The case of La Tigra National Park (LTNP) of Honduras may seem of little relevance to E.D. practitioners in the U.S. However, the development of this park represents concerns familiar to many rural U.S. communities that are trying to cope with declining traditional extractive industries and identify sustainable employment-generating alternatives in new growth areas such as ecotourism.

The local communities that today surround LTNP prospered during more than a century of gold and silver mining. But when the New York and Honduras Rosario Mining Company closed the mines in 1954, the communities of El Rosario and San Juancito were left with few economic options. In 1998, Category 5 Hurricane Mitch roared through Central America leaving in its wake immense damage and exacerbating the social and economic needs of the area.

Home to the impossibly small Sparkling-tailed Hummingbird and the Golden-cheeked Warbler—a U.S. federally endangered migratory songbird—in 1980 Honduras designated this region as the nation’s first national park. Despite the Mitch-induced damage, LTNP today is a well-known ecotourism destination for both Honduran and international visitors. Among its many natural advantages are a rugged yet lush scenery; abundant fauna including over 140 confirmed species of birds (SLG unpubl. data); in particular, the presence of the Resplendent Quetzal, a species revered by bird-watchers because of its brilliantly colored feathers and cloud-covered forested habitat; and the park’s close proximity to Tegucigalpa, the capital city of Honduras. LTNP offers a visitors center as well as a modest room and board option at each of its two entry points.

Park managers face several threats to the park’s natural resources, including illegal logging and forest fires triggered by clearing of land. As LTNP is the source of 30 percent of Tegucigalpa’s potable water (Maldonado and Montagnini 2004), ecological as well as economic sustainability are concerns well beyond the boundaries of the park.

However, a recent study (Maldonado and Montagnini 2004) indicated the park could sustainably support many more ecotourists than are presently served. The report also noted that LTNP was experiencing a financial deficit of approximately $110,000 U.S., which the current level of park tourism is not helping to alleviate. Current (in 2006)
entry fees remain modest at $10.00 U.S. for non-national visitors; souvenirs for purchase are scarce; and options for obtaining a local bird list or hiring an informed bird guide are practically non-existent (SLG pers. obs.).

So, can bird-watching provide E.D. in LTNP, Honduras, or rural regions in the U.S.? This paper provides an overview of bird-watching as ecotourism in the U.S., and as a contribution to national and regional economies. In this next section this paper considers the E.D. costs and benefits of ecotourism in general. The rest of the paper addresses the challenges and potential advantages of bird-watching-based ecotourism in particular.

The costs and benefits of ecotourism

An investigation into the costs and benefits of ecotourism—defined as “responsible travel to natural areas that conserves the environment and improves the well-being of local people” (The International Ecotourism Society 2007)—first requires some insight into why this industry has proliferated worldwide. Nature-oriented tourism destinations are frequently located in ecologically rich but economically disadvantaged areas, both in the U.S. and in developing countries such as Honduras (Weaver 1998). These areas often require conservation efforts but lack the financial resources to provide the necessary levels of natural resource protection (Gössling 1999, Scheyvens 1999, Butcher 2006). Due to the perceived feasibility of ecotourism as an industry, its emphasis on social, economic and environmental resources and, therefore, sustainability (Wight 2002, Krüger 2005), and ecotourism’s subsequent benefits, many governmental and development-focused agencies in these locations have adopted ecotourism as a development strategy to improve their economic status while obtaining support for conservation of their natural areas (Wearing and McNeil 2000).

