

U.S. RETIREMENT IN MEXICO RESEARCH SERIES

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The Greening of U.S. Retirement Destinations in Mexico: Emerging Issues and Trends in Coastal Communities

Executive Summary

This report analyzes environmentally specific consumer perceptions and preferences among U.S. retirees and second home buyers in Mexican coastal communities, including recycling, reducing consumption, and green building. In addition, the report reviews how U.S. retirees are addressing the environment independently in Mexico and how developers can capitalize on growing consumer interest in “greener” living. Finally, the report makes policy recommendations for Mexican decision-makers on development practices, sustainable tourism criteria, and creating healthier communities.

The focus on Mexican coastal cities and towns reflects their consistent and growing popularity with Americans seeking to retire. For years, U.S. tourists have flocked to Mexico’s coastline for the climate, views, access to the sea, and of course, for its proximity to the United States. The MesoAmerican Reef draws many visitors, resulting in a tourism and second home

development corridor south of Cancún known as the Riviera Maya. The Pacific coast includes Puerto Peñasco, Puerto Vallarta, Mazatlán, Acapulco, and Huatulco, each of which has expanded to develop similar corridors. The Baja California peninsula, frequented by U.S. travelers for its direct flights from California and Seattle, includes Rosarito/Ensenada, Todos Santos, Cabo San Lucas/San José del Cabo, La Paz and Loreto. Over time, these tourist areas have evolved into “retirement destinations.”

Mexico’s coastline is also known for its beaches and warm blue water, but its marine biodiversity is equally spectacular, attracting tourists to its natural abundance. Visitors can experience pods of hundreds of dolphins and rays; dozens of species of turtles, sharks, and whales; and marlin, roosterfish, and sailfish – all with a backdrop of dramatic mountains, reefs, and picturesque coastal towns. In Mexico’s coastal communities, wildlife-watching, sportfishing, diving,

snorkeling, and sailing are the main attraction.

Yet, as the tourist infrastructure grows, the marine biodiversity and fragile coastal area are the first victims, threatening the very substance of local tourism offerings. Towering hotels and condominiums block view corridors; golf courses, non-native landscaping, increased household water use and inefficient infrastructure accelerate depletion of available water resources; runoff laden with untreated sewage, dirt, fertilizers, and oil poison near-shore reefs, mangroves, and fish habitats. This is not how U.S. retirees intended to enjoy their “adopted” Mexican coastal communities.

This report is one of the first to analyze U.S. retiree consumer preferences and priorities when it comes to the environment. The International Community Foundation conducted a comprehensive study of 840 U.S. retirees in Mexican coastal communities between July and November 2009, including questions related to their behavior regarding environmental issues, as well as the opportunities to improve their “adopted” community’s quality of life as it relates to the local environment. The target populations surveyed were those aged 50 years or older who are now either retired full-time in Mexico or residing there on a part-time basis.

Among the study’s key finding was that the overwhelming majority of respondents (78.7%) have actively considered their environmental impact on their adopted new community in Mexico. They drive less

(63.3%), consume less electricity (53.1%), and use less water (41.4%). They recycle (31%), but another 46% noted that they would recycle if those services were available to them. 42% are concerned or very concerned about climate change.

Our analysis underscores the fact that a sustainable future for Mexico’s coastal destinations must include resource-efficient infrastructure and effective land-use planning. With improvements in irrigation and water treatment systems, transformation of power provision systems, ecosystem restoration, and erosion control measures, Mexico’s decision-makers can ensure that the infrastructure and land use zoning they put in place results in a positive legacy. Furthermore, enforcement of existing environmental laws and long-term land-use planning can blunt the potential impact of irregular development on coastal lands.

Background

While the number of Americans retiring to Mexico is expected to increase, the over 50+ American “baby boomer” is a unique demographic, one whose generation helped shape the environmental movement in the United States. “Baby Boomers” are typically defined as the group of 75-78 million U.S. citizens born between 1946-1965.

Green Boomers

A 2008 poll taken by AARP demonstrated that the 50+ age group is very environmentally conscious. AARP’s “Going Green” surveyed 1,200 U.S. respondents and learned that 65%

The Greening of U.S. Retirement Destinations in Mexico: Emerging Issues and Trends in Coastal Communities

bought local or organic produce; 81% recycled; and 77% use energy-efficient lighting and appliances.¹

In fact, about 65% of the baby boomers are considered “greenies,”² making consumer decisions based on the company’s “green” profile, favoring “green” products, and incorporating environmentally-friendly practices into their daily lives (see Table 1). They also “think green”, choose recreational activities over sedentary ones, and feel a sense of responsibility toward the planet.³ A Focalyst survey of 30,000 baby boomers reported that 70% of respondents said “they had the responsibility to make the planet a better place.”⁴

According to Focalyst, 54% of the Baby Boomer generation can be considered “Green Boomers,” buying organic and local goods, as well as environmentally safe products.

Furthermore, “Green Boomers” are more than twice as likely to buy from companies that re-invest in the local community. These trends become even more pronounced with age.⁵

Furthermore, “Green Boomers” seek truth in advertising. They closely watch product ads with a critical eye. They seek authenticity in how a brand matches their values, and understand “greenwashing.”⁶

Retirement communities are responding to these trends with substantive moves toward a “greener” model. For example, U.S. based builder, Shea Homes, is marketing one Florida “active lifestyle” development as having a carbon footprint of 20-30% less than a typical household. The homes feature solar attic fans, green-fiber recycled insulation, motion-sensor lighting, energy-efficient windows and appliances, and electric-vehicle charging stations.⁷ Other retirement community

TABLE 1. Socially Conscious Attitudes of Green Boomers

	Total Boomers N= 75MM (%)	Green Boomers N= 40MM (%)	Other Boomers N= 40MM (%)
It is important to support local retailers	84	88	78
I have a responsibility to make the world a better place	70	78	60
I try to buy from companies that give back to their communities	57	79	31
I will choose locally produced goods more often than not	48	62	32
It is worth paying more for organic goods	30	41	16

Source: *Focalyst View, 2006.*

management companies are offering solar hot water heaters and hybrid vehicles to homeowners and potential homebuyers in Texas and Maine.

This year, 58% of property management companies that were surveyed by the National Association of Residential Property Managers and Appfolio, Inc. agreed that “going green” will be important for their industry in the future. Already, property managers are installing energy-efficient appliances and light bulbs, as well as water-conservation measures throughout their properties.⁸

As baby boomers retire, they are even seeking “encore careers” in the green economy. The Council for Adults and Experiential Learning in Chicago found that careers in weatherization, energy auditing, and solar installation could open opportunities for baby boomers as trainers, consultants, and advocates.⁹ Over 13 million baby boomers are already working in a second career.¹⁰

Mexico's Competitiveness in the Tourism Sector

In 1950, Mexico was ranked 13th out of 46 countries most visited in the world.¹¹ In 2007-2009, the World Tourism Organization ranked Mexico 10th with over 20 million visitors annually.¹² Much of the recent growth in tourism destination development has been in the coastal zone, with an emphasis on large-scale Centros Integralmente Planeados (or CIPs).

“In 2005 tourism created 1.88 million direct jobs and employed 6% of the active population (it also accounted for 8% of GDP). These jobs are up to 30% better paid on the labor market.”¹³

- Oscar Gómez Cruz (2005)

Mexico has declared 2011 “The Year of Tourism”. As Oscar Gómez Cruz notes, tourism is an important economic driver and a steady employer for both high- and low-skilled labor. However, the international marketplace has noticed the deterioration of the tourism experience in Mexico. In 2009, National Geographic Traveler rated Mexico's Riviera Maya a 44 out of 100 - “one gated resort after another” and “beautiful beaches obscured by miles of hotels” were just some of the comments by independent reviewers. The Los Cabos region was rated 37 out of 100 - “a tourism catastrophe”, “very little authentic local culture presented,” and “terribly gringofied” were reviewers' comments on Cabo San Lucas and its surrounding hotel zone.¹⁴

By comparison, other retirement destinations fared much better. Although the Dominican Republic's North Coast was rated just 41 out of 100,¹⁵ Costa Rica was rated 62, Belize's reefs and islands a 59, and Ecuador's Galapagos Islands a 50 out of 100.¹⁶ These destinations consistently rate at the top of International Living's “Top Places to Retire.”¹⁷

And yet, Mexico's coastline continues to be targeted for large-scale land use changes to increase tourism offerings. In its coastal tourism development monitoring program in 48 locations in Northwest Mexico, ALCOSTA, an alliance of 20 Mexican nonprofit organizations, found that in 2005-2006, the coastlines along the Gulf of California are being transformed by the real estate and tourism industries. Ten natural protected areas were being targeted for coastal development; 44 estuaries were under threat. There were 57 tourism-related environmental impact statements approved in the state of Sonora alone in 2005-2006.¹⁸

As baby boomers own 57% of all vacation/second homes in the world, according to the National Association of Realtors,¹⁹ this building trend is significant. If these proposed developments were built with sustainable communities and "green" certification standards in mind, the negative impact on Mexico's natural resources would certainly not be as significant.

Furthermore, second home buyers are even more demanding than primary home buyers when it comes to amenities, and they are not always looking for the traditional pool, golf, and tennis courts. By paying careful attention to emerging consumer preferences, Mexico can take the lead on creating tourism and residential experiences that avoid the traditional models in the southern U.S. and the Caribbean. "We realized that our members' time was their most precious asset. We also realized that our members didn't want to get dragged around from gold course

to golf course. They were more traveled and sophisticated than that," noted Peter Pollack from the Turks and Caicos Sporting Club. "They (second-home buyers) lead pretty harried, frenzied lives and the standard things like golf and tennis are available where they have their primary residences. So it's not much of a differentiator to offer them those amenities in second-home communities," stated Mr. Banks from the Mountain Air community in North Carolina.²⁰

In the next two sections, this report offers a current snapshot of these emerging consumer trends and offers recommendations to developers and decision-makers on how best to position Mexico as a leader in the second-home market.

Key Findings

The International Community Foundation conducted an online survey in June-November 2009, resulting in over 1,000 responses. The Foundation targeted U.S. retirees over 50 years of age that are residing part-time or full-time in Mexican coastal communities. These include Puerto Vallarta, the Riviera Maya, Cabo San Lucas, Rosarito, La Paz, Loreto, Puerto Peñasco, and many smaller villages along Mexico's extensive coastline. After filtering out non-target respondents, the Foundation had over 840 survey participants, enough to provide a 95% confidence level. (Please see methodology section below).

General Demographic Profile

The demographic profile of the survey respondents points to a relatively young and well-educated group with an active social and home life. Nearly 53% are under 65 years of age (and, in fact, 80% are 69 years or younger). Almost two-thirds have at least a college degree, with 31% having either a masters' or doctoral degree. 73% of all respondents are fully retired; while 46% of the "baby boomer" group is fully retired.

Survey respondents prefer coastal living and enjoy recreational activities that center on the water. Nearly 56% take pleasure in coastal leisure activities such as fishing, swimming, surfing and boating. Just walking along the beach was mentioned by 70% of respondents; and relaxation was a major "activity" mentioned by 65% of respondents. In addition:

- 81.1% identified ocean views as the #1 aspect of coastal life they found most attractive.
- More U.S. retirees in Mexican coastal communities enjoyed bird watching - 15.1% -than played golf-14.1%.
- The #1 aspect of coastal life in Mexico that was found most unattractive was the litter on the streets and beach, with 55.1% of American respondents highlighting this as a key concern; followed by 48.1% identifying sewage runoff to the beaches and/or ocean as a key issue of concern.

Even though survey respondents are financially comfortable as a whole when compared to their Mexican counterparts ,

our respondents signaled that although they spend less in Mexico than they do in the U.S. (nearly 70% spent less than \$2,000/month on household expenses), a majority feel their quality of life is actually higher than in the U.S.²¹

Environmental Priorities

The overwhelming majority of respondents (78.7%) have actively considered their environmental impact on their adopted new community in Mexico (see Table 2). They drive less (63.3%), consume less electricity (53.1%), and use less water (41.4%). They recycle (31%), but another 46% noted that they would recycle if those services were available to them. 42% are concerned or very concerned about climate change (see Table 3).

Environmental issues were also important to respondents when they selected their new home. Respondents stated that proximity to natural habitats (55.3%) was very important or important to their decision to purchase a home in Mexico, 83.5% cited availability of water as an important consideration while 66.2% selected environmental considerations.

Many would have preferred to have "green" elements incorporated into their home design. Only 15.7% stated that they had "green" options to choose from in their home search; 64.7% said they did not have a "green" or environmentally sustainable option when selecting their home.

Most importantly for decision-makers, almost 50% identified declining environmental

quality an important factor in a future decision to leave Mexico; 31% cited increased urban growth. Among survey respondents, litter (63%), sewage runoff (53%), unplanned urban growth (37%), overdevelopment (29%), and noise pollution

(26%) were other things that residents noticed that were impacting their quality of life. See Table 4 for other social issues and challenges identified by ICF survey respondents.

TABLE 2. Have you considered the impact that you are having on the environment in your newly adopted Mexican community?

	Percent
No Response	8%
No	13.3%
Yes	78.7%
Total	100%

Source: ICF Survey, 2009.

Respondents also selected their “adopted” coastal community in Mexico because of its natural assets. They spend their time birdwatching (15.1%), fishing (29.7%), scuba diving (9.9%), surfing (6.8%), and walking on the beach (70.1%). In focus groups, retirees repeatedly mentioned the ocean and the natural beauty as reasons they selected Mexico. Hiking, cycling, gardening, snorkeling, orchid hunting, kayaking, watching marine wildlife, sailing, camping, horseback riding, motorcross, and generally exploring the outdoors were all mentioned specifically as activities that drew respondents to Mexico’s coastal communities.

Table 3: To what extent were issues of environmental sustainability important to you when you purchased/selected your home in Mexico?

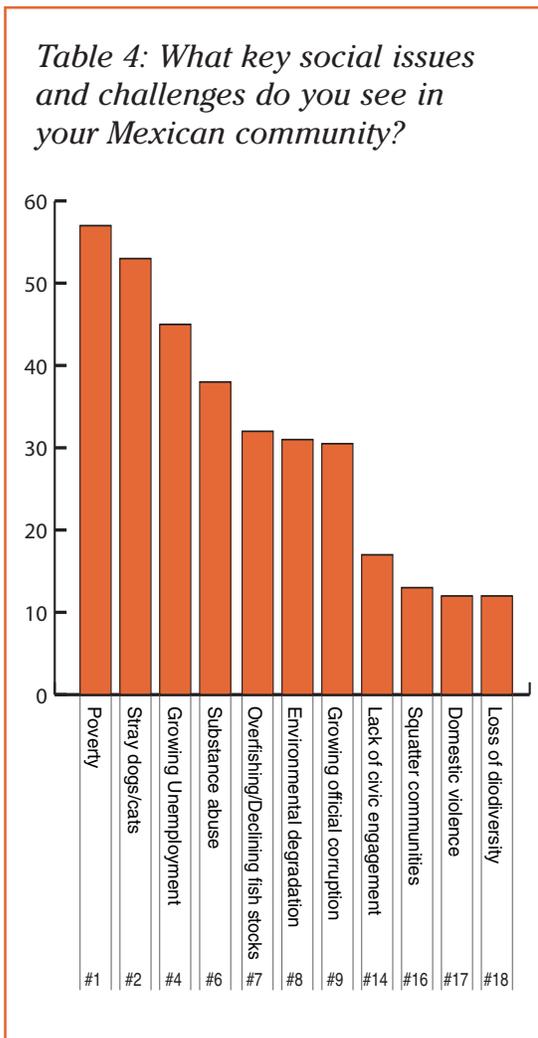
	Percent
Not Important	6.9%
Neutral	22.1%
Somewhat Important	37.6%
Very Important	25.8%
No Response	7.6%
Total:	100%

Source: ICF Survey, 2009.

Discussion of Key Findings

Trend analysts are linking “green boomers”, sustainability, and retirement decision-making in new ways. Baby boomers are seeking something unique - cookie cutter developments will be passed over and smaller towns with vibrant downtowns will be prioritized. Sustainability is a key word in the retirement construction movement, even to the point of seeking “green” certification from internationally-recognized standards, like the LEED standard (Leadership in Energy and Environmental Design). Increasing energy savings is also at the top of the list for retirement

Table 4: What key social issues and challenges do you see in your Mexican community?



Source: ICF Survey, 2009.

communities these days.²²

Active communities with unusual recreational opportunities will also be more attractive to baby boomers.²³ In fact, more evidence points to second home buyers and retirees seeking outdoor opportunities in

their “adopted” communities, such as jogging trails and nature paths, as well as organized environmental activities, like guided nature walks, fly-fishing, plant identification, and birding. Sea kayaking, hiking and a master naturalist program are also popular options with second-home buyers.²⁴

Given these predictions and the International Community Foundation’s survey findings, and the fact that 50+ retirees from North America are the identified target market for future retirement developments in Mexico, the developers targeting this market segment have an important incentive to understand these specific interests. A case can therefore be made to plan and build their infrastructure in accordance with the demands of the North American baby boomer market.

Moreover, since new construction represents the best chance for efficiency gains in energy and water savings, the tourism resort and second-home developers have a tremendous opportunity to act. While this is so, with a few exceptions, to date there have been very few attempts by developers to construct environmentally sustainable retirement communities that have actively responded to the needs and market preferences of the eco-conscious American 50+ retirees.

It is clear from the survey results that U.S. retirees over 50 years of age would respond positively to “green” options in homebuilding and services (like recycling).

Furthermore, they have strongly stated that a declining quality of life resulting from unplanned development, overdevelopment, and declining environmental status along the coastline would impact their decision to stay in Mexico. Developers should emphasize the long-term savings or payback to home buyers by including cost benefit analyses of energy and water saving appliances, fixtures, windows, and building materials in their marketing materials.

This should be a persuasive signal to federal, state, and municipal decision-makers, as well as resort/retirement community developers to offer these products and services, and to pay attention to negative environmental impacts.

The discussion below provides details on “green build” products that consumers and developers should be considering; issues that consumers and municipal decision-makers should be carefully watching; and policy recommendations that can be adopted at the local, state, and federal levels to encourage more environmentally-sensitive construction and land-use zoning.

Mexican Building Trends

As with many resort and retirement community developers, Mexican builders have sought in recent years to build development projects in Mexican coastal communities tailored towards the high-end market, and therefore, are designing their residential units to appeal to the U.S. and Canadian market. By doing so, these developers have often bypassed traditional

Mexican building styles that included the use of local materials and were adapted to the weather and local environmental conditions. In most cases, Mexico’s traditional building style is more resource efficient and has a smaller carbon footprint.

Yet, over 60% of ICF’s survey respondents indicated that “environmental sustainability” was a key consideration in their home purchase decision-making process. Clearly, the coastal tourism and second-home development market in Mexico is poised to take advantage of this market need.

Mexico has an architectural tradition that favors low-impact, environmentally-minded design and construction. Using materials like adobe, painting walls a light color or white to reflect heat, planting greenery specifically for shade, and adding courtyards with fountains are only some ways that historic architecture trends in Mexico respected the natural conditions.

Currently, Mexican resort and retirement community developers in Mexico design for an “imported lifestyle” that appeals to part of the market, but loses energy and water-saving benefits. In fact, an UNAM study in 2007 showed that Mexican buildings consume 25% of all electricity, and produce 20% of all waste and 20% of CO2 emissions.²⁵ In comparison, buildings use 39% of the energy and 74% of all electricity produced in the U.S.²⁶

Mexico has begun a program to officially track energy and water use in buildings as

part of a federal program on efficient energy use, and although Mexico has developed an environmental auditing system that is focused primarily towards industry in general, it does not have a certification system in place for “green” practices of any kind for buildings. Collecting the necessary data is the first step in determining how Mexico can take advantage of the “low-hanging fruit.”²⁷ Second, enforcing existing standards and codes at the federal, state, and municipal levels would encourage the construction sector to take independent action to comply. Along these lines, the Mexico Green Building Council is training architects, engineers, inspectors, and project developers on LEED standards for commercial and residential buildings and how these standards could be applied to existing building codes.

Furthermore, Universidad Iberoamericana and the Universidad Autónoma de Baja California both offer tourism-related degrees, but the UIA is the first of its kind to offer an architecture degree that focuses on tourism and sustainable land-use planning specifically for retirement and resort communities.²⁸ With this additional training, the next generation of architects, land-use planners, and engineers may be able to re-establish the rich Mexican architectural and planning successes of the past, while respecting the current regulatory and legal framework regarding the environment.

“Green” Marketing or Greenwashing? The need for certification in Mexico
The North American Securities

Administration Association, the U.S. Securities Exchange Commission and AARP provide assistance and resources regarding consumer protection during the home buying process and other financial transactions in the United States. The U.S. Federal Trade Commission is currently evaluating whether to adopt a definition of “sustainability” to limit claims in advertising. Yet, such guidance is not always necessary before suing for obviously false advertising and fraud. But, what recourse would an investor or homebuyer have if the builders did not live up to their “green” marketing or greenwashed a project? Currently, there is no penalty in the U.S. or abroad for builders that market a “green” project, but do not deliver one.²⁹

There are two processes that should be considered as universally accepted for tourism-related construction - Leadership in Energy and Environmental Design (LEED) and the Global Sustainable Tourism Criteria from the Tourism Sustainability Council. Because of the success of the LEED building standards in the U.S. and the brand recognition among U.S. buyers, this new standard could open important opportunities for new construction in Mexico.

LEED is an internationally recognized green building certification system, “providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of

resources and sensitivity to their impacts.”³⁰ LEED has certification and rating systems for new industrial and commercial construction, existing buildings (operations and maintenance), commercial interiors, core and shell, schools, retail, healthcare, and residential properties.

In 2007, the U.S. Green Building Council established LEED for Neighborhood Development (LEED-ND) to respond to the larger scale developments that were occurring at the neighborhood level. LEED for Neighborhood Development began its pilot phase with 240 projects. LEED-ND characteristics include: dense urban areas, residents are two and a half times more likely to use public transportation, median size project is 30 acres, and existing development and infrastructure. However, these characteristics are not typical for resort and tourism destinations because of potentially high water and energy use at spas and other facilities, and the large project footprint.³¹

Establishing a “green” certification system in Mexico would close a major gap in the construction sector. The Mexico Green Building Council attempted to develop a National Green Building Rating Tool, but could not tie sustainable practices to established rules and regulations. In fact, of 2,500 municipalities in Mexico, only 72 have building regulations at all; most defer to the state level even though the authority for this activity rests at the municipal level.³²

The Global Sustainable Tourism Criteria are a set of 37 voluntary standards recommended

by the United Nations Environment Programme, Rainforest Alliance, the United Nations Foundation, and the United Nations World Tourism Organisation. Effective sustainability planning and reducing negative impacts to the environment are two of the main themes of the standards. This is an effort to go beyond high-quality service delivery in the tourism industry to deliver a product that is environmentally, socially, and economically beneficial.³³

In addition, the InterAmerican Development Bank (IADB) scorecard for credit applications for tourism projects is based on the GSTC. Its Tourism Sustainability Scorecard helps IADB staff prioritize projects that have potentially positive impacts, and help guide developers toward more sustainable projects from the design stage forward.³⁴

While there are only 11 LEED-certified projects in Mexico, there are several examples of tourism development projects in coastal areas that have actively marketed themselves as “green” (see Table 5). The projects do not highlight many of the elements that have been reported on here, especially site selection where much of the environmental damage is done. Table 5 includes some of the catch phrases in the marketing materials that intend to appeal to a “green” consumer.

It is clear that the Mexican federal, state, and local governments have both the opportunity and the incentive to standardize the products being offered in their markets by the tourism development sector, especially regarding

Table 5: Tourism Development Projects in Mexico that are using “green” marketing

La Concha Pearl	La Paz	“saves 42% on energy costs”. “is aiming for LEED Gold”
Colina del Sol	Los Barriles	“Energy efficient technologies with plenty of open space”. “60% of lots for vegetation, compost bin and nursery, recycled water/waste water treatment installed for irrigation
Ola Brisa	Todos Santos	Water recycling, Homeowner Association dues will offset carbon emissions from travel to the area, landscaping is 80% edible or medicinal, co-housing design, engaged in community.
Real de Santa Ana	Todos Santos	Passive solar, and water recycling, energy-efficient construction, and golf carts in place of vehicles
El Dorado Ranch	San Felipe	the largest solar community in North America (3000 homesites). Straw-bale construction available. Golf course uses salt-tolerant grass requiring less fresh water; recycled water for irrigation. 50% of the land for green space; 100% retention of native plants for landscaping. Charitable golf tournaments raise funds for local groups.
Playa de La Paz	La Paz	All food is planned to be sourced from local organic produce. The project’s environmentally conscious philosophy includes a “sensitivity about nature.”
Villages at Loreto Bay	Nopolo	Grants 1% of its net profits to local charitable organizations -- \$1.2 million since 2004. This project changed hands in 2008 and the commitment of the owners to the sustainability features is unknown.
Playa Viva	Zihuatenejo	Turtle sanctuary and archaeological protection on-site. Solar energy and solar thermal. Permaculture. Water conservation. Recycled and local products. Commitment to 1% of profits back to community.
Los Arboles Tulum	Riviera Maya	95% of each property is open space. Housing compact specifies “green” building requirements and environmental safeguards. No introduction of non-native flora. On-site “green building” expert.
Paraiso del Mar	La Paz	Electric boats transport guests to downtown La Paz, reclaimed water for irrigation, 50% of site plan is preserved.

Source: See endnote ³⁵.

“green” marketing or greenwashing. If they do not act soon, the U.S. consumers may do it for them by choosing other retirement destinations that offer “greener” choices, or by seeking recourse in the U.S. to combat deceptive marketing practices.

Missed Opportunity in the Mexican Building Market?

The opportunity for Mexican tourism developers and builders to improve their “green” practices will also improve their bottom line financially. A 2009 survey of new U.S. homebuyers³⁶ from Builder/AmericanLIVES suggested that there is an emerging market for houses under 1,300 square feet with substantive energy efficiency upgrades. In fact, half of those surveyed indicated that they would spend up to \$5,000 more for energy-conserving features, even if it added to their monthly payments. High-performance windows and air conditioning/heating units and insulation that exceed code were specifically mentioned by survey respondents. These are “must-haves” for new home construction. Other “green” features are less of a priority, with new home shoppers allocating only \$2,000 toward other “green” technology, like solar panels. However, when directly asked, over 70% of respondents said they would pay \$150-200 more in their monthly mortgage for solar.³⁷

This is consistent with ICF’s findings, even though ICF surveyed U.S. homeowners in Mexico, not the U.S. As noted above, ICF’s survey respondents would have preferred to have “green” elements incorporated into their home design. In fact, many are

choosing to behave in an environmentally responsible manner in their home without the assistance of property managers or builders.

It appears that buyers may have a goal of very low or near zero operating costs for their second home as one way to make retirement costs predictable and affordable as their income, or buying power of a fixed income, declines in retirement years. The upfront cost of money-saving green/efficiency elements is worth the longer-term piece of mind. In addition, the aging boomers are very health conscious, viewing indoor air quality and other benefits of green building as consistent with their health goals to enjoy active lives for longer than previous generations.

The Builder/AmericanLIVES survey in 2009 also asked respondents about their environmental leanings (see Table 6). Over 85% of the respondents had a strong environmental orientation.

Consumer expectations for “green” building and their environmental orientation are not going away - in the first- or second-home market. Considering the earlier findings about the skepticism of “green” boomers regarding advertising, it is time for Mexican coastal builders to stop “green” marketing and just start building “green.”

What should consumers be looking for in “green” standards?

“Green” is now recognized universally as one indicator of quality when assessing the

purchase of a property. Good green design is defined as an “efficient, durable, whole building where all component features and systems perform in harmony for the long term”.³⁸ “Green” development costs have steadily decreased in the U.S. and Canada due to more suppliers, more efficient products, more knowledgeable contractors, and sheer practice.

In Mexico, there is also the Mexican Green Building Council, modeled after the U.S. Green Building Council, which has transformed the building trade in the U.S. over the past 20 years. According to the Council, “green” development costs are only 5% more than traditional construction,³⁹ which is quickly recovered through energy

efficiency and conservation.

The decision to build “green” lies with the developer.⁴⁰ If a developer is willing to bring in an internationally-recognized golf course expert, why not apply the same standard to building construction and “green” technology? Offering the option to the buyer of paying a premium for the “green” development cost is a similar value proposition to purchasing near a golf course or other resort amenity.

The developer can influence the long-term sustainability of the project by selecting energy-efficient lighting, heating and appliances; natural ventilation, lighting design and good ventilation systems; and

*Table 6: Attitudes about the environment: positive and negative
(% who favored statement)*

	% In Agreement
I want a home built with products to preserve indoor air environment.	95.28%
Each generation has a duty to make the world a better place.	94.15%
Companies should focus on long-term consequences not short-term profits.	94.15%
We can grow our economy and protect the environment at the same time.	93.02%
I’d be more willing to buy a home with an energy savings guarantee.	89.8%
To protect the environment, we need big changes in the way we live.	82.83%
It is very important for my home to be low impact on the environment.	78.87%
I feel humans are part of nature’s cycles and rhythms.	78.11%
We will destroy the environment if we continue living the way we do.	77.17%
Too many people don’t accept seriousness of environmental problems.	74.53%
I think this whole environmental thing is overblown.	30.75%
We can’t afford to worry about the environment with this economy.	25.09%
I don’t see one house making a difference in grand scheme of things.	22.83%

Source: *Builder/American LIVES* survey, 2009.

non-toxic paints and adhesives. High performance windows and sunshades, rainwater harvesting, recycled building materials, solar hot water and photo-voltaic systems, and a green roof are other “green” components that can be added at the project’s inception. Maintenance and staff training are also important for operational performance.

To be truly sustainable, as well as “green”, a developer must incorporate high standards for project siting, potable water, energy specifications, wastewater treatment, public access and transportation, landscaping and irrigation, grading and drainage, solid waste management, construction procedures, watershed restoration, golf course design, and marina design and construction.⁴¹ The Loreto Bay Foundation is leading an effort to codify recommendations on each of these

issues in Baja California Sur, which will elevate the incentives for developers to choose “green” over traditional technology. The current revision of the tourism law in Baja California Sur presents an opportunity to codify “green building” standards, as well as minimum standards for energy efficiency.

Finally, developers should consider the social and economic impact of their construction and implementation process. For example, affordable housing for construction workers that may remain in the community should be built into project costs early. Developers should incorporate targets for locally-owned businesses that will service the development so that everyone benefits economically, not just foreign-owned enterprises. Costs for transporting building materials or construction waste should also be included as part of the overall project costs. Going further, training for local residents on “green” construction, tourism businesses, and the service industry would help improve the local relationships for any development project.

FIGURE 1: What is “green”?

- Meets or beats the EPA’s Energy Star Standards - <http://www.energystar.gov>
- Achieves high standards of indoor air quality
- Uses building materials that are locally produced and/or recycled
- Incorporates water conservation and stormwater management
- Achieves a minimal footprint on the land
- Uses renewable or super-efficient energy sources for its buildings

Considerations for making a second home more healthy and “green”

Not only are “green” practices beneficial for the environment, they are also good for one’s health. Daylighting provides Vitamin D for bones; moisture reduction affects mold growth; increased air ventilation improves allergies, reduces asthma attacks and the spread of viruses; and non-toxic paint, carpet, and furnishings ensure healthier lungs.⁴³ Tile or ceramic floors are also recommended for tropical environments to

Source: “Looking for Green Retirement Communities,” see endnote ⁴².

combat allergies and asthma.

Homeowners should consider using sustainable systems and products such as high-efficiency heat pumps, geothermal heating, solar chimneys, on-site cleaning and re-use of wastewater, radiant cooling systems that take advantage of naturally occurring conditions, waterless urinals, permeable pavers, and local products,⁴⁴ which will improve energy and water efficiency.

Water conservation

The availability of water is a national security issue in Mexico. Over twenty percent of households are not connected to water infrastructure; fifteen percent lack potable drinking water.⁴⁵ Average daily per capita water use in Mexico was 366 liters/day in 2002, compared to 575 liters/day in the U.S.⁴⁶ And, although Mexico naturally produces twice the global average of water, it is concentrated in the southern part of the country, leaving the north vulnerable to water shortages. Infrastructure leaks in agricultural areas and illegal connections in urban zones have accelerated the pace of groundwater overexploitation in many parts of the country.

In La Paz, Harvard University and the University of Arizona researchers, led by Professor Carl Steinitz, determined that the

aquifer providing municipal drinking water was already being overexploited and furthermore, that future water demand (based on municipal population growth projections) will result in saline intrusion in 25% of the wells that supply La Paz with fresh water.⁴⁸

In Loreto, engineers at OOMSAPAL, the municipal water and sewer agency, estimated that 40% of Loreto's freshwater supply was lost in the delivery system from the aquifer to local homes because of leaky pipes and aging infrastructure.⁴⁹ The Harvard University and University of Arizona team estimated that additional pressure from accelerated development, combined with the infrastructure leaks, would cause saline intrusion in the local aquifer within 20 years.⁵⁰ In comparison, a water leak audit in 47 California utilities found an average 10% loss and a range of 5-30% water loss from leaks.⁵¹

Municipal governments often propose desalination plants to offset the pressure on natural freshwater resources. Replacing natural processes with engineered infrastructure, however, means that fresh drinking water will be more expensive and possibly less affordable for locals. There are additional challenges related to near-shore habitats, coastal fisheries, and discharge of

"The rising cost of water is economically equivalent to a loss of personal income, as well as a tax on future business."⁴⁷

— Carl Steinitz, Harvard Graduate School of Design

chemicals from the desalination process.

To avoid these challenges from the outset, potential homebuyers in Mexican coastal communities should ask about water-saving technology in the home, such as low-water use appliances and fixtures (faucets, showerheads and toilets), rainwater harvesting, and grey water irrigation for landscaping. Landscaping with native plants, succulents, and saline-tolerant plants, as well as permaculture, are other options for both consumers and developers. ICF survey respondents are already using less water, but it is unclear if they have reduced consumption or are using more water-efficient appliances and irrigation systems.

Renewable Energy

Right now, 85% of Mexico's energy generation is non-renewable, which is equivalent to average non-renewable consumption worldwide.^{52, 53} The federal government has enacted an energy efficiency law that establishes energy conservation guidelines applicable to government offices. This is an important step towards the enactment of additional laws and regulations in the area of energy efficiency. Further energy sector reform in Mexico would increase access to renewable resources like geothermal, solar, and wind, as well as provide conservation and reverse metering regulations, which would provide additional incentives for private developers to turn to "green" technology.

Although in use for many years, hydroelectric, solar, wind and geothermal

resources in Mexico are now being targeted for energy use to increase potential for clean energy and address climate change on a larger scale. By 2005 the Mexican government had approved over 50 renewable energy projects which were completed by end of 2007, and accounted for 1,400 megawatts of electricity.⁵⁴ It is possible that Mexico's retirement destinations will be among the targets for this new energy capacity, but in many cases, remote locations along the coast may require additional infrastructure to reach the grid.

In fact, the Mexican government is proposing hundreds of new wind turbines for one of the world's windiest places, the Isthmus of Tehuantepec in Oaxaca, which is estimated to produce 2,500 megawatts within three years. That is enough to power 700,000 average U.S. homes.⁵⁵ But even this alternative energy source is disrupting the agricultural landscape that dominates this region by damaging irrigation lines, spreading dust during construction, and underpaying farms for land leases.⁵⁶

The General Law of Ecological Balance and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente) already offers tax incentives to develop technology that reduces polluting emissions or implements "clean" power generation.⁵⁷ The laws could go further by initiating reverse metering programs that sends excess energy production back to the grid, and encouraging private power production.

These incentives have not yet developed into a regulatory framework that includes renewable sources. The Mexican federal and state governments are just beginning to replicate successful incentive programs that have been tested in other parts of North America. CONAVI, the Mexican Housing Commission, is defining the criteria and regulatory structure for government subsidies in water and energy conservation, as well as solar energy production. INFONAVIT, the Mexican Housing Fund, created a “green” mortgage program with longer repayment terms and increased credit if “green” elements are integrated into the residence, including energy-efficient technology.⁵⁸ In Chihuahua, there is a casa ecológica pilot program.⁵⁹ These examples should be replicated and encouraged.

If government regulators recommend potential energy-saving options in a new home, and consumers request those products and systems, it will encourage developers to seek alternative or renewable sources to meet consumer demand. In the Villages at Loreto Bay master plan, there was an initial target to “produce more energy than we use;” it is not yet clear if the new owners, Homex, will be willing to adhere to the same ambitious standards.

Urban and Regional Planning

Good planning is more important than ever in Mexico. Under Mexican law, municipal elected officials are responsible for designing and implementing an ordenamiento territorial (land use plan) and an ordenamiento ecológico (resource use plan). These plans are considered long-term, but because they are revised every three years by mandate to coincide with municipal elections, the plans often correspond with what municipal authorities would like to see occur during their three-year governing cycle, rather than a long-term vision for the region or an achievable plan for growth. This can leave unfinished projects, minimal basic infrastructure investments, and local residents left without services. It also tends to result into overestimating demand and allowing for too much installed hotel capacity as well as land speculation by assigning higher density multipliers per hectare.

Furthermore, as more families move to follow job growth, urban areas are expanding at a steady pace. In Mexico’s coastal communities, this growth is primarily along the coastline (directed at second-home buyers and tourists) and inland (directed at workers). And, because many of the tourism developments in coastal Mexico also

“I’m concerned about the overconsumption of water in La Paz in general and the government’s inability to plan and carry out infrastructure improvements like desalinization.”

— ICF Focus Group participant, La Paz, BCS

incorporate condos, cottages, and larger residences, they are encouraging permanent and long-term residents, which have substantially different needs than tourists.

Yet, Mexico's coastal communities continue to provide expansive zoning allowances for tourism resorts and marinas, many of which do not leave much financial reward to the local community outside the resort walls or cruise port. The current trend in Mexican coastal development parallels other resort communities in the Caribbean. In Jamaica, for example, around 80% of tourist dollars are allocated to airlines, hotels, and other international companies, which send that money to their home country; local businesses, workers, and local governments do not benefit from these transactions. In fact, on average, of \$100 spent on vacation by a tourist from a developed country, only around \$5 stays in the local regional economy.⁶⁰ That result leaves little for infrastructure improvements and maintenance, which are usually paid by municipal governments and not foreign businesses.

In Mexico's coastal "retirement destinations," vacation home owners and emigrating baby boomers may begin at an all-inclusive hotel, but on a subsequent visit, may purchase a second/retirement home on that property or nearby. The challenge is that many of these properties are located far from local amenities - groceries, shopping, social activities, cultural events - due to the fact that municipal planning agencies have typically prioritized initial investments in

tourism properties over revitalizing their downtown districts or urban coastal zones such as in the case of Puerto Vallarta and Loreto.

But far-away resort property owners have not waited for municipal authorities to act. They have addressed this issue by duplicating local services on-site - using the "village" concept with their own spas, marinas, golf courses, recreational and social activities, and shopping facilities.⁶¹

This is a double negative for local business owners, who are unlikely to have the capital to invest in another location and will have difficulty attracting customers from such a distance. This service duplication also serves to segregate the development from the local community, which is one of the main reasons that ICF survey respondents gave for moving to Mexico.

The negative impacts on municipal governments mirror those of business owners. They are required to provide and maintain water, sewer, and electricity services, but have few financial resources to do so. At times, municipal authorities offer tax exemptions to bring economic development to their city, further restricting their discretionary funds to implement needed services.

Moreover, municipal planners in Mexico have paid little attention to the ages of buyers or their long-term interest in "aging in place." In a previously-issued report looking at healthcare, the International Community

Foundation documented U.S. retiree interest in remaining in Mexico throughout their lifetime to facilitate aging in place. Over 25% have considered assisted living opportunities, including almost 43% of those respondents over 75 years of age. In the under-65 age group, 22% of respondents considered assisted living options, and in the 65-75 age group, 31% have considered their options for remaining in Mexico as they age.⁶²

The World Health Organization has developed an Age Friendly Cities Initiative that involves over 33 cities around the world. There are eight components of an age-friendly city: transportation; outdoor spaces and buildings; housing; social participation; respect and social inclusion; civic participation and employment; communications and information; and community support and health services.⁶³ For example, in New York City, the municipal government authorized school buses to transport seniors to the grocery store because the buses sit idle for most of the day. “A city that is age-friendly is also a city that is welcoming, robust, and attractive for people of all ages,” stated Robin Willner, co-chair of “Age-Friendly New York.”

Universal design is another emerging approach to urban planning and construction that focuses on home building, remodeling, and community development. Universal design prioritizes technologically-savvy “smart homes”; accessibility for pedestrians, bicycles, and those using public transit; and a healthy mix of homes and stores to ensure

that goods and services are close to those that need them.⁶⁴

Development Threats to Fragile Ecosystems

The most fragile ecosystems, including barrier islands and wetlands, are often the most desirable for development and carry a steep price because of their coastal location (See Appendices A and B for more information on Mexico’s biodiversity and conservation priorities).

An environmentally productive ecosystem, wetlands (and mangroves) are also critical to commercial fisheries in many developing countries. When replaced with a poorly drained, flood-prone real estate development, these sites lose their economic and environmental vitality. A recent study released by the Scripps Institution of Oceanography calculated that one hectare of mangrove produces \$37,500 worth of commercial fish each year. In Mexico, that annual sum represents 300 times the fixed amount the Mexican government has set as the cost of restoring the same amount of mangrove.⁶⁵

Mangroves are protected by federal law in Mexico - no construction or development may be carried out in areas where mangroves may be adversely affected. Mangroves provide nursery habitat for commercial fisheries and wading birds; they help flush fecal and coliform bacteria from coastal areas. Mangroves also provide an important buffer for coastal areas against storm surges and hurricanes.

Mangroves are more fragile than many realize. The Bahía de La Paz area has one of the two largest concentrations of mangroves in the entire Baja California peninsula, but lost almost 44 hectares (108 acres) between 1973-1981 to urban development.⁶⁶ When tidal flush is decreased by erecting rocky and concrete barriers that protect infrastructure like marinas and buildings, mangroves begin to die. The lack of tidal flush increases salinity in the channels, suffocating the root system and creating stress in the system. Furthermore, water diversions for urban uses reduce the amount of water flow available to mangroves, making them more vulnerable. Without mangroves, coastal areas are more vulnerable to destruction from natural disasters, increases in fecal bacteria and beach closures, and declining fisheries.

In Marismas Nacionales, the largest area of mangrove on Mexico's Pacific coast and the source of the local shrimp fishery, mangroves are already suffering tremendous stress because of aquaculture farms, roads without channels that allow water flow, hydro-electric dams upstream, agricultural runoff, and the opening of channels to the sea that affect the saline balance and kill mangrove plants one by one. This year, with the proposed construction of a large-scale resort hotel and second-home development complex at Teacapán, the adjacent mangