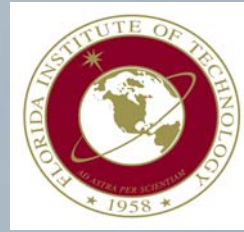




Center for Economic
Forecasting and Analysis



School of Management
Center for Applied Business Research

The Economic Impact of the 2nd Annual Florida Panhandle Birding and Wildflower Festival

Hosted in Gulf, Franklin and Bay Counties October 2002

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Overview of The Annual Florida Panhandle Birding & Wildflower Festival

The second annual *Florida Panhandle Birding & Wildflower Festival* (FPBWF) was held as an educational/fundraising project by The St. Joe Wildlife Sanctuary & Educational Center, Inc., October 10th through 13th, 2002. The Sanctuary, a 501(c)(3) non-profit, is dedicated to the rescue, care and release of injured, orphaned and diseased native wildlife.



FPBWF, 2002. Brown Pelican Photograph by Debbie Hooper

Registration check-in for the FPBWF was located at the historic Centennial Building in Port St. Joe with vendors/educational display exhibits in adjoining Constitution Park. Over 100 guided tours were conducted utilizing the scenic vistas of Gulf, Franklin, and Southeast Bay Counties, which include the St. Vincent National Wildlife Refuge, St. Marks National Wildlife Refuge, Apalachicola National Forest, St. George Island State Park, and the St. Joseph Peninsula State Park, a nationally renowned beach. Additionally, the FPBWF reaffirmed its mission to promote participatory learning by offering a variety of seminars, workshops and lectures on topics such as butterflies and wildflowers, red wolves, creatures of the artificial reef, the role of municipal land acquisition in protecting rare plants, songbirds, as well as others. This large scale event was named by the State of Florida to represent October's 2001

Greenways & Trails designation for Bay, Gulf and Franklin Counties.

Plans for the 3rd Annual Festival, to be held in October 2003, are currently being finalized. Organizational efforts are underway for expanding the festival and further increasing the attendance. These plans include moving the center of the festival to The St. Joseph Bay State Buffer Preserves and bringing the newly formed, "The Friends of St. Joseph Bay Preserves" on board as co-sponsors. Festival organizers have also booked Audubon's Center for Birds of Prey for both a live eagle presentation as well as a seminar on their well-respected *Eagle Watch* program. FPBWF marketing also received a substantial boost this spring from **The Houston Chronicle**, whose travel editor visited the St. Joe area in early March to write a story on both the Festival and area birding. Coastal Texas is a birding hot spot and the travel editor, an experienced birder, was genuinely impressed with the locale.

Birding in Florida

Florida is a birder's paradise, thanks to its diversity of habitats, its location on migration routes, the extent of its remaining wild lands, and its geographic span of both temperate and subtropical climates. More than 470 verified species occur here, including much sought-after birds such as the rare Florida burrowing owl, the Florida scrub-jay, the snail kite and Florida's wealth of wading birds. The Great Florida Birding Trail, a planned 2,000 mile route connecting birding sites throughout the Sunshine State, makes it easy

for all birders—both casual and expert, local and tourist—to find new and productive birding venues throughout Florida. Trail literature details what species to expect at each site and what kind of an experience each offers: a quick stop versus an all day hike, or a driving loop versus a foot-access only property.¹

Birding activity on the southeastern peninsula of the United States has been fueled by the emergence of birding and wildlife festivals, which have blossomed during the latter half of the 1990s. Birding and wildlife festivals are local eco-celebrations combining a passive appreciation of land, wildlife, and culture with active learning and participation. Typically three to four day events, these festivals are designed to showcase a region's environmental treasures— its indigenous habitats and species. The FPBWF is one of four major birding and wildlife festivals held in Florida during the fall birding season, and is emblematic of the overlapping themes espoused by *event eco-tourism*: education, conservation, and the economic benefits associated with both. This latter theme, the creation of *green revenues*, is the focus of this report on the FPBWF, and the survey instrument and methodology employed are described in the next section.

Survey Description and Methodology

Data were obtained through a survey instrument created by economics and finance professors from Florida Tech's School of Management. Two of the Professors attended the Festival and solicited individuals at the designated registration site. Each individual who came to pick up a registration pamphlet was asked to participate in the survey. Attendees had the option to complete the survey at the registration site or to take a survey and return it later (during the festival or by mail after the festival). A total of 114 surveys were collected.

The following list presents a brief description of the four key elements that comprise the survey instrument.

- A pre-survey to identify and classify participants as in-state local, Florida non-local and out-of-state non-local.
- A set of questions/statements related to targeted marketing: past attendance, motivation for attending the festival, lodging type and location, and how participants learned about the festival.
- Demographic composition of the attendees: gender, age, household income and educational attainment.
- Festival related spending by the attendee.

Festival related spending forms the basis of the economic impact estimates and analysis reported in this paper. Respondents were asked to project and categorize their spending within the Gulf, Franklin and Bay tri-county area, over the course of the four-day event. The survey is uniquely designed to net out spending that attendees would have made had the festival NOT been held. While this approach yields a conservative spending estimate, the estimate is entirely attributable to the FPBWF.

¹ Extracted from the Great Florida Birding Trail, floridabirdingtrail.com, Florida Fish and Wildlife Conservation Commission.

Origins of the FPBWF Birders

Survey results indicate that the 2002 FPBWF participants traveled from all over the eastern United States to attend the event (Figure 1). Approximately 27 percent of the registered attendees live in the local area, which includes permanent and seasonal residents of the Gulf-Franklin-Bay tri-county area. An additional 25 percent of FPBWF attendees resided in other locales within the state of Florida. This implies that the largest segment of FPBWF attendees was comprised of visitors from outside the state of Florida, some 48 percent of the Festival population. Not surprisingly, the largest influx of out-of-state visitors hailed from Georgia; the Peach State was the home residence of approximately 15 percent of FPBWF registrants.

Figure 1. Primary Residence of the 2002 FPBWF Participants

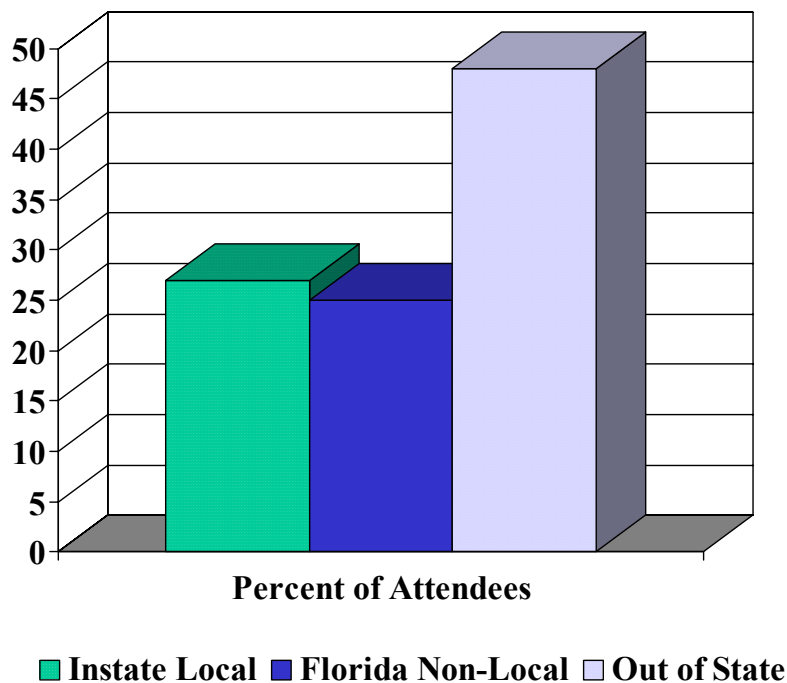


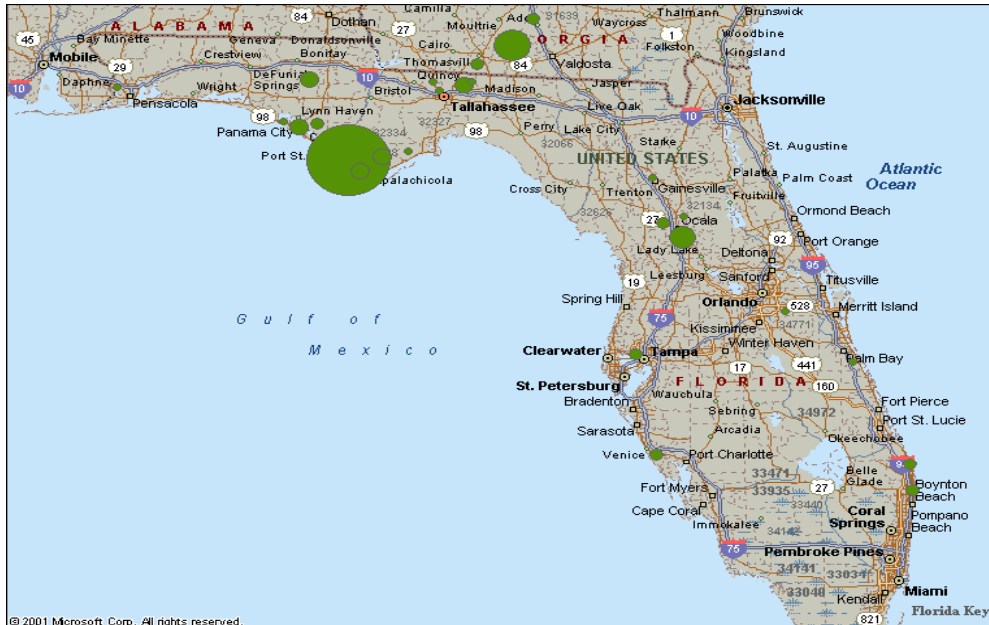
Figure 2 provides an overview of the distribution of FPBWF attendees by geographic origin. In this map, circles represent the relative number of individuals attending the Festival from respective areas of the United States. Circles enlarge in direct relation to the number of observations. It is evident that despite the fact that a significant number of visitors traveled from Alabama, Virginia, Tennessee, Texas, Michigan, Illinois, Missouri and elsewhere, the vast majority of FPBWF attendees were respectively drawn from northern Florida and southern Georgia.

