Wildlife Trail information for trail users?

Q32	N		Poor Information	-	Neutral	-	Great Information	Chi-Square
Site Owner	161	n	13	25	55	36	32	χ^2 = 29.652, DF = 4 p< 0.0001
		%	8.07	15.53	34.16	22.36	19.88	
Planning	56	n	5	11	24	9	7	χ^2 = 20.071, DF = 4 p< 0.0005
		%	8.93	19.64	42.86	16.07	12.5	
Tourism	36	n	0	3	17	11	5	χ^2 = 13.33, DF = 3 p< 0.0040
		%	0	8.33	47.22	30.56	13.89	

Q32	N		Not Good Information	Neutral	Good Information	Chi-Square
Site Owner	161	n	38	55	68	χ^2 = 8.4348, DF = 2 p< 0.0147
		%	23.6	34.16	42.24	
Planning	56	n	16	24	16	χ^2 = 2.2857, DF = 2 p< 0.3189
		%	28.57	42.86	28.57	
Tourism	36	n	3	17	16	χ^2 = 10.1667, DF = 2 p< 0.0062
		%	8.33	47.22	44.44	

Do you believe VDGIF provides adequate Virginia Birding and Wildlife Trail information to educate LOCALITIES about the Virginia Birding and Wildlife Trail?

Q33	N		Poor Information	-	Neutral	-	Great Information	Chi-Square
Site Owner	159	n	18	45	59	28	9	χ^2 = 51.5346, DF = 4 p< 0.0001
		%	11.32	28.3	37.11	17.61	5.66	
Planning	55	n	8	18	22	7	0	χ^2 =11.9818, DF = 3 p< 0.0074
		%	14.55	32.73	40	12.73	0	
Tourism	37	n	4	7	15	10	1	χ^2 =15.8378, DF = 3 p< 0.0032
		%	10.81	18.92	40.54	27.03	2.7	

Q33	N		Not Good Information	Neutral	Good Information	Chi-Square
Site Owner	159	n	63	59	37	χ^2 = 7.3962 DF = 2 p< 0.0248
		%	39.62	37.11	23.27	
Planning	55	n	26	22	7	χ^2 = 10.9455 DF = 2 p< 0.0042
		%	47.27	40	12.73	
Tourism	37	n	11	15	11	χ^2 = 0.8649 DF = 2 p< 0.6489
		%	29.73	40.54	29.73	

Do you believe the VDGIF provides you/your locality adequate support promoting the Virginia Birding and Wildlife Trail?

Q34	N		Poor Support	-	Neutral	-	Great Support	Chi-Square
Site Owner	159	n	19	34	54	37	15	X^2 = 30.528 DF = 4 p< 0.0001
		%	11.95	21.38	33.96	23.27	9.43	
Planning	56	n	10	12	25	8	1	X^2 = 27.392 DF = 4 p< 0.0001
		%	17.86	21.43	44.64	14.64	1.79	
Tourism	36	n	6	6	11	10	3	X^2 = 5.9444 DF = 4 p< 0.2033
		%	16.67	16.67	30.56	27.78	8.33	

Q34	N		Not Good Support	Neutral	Good Support	Chi-Square
Site Owner	159	n	53	54	52	X^2 = .0377 DF = 2 p< 0.9813
		%	33.33	33.96	32.7	
Planning	56	n	22	25	9	X^2 = 7.7500 DF = 2 p< 0.0208
		%	39.29	44.64	16.07	
Tourism	36	n	12	11	13	X^2 = 0.1667 DF = 2 p< 0.9200
		%	33.33	30.56	36.11	

Do you perceive a need for greater habitat/conservation planning in your locality?

Q35	N		Yes	No	Chi-Square
Site Owner	166	n	151	15	X^2 = 111.42, DF = 1 p< 0.0001
		%	90.96	9.04	
Planning	85	n	74	11	X^2 = 46.694, DF = 1 p< 0.0001
		%	87.06	12.94	
Tourism	49	n	44	5	X^2 = 31.040, DF = 1 p< 0.0001
		%	89.8	10.2	

Does your locality take open space into planning consideration?

Q36	N		Yes	No	Chi-Square
Site Owner	141	n	108	33	X^2 = 39.893, DF = 1 p< 0.0001
		%	76.6	23.4	
Planning	86	n	79	7	X^2 = 60.279, DF = 1 p< 0.0001
		%	91.86	8.14	
Tourism	41	n	28	13	X^2 = 5.4878, DF = 1 p< 0.0191
		%	68.29	31.71	

Does your locality take wildlife habitat into planning consideration?					
Q37	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	138	n	76	62	χ^2 = 1.4203, DF = 1 p< 0.2334
		%	55.07	44.93	
Planning	86	n	53	33	χ^2 = 4.6512, DF = 1 p< 0.0310
		%	61.63	38.37	
Tourism	36	n	21	15	χ^2 = 1.000, DF = 1 p< 0.3173
		%	58.33	41.67	

Do you believe local government officials take habitat planning into consideration as they encourage new business/industry/companies into the area?								
Q38	**N**		**No consideration**	**-**	**Neutral**	**-**	**Much consideration**	**Chi-Square**
Site Owner	161	n	50	49	43	14	5	χ^2 = 55.490, DF = 4 p< 0.0001
		%	31.06	30.43	26.71	8.7	3.11	
Planning	85	n	19	17	27	18	4	χ^2 = 16.117, DF = 4 p< 0.0029
		%	22.35	20	31.76	21.18	4.71	
Tourism		n	8	12	15	6	2	χ^2 = 12.00, DF = 4 p<0.0174
		%	18.6	27.91	34.88	13.95	4.65	

Q38	**N**		**Little/No Consideration**	**Neutral**	**Some/Much Consideration**	**Chi-Square**
Site Owner	159	n	99	43	19	χ^2 = 62.8075, DF = 2 p< 0.0001
		%	61.49	26.71	11.08	
Planning	85	n	36	27	22	χ^2 = 3.5529, DF = 2 p< 0.1692
		%	42.35	31.76	25.88	
Tourism	43	n	20	15	8	χ^2 = 5.0698, DF = 2 p< 0.0793
		%	46.51	34.88	16.6	

Do you believe that the Virginia Birding and Wildlife Trail/ ecotourism provides economic justification for habitat preservation?					
Q39	**N**		**Yes**	**No**	**Chi-Square**
Site Owner	146	n	124	22	χ^2 = 71.260, DF = 1 p< 0.0001
		%	84.93	15.07	
Planning	59	n	46	13	χ^2 = 18.457, DF = 1 p< 0.0001
		%	77.97	22.03	
Tourism	39	n	35	4	χ^2 = 24.641, DF = 1 p< 0.0001
		%	89.74	10.26	