Preliminary Proposals for Economic Development on the Bolivar Peninsula

Prepared by Lindsey Davis, Mason Moses, and Nicole Parker
Advisor: Dr. Sharon Caudle

11/13/2009
# Table of Contents

Purpose ............................................................................................................................................ 3

Part I: Industry Options ................................................................................................................... 4
   Proposal 1: Aquaculture on the Bolivar Peninsula ................................................................. 4
   Proposal 2: Off-Shore Wind Farms ......................................................................................... 7
   Proposal 3: Barging Area ......................................................................................................... 9
   Proposal 4: Small Business Incubator .................................................................................... 11

Part II: Parks and Nature Tourism Options ................................................................................... 14
   Proposal 1: Fort Travis Revitalization .................................................................................. 14
   Proposal 2: Development of Nature Tourism Activities ....................................................... 17
   Proposal 3: Sea Turtle Environmental Center ....................................................................... 20
   Proposal 4: Geocache Program for Bolivar Peninsula ......................................................... 22

Part III: Tourism Options .............................................................................................................. 24
   Proposal 1: Ferry Port Area Development ........................................................................... 24
   Proposal 2: Working Artist Colony Development ................................................................. 26
   Proposal 3: Drive –In Movie Theater .................................................................................... 28
   Proposal 4: Community Swimming Pool/ Aquatic Center ..................................................... 29
   Proposal 5: Equestrian Center for Beach Rides ............................................................... 30
   Proposal 6: Festivals ........................................................................................................... 31
Purpose

This document represents a conglomeration of possible industries and projects to increase the resiliency of Bolivar Peninsula. These industries and projects are divided into three categories: industry options, parks and nature tourism options, and traditional tourism options. The project team has researched multiple projects within the three categories to create a master list of those that might offer positive benefits to the Bolivar community. These benefits might include economic development, community development, and tourism/promotional development. The different industry and projects include both short term and long term options. The different projects, itemized by category, include:

Industry Options:
- Aquaculture
- Off-Shore Wind Farms
- Barging Area
- Small Business Incubator

Parks and Nature Tourism Options:
- Fort Travis Revitalization
- Nature Tourism Development
- Sea Turtle Educational Campaign
- Geocache Program

Traditional Tourism Options:
- Ferry Port Area Development
- Working Artist Colony
- Drive-In Movie Theater
- Community Swimming Pool
- Drive-In Movie Theater
- Equestrian Center
- Festivals

The Bush School project team will further research those projects the Bolivar community believes to be the most relevant.
Part I: Industry Options

Proposal 1: Aquaculture on the Bolivar Peninsula

Background
The United States Department of Agriculture defines aquaculture “as the production of aquatic animals and plants under controlled conditions for all or part of their lifecycle.” This industry has expanded over the past two decades to gross more than a billion dollars as the interest in aquacultural production has risen due to restrictions on the wild harvest of many seafood species.

Aquaculture production in the United States is from the production of food fish, ornamental fish, baitfish, mollusks, crustaceans, aquatic plants and algae, and some reptiles. Each of these organisms can be grown in diverse climates in both fresh and salt water. The catfish industry is the largest sector, making up over forty percent of all fish sales. Catfish are primarily produced in the gulf coast states of Mississippi, Alabama, Arkansas, and Louisiana and are typically grown in open freshwater ponds.

Other major food fish species grown in aquaculture farms include: trout, salmon, tilapia, hybrid striped bass, sturgeon, walleye, and yellow perch. With the exception of salmon, these species are primarily grown in fresh water ponds. Salmon are hatched in fresh water and then transported to saltwater net-pens. Baitfish aquaculture, a nonfood species, is produced in freshwater ponds and is chiefly farmed in Arkansas. Ornamental fish aquaculture, another nonfood species, produces a large number of species in a wide array of growing environments, including salt water.

Crawfish and shrimp are also produced in aquaculture farms. These species are mainly found in Louisiana and in brackish ponds in South Carolina, Texas, and Hawaii. Mollusk species such as abalone, oysters, clams, and mussels can also all be farm raised. Almost every coastal area of the United States produces mollusks using a mixture of systems.

---


Alligators, turtles, aquatic plants, and algae are other species that are also eligible for aquaculture production. Aquatic plant production can be beneficial for either an edible purpose or for the restoration of wetlands. Spirulina is the best known algae produced in the United States and is used as an additive in health foods and as a feed component for pets and ornamental fish.6

In the State of Texas, an aquaculture business, defined as “a business that produces and sells cultured species raised in a private facility - a pond, tank, cage or other structure capable of holding cultured species in confinement wholly within or on private land or water or on permitted public land or water,” is required to apply for and receive an aquaculture license from the Texas Department of Agriculture.7

Benefits to the Bolivar Community

The aquaculture industry would benefit the Bolivar community by creating jobs for the local citizens and by taking advantage of the resources of the peninsula. A USDA study estimates that in the United States employment in aquaculture production and processing is over 180,000 jobs8. These jobs could be adopted on the peninsula and would be part of a stable industry in which demand will increase. It is estimated that global seafood demand will increase over sixty percent over the next thirty years.9 Aquaculture also gives Bolivar a chance to brand itself with a certain fish species by developing multiple fish farms of that species. This has proven successful in other rural areas. They are able to grow, process, and sell their own local fare, growing the reputation of the community.

Challenges

The challenges facing aquaculture include sustained growth from global competitors, resulting from free-trade agreements, an improved transportation system throughout the world, an increase in cost, and restricted access to prime natural resource sites.10

Cases and Examples

Aquaculture has been implemented in virtually every state and community along the gulf coast. One example is the Louisiana crawfish industry.11 They have been successful in growing, marketing, and selling crawfish and shrimp.