Several benefits of ecotourism have been identified (Weaver 1998). Ecotourism has been viewed in a favorable light by areas with few financial resources because it requires relatively little in the way of start-up costs due to its basis on existing natural and cultural resources. Furthermore, because ecotourism as an industry continues to grow rapidly worldwide (Hawkins and Lamoureux 2001), it is perceived as a source of long-term revenue for communities, especially for rural areas where options for sustainable development are otherwise limited. Ecotourism is viewed as one of the few service sector activities compatible with these areas (Weaver 1998). Further, ecotourists are consumers who tend to have relatively high incomes (Saleh and Karwacki 1996), an interest in consuming local products (Weaver 1998), and are often interested in patronizing heritage- and culture-based tourism opportunities in addition to the nature-based (Scott and Thigpen 2003). As a result, a significant portion of revenue earned has the potential to remain in local communities, resulting in higher local multiplier effects (Weaver 1998). Further, natural areas supported by ecotourism can gain direct financial benefits from the sustainable harvesting of natural and agricultural products and also nature-based research activities. Further, the potential environmental benefits are substantial and have implications for regional E.D. These can include maintaining intact an existing water supply, providing a stable microclimate, and reducing erosion and flooding risks (Weaver 1998), all important ecosystem processes potentially harmed by other forms of development such as mechanized agriculture or manufacturing. Ecotourism often involves education both for communities and tourists as well (Jacobsen and Robles 1992, Diamantis 1999). These benefits can thus make ecotourism an attractive option for planners. When implemented with an emphasis on local economic, social, and environmental concerns, ecotourism has the potential to be a form of sustainable development (Diamantis 1999).

Despite its many potential benefits and its perceived minimal start-up capital investments, ecotourism is not without its costs (Weaver 1998). Examples of economic costs can include land acquisition, development of
natural resource management plans, and restoration and protection costs. On-going maintenance, advertising, and signage can also contribute to the overall costs of ecotourism ventures. Establishment of infrastructure such as parking, trails, waste disposal, and energy systems can be costly. Weaver (1998) also notes that mass tourism, rather than ecotourism, is often the only activity that provides sufficient financial resources to make feasible the large-scale infrastructural developments (e.g., roads) that can then be utilized by local communities otherwise lacking access to such services. Also similar to mass tourism, indirect costs can include revenue leakages due to the import of goods and services and to the expatriation of profits generated by non-locals (e.g., Taylor et al. 2003). Further, concerned parties such as local community members, conservation proponents, governmental bodies, and ecotourism businesses may have conflicting priorities that may not be easily balanced, especially given that the potential economic benefits derived by ecotourism may constitute a more compelling incentive to pursue ecotourism than the environmental considerations (Weaver 1998). As demonstrated here, both the costs and benefits of ecotourism have the potential to be economically significant. The balance of the paper discusses bird-watching, in particular, as a form of ecotourism in the context of E.D. and, as well, includes a discussion of some costs and benefits specific to this activity.

Bird-watching’s popularity

Bird-watching (or simply “birding”), defined here as the active observation, identification, and photography of birds for recreational purposes, has historically been restricted to an elite few researchers. In recent years, however, this activity has grown into highly popular pastime for the non-professional in the U.S. and beyond. More affordable technology such as binoculars and the widespread availability of bird identification guides such as the Sibley Guide to Birds (Sibley 2000)—no stranger to the New York Times best sellers’ list—have expanded this activity to include the general public. Given this popularity and the fact that much of the bird-watching that takes place occurs in rural areas, the potential exists for this activity to contribute to regional E.D.

The popularity of bird-watching is supported by data available from several sources. A study cited in Weaver (1998, 20), indicated that over a 13 year period, from 1982-1995, bird-watching increased in popularity by 155 percent, although no mention of sample size or methodology was given in this source. More recently, the National Survey on Recreation and the Environment (NSRE 2000-2002) indicated that over 30 percent of the population—68 million—watched birds recreationally in the U.S during 2000-2002. This nationwide study, based on a sample size of 57,868 individuals, focused on participants’ outdoor recreation preferences and indicated a 27 percent increase in participation in bird-watching since 1995 and a 225 percent increase in a period of 20 years (Scott and Thigpen 2003). Another national survey, conducted every five years by a collaboration of several U.S. governmental agencies, indicated that during 2006, 47.8 million people watched birds recreationally (U.S.D.I. et al. 2006b). This is a slight increase from the 2001 estimate of 40.3 million birdwatchers (Pullis La Rouche 2003). No estimate is made in these reports, however, of the number of birders as a percentage of the overall population. Therefore, for comparison, using estimated population data for the U.S. for 2001 and 2006 obtained from the U.S. Census Bureau website (www.census.gov), the number of bird-watchers as a proportion of the overall population was calculated to be approximately 16 percent in both years. Another recent survey (Carver and Caudill 2007) indicated that of the 66 U.S. National Wildlife Refuges examined during 2006, 17 of the refuges hosted 50,000 or more visitors who bird-watched with the maximum number of bird-watchers being over one million for Chincoteague National Wildlife Refuge in Virginia.
The data point to birding being a popular recreational activity internationally. A 1995 survey (TTI 1996) cited in Wearing and McNeil (2000, 64) indicated that bird-watching is an important recreation abroad, with 11.2 percent of visitors from the U.S., 28.8 percent of European visitors and 50.4 percent of German visitors bird-watched while they were in Costa Rica.