Figure 2. Distribution of FPBWF Participants by Geographic Origin



Figure 3 refines this profile even further, focusing on the southeastern United States. Gulf County accounted for approximately 15 percent of the attendees, with Bay and Franklin counties splitting evenly an additional 13 percent. **In total, 53 percent of festival participants were out-of-town visitors (Florida non-locals or out-of-State visitors) who traveled to the Gulf-Franklin-Bay tri-county area specifically for the Festival.** An additional 20 percent attended the Festival in addition to other reasons, such as weddings or reunions etc.

Figure 3. FPBWF Participation in the Southeast Region



Geographic Origins of FPBWF Spending

Figures 4 and 5 provide a visual depiction of festival-related spending by attendees with respect to the attendees' home residences. Figure 4, which is constructed for the United States as a whole, highlights an interesting finding; although the number of attendees from the Michigan and Illinois areas was quite modest (5 survey respondents), these mid-westerners spent considerably more dollars during the FPBWF than other attendees from other areas of the U.S. Figure 5, constructed for the Southeastern U.S., emphasizes the spending importance of the Panhandle's Border States, Georgia and Alabama, which engaged in spending the most bird festival related dollars in the Southeast region.

Figure 4. FPBWF Spending by Participant Origin in the United States



Figure 5. FPBWF Spending by Participant Origin in the Southeast



Profiling the FPBWF Eco-Tourist

Birding and other wildlife viewing activities are a growing part of the global non-consumptive eco-tourism activities sweeping across the American recreation and leisure industries. On average, recreational bird watchers have considerably higher incomes and levels of education than the average population and tend to be middle-aged or older with significant resources to expend on their chosen leisure and recreation activities [Wight (1996a,b); Scott, et al. (1997)].

Survey results from the FPBWF population are consistent with these trends. Figure 6 details the distribution of household income among Festival registrants. The data reveal that the distribution of income among FPBWF birders is considerably high, with close to 35 percent of the FPBWF population residing in households where earnings accrue to more than \$100,000 per year. To provide some perspective, only 11 percent of Floridian households earn more than \$100,000 per year [Florida Statistical Abstract (2001)]. Moreover, only about 11 percent of the FPBWF population reside in households where earnings accrue to less than \$40,000 per year, compared to 37 percent of the general Florida population [Florida Statistical Abstract (2001)].