---

Feasibility and Costs

Aquaculture costs vary from farm to farm depending on which species and how many are being harvested. More research is needed to provide more information. The coastal areas around Bolivar Peninsula provide large areas of land suitable for public or private investments in the industry.
Proposal 2: Off-Shore Wind Farms

Background

The demand for renewable energy has increased over the last twenty years and the wind energy industry has responded by increasing by more than 30% a year. Offshore wind power has begun a new era in wind energy. Northern Europe has been able to produce more than 20,000 megawatts off their waters. By the end of 2007 the offshore renewable energy market was worth as much as $12 billion.12

Wind turbines offshore generate more power than on-shore turbines due to the fact that wind speeds are stronger and steadier offshore. Wind also tends to be less turbulent offshore, reducing the wear on turbines and allowing for longer replacement times. Larger turbines are more feasible offshore because they are easier to transport via water and they can capture more wind, producing more energy. Offshore wind turbines are able to generate energy during times of high electricity use due to constant sea breezes.13

Offshore wind farms are able to generate energy near population centers allowing those centers to become energy diverse. This helps alleviate transmission issues by transmitting power closer to the location of demand. Wind power development off shore could prompt assembly and transport activities to coastal communities.14

Benefits to the Community

If Bolivar were to construct a 120 turbine wind farm with a maximum generation capacity of 480 megawatts the farm could produce enough energy to power 600,000 home and would prevent more than one million tons of greenhouse gases from being released into the air by conventional coal fired plants each year.15 Offshore wind farms will also promote recreational fishing because the foundations can create artificial reefs, which congregate marine life in the area. Green jobs will also be created and wind farms will contribute to a clean energy economy.16

Challenges

The fact that offshore wind power is still a new technology compared to wind farms on land is an issue that would need to be considered. By the end of 2008 a mere 1,471 megawatts of wind energy generating capacity out of the more than 120,800 megawatts were produced offshore, and they were all in Europe. Offshore technology is also susceptible to greater variances in weather. Severe weather conditions can limit access for routine maintenance and the salt water

environment will create a need for more robust turbine parts. This means higher costs which may not be offset by higher productivity.\textsuperscript{17}

\textit{Cases and Examples}

Northern Europe has been able to produce more than 20,000 megawatts off their waters. Offshore wind farms are still a new technology that has not been presently adopted as a long-term option in the United States.

America’s first offshore wind farm is being proposed on Horseshoe Shoal in Nantucket Sound, Massachusetts. 130 wind turbines will be built to produce up to 420 megawatts of clean energy and will provide three quarters of the Cape and Island’s electricity.\textsuperscript{18}

Texas has negotiated a multi-million dollar lease with Galveston-Offshore Wind, LLC, a division of Louisiana-based Wind Energy Systems Technologies (W.E.S.T., LLC), which allows work to begin on the construction of two meteorological towers. These towers will help gather data to determine the most appropriate location to place the 150 megawatts wind energy development. This will be built on an 11,355-acre lease about seven miles off the coast of Galveston Island.\textsuperscript{19}

\textit{Cost and Feasibility}

Current cost estimates are based primarily on European experience since 1991. These indicate that offshore it costs less than six cents per kilowatt. The larger machine size and the costs of transporting and installing do increase costs thirty to fifty percent higher than onshore wind farms. However, this is offset by higher energy yields which can be as much as thirty percent. Onshore wind farms consider any resources up to forty kilometers economically feasible.\textsuperscript{20}

\begin{flushright}
\end{flushright}
Proposal 3: Barging Area

Background

Bolivar Peninsula is interested in acquiring land that is currently owned by the Texas Department of Transportation (TxDOT) in order to build barges to assist ships transporting goods through the Intracoastal Waterway. The TxDOT area is 3,000 feet long and would be a large enough area to support barge docking. Barges are typically 50 feet wide by 400 ft long. Other barging areas charge $150-$250 a day for barge parking.

The TxDOT land was acquired from the Army Corps of Engineers in a lawsuit and was to be used as a deposit area for dredging the waterway twice annually. However, this is not feasible because it requires pumping and transporting the sediment over a mile to the land. It would be more feasible to deposit the sediment closer to the dredging area.

Benefits for the Community

These ships need a place to unload alternate crews, refill fuel tanks, buy supplies, and perform repair and maintenance. A barging area in Bolivar could service all of these needs. Providing this area to ships traveling on the Intracoastal Waterway will increase the visibility of the peninsula and will encourage the ship crews and the business that are shipping merchandise to invest in the community.

Challenges

Local residents may be unfamiliar with this potential project and must be educated to garner support. Furthermore, the TxDOT land must be available for sale or long term lease for this project to be viable. Bolivar Peninsula will have secure funding to buy or lease the land from TxDOT. It is also unclear when and if the TxDOT land will be available for sale or lease.

Cases and Examples

Cases and examples of successful barging areas in locations with similar population and geographic makeup to Bolivar Peninsula are unknown at this time. However, an example of a much larger scale port at Corpus Christi is cited for possible development ideas.

The port of Corpus Christi has a navigation district containing several different units. Corpus Christi’s La Quinta Gateway Plan includes barge docking along with other maritime services. The La Quinta port area has 1,100 acres of waterfront property feasible for the development of a container terminal and distribution/warehouse center. Corpus Christi expects the economic impacts to the area to be substantial by increasing personal and business incomes as well as adding tax revenues to the local and state government.

---

21 All the information in this area was collected through interviews with local residents familiar with the issue in Bolivar.
Cost and Feasibility

The primary cost for this project is the purchase or lease of the TxDOT land. Until that information is available it is unclear how feasible this project would be.
Proposal 4: Small Business Incubator

Background

The Bolivar Blueprint describes a desire to expand local small business industry on the peninsula. Small businesses are the fastest growing segment in American commerce and they create 98% of all new jobs. Over 50% of all small businesses fail in the first year, and 80% within five years. Often entrepreneurs know how to produce "the work," but lack the skills necessary for operating a business, and cannot afford the time and expense of an education. Equally important are start-up costs and fixed expenses of operation, which drain hard pressed capital.

Small Business Incubators are usually established as nonprofit organizations working toward economic development in city or county areas. They work closely with business and employment directed organizations to foster the startup and expansion of small local business enterprises. Lease agreements provide facilities and services that lower overhead costs while aiding in the growth and success of entrepreneurial firms. Smaller companies cannot afford to obtain these support services on their own or the cost can be too demanding on their operating capital. Incubator services include:

- Professional Mentors
- Daily Management and Administrative Support
- Expert Consulting Services
- Hands on Training to Each Business Client

Benefits to the Community

Small Business Incubators provide startup support for local small businesses. This can stimulates the local economy and employment on the peninsula.

Challenges

There is no existing building on the island to incubator establish services. Securing long-term funding to establish the infrastructure for an incubator would be a necessary first step.

Cases and Examples

Bay County Small Business Incubator- Minnesota
http://www.nfci.org/

The Bay County Small Business Incubator is a 35,000 square foot facility with space available to lease on an annual basis. It is easily accessible to the down town area, local banks, airport, and post office.

The facility provides:

- 18 Executive Suites
- Broadband Internet Access (optional)
- Computer Lab
- Video Conferencing
- Open Warehouse Space
- Convenient Location
- Weekly Janitorial Service
- Business Publications
- Phone System with Fax
- All utilities included in rent (except phone and Internet)
- Ample Parking

The office suites range from 144 to 250 square feet. Each office is carpeted, paneled, Internet ready, and is individually wired to accommodate up to four phone lines. The Incubator offers common areas for tenant use such as a conference room, computer lab, and mail room. Warehouse space is wired for 3 phase power with loading dock access and overhead doors.25

Augusta—Richmond County Small Business Incubator
http://www.arcsbi.com/index.asp
The Augusta-Richmond County Incubator has a total of 18,000 square feet which includes office space for nineteen clients, manufacturing space, administrative offices, conference room, work/copy room and break room.

Funding: The incubator construction was funded by a $1.1 million Economic Development Administration (EDA) federal grant and $.4 million from Augusta-Richmond County.

Management: The incubator has an established Small Business Advisory Board consisting of area business leaders with whom clients are required to meet with on a quarterly basis. The board and management will monitor clients' performance, progress and continued need for incubator assistance. Clients typically will graduate from the incubator when they outgrow the available space, when their business has achieved financial stability, or when they have completed three years in the incubator.

Evaluation: Candidates will be evaluated on the value of their new business's contribution to the economic development of the region as well as on their business plan, their demonstrated need for the unique products and services offered by incubator, and their fundamental commitment to the success of their business venture. Applicants to the incubator will be screened and selected from entrepreneurs including downsized SRS employees, female, minority and disadvantaged applicants.26

---

The William Factory Small Business Incubator was created in 1986 to help new businesses in East Tacoma as a way to improve living and working conditions. It houses over 30 companies in specialty trade construction, applied technologies and business services. Lease agreements provide facilities and services that lower overhead costs while aiding in the growth and success of entrepreneurial firms. The incubator is run by an eight member Board of Directors and three staff members.

Incubator services include:

- Professional Mentors
- Daily Management and Administrative Support
- Expert Consulting Services
- Hands on Training to Each Business Client
- A Plan Center for Public and Private Contracts
- Referrals for Small Business Loans & Bonds
- Internet/Website Design and IT Assistance
- Use of 3 Conference Rooms
- Office and Presentation Equipment
- Networking Events

Additional resources:
NBIA (National Business Incubator Association) http://www.nbia.org/

---

Part II: Parks and Nature Tourism Options

Proposal 1: Fort Travis Revitalization

Background

Fort Travis represents a historical resource for the Bolivar Peninsula. The fort’s history includes active roles with troops stationed there in both the Spanish American War and World War I. Fort Travis is designated in the National Register of Historic Places. A historical marker, issued by the Texas Historical Commission, has been missing since Hurricane Ike.

The Fort Travis Park facilities include 60 acres of land located on the Gulf of Mexico. A seawall, which is degrading in places, separates the park from the gulf. The park is separated from adjacent properties by a tall brick fence similar to that used in the sea wall. The park currently has cabanas, a playground, picnic tables and grills, and bathrooms with showers.

The development and revitalization of Fort Travis offers great economic potential for Bolivar Peninsula. Several different projects are outlined that would increase the public’s awareness of the fort, draw potential visitors to Bolivar through visiting Fort Travis, and also provide a revenue source for Bolivar Peninsula.

Proposal 1a: New Campground on Park Facilities

Fort Travis could build new campgrounds on the site. Campgrounds could be created for RV’s which would require water and electric hookups and a minimum of 30 amp service. However, full service hookups (water, electric, and sewer) along with 50 amp service would cater to the largest amount of RV visitors. A tent camping area is also an option. These campsites would require water in the area and would not require electricity. Designated individual sites could be created or a designated tent camping area of the park could be created. Restrooms would need to be built or updated to accommodate the increase in overnight visitors. Other amenity options that would increase demand for the park include picnic pavilions (open air) and a group dining hall (enclosed structure) that could be rented out for various day use or overnight purposes.

Proposal 1b: Designation as a National Historic Landmark through the National Park Service

Fort Travis is currently listed in the National Park Service’s Register of Historic Places. This listing is noncompetitive in nature and simply acknowledges that a place has historical significance. However, a more prestigious and beneficial designation would be that of a Historic Landmark. As defined by the National Park Service “National Historic Landmarks are buildings, sites, districts, structures, and objects that have been determined by the Secretary of the Interior to be nationally significant in American History and Culture.” Currently there are about 2,500

---

29 Personal visit to site on October 28, 2009.
landmarks, and the National Park Service accepts nominations for new ones. In January 2009, nine new sites were given the National Historic Landmark title.

**Proposal 1c: Designation as a Recorded Texas Historical Landmark**

Recorded Texas Historical Landmarks (RTHL’s) are properties deemed to be historically and architecturally significant. RTHL is a legal designation that gives protective measures to the structure. The Texas Historical Commission oversees RTHL’s.31

**Benefits to the Community**

Benefits of building new campground facilities include an increase in revenue for Galveston County and Bolivar Peninsula. RV travel trends are promising. Many RV users are choosing to take trips closer to home to save fuel. Having the Houston metropolitan area in proximity to Bolivar allows the fort to capitalize on this trend. Also promising, RV parks and campgrounds have reported a 3-5% increase nationally in reservations from the previous summer and RV rentals are up 12% nationally in 2009. Furthermore, approximately 8.2 million U.S. households own a RV, more than ever before. As the number of retiring baby boomers increases, the level of RV users is expected to increase as well.32

Benefits of being a National Historic Landmark include federal funds to help preserve the landmark, and a higher priority of funding that those only designated in the Historic Register. The National Park Service also will provide technical preservation advice to the historic sites. A bronze sign is also provided to display at the site. The increased prominence of being designated a National Historic Landmark could help bring more visitors to Fort Travis and also Bolivar Peninsula.

Benefits of the designation as a Recorded Texas Historical Landmark include qualification of the site for grant funding or tax incentives, priority access to technical assistance from the THC staff, and free promotion of the site through the Texas Historical Commission.

**Challenges**

As RV users are increasing, so are the number of RV facilities to accommodate them. Since Bolivar Peninsula currently has several RV parks, caution should be taken to ensure competition among RV areas does not hinder the development and resilience of Bolivar Peninsula.

Construction costs of RV facilities vary greatly depending on the location and condition of existing facilities. Also, seeking designation of historical significance may limit or place restrictions on new construction at Fort Travis.

Since both the National Historic Landmark and the Recorded Texas Historical Landmark are competitive, Fort Travis may not receive that designation. Also, application processes will require time and effort to complete required forms.

---


Cases and Examples

Cameron Parish, Louisiana recently built an RV park on the Gulf of Mexico. The park has full hook up sites with 50-amp service, and amenities feature a playground, picnic areas, and bathrooms with showers. The campground is run by the Parish and has been a popular attraction. The campground usually fills on weekends.33

Buchanan County, Iowa dealt with devastating floods in 1993. As part of their recovery plan, they built a 42 site RV park that is run by the county. The RV Park stays full during the summer and has been a key accomplishment of their recovery plan, as outlined by FEMA in its recovery best practices site.34

Desoto County, Florida was severely damaged by the 2004 hurricane season. Incorporated into their long term recovery plan is an RV park with 50 full service hookups. This park will serve the rodeo and equestrian complex as well as those wishing to camp in the county. The estimated cost per campsite for these full hookups is $8900 per site.35

Galveston Island State Park was badly damaged after Hurricane Ike. The park has currently reopened portions of the park for RV and tent camping. Galveston Island State Park traditionally stays very full and is a popular attraction for people coming south to escape the cold winter. The visitors enjoy the natural setting that Galveston offers as opposed to an RV facility with no land or green space. Fort Travis, with its historical significance, large amount of land, and proximity to the ocean also gives it a similar competitive advantage over these types of RV parks.36

Feasibility and Cost of Fort Travis Revitalization

Revitalization of Fort Travis would provide a long term revenue source for the community as well as being a tourist attraction. Grants and funding sources must be researched to provide an accurate cost estimate of constructing a new RV Park and campsite facilities. However, many potential grants exist that Fort Travis may be eligible to receive such as the Texas Preservation Trust Fund Grant awarded by the Texas Historical Commission and Preserve America Grants awarded by the National Park Service. Also, Fort Travis may qualify for funding from Texas Parks and Wildlife’s Local Park Grant and Recreational Trail Grant.

Proposal 2: Development of Nature Tourism Activities

Background

Nature tourism, as defined by the Texas Parks and Wildlife Department, is “discretionary travel to natural areas that conserves the environmental, social, and cultural values while generating an economic benefit to the local community.”

Bolivar Peninsula, with its 27 miles of beaches, bay and gulf ecosystems, and extensive marsh systems holds many opportunities for nature based tourism.

Nature tourism is the fastest growing sector of the tourism industry. Its development allows rural communities to diversify their local economies and also provides economic benefits to the community.

Some examples of nature tourism relevant to the Bolivar Peninsula include bird watching and other wildlife viewing and eco tours by bike or kayak.

Proposal 2a: Promote Bird Watching at the Bird Sanctuaries and Texas Coastal Birding Trail

The High Island and Bolivar Flats bird sanctuaries along with the Great Texas Birding Trail provide world renowned opportunities for bird watching. The two week spring migration draws birders worldwide. Furthermore, over 600 documented bird species have been cited in Texas.

Currently, amenities for birders to stay overnight are limited. The development of a bed and breakfast, cabins, or hotels would allow birders to stay overnight on the peninsula instead of making day trips or staying in Winnie or Galveston. Furthermore, development of a partnership with the Houston Audubon Society would help the Bolivar Peninsula promote bird watching and increase visitation to the island. This partnership would develop interpretive signs for birding hotspots as well as create a marketing/promotional strategy for the Bolivar Peninsula.

Proposal 2b: Promote Ecotourism

The Bolivar Peninsula has ecotourism potential on the bay, gulf and on the island marshes. Kayak tours through the marshes or to the small surrounding islands offer visitors potential bird, sea turtle, dolphin, and other marine life sightings. Bicycle tours of the island could be cultural and natural resource based. Bolivar Peninsula would need to seek ecotourism businesses that could provide these type services.

Benefits to the Community

The U.S. Fish and Wildlife Service reported that over 47 million U.S. residents participated in bird watching in 2001 and almost 20 million traveled outside their home area to view birds.
average birder is middle aged with above average income and education. Furthermore, higher income and education levels increase the probability of participating in bird watching.\textsuperscript{40}

An economic impact study of the Great Texas Coastal Birding Trail, which passes directly through Bolivar Peninsula, found that visitors averaged 31 days per year on the trail, trips averaged about eight days, and expenditures averaged about $80 a person a day.\textsuperscript{41} Similar findings in Arizona cited nature tourists spending $84 per person per day.\textsuperscript{42}

An economic impact study of a North Dakota birding festival found that participants averaged spending $235 for a four day event. The largest expenditure categories were lodging, transportation to and from the area, food and beverage, local transportation, and personal shopping. The study found that 1000 visiting nature tourists with similar spending habits of festival participants would total $193,000 in direct expenditures and $456,000 in total economic impact using the multiplier effect. These figures support an estimated six new jobs in the local community.\textsuperscript{43}

\textit{Challenges}

Encouraging new businesses such as hotels or ecotourism companies to establish operations in Bolivar is challenging without being able to offer the businesses tax incentives or grants to help with start up costs. However, by partnering with organizations such as the Houston Audubon Society and Texas A&M Galveston, educational campaigns would increase the visibility of nature tourism options on the island and draw more visitors to Bolivar. This in turn would make it more attractive and less risky for lodging enterprises and ecotourism companies to establish businesses on Bolivar Peninsula.