That bird-watching is a popular pastime is further supported by the explosion of birding festivals. In 2001, there were over 200 such festivals throughout the U.S. and Canada (American Birding Association 2001, cited in Scott and Thigpen 2003). Many of these festivals are scheduled to coincide with spring and autumn bird migrations, a time during which large concentrations of migratory birds, in particular, can be witnessed in a short period of time. Furthermore, a quick Web search will show that most, if not all, states have at least one or even multiple “birding trails”. These trails, a series of birding hotspots, generally marked with signs, are an effort to advertise these locations throughout the states and to encourage birders to visit and invest locally. One of the best known examples is the Great Texas Coastal Birding Trail (GTCBT) (http://www.tpwd.state.tx.us/huntwild/wild/wildlife_trails/coastal/). The trail was originally conceived through a partnered effort between the Texas Parks and Wildlife Department and independent contractor Fermata, Inc. in 1993 and was funded through federal highway transportation enhancement monies (Intermodal Surface Transportation Efficiency act funds). It now encompasses over 300 birding sites in three distinct coastal regions and has impacted countless rural and urban communities throughout the area (Fermata, Inc. 2008). As an indication of the trail’s popularity, the original printing of 100,000 copies of the Central Coast regional trail map was fully distributed within the first 14 months after publication (Fermata, Inc. 2008). Further, a study conducted by Fermata, Inc. (1999) of 163 birders who requested GTCBT maps, birders stayed an average of 8 days and spent an estimated $683.91 in direct expenditures during the trip.

A second example is the “North Carolina Birding Trail”. As the website for this trail (http://www.ncbirdingtrail.org/) states: “Our Trail is more than just lines on a map. It physically links great bird watching sites and birders with communities, businesses and other local historical and educational attractions.”

The website includes regional maps with online links to downloadable site-specific information such as directions, bird species of interest, and facilities. This birding trail effort is noteworthy for its community involvement from such aspects of the selection of specific trail sites to the “birder friendly businesses” training program. (See also The North Carolina Birding Trail website review, Glowinski, box in this paper, following).

Although the data on the extent of birding’s popularity differ depending on the source, they, nonetheless, do support the statement that bird-watching is a popular recreational activity. The data, thus far, have not addressed who participates in bird-watching, and whether this subset of ecotourists composes a homogeneous group. The next section will, accordingly, address the characteristics of those who participate in this activity.

**Bird-watcher demographics**

Although the popular media has often portrayed birders as “people with thousand-dollar binoculars and field guides worn in holsterlike pouches riding low on their hips” (Weidensaul 1999, 269), they do not constitute one homogeneous group. In fact, they can exhibit differences in criteria such as purpose for participating, level of dedication to the activity, bird identification ability and willingness to contribute to conservation efforts (e.g., Kellert 1985, McFarlane 1994, Hvenegaard 2002, Eubanks et al. 2004). Nonetheless, studies do indicate some important demographic trends that are relevant at an economic level. Birders tend to be
middle-aged and older, are generally well-educated and, notably, tend to have affluent household incomes (Hvenegaard et al. 1989, Wiedner and Kerlinger 1990, Boxall and McFarlane 1993, McFarlane 1994, Kerlinger and Brett 1995, Pullis La Rouche 2003, Scott and Thigpen 2003). According to one source (Pullis La Rouche 2003), over one-quarter of the individuals that live in households earning $100,000 or more annually participate in bird-watching. Demographic data at the local level support these trends as well. For example, in the survey conducted by Kim et al. (1998), almost half of the respondents had an annual household income of $50,000 or more. In another particularly remarkable study, the average age of the 602 respondents was 55 with the annual income exceeding $60,000 for over one-half of the individuals and a mean annual household income exceeding $80,000 (Fermata, Inc. 2000). Thus, although there is variation among bird-watchers, they do share some general demographic trends.

Bird-watching and the national economy

Data from several sources indicate that bird-watching activities contribute to the economy at the national level. For example, according to the 2001 national survey, birders spent over $31 billion in retail sales while participating in wildlife watching activities including bird-watching (Pullis La Rouche 2003). This study estimated that these expenditures resulted in an economic impact of over $84 billion and created 863,406 jobs across the nation.

In 2006, wildlife watchers spent $44 billion, which represented a 19 percent increase in a 10 year period. Note that this category – wildlife watchers – is not exclusive to recreationists that watch birds. However, given that in 2006, 94 percent of all wildlife watchers watched birds, this still represents a relevant expenditure (U.S.D.I. et al. 2006a). Of these 2006 expenditures made by wildlife watchers, 53 percent was spent on equipment and the next largest category was “other” which included items such as books and souvenirs. Another survey (Carver and Caudill 2007) indicated that bird-watchers spent over $1 million at each of 18 National Wildlife Refuges of the 66 examined, for a total expenditure of almost $97 million during 2006. The Alaska Maritime National Wildlife Refuge experienced the highest level of bird-watcher expenditures with over $21 million.

Based on a national sub-sample of over 300 birders who participated in the annual Christmas Bird Count in 1988, birders spent $1852 annually per individual on birding-related items and trips including bird-related magazines and artwork, and optical equipment (Wiedner and Kerlinger 1990). Extrapolated to the approximate 43,000 birders who participated in this annual bird count, this amount increased to $79.6 million in annual expenditures for this subset of bird-watchers.

That the existing data suggest that bird-watching and wildlife-based recreational activities impact the national economy was reiterated in the 2006 national survey: “Wildlife recreation is not only important as a leisure activity but also as a catalyst for economic growth. Hunters, anglers and wildlife-watchers spent $120.1 billion on wildlife recreation spending in 2006” (U.S.D.I. et al. 2006a, 9).

The same survey also went on to assert that: “This spending contributed to local economies throughout the country, which undoubtedly improved employment, raised economic output, and generated tax revenue” (U.S.D.I. et al. 2006a, 9).

The following section will review extant locale-specific bird-watching literature and evaluate whether data from these studies support the above statement.

Bird-watching and regional E.D.

Regional E.D. is defined here as a process in which locally-based organizations, including governments, engage to promote business activity and/or employment with the principal goal of stimulating local employment opportunities in sectors that improve the com-
munity while incorporating existing human, natural and institutional assets (Blakely and Bradshaw 2002, xvi). Todaro and Smith (2003) expand upon this goal by specifying the following objectives of regional E.D.: 1) to increase the availability and widen the distribution of basic life-sustaining commodities (e.g., food, shelter, health); 2) to raise levels of living and enhance material well-being (e.g., more lucrative incomes, improved educational opportunities); and 3) to expand the range of economic and social choices available to individuals (e.g., better quality jobs and more of them). The following bird-watching case studies are assessed with the above definition and objectives in mind.

**Bird-watching case studies**

Although bird-watching can theoretically take place anywhere there is access to birds, economically-centered studies have focused primarily on locales where bi-annual bird migration events are prominent. The examples below come from locations where large concentrations of both birds and birders converge temporally.

The eastern coast of the U.S. is renowned for hosting phenomenal bird migration events. A study conducted at Delaware Bayshore, New Jersey examined the economic impact of birders visiting the area during spring to witness shorebird migration (Fermata Inc. 2000). Based on 602 survey respondents, the economic impact of respondents was estimated to be $714,000 during the spring migration period. Extrapolated to the larger birder population visiting the area, between 6,000–10,000 individuals, an estimated $7-11 million impacted the area. Nonresident birders indicated in the survey that they visited the area several times during the year. Extending the estimation to include all trips taken outside the migratory period, an estimated total of $15-25 million impacted the region annually. Further, respondents indicated a willingness-to-pay of $212.45 to protect these resources.

High Island is a rural community on the coast of Texas, also highly popular with birders for its spring bird migration spectacle. In 1992, surveys were conducted (n=633; 10 percent of total visitors) to assess visitors’ activities and subsequent economic impact of the area, of which a portion was a recently-designated bird sanctuary (Eubanks et al. 1993). An estimated $2.5 million was spent by birders in the community and surrounding region in a period of two months. An interesting finding of the study was the substantial difference in per trip expenditures between residents ($46) and nonresidents ($693). Nonresidents contributed the large majority of economic impact, much of which was felt outside the immediate area given High Island’s insularity. No indication of specific linkages or of regional E.D. was made other than to say that local contractors were hired to build a boardwalk in the area, although the influx of birders presumably supported the area’s only motel and restaurant as well. The authors suggested that High Island’s popularity was likely enhanced by the presence of other local and regional sites of interest to birders.

Hvenegaard et al. (1989) studied birder activities at Point Pelee National Park, Canada. They calculated total expenditures by respondents (n=603) during the month of May to be over $3.8 million CDN, over 50 percent of which was spent in the immediate area. Extrapolated to the larger birder population visiting the area, $5.4 million CDN were spent, with travel (primarily via personal vehicles), food (mainly from restaurants) and lodging (at hotels and motels) being the major expenditures. The average bird-watcher was reported to spend $224 CDN per trip to the area and was willing to spend up to double the actual amount spent on the trip. The majority of expenditures (86 percent) were on food, travel and accommodations with the balance being primarily souvenirs (6.5 percent) and equipment (6.3 percent). Importantly, respondents also reported that had additional spending opportunities been available, literature, apparel and souvenirs
would have provided the greatest potential sales opportunities.

Notably, this study incorporated surveys of local businesses who reported impacts from the infusion of birders into the area. Seven percent of local hotel/motel and restaurants surveyed reported hiring additional personnel or increasing staff hours to accommodate the seasonal increase in visitation. This contributed to regional E.D. by providing approximately $16,000 in additional wages. The authors suggested that business owners may have underestimated their birder-related income as they reported their gross sales during this period to be less than 25 percent of the local expenditures reported by birders. The authors also noted that the potential exists for additional economic investments by birders during autumn migration, a season under-utilized by this particular group of ecotourists. Other attractions during this time period such as raptor and Monarch butterfly migrations and autumn foliage could enhance the existing economic resources for the area.

Leones et al. (1998) studied nature tourists including bird-watchers (February–May) visiting two natural areas in southeastern Arizona during peak birding season. The survey results (n=835) indicated that spending by nature tourists, including bird-watchers, during this three month period provided $1 million worth of economic impact to the area. Results also showed that nature tourists spent more per party per trip than non-nature tourists. Nature tourists were more prone to utilize locally-based lodging than other visitors thus likely facilitating regional E.D. Importantly, the study found that an overnight stay was important if local businesses were to benefit from visitation, especially given the parks’ constraints on visitor numbers.

Platte River Valley, Nebraska, is known among bird-watchers for its spectacular spring Whooping and Sandhill Crane migration. In 1991, a survey of 350 visitors showed that visitors stayed an average of 2.7 days in the area while spending an average of $70 per day. Applying this daily expenditure to the approximate 70,000 total visitors during the spring spectacle, an estimated $15 million was spent in the region (Lingle 1992). Studying bird-watchers (n=1259) during 1996 in the same area, Stoll et al. (2006) determined that nonresidents had average expenditures of $335 per birding trip, of which 71 percent was spent locally. Although this study did not specifically address bird-watching in the context of regional E.D., the authors, using contingent valuation methodology, demonstrated that birders were willing to pay an additional $413 annually to maintain the existing biological resources they came to see. This provides evidence of the importance that bird-watchers place on the resources that underlie their activities.

In a study of eight sub-populations of bird-watchers, Eubanks et al. (2004) found the direct expenditures per birding trip to range between $159-$978 with an average of $506 per trip. Similar to the previous example, this study did not address the specific contribution of bird-watching to regional E.D., but did calculate that birders were willing to pay up to $72 more per trip. This and the previous study thus indicate that additional, uncollected economic value of bird-watching exists that could be capitalized on at the local level.

Lastly, a study by Kerlinger and Brett (1995) at Hawk Mountain Sanctuary, Pennsylvania estimated that during 1990-91 birders spent $744,000 in the communities adjacent to the sanctuary. Taking into consideration the sanctuary working budget of $800,000 which included staff wages and purchases of goods and services, more than $1.5 million was spent locally. The authors provided several lines of evidence that bird-watching contributed to regional E.D. For example, property values in neighboring areas increased substantially as a result of the sanctuary. This also resulted in higher property taxes which could potentially fuel regional E.D. Additionally, the surrounding communities witnessed a growth of home-based businesses due to the increase in prospective buyers of home-
Website Review: The North Carolina Birding Trail (www.ncbirdingtrail.org)

Most birding trails have websites these days, of varying quality and usefulness. From an E.D. perspective, however, the website for the North Carolina Birding Trail (NCBT) is an exemplary model.

The mission statement of the NCBT is “to conserve and enhance North Carolina’s bird habitat by promoting sustainable bird-watching activities, economic opportunities and conservation education.” The NCBT website highlights bird-watcher-worthy sites in three regions—mountains, piedmont and coastal—and includes the typical trail information that details habitat bird types, birds that can be witnessed at a particular site, site amenities, and driving directions. It provides downloadable maps of the sites and associated site descriptions. The website also serves as a portal to various on-line resources regarding travel, conservation and education-related efforts throughout the state. Overall, the North Carolina Birding Trail website has a clean, easily navigable presentation sure to please any bird-watcher.

What makes this particular birding trail effort stand out among others, however, is the information targeted at non-bird-watchers. The potential and actual economic impact of bird-watching is recognized in the academic literature (see “Bird-watching, Ecotourism, and Economic Development”, (ARED, this issue). With the novel “Birder Friendly Business & Birder Friendly Community” training program, however, the North Carolina Wildlife Resources Commission—who manages the NCBT—is trying to disseminate this information more broadly and helpfully to local businesses and communities.

This traveling workshop, as overviewed on the website, provides directed training on several key topics: understanding bird-watchers and their needs as customers; effectively marketing local businesses and communities to bird-watchers; the fundamentals of bird-watching; and conservation practices. Participating businesses are given a “Birder Friendly Business” logo to display and are advertised on the NCBT website as a “Birder Friendly Business.” There are currently well over one hundred businesses and communities listed. Unfortunately, what is missing on the corresponding Birder Friendly Businesses page on the website is discussion about why a business owner should be interested in marketing his or her business to birders in particular. Thus, the link between bird-watching activities, local businesses and conservation is not explicitly made here to the targeted audience. The question “What are the benefits of the NC Birding Trail?” however, is asked and briefly answered in a separate downloadable Frequently Asked Questions document accessible from the home page. This document includes statistics from a recent recreational survey and makes the case for the contribution of bird-watching to local economies and in turn to conservation.

Another original component of this trail effort is the “Birder Calling Card.” These business cards are intended to be downloaded by bird-watchers and then left at businesses visited along the trail. The card informs the recipient that the bird-watcher visited because of the North Carolina Birding Trail and states “Please continue to care for your natural resources and I’ll be back to use the trail and patronize local businesses.” Recipients of the cards are then invited to contact the North Carolina Wildlife Resources Commission for further information. When widely circulated by the birding community, these calling cards have the potential to increase awareness by local businesses of the economic impacts of bird-watching.

Development of the North Carolina Birding Trail began in 2003. Bimonthly “Trail Mail” newsletters have kept website visitors informed on birding trail events since 2005. With the final phase of trail development scheduled for 2009, we can thus look forward to hearing more about the impacts of the innovative economic, conservation and educational strategies implemented for this birding trail as described on the website.

- Sheri L. Glowinski
made goods and services. Further, the authors also cited a survey indicating that more than one-half of local businesses derived up to 25 percent of their revenues from Hawk Mountain visitors. Businesses thus acknowledged that birders were important contributors to the local economy.

The above examples provide economic data from popular bird-watching hotspots. Local economic data has also been gathered from studies conducted at birding festivals. For example, Kim et al. (1998) examined birder expenditures at the Annual Hummer/Bird Celebration held in Texas. This 4-day event that takes place during September is the nation’s oldest festival of its kind. The authors obtained demographic and economic data from 517 survey participants and estimated that the total festival expenditures for the approximate 4500 attendees were $1.27 million with nonresidents contributing over 80 percent of that total. The overall economic impact was estimated at $2.5 million resulting in the creation of 73 local jobs. No attempt was made to validate the results using direct business surveys in the local area, however. Additionally, the authors noted that no estimate of economic leakages was made but suggested that artwork and optical equipment sold by nonresident festival vendors likely contributed significantly.

Chambliss et al. (2007) reported the economic impact of a festival based in Brevard County, Florida. This 5-day long festival held in January, brought in an estimated 3000 birders into the area. These participants brought an estimated $929,870 of economic impact to the county, which represented a 50 percent increase over the 2005 festival. Approximately $800,000 of this impact is attributed to personal spending by birders, with the balance generated by spending related to festival organization. Notably, nonresident participants spent an average of $532 per individual during the festival, nearly three times the amount spent by residents, and generated an economic impact of $825 per person in the county. Overall, the economic impact of this festival generated the equivalent of 13.4 jobs in the area.

Lynch et al. (2003) documented the economic impact of a small birding festival which brought in over 230 birders into Gulf, Franklin and Bay Counties, Florida during October, the off-tourism season. Results from surveys (n=114) indicated birders spent over $35,000 in personal expenditures. Taking into consideration all festival expenses made including registration fees, a total of $52,098 of direct expenditures was made by participants, resulting in $85,218 of local economic impact and 1.4 year-long jobs. An emphasis was made by festival organizers to use local contractors whenever possible, although no further validation of local impacts was made.

Caveats

Overall, the studies show that bird-watching has the potential to infuse regional economies with financial resources although the extent of the local impact varies depending on location and type of bird-watching event being studied (i.e., festival or migratory hotspot). Few of the studies reviewed specifically addressed any of the components of regional E.D. as defined previously, especially with respect to improving life-sustaining goods and services and educational opportunities, so it is difficult to conclusively say whether the stated objectives of regional E.D. are met by those examples of bird-related tourism. However, several of the studies do indicate that employment is or may be enhanced. Studies require more in depth analysis and validation of the paths that revenue stemming from bird-watching takes in order to determine to what extent it enhances the objectives of regional E.D. in the areas in which this activity takes places. With appropriate planning, E.D. practitioners can capitalize on an area’s natural resources non-extractively and use the resulting financial resources that bird-watching generates to fulfill the objectives of regional E.D.

Bird-watching has several attributes that make it a desirable economic activity for
a community. Like ecotourism as whole, bird-watching is a non-consumptive activity; it is based on existing natural resources and participants’ interest in those resources. Birding can provide revenues for communities outside the traditional tourist season when it capitalizes on spring or fall migratory events (Kerlinger and Brett 1995). Alternatively, it can provide revenues for communities that have no other tourist attractions (e.g., Platte River, Nebraska and High Island, Texas; Kerlinger and Brett 1995). Further, because birders generally have an interest in and money to spend on bird-related items such as artwork, books, and souvenirs and many stay at locally-based accommodations (Hvenegaard et al. 1989, Leones et al. 1998), opportunities to enhance economic linkages, and thus regional E.D., exist. Also, bird-watchers travel. Wiedner and Kerlinger (1995) found that birders spent an average of 13 nights away from home to engage in bird-watching during 1988. Further, individuals who travel generally spend more than those who do not and in some cases much more (e.g., Eubanks et al. 1993). Thus, local communities interested in maximizing the benefit gained by bird-watching activities should aim to capture more overnight stays by birders (Leones et al. 1998). Increasing the visibility of other locations to visit can facilitate this process. Finally, birders, and nature tourists in general, spend more than non-birders. Thus, ecotourism including bird-watching can be more lucrative for a community than other types of economic activities.