Figure 6. Distribution of Household Income of FPBWF Participants

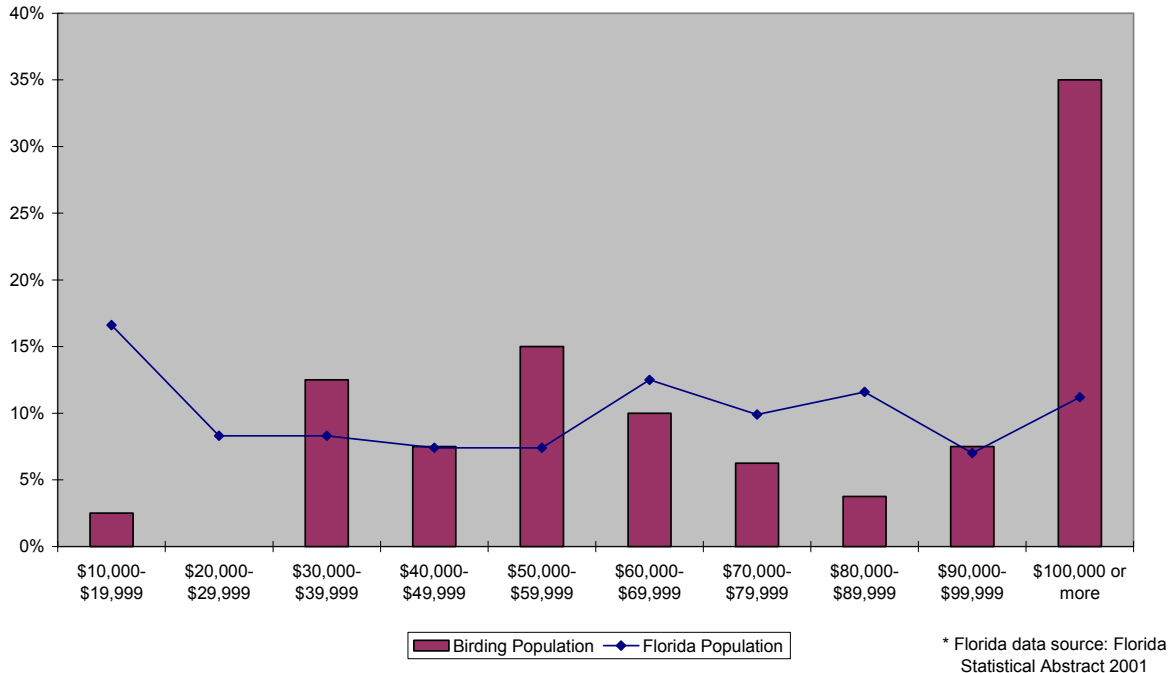
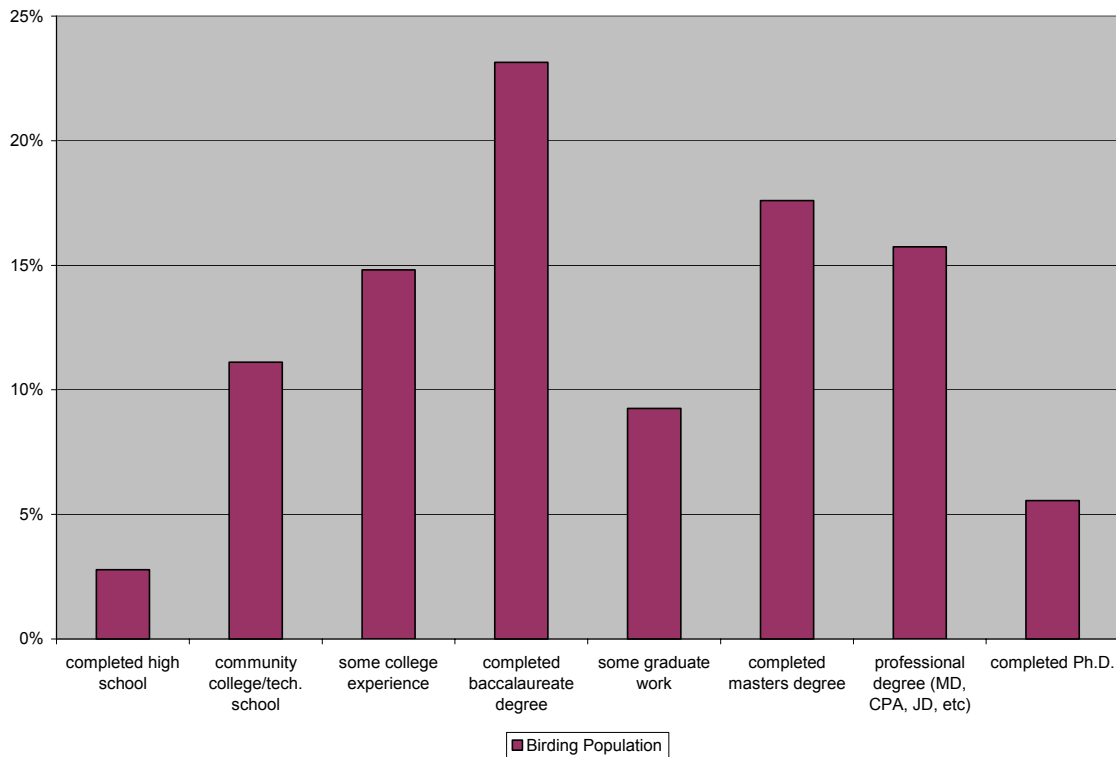


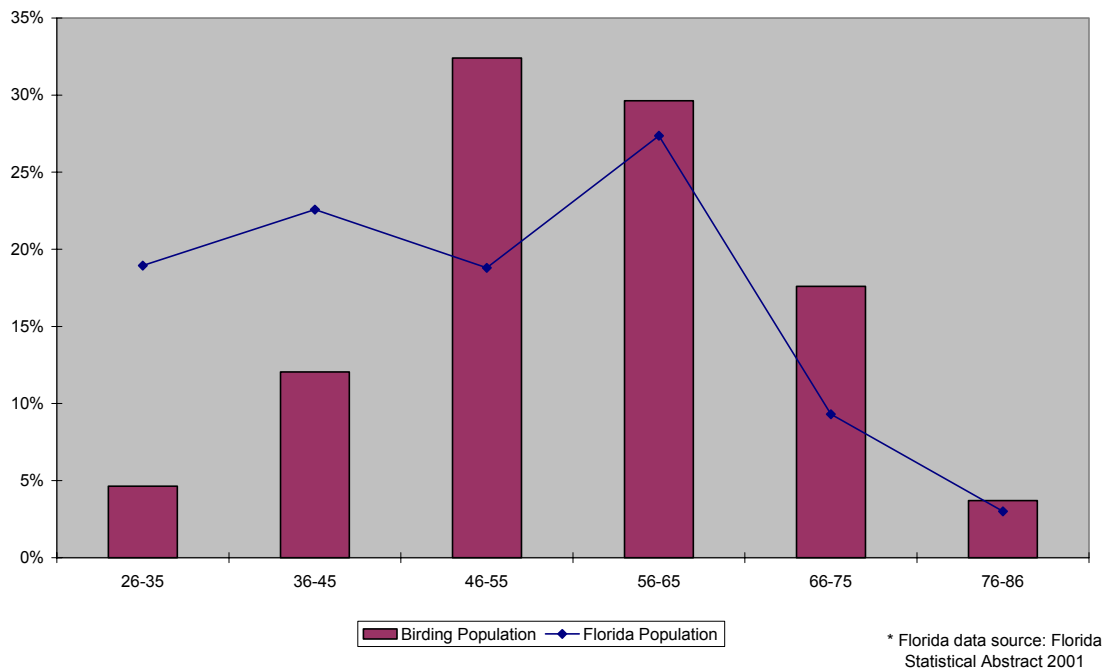
Figure 7 provides a profile of the educational attainment levels of Festival registrants. Overall, FPBWF birders are exceptionally well educated, with about 60 percent completing college and an amazing 37 percent completing advanced graduate or professional degrees. Only 17 percent of Floridians complete a college degree, and only about 6 percent earn a graduate or professional degree [Florida Statistical Abstract (2001)]. Educational asymmetries are also observed at the bottom end of the educational ladder. About 56 percent of all Floridians have earned no more than a high school diploma compared to only 3 percent of the FPBWF registrants who responded to the survey [Florida Statistical Abstract (2001)].