\textit{Cases and Examples}

Canadian, Texas began marketing and promoting bird watching in their community in 1999. Within five years of placing an economic focus on nature tourism, bird watching was attributed to creating 160 new jobs, 12 bed and breakfasts, and 4 new restaurants. It also led to a 28\% increase in sales tax revenue and renovation of commercial and historic downtown buildings.\textsuperscript{44}

Virginia completed the Virginia Birding and Wildlife Trail in 2004. Similar to the Great Texas Coastal Birding Trail, the VBWT increased the state’s wildlife viewing travel expenditures by

83% since 2001 and an estimated 2.3 million individuals spent over $960 million on wildlife recreation.\textsuperscript{45}

Birding festivals are common in other coastal Texas cities including Galveston, Lake Jackson, Port Aransas, Lake Jackson, and Rockport. The festivals can be species centered like the Whooping Crane or Hummingbird, or event centered such as the annual spring migration.\textsuperscript{46} These festivals provide various models and economic impact estimates for birding special events.

\textit{Feasibility and Cost}

Partnering with the Houston Audubon Society and Texas A&M Galveston is very feasible because of the vested interest both entities have in Bolivar Peninsula. This would provide a low cost option that would help bring more visitors to Bolivar Peninsula. Actual business development of lodging and ecotourism would be a longer term goal as visitation to Bolivar Peninsula for nature based tourism is increased.

Proposal 3: Sea Turtle Environmental Center

Background

Both Kemp’s Ridley Sea Turtles and Loggerhead Sea Turtles have been spotted nesting on the Bolivar Peninsula. Formal nesting patrols using All Terrain Vehicles were instituted on Bolivar Peninsula in 2008 and are being continued in 2010. Volunteers conduct a single round-trip patrol weekdays from 7:00 AM-1:00PM to monitor beaches from the Bolivar Flats Shorebird Sanctuary on the southwestern end of the Peninsula to the beach adjacent to High Island. As these nesting beaches are frequented by increasing numbers of tourists during nesting season, Texas A&M University at Galveston (TAMUG) has partnered with the Galveston NOAA Sea Turtle Facility and Moody Gardens to increase the public’s awareness and reporting of sea turtle nesting through various means, including extensive sign deployment projects.

The Kemp’s Ridley is an endangered species, and the Loggerhead is a threatened species. As a result, tension between turtle conservation efforts and local residents exist because many construction and recovery projects are delayed by the sea turtle nesting seasons. However, working with the endangered species regulations instead of against them will instill a sense of stewardship in the community and a positive reputation for the support of sea turtle conservation.

Turtles are returning to the peninsula after Ike’s desolation of their previous nesting grounds. To help residents accept sea turtles as an important part of their community, it is recommended to establish a Sea Turtle Environmental Center. Designation of a center will aid in coordination of nesting activities, establish positive economic revenue for the local economy through tourist activities and provide local employment.

Benefits to the Community

Sea turtles were negatively impacted by Hurricane Ike because their nesting grounds (sandy areas with an incline or dune) were flattened and covered with rocks and debris. As the sea turtles slowly return, educational and interpretive activities could provide both the community and its visitors with information that would garner sea turtle support and lead to economic activities based on sea turtles. Possible activities include turtle tours on the beaches, volunteer turtle watches where volunteers would often stay overnight and spend money in the local community, or sea turtle events or festivals. Partnering with TAMUG to develop interpretive brochures and signs would be an important part of the sea turtle educational campaign.

Benefits to the community include tourism revenue as well as job creation for the local population, educational programming for community children as well as festival event incorporation. The environmental protection of endangered species also brings a positive reputation to Bolivar Peninsula.

**Challenges**

Challenges include securing community support and interest, startup costs, mitigation, and management.

**Cases and Examples**

Sea Turtle, Inc. South Padre Island Texas  
http://www.seaturtleinc.org/  
Sea Turtle, Inc. was founded in 1977 by Ila Fox Loetscher, better known as "The Turtle Lady of South Padre Island. In 1999, Sea Turtle, Inc moved from Ila's backyard into its current location at 6617 Padre Blvd. Originally this organization was formed to aid in the protection and recovery of the endangered Kemp's Ridley Sea Turtle. Their mission has now expanded to include rescue, rehabilitation, and release of injured sea turtles; education of the public; and assistance with conservation efforts for all marine turtle species.

Sea Turtle, Inc is a non-profit organization (501-C3). The sole source of income is public donations which are used to achieve the three missions. Specifically, donations help with the upkeep of the sea turtles housed at the facility. This includes food, medications, heaters, filters, water and electricity. Donations are also used to support Sea Turtle, Inc.'s educational programs that are distributed globally to fund alternative resource and conservation projects. Sea Turtle, Inc. awards scholarships to university level biology students. Each summer they host an internship program for currently enrolled or recently graduated college students in the biological sciences.

Sea Turtle Sanctuary: hatchery, hospital, research center – South East Asia (Sri Lanka)  
http://seaturtlesanctuary.com/  
The December 2004 Tsunami in South East Asia ruined the sea turtle hatchery in Sri Lanka. It had been managed by the same family for two generations. The reconstruction project continues with the hope it will be complete in 2008. In addition to turtle tanks and hatching areas will be a restaurant and souvenir shop. Sri Lanka is visited by five endangered species of sea turtles. About 75,000 turtle eggs are incubated yearly and injured adult turtles are rehabilitated. The business model is simple and involved paying local people for turtle eggs as an option to eating them. Payments for turtle eggs support about 60 families in the neighborhood. Funding comes from admission fees and donations from tourists. No government financial support is available but necessary regulatory approvals have been received.
Proposal 4: Geocache Program for Bolivar Peninsula

Background

Geocaching is a recent phenomenon that involves using GPS coordinates to locate a hidden treasure or “cache”. The first recorded cache was placed in 2001, and 75 caches were documented by the end of the year. Currently the main geocache website, geocaching.com, reports almost 500,000 caches worldwide. Caches vary in size and are often placed in areas that have some significance such as scenic, historical, cultural, etc.49

Many parks at the city and state level have seen a drastic increase in both the number of caches placed in their parks and the number of participants seeking them. Geocache participants are always seeking new caches to find.

Development of a Geocache Program on Bolivar Peninsula

The Bolivar Peninsula could develop a Geocache program that would draw participants to the area. A series of caches could be hidden at various points of interest incorporating cultural, historical, environmental, and social elements of Bolivar Peninsula. For example, the first cache would be located close to the Ferry, with others located at other points of interest including Fort Travis, Crystal Beach, Rollover Pass, the Intracoastal Waterway, High Island, etc. Holistically the caches would give participants a tour of the peninsula and encourage them to stay at least one day.

Geocaching.com is the premiere site for geocache activities. The majority of caches and geocache users globally are registered through it.

Benefits to the Community

This program would be inexpensive to administer and could utilize volunteers to place and maintain caches. Registration on geocaching.com offers both a free or paid option and also promotes the program by being visible to the geocache community. This is a simple and inexpensive way to draw visitors to Bolivar Peninsula and have them spend money on meals, souvenirs, etc.

Challenges

An individual familiar with geocaching must be located to pioneer this program. As the number of geocaching participants continues to grow, finding a volunteer or volunteers to help maintain the cache system on Bolivar Peninsula would not be overly difficult.

Cases and Examples

The Texas Parks and Wildlife Department recently started a “Geocache Challenge.” The challenge involves locating a series of caches in their Region 5 parks. Caches have an interpretive message about the park that the participant must use to answer a series of questions.

on their logbook. Once all the caches have been found and the questions in their workbook answered, the participant is issued a Geocache Challenge certificate.\textsuperscript{50}

\textit{Feasibility and Cost}

Establishing a geocaching program would be low cost in due to volunteer utilization and also easy to implement. It provides an inexpensive way to draw visitors to Bolivar Peninsula and subsequently increase revenue. It also allows Bolivar Peninsula to highlight points of interest.

\footnotesize{\textsuperscript{50}Texas Parks and Wildlife Department. \textit{Texas Geocache Challenge}. 2009. \url{http://www.tpwd.state.tx.us/geocaching/} (accessed October 28, 2009).}
Part III: Tourism Options

Proposal 1: Ferry Port Area Development

Background

TxDOT operates a ferry system between east Galveston and Bolivar Peninsula that provides free service to both vehicle and pedestrian traffic. Five ferries are currently in operation and trips last approximately thirteen minutes from the point of departure. The Bolivar landing site contains public restrooms and a small picnic area for passengers waiting on ferry service. Bolivar residents report, at peak seasons, the ferry waiting line can be as long as three hours.

Developing tourist and cultural economic projects at the Bolivar Peninsula ferry landing is advantageous for the community. One option is a City Mural Wall project similar to the famous “Whale Walls” painted by internationally recognized environmental artist Wyland. Bolivar could create a mural of a Bolivar interest such as a blue crab wall, or turtle wall. This destination tourist attraction could be run as a community outreach program, similar to that of Newark, New Jersey. Newark pairs famous visiting artists and high school students to create murals around the city.

The port area also contains Fort Travis which is proposed as a historic tourist site. It presents the possibility of combining the Mural Project with Fort Travis revitalization project for a higher Return on Investment.

Benefits to the Community

The entrance to a community sets the tone for how visitors and economic investors perceive the city. In addition to supplying a tourist destination for photo opportunities, the Bolivar mural project will make an emotional statement about the revitalization of the peninsula and the resilient people who live and work there.

The Mural project works in tandem with the high school as a recurring outreach project and generates media publicity when famous artists visit the community to participate in the project. The mural project could facilitate private local small business involvement in developing the surrounding areas of the port to further facilitate walking traffic at port attractions.

Challenges

This project has relatively inexpensive overhead in most cities. Bolivar, however, lacks a preexisting building or structure at the ferry landing site necessary to host the mural. Bolivar would need to construct a wall-like structure to host the mural.

Additional challenges would be community agreement on artistic topics for the wall, mitigation during hurricane season, and the commitment to a recurring program. Mural maintenance will be an ongoing process as the paint will deteriorate over time.

Cases and Examples
South Padre Island, TX “Whale Wall”
The internationally recognized environmental artist Wyland chose South Padre Island to paint Whaling Wall #53. The giant mural featuring a pod of orcas, commonly known as killer whales, covers three walls of the SPI Convention Center. The life-size whales are illustrated in full color and are accompanied by other local sea life. Wyland is planning to paint 100 walls during his career to educate people on the importance of marine conservation.51

Cuba, Missouri “Route 66 Mural City”
http://cubamomurals.com/
The Route 66 Mural City emphasizes historic murals. The city has embraced the murals as their soul tourist attraction by incorporating the murals throughout the town and inside most stores, hotels and buildings. The murals also incorporate the city’s annual festivals and events. Funding is supported through charity auctions and community fundraisers.52

Feasibility/Cost

This project is economically viable for small communities such as the Bolivar Peninsula because the community outreach model relies on volunteer labor of students and artists and local donations and fundraiser events. The Newark City Mural Project received federal funding through the American Recovery and Reinvestment Act.

Proposal 2: Working Artist Colony Development

Background

The Bolivar Blueprint communicates a desire to increase small businesses, local economy, and tourism for the peninsula. Residents also articulate a desire to maintain their previous family oriented and casual beachfront culture and a desire to steer clear from a spring break party atmosphere.

For these reasons, a Working Artist Colony Development is proposed for Bolivar’s consideration. Based on the working colonies of Rocky Neck53, MA these craftsman colonies develop in picturesque locations such as oceanfront communities. Walking tours, special art events and showings, annual city wide festivals, incorporation into historic landmarks, campgrounds, local restaurants and housing options stem from colony development. The colony is a nonprofit organization run by an executive committee.