Several caveats with respect to bird-watching as an economic activity need to be addressed. Because bird-watching activity based on bi-annual migrations is an inherently seasonal phenomenon, birding tourism is likely to reflect that same pattern. Thus, E.D. managers should take that into consideration when planning development options, as diversification may be necessary for local development to be sustainable. As highlighted by Hvenegaard et al. (1989), additional nature-based activities may serve to supplement economic investments by bird-watchers. Eubanks et al. (2004) noted that although bird-watching is a non-consumptive activity, bird-watchers are not non-consumptive. Thus birding tourism can generate negative impacts in addition to the beneficial. For example, Kerlinger and Brett (1995) noted that the increase in birder visitation at Hawk Mountain Sanctuary created environmental concerns such as traffic jams, vehicle exhaust fumes, noise, and trail deterioration. Further, bird-watching activities such as photography can have negative effects on the birds themselves, especially when rare or endangered species are involved (Klein et al. 1995, Sekercioglu 2002, Yasué and Dearden 2006). Lastly, revenue leakages can be high, especially with respect to the lodging and travel sectors (e.g., Leones et al. 1998, Taylor et al. 2003). Thus, local economies can experience a loss even while revenue is being created. As bird-watching often commences in early morning, and thus birders may prefer to be close to bird-watching attractions, local economic benefit in the lodging sector could be maximized by enhancing local linkages, e.g., by promoting locally owned lodging in the vicinity of bird-watching hotspots.

Conclusions
To summarize, bird-watching appears to have potential as a tool for regional E.D. However, for bird-related tourism to be a sustainable development option, at home or abroad, planners should recognize that any form of ecotourism, bird-watching included, is not a panacea in spite of its many benefits (Krüger 2005, Che 2006). Comprehensive planning that addresses environmental (e.g., visitor impacts), social (e.g., educational opportunities) and economic (e.g., leakages, infrastructure) issues is necessary for bird-watching to generate revenue and support regional E.D. as well.

In the case of La Tigra National Park, Maldonado and Montagnini (2004) proposed several options to improve the park’s economic support via tourism, mainly increasing visitation, entrance fees and/or souvenir sales. Not surprisingly, the authors did not include
an emphasis on enhancing bird-related tourism in the park as an economic strategy. In light of the data presented in this paper, several actions could be implemented at LTNP to promote visitation and economic contribution by bird-watchers in particular. As bird-watchers are willing to pay over and above existing fees for the ability to participate in this pastime (Hvenegaard et al. 1989, Eubanks et al. 2004, Stoll et al. 2006), an increase in entrance fees, especially for non-national tourists, could be a feasible option to increasing revenue. An increase in birder visitation could be facilitated by several means. First, several of the park’s residents are knowledgeable in the local birdlife (SLG pers. obs.), therefore, these residents could be trained to guide birders in the park (e.g., Jacobson and Robles 1992). Given the presence in the park of the highly sought-after Quetzal, guides that could lead birders to areas where this species, in particular, could be found would be in high demand. Their services would ideally need to be advertised, e.g., at LTNP’s main management office located in Tegucigalpa, at the park’s two visitor centers and on Honduras’ tourism website (www.letsgohonduras.com), for this service to be productive economically. An additional resource useful to bird-watchers that could be sold for a profit would be a multi-lingual bird list for the park with an accompanying photographic guide. Park managers currently have in their possession many high quality photographs of the birds and other scenery from the park from a recent scientific study (SLG pers. obs.), thus production costs would be lessened by the availability of this resource. Further, the sale of locally produced goods, e.g., bird-related artwork, would provide opportunities for birders to contribute to the economy of the park and its associated communities. When publicized using effective advertising channels, the availability of these goods and services could help to increase bird-watcher visitation and spending in LTNP, thus promoting regional E.D. based on non-extractive use of the area’s natural resources. While the suggestions herein are directed towards LTNP’s ecotourism issues, they are not unique to this location. Independent of the site, they are important considerations that can be applied to other areas by E.D. practitioners implementing bird-tourism as an economic strategy.

References and further reading


Fermata, Inc. 1999. Avitourism in Texas: two studies of birders in Texas and their poten-
tial support for the proposed World Birding Center. Unpublished report.


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