Figure 7. Educational Attainment of FPBWF Participants



Finally, the FPBWF participant age mix is considerably older than that of the general Floridian population (Figure 8). Only 5 percent of those birders surveyed are younger than 35 years of age, while 44 percent range in age from 36 to 55 years. With respect to senior citizens, 47 percent of the FPBWF population falls within the 56-to-75-age bracket, with the remaining 4 percent aged 76 and older. This age distribution is consistent with the advanced levels of income described earlier and represents a valuable, income-laden tourist for Gulf, Bay and Franklin Counties during the autumn off-season.

Figure 8. Average Age Distribution of FPBWF Participants



Economic Impacts

What are the potential economic benefits that flow from eco-tourist wildlife viewing, hunting and fishing? In the United States, demographic and economic trends associated with bird and wildlife viewing are consistent with the overall growth in world nature-based tourism. According to a 2001 National Survey of Fishing, Hunting, and Wildlife-Association Recreation, 66.1 million people age 16 years and older engaged in wildlife observation, spending about 38.4 billion dollars per annum. Wildlife watchers who embarked on trips away from home for the purposes of observing, feeding, or photographing wildlife numbered almost 22 million. The largest subset of wildlife viewing is birding, which comprised about 82 percent of all wildlife trips away from home. Moreover, according to a 1994-95 National Survey on Recreation and the Environment, between 1982-83 and 1994-95, bird watching activity in the United States increased by 155.2 percent.

Florida Fish and Wildlife Conservation Commission (FWC) staff completed a study of the economic benefit of Florida's fish and wildlife-related recreation in 2000. The study is based on the U.S. Fish and Wildlife Service's 1996 National Survey of Fishing, Hunting and Wildlife Associated Recreation.

Summary results for Florida wildlife viewing are outlined in Table 1.

Table 1. Summary of the 2000 Economic Benefit of Florida's Wildlife Viewing Activities

	Wildlife Viewing	Each Florida Wildlife viewer annually generates:
Number of Participants	3,938,918	
Retail Sales	\$1,887,887,300	\$479
Sales Tax Generated	\$113,273,243	\$29
Economic Impact	\$1,993,645,537	\$506
Jobs Created	52,410	
<ul style="list-style-type: none"> • For more information contact Dave McElveen, FWC 		

Wildlife viewing annually generates \$2 billion in economic impact and creates 52,140 jobs; taken together, hunting, freshwater fishing, wildlife viewing, and saltwater fishing generate approximately \$5.5 billion in retail sales resulting in an economic impact to the State of Florida of \$7.8 billion. Sales tax benefits to the state are estimated at \$336 million and 138,210 jobs are directly associated with Florida's fish and wildlife-related recreation.

By way of comparison:

Year 2000 retail sales for hunting, fishing and wildlife viewing were more than twice that of all Florida lottery ticket sales for 1999. The Florida sales tax revenues from hunting, fishing and wildlife viewing are more than the annual tuition paid by 34,000 in-state university students.

More than one out of every five state residents is a wildlife viewer and spends an average of \$696 annually on trip related and equipment expenditures. What yearly spending patterns do eco-tourists who attended the FPBWF manifest?

The FBPWF survey solicited information on the average amount of money expended by the respondents in a single year on trips associated with bird watching. The average dollar amount spent by the FBPWF birder was \$303; the maximum a FBPWF attendee spent was \$2000 in a year. For the American Birding Association (ABA) birder [see Scott, et al. (1997)], the largest single annual category of spending is transportation (\$1,163), with lodging expenditures (\$737) second, followed by meals (\$417). Lesser amounts were spent on equipment (\$72), books and subscriptions (\$45), entrance fees (\$61), and miscellaneous items (\$206). Total annual per capita spending (on average) exceeded \$3,054 for bird watching related trips. Thus, the average FBPWF birder is an interested birder but perhaps not as serious or committed as the ABA birder, spending only about 10 percent of the ABA birder's annual birding expenditure. The FBPWF survey only asked the respondent to identify their total birding expenses over the course of a year, while the ABA birder was asked to identify numerous categories of expenses. Further delineation of categories might prove beneficial in future FBPWF surveys.

That this constitutes a significant spending stream from an affluent, older population into Gulf, Franklin, and Bay Counties is self-evident. But more specifically, what are the economic impacts flowing from the FPBWF on the Gulf, Bay and Franklin economies? These impacts were determined by way of estimating the direct and indirect stimulus to the area economy from direct spending by attending birding eco-tourists. Florida State University economists, using data generated from economics and finance professors

from the Florida Institute of Technology's School of Management, used the IMPLAN² economic model to ascertain a total impact on the Tri-County Area. IMPLAN analysis is performed by taking direct measures of local expenditures by FPBWF birders over the Festival time period. Spending categories are defined broadly as

- lodging accommodations;
- food and restaurant spending;
- gasoline and automobile related spending; and;
- other general retail purchases made in the community.

Data were obtained through a survey instrument applied to a significant portion of the FPBWF population. Respondents were asked to detail their expenditures on motel/hotel and other lodging, food and restaurant spending, gasoline and automobile related spending, other retail purchases, and birding conference expenses across the Gulf, Franklin and Bay tri-county area.

The average of the birders' responses were estimated and then applied to the entire FPBWF registrant population (including those who did not take the survey). This effort yields a fairly comprehensive (and relatively conservative) set of estimates of direct economic spending stimulus produced in the local economy EXCLUSIVELY from hosting the FPBWF October 2002 event. This direct spending economic stimulus is then entered into the IMPLAN economic impact assessment model which translates this direct spending into indirect and induced economic stimulus. Summing the respective effects provides an estimate of the overall economic impact to the area economy.

FPBWF Direct Local Spending

The FPBWF survey of birders' spending suggests that upon their arrival the largest single expenditure for most visiting birders is lodging accommodations. The survey indicates that approximately 53 percent of the out of town FPBWF attendees stayed in motels while 47 percent utilized lodging in private residences (e.g., St. George, St. Joe and Mexico Beach rental and/or seasonal properties or guest rooms with friends). Of the out-of-town FPBWF survey respondents, 15% typically stayed in local campsites. The average hotel/motel/campground cost of lodging that birders paid, in total, was \$148. We contacted motels in Mexico Beach, Apalachicola, and St. George Island and determined that rates in October for the four available Gulf County motels contacted were \$50, \$65, \$75 and \$85 respectively. Therefore, an average cost for a motel is approximately \$75 per night, implying most birders stayed for at least two nights. The total number of people associated/attending the FPBWF were 232 and the total direct lodging expenditures associated with the birding festival was \$10,808.

Spending for food in local restaurants, bars and grocery stores is the second largest category of expenditures for visiting birders. The average amount spent by the survey respondents was \$43, and total expenditures were \$9,944.

Other large purchases were goods, such as gasoline, associated with automobile usage. In a study conducted at the Corkscrew Swamp Sanctuary area of Florida in the 1993-1994, 77.6% of attendees indicated they had purchased a tank of gasoline and related auto servicing expenses that averaged to about \$5 per vehicle. Regarding the FBPWF

² IMPLAN is the registered trademark of MIG, Inc. , Stillwater, MN, www.IMPLAN.com.

survey, the average amount spent for gasoline, car rental fees and maintenance expenses was \$22.59, and total expenditures in this category were \$5,243.

A large majority of respondents also made a variety of retail purchases while they visited the tri-county Area for the Festival. The Corkscrew study indicated that a majority (54.2%) of respondents made purchases in one of the five primary areas: 1) books; 2) souvenirs; 3) small equipment purchases; 4) groceries; and, 5) other miscellaneous items. Regarding FPBWF survey respondents, the average retail spending per person was about \$37, general retail purchases made during the Festival time period. The most common purchases were groceries (about 40%), souvenirs (about 32%), other miscellaneous items (about 22%), books (about 5%) and small equipment purchases (about 1%). Therefore, during the Festival, total direct attendee spending for retail purchases is estimated to be \$8,604.

Summing the broad categories of spending yields total eco-tourist related FPBWF expenditures in the Gulf-Franklin-Bay tri-county area of \$34,598.

Finally, actual attendee registration fees, banquet expenses and other related birding festival spending are also included. The festival organizers contracted with local businesses to the extent that it was possible; local spending is broken down as follows:

Table 2. Birding Conference Expenses including Registration, Banquet, Field Trips, among others.

Banquet Food =	\$1,200	Other Advertisements =	\$ 150
Recreational/Guide Services =	\$6,000	Postage =	\$ 450
Sanctuary Supplies =	\$4,000	Sign =	\$ 350
Local Newspaper Ads =	\$1,800	Festival Office Supplies =	\$ 250
Brochures =	\$ 350	Singer/Entertainment =	\$ 100
Printing & Reproduction =	\$1,300	Liability Insurance =	\$1,250
Internet Services =	\$ 300		
Total =	\$17,500		

This last category of spending is then added to the total direct expenditures for a combined direct spending level of \$52,098. This direct spending is next entered into the IMPLAN economic impact input-output model of the region to assess final direct, indirect and induced impacts to the local area.

Final Direct Indirect and Induced Economic Impact

Table 3 provides the final direct, indirect and induced (secondary or multiplier) impacts from the FPBWF. The total economic stimulus is \$85,218, with income generation effects of \$35,469. Value-added impacts of the Festival were \$56,466, while the equivalent of 1.4 year-long jobs were created in the local area as a result of Festival spending. Finally, \$15,795 in Federal, State and Local taxes were generated.

Clearly, the Festival serves as a major stimulus to the local economy, and as it grows so will the economic pulse from greater numbers of visitors both during the Festival and at other times during the year. Once exposed to the wonders of Gulf, Franklin and Bay Counties, visitors oftentimes return to explore nature on their own with many eventually relocating to the area.

Table 3. Final Direct, Indirect, and Induced Economic Impacts from the Florida Panhandle Birding and Wildlife Festival, 2002.

Impact Measure	Direct*	Indirect*	Induced*	Total*
Income Impacts	22,604	5,488	7,377	35,469
Value Added Income	35,593	8,351	12,522	56,466
Output Impacts	51,918	13,933	19,367	85,218
Employment	1.0	0.2	0.2	1.4
Tax Impacts				
<i>Total State/Local/Fed</i>				15,795
*2003 dollars (except employment)				

Summary And Conclusions And Prospects For The Future

Birders, and other eco-tourists, provide significant revenue infusions to the region year round. Local businesses and policy-makers should recognize the economic impact of the 232-plus eco-tourists attending the Florida Panhandle Birding and Wildflower Festival as an important contribution to the community. Over \$85,000 flowed into the local community from this single event; spending will continue to grow as the festival matures and expands.

All the reported spending flows directly to local stores, tourist rental properties, motels, camping operations, restaurants and retail outlets. The full impact is \$85,218, including over \$15,795 in taxes, with the bulk of tax revenues directed to local coffers. The sanctuary will continue to draw tourists year round, but the Festival provides a needed boost during the October, off-season period.

There are several points of interest that stem from this analysis that should be of interest to local businesses, elected officials, and appointed policy makers.

- The first is to continue to support and encourage the FPBWF as an engine of local economic development and growth. As more people visit the area's natural wonders (especially during the slower seasons), more revenue is generated.
- The second is to encourage out-of-state, instate and locals (especially Tallahassee, Panama City-Ft. Walton, Pensacola, Gainesville, and Jacksonville) to visit the area for longer periods of time. By extending the average visitor's length of stay, the Festival could add significantly to the revenues generated. More importantly, by encouraging local participation the surrounding communities would also benefit, as residents would spend longer times in their own community, and spend more money locally as opposed to traveling to attend similar events and expend resources elsewhere.

A carefully designed marketing strategy would greatly enhance the prospects of expanding eco-tourism growth in the Gulf-Franklin-Bay tri-county area. Emphasis in tourism advertising should continue to focus on the great birding opportunities in this area and also reflect the fact that while the scenery is beautiful (and contains wonderful photographic potential), other wildlife is abundant.



Painted Bunting <http://www.audubon.org/bird/species/painted->

Other recreational opportunities abound in the region such as boating, fishing, hunting, hiking, bike riding and kayaking. All these activities are compatible with the abundance of open space in the area; moreover, they place an emphasis on heritage themes (e.g., “the way Florida used to be”) that permeate tourist and recreational attractions in what is referred to as “Old Florida.” The FPBWF event can be combined with other leisure opportunities to make for an extended stay and much larger economic capture. This focus also underscores the important point that the foundation of this

richness of recreational opportunities stems from the wealth and quality of the natural resources of the area. These environmental treasures should be protected as they are the jewel in the crown of future high quality, low impact economic growth in the area, a foundation based upon nature tourism.

Local businesses should be kept informed about Festival related activities in order to help determine what types of special services may be offered (special tours, fishing tournaments, wild life photography classes, kayak tours and so forth). This would help extend the stay of birders and facilitate capture of a greater proportion of available tourism dollars. For birders, the variety of retail items and goods and services available could be made more diverse; this could offer a greater opportunity for local merchants and specialty interest groups to gain “double sell” opportunities in addition to the Festival events.

Although the primary message of this report is economic in nature, the reader should also realize that there is a message about the link between environmental ethics and good business. The key to eco-tourism’s development in “Old Florida” is access to

abundant, high quality pristine environments, open spaces, and abundant wildlife found in Gulf, Franklin, and Bay Counties. Without these amenities, tourist draws are weakened, and tourist dollars flowing into the community will be substantially weakened.

It is evident that businesses, elected and appointed officials, and other citizens of the region **do** recognize that a healthy environment translates into a healthy economy. This is the reason they have acted to ensure high quality, low-density development as the foundation for growth across the region. The future environment, and economy, resides in the hands of local citizens and the policy makers they elect.

Continued support of the FPBWF can ensure the continuance of both the St. Joe Wildlife Sanctuary and the notion that event eco-tourism can succeed in "Old Florida." Conversely, minimal effort and support can usher in the demise of this category of economic value and allow future eco-tourist dollars to flow into other municipalities, communities that are more cooperative, better organized, and aggressively marketing and protecting their local wilderness virtues. Proper support of these efforts will result in long-term dividends for the local economy and environment and help ensure a higher quality of life for local citizenry and area visitors.

Feedback From Festival Attendees

Festival organizers, in an effort to continuously improve the quality of the annual festival, sought the opinions and advice of visitors on specific areas that could make next year's festival more enjoyable. The following are some suggestions that attendees offered.

- Target university student newspapers in the surrounding areas, both within Florida and the contiguous states of Alabama and Georgia. Student newspaper advertising is inexpensive and would help capture the attention of a younger demographic; additionally, it provides a logical conduit to a highly educated audience such as the faculty and staff at those universities. Although the question was never explicitly asked in the FPBWF questionnaire, the Florida Tech faculty members who conducted the survey (as well as surveys at several other nature events) noted that individuals associated with the provision of higher education comprised a noticeable proportion of those attending the FPBWF.
- Communication and coordination among festival organizers and community volunteers are vital if the attendees are to have an enjoyable experience, free of hassles. Some attendees suggested extending the hours of registration so that those individuals arriving shortly before much-anticipated events could pick up their registration packets quickly and be apprised of any last-minute updates, leaving them sufficient time to participate in their chosen activities. This coordination difficulty occurred most frequently for early-morning excursions. Since birds are early morning creatures, people must rise in the pre-dawn hours to enjoy their feathered friends' antics.
- In a few instances, the field event contact people failed to post at the pre-arranged time and place leaving attendees literally in the dark, wondering whether they were in the correct place. More volunteers at future festivals may provide some relief by sharing the responsibilities for the myriad events among a greater number of individuals. Sharing responsibilities is particularly important when events begin in the pre-dawn hours and continue until late into the evening.
- Expand the number of vendors and the days/times wares are available for the visitors. Vendors may attract a larger portion of the local population; the timing of the event is perfect for winter holiday shopping ideas. Wildlife photography;

birdfeeders, birdhouses, and other items that attract wildlife to yards; birding equipment such as binoculars and special clothing; indigenous jewelry and artifacts; and event souvenirs such as t-shirts, hats, and pins are items that would be appropriate to offer for sale at an eco-tourism event. In addition, local organizations, such as the garden club or the local animal shelter, could offer items for sale; flowers, plants, and pet collars, leashes, and toys are a few obvious choices.

- Continue to improve the signage leading visitors to the registration center and to various event venues. Street banners improved the festival's visibility for the 2002 festival; some additional directional signs at various locations would be helpful for visitors arriving from the east, west, and north.



The St Marks Lighthouse, Karen Stewart, Tallahassee, Florida, 2002

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Appendix A



Birding Festival 2002 Organizers and Researchers: From left to right (standing): Rich Brenner, Joey and Marie Romanelli, Tim Lynch, Diana and Malcolm Parrish, Mike Slotkin, Karen Chambliss (sitting): Julie Harrington and daughter Haley



FPBWF, 2002. Osprey (above) and Great Blue Heron (below)
Photographs by Debbie Hopper, 2002.





FPBWF Butterfly (above) and Birders (below). Photographs by Debbie Hooper, 2002.



IMPLAN Model

In contrast to REMI, IMPLAN is exclusively an input-output model. It is non-survey based, and its structure typifies that of input-output models found in the regional science literature. Similar to REMI, IMPLAN assumes a uniform national production technology and uses the regional purchase coefficient approach to regionalize the technical coefficients.

The model generates two types of multipliers: Type I multipliers and what IMPLAN refers to as Type III multipliers. The difference between IMPLAN's Type I and Type III multipliers is an induced consumption effect. Their Type III multiplier differs from the standard Type II multiplier because the consumption function is nonlinear, that is, the marginal propensity to consume is not constant, decreasing as income in the region rises. Population completely responds to employment changes and drives consumer spending. Multipliers are generated for employment, output, value added, personal income, and total income.

IMPLAN builds its data from top to bottom. National data serve as control totals for state data. In turn, state data serve as control totals for county data. The primary sources of employment and earnings data are County Business Patterns data and BEA data. Furthermore, IMPLAN's procedure for finding in suppressions in the 1997 model parallels REMI's, except the ES-202 data set is not a primary source of data for counties.

IMPLAN estimates output at the state level by using value added reported by BEA as proxies to allocate U.S. total gross output. Also, IMPLAN allocates state total gross output to counties based on county employment earnings. The use of the BEA Gross State Product series for states, and implicit assumption of uniform value added-to-earnings ratios across counties within a state, parallels REMI's procedure. However, because of REMI's neoclassical production function, differential labor costs cause REMI's labor intensities to differ across states and counties. In addition, REMI adjusts real value added in U.S. dollars reported by BEA for differences in regional unit factor costs.³

³ Adapted from *Dan S. Rickman and R. Keith Schwer, REMI AND IMPLAN Models: The Case of Southern Nevada.*