Benefits to the Community

A Working Artist Colony would bring both direct and indirect revenue to Bolivar. Artists would live and rent work space in the colony, conduct community outreach services and classes, and sell artwork. Indirect revenue is created from the development of coffee shops, restaurants, small galleries and gift shops surrounding the colony. The Colony will create a tourist destination based on culture, learning, craftsmanship and art to the community.

Challenges

The creation of a working artist colony is a long term strategic partnership requiring infrastructure development such as housing, galleries, rental art studio space, etc. Leadership to spearhead the long-term project will be of significant importance to foster a successful establishment. Mitigation during hurricane season may require smaller galleries similar to the Rocky Neck colony to allow for evacuation of art work.

Cases and Examples

Rocky Neck Artist Colony-- Massachusetts
http://www.rockyneckartcolony.org/
Rocky Neck is a working artist colony in Massachusetts. The area is home to many working artists and whose galleries exhibit paintings in all media, as well as batik, photography, jewelry, prints, sculpture, ceramics, and fine gifts. In addition to viewing the arts, one may snack or dine at unique restaurants that feature fine food and scenic views.54

Regarded by many to be “America’s Oldest Working Art Colony,” the artists’ enclave at Rocky Neck during the period from 1850 to 1950 attracted a number of important realist painters in the annals of American art. Almost every American artist of note has painted on Rocky Neck at

some point in his or her career including Milton Avery, Cecilia Beaux, Theresa Bernstein, Nell Blaine, Stuart Davis, Frank Duveneck, Adolph Gottleib, Childe Hassam, Hans Hofmann, Winslow Homer, Edward Hopper, Fitz Henry Lane, William Meyerowitz, Frederick Mulhaupt, Maurice Prendergast, Mark Rothko, John Sloan, and many others. That same vitality is alive today. Dozens of working artists display their work in Rocky Neck galleries and studios, exhibiting a wide range of styles and media. In addition to the galleries, area restaurants provide gourmet cuisine, waterfront views, and eclectic atmosphere. The Rocky Neck Art Colony is a non-profit arts organization comprised of artists, businesses, and community members whose mission is to create, support, and celebrate excellence and free expression in the arts on Rocky Neck and beyond.55

Feasibility/Cost

This is a long term strategic planning process over many years. Detailed strategic plans and lessons learned from other artist colonies should be gathered from case studies if Bolivar wishes to implement.

Proposal 3: Drive –In Movie Theater

Background

Bolivar’s beautiful coast line and moderate weather naturally lends itself to outdoor activities. The Bolivar Blueprint illustrates the community’s desire for family friendly programming and tourist activities. For these reasons a drive-in movie theater is presented for community consideration. There are only thirteen family friendly drive-in movie theaters currently operating in Texas. Drive-in theaters can be a unique, family oriented tourist destination for the community. Use of FM radio stations is encouraged instead of large speakers to limit noise pollution.

Benefits to the Community

Benefits to the community include tourism revenue as well as seasonal job creation for the local population. Educational programming for community children could be integrated as well as festival event incorporation.

Challenges

One challenge is mitigation for projection equipment and infrastructure needs. The most substantial challenges are startup costs, described under feasibility/costs below.

Cases and Examples

Midway Drive-In Movie Theatre—Turkey, Texas

http://www.hallcountytexas.com/midway_drivein_movie_theatre.htm

Just five miles west of Turkey, Texas on Highway 86 is the Midway Drive-in. The Midway offers a scenic view of sunsets and bright stars as a bonus to weekend movies. A 50’ x 70’ screen with outdoor benches, a sand box, and a full service concession provides guests with a family friendly atmosphere. Visitors enjoy attending Friday through Sunday every weekend from May 4th, 5th, 6th. The theater is officially open from Memorial Day to Labor Day.

Feasibility/Cost

Startup costs for a new drive-in theater run $300,000-$500,000 for a single screen to $400,000-$800,000 for a twin screen complex. Other factors to consider include mitigation for hurricane season, safety and security issues during peak times, and the need to minimize light pollution.

Structural elements include: 100 foot screen(s), cinema projection equipment, car ramps and parking areas, land purchase or rental (10-14 acres per 500 cars), handicap access, concessions, and restrooms. Additional elements include: zoning, taxes (if applicable) fees, permits, film rentals (10%-90% box office take).

Proposal 4: Community Swimming Pool/ Aquatic Center

Background

Conversations with community representatives indicate a desire for a community swimming pool on Bolivar Peninsula. Bolivar’s pre-existing water-slide Park which provided the only non-ocean based water activity is closed indefinitely. Swimming lessons, recreational swimming, and other education courses for recreational water sports could be incorporated into pool use. High Island High School could utilize the pool for swimming based athletics which currently are not provided.

Benefits to the Community

Benefits to the community include tourism revenue as well as seasonal job creation for the local population. Benefits also include educational programming for community children and high school athletics, as well as festival event incorporation.

Challenges

Challenges include startup costs, mitigation during hurricane season, sewer infrastructure, insurance, governance, management, water conservation costs, and drought contingency planning.

Cases and Examples

Huntsville Texas Aquatic Center
http://www.huntsvilletx.gov/department/division.php?fDD=22-121
The purpose of the Huntsville Aquatic Center is to provide water-related activities to citizens and visitors so that they may enjoy a safe swimming experience. The Aquatic Center Division is responsible for the operation and maintenance of the facility. The Aquatic Center Division will coordinate and provide recreational swimming time and swimming instruction to the public, and coordinate and facilitate swim practice times and meets with the Huntsville Independent School District Swim Team and the Huntsville Lakers Swim Team. Special fees/passes include Water Aerobics, Junior Guard, Lap Swimming, and Season Passes.58

Feasibility/Cost

Building costs for a full in-ground swimming pool are substantial. Huntsville, featured above as a case study, used individual fundraising for the majority of the startup costs. Startup costs ranged from $900,000 - $1,200,000. The project was a joint venture between the Huntsville School District and the city. The majority of the construction money was raised by local fundraising efforts. Annual operation costs for a community pool can range from $30K - $200K per year depending on the size and features of the center. Full feasibility studies are recommended if Bolivar elects to proceed with this proposal.

Proposal 5: Equestrian Center for Beach Rides

Background

To expand both tourism and local small business operations on Bolivar, an Equestrian Tourism Center is proposed. Based on the ‘not tourist trail’ model that South Padre Island is famous for, tours would allow locals and visitors the experience of riding along the beaches of Bolivar. Educational experiences and outreach activities could be incorporated with the local school district. Incorporation into festivals and city wide events could be profitable.

Benefits to the Community

Benefits to the community include tourism revenue as well as job creation for the local population. Other possible benefits include equestrian programs for community children and equestrian use in festival or special events.

Challenges

Challenges include public acceptance of the use of the public beach and sand dunes for riding tours as well as mitigation of horses during hurricane season.

Cases and Examples

Equestrian Center – South Padre Island Texas
http://www.horsesonthebeach.com/AboutUs.asp
This center offers horses that are appropriate for all riding levels. Not a single-file trail ride, these guided group tours allow riders more freedom to explore stretches of beach.

Feasibility/Cost

Funding options to help establish an equestrian center would need research to determine if this project is feasible for Bolivar Peninsula.

Proposal 6: Festivals

Background
Bolivar holds several annual festivals, the largest being the Bolivar Crab Festival. The Chamber of Commerce has recently designated a new committee chartered with creating a new festival to engage the community and increase tourism during the fall or winter season.

Benefits to the Community
Festivals bring tourism revenue into the city as well as seasonal job creation for the local population. Events can empower communities with a celebrated cultural identity. Educational programming for community children are often incorporated into festival events.

Challenges
There are no existing buildings or facilities on the island to hold festivals. Other challenges include public acceptance of the festival, mitigation, security, management, carrying capacity, and financing.

Cases and Examples
ArtScape (Baltimore, Maryland)
http://www.artscape.org/index.cfm?page=plan
America’s largest free arts festival, Artscape, features over 150 artists, fashion designers and craftspeople, including DIY/new wave crafters; visual art exhibits on and off site, such as outdoor sculpture, art cars, photography and the Janet & Walter Sondheim Artscape Prize; incredible live concerts on three outdoor stages; a full schedule of performing arts including dance, opera, theater, fashion, film, experimental music and performances by the Baltimore Symphony Orchestra; family events such as hands-on projects, demonstrations, jazz vocal and combo competitions, children’s entertainers and multiple street theater locations; and a delicious, international menu of food and beverages available throughout the site.

Baltimore Book Festival
http://www.baltimorebookfestival.com/
The annual festival featured more than 100 local and celebrity authors. The event is free to the public and runs over a three day weekend. Located in historic Mount Vernon Square, the Washington Monument overlooks the festival site. Dynamic, personal interaction between readers and authors is the festival hallmark. It also offers food, musical performances by local and regional acts, and hands-on activities for the children, area restaurants and attractions, picnic tables for resting and more.

Free Fall Performance Arts- Baltimore
http://www.freefallbaltimore.com/events.cfm
Free Fall Baltimore is a program of the Baltimore Office of Promotion & the Arts (BOPA), the city’s non-profit special event and arts agency. BOPA champions the important role of creativity in building a vibrant, exciting and livable city, energizing not just the arts scene, but Baltimore as a whole. Inspiring and nurturing artists and showcasing the literary, performing and visual arts,
BOPA presents a wide range of activities. BOPA developed the Free Fall Baltimore program to increase access, interest and attendance in the city’s many cultural organizations, especially for families and young adults, who are the creative community’s future patrons. More than 70 art, heritage and cultural organizations will offer free events and programs during Free Fall Baltimore.

International Kite Festival (Long Beach, Washington)
This festival is held annually on the 26 miles stretch of Long Beach, Washington. It a free festival, one week long in duration. Participants are encouraged to bring their own kit. Various booths selling kites, commemorative memorabilia, and concession stands are stationed throughout the festival. The festival choreographs mass-ascents by kite category: flat kites, figure kites, Rokkakus, cellular kites, soft kites, deltas, stunt kites, trains, traditional kites, arch trains and ribbons, and multi-line figure kites.

Fleet of Flowers Memorial Day Observation (Glendened Beach, Depoe Bay, Otter Rock)
The Fleet of Flowers Memorial Day Observance, in Depoe Bay has been held each year since 1945. The fleet of flower boats passes under the Highway 101 Bridge and forms a circle in the bay. The fleet then casts their memorial wreaths onto the water. At this moment a Coast Guard helicopter lowers its wreath into the center as military jets cross overhead. Events are also scheduled at Glendened Beach and Otter Rock.

Oregon Coast Soap Box Derby (Lincoln City)
http://www.ocsbd.org/
The Oregon Coast Soap Box Derby Association holds its annual race on Father’s Day. The race attracts families and race fans from all over Lincoln City. The third annual Autofest car show was held on race day along with the traditional race day events. The Autofest introduced many classic and collector car enthusiasts to Derby racing. On display were street rods, muscle cars, motorcycles, trucks, funny cars, and junior dragsters. Also a group representing “Team Safety” were on hand with displays designed to promote safe driving. All proceeds benefit the Soap Box Derby associate to help ensure funding for future Derby Events.

Florida Pirate Festival (St Petersburg)
http://www.piratefair.com/
This festival is a portable “Pirate” Renaissance Festival, including walking characters, entertainment, stages, games, human powered rides, fire shows, storytelling, crafts and artisans, stunt shows, food and merchandizing. Special kids sections include Treasure Hunts, Maps, Games, and Teaching Resources.

Great Salt Lake Bird Festival-- Utah
http://www.greatsaltlakebirdfest.com/
The Great Salt Lake Bird Festival is one of three ‘Linking’ Festivals also including Saskatchewan, Canada and San Blas, Mexico. These festivals incorporate common birds and habitat types. The Linking organization is involved with student education and teacher exchanges. This linking partnership is important in making in recognizing established bird.
program committee has created field trips that cover a variety of topics including a youth-based art contest. The festival includes booths, food, displays, art applications, activities, and youth events.

Feasibility/Cost

Festivals are an excellent option to fundraise for the community and also increase the prominence of Bolivar Peninsula through festival participation. There are many topic areas available for festival promotion and the community could help decide which type of festival Bolivar Peninsula would like to see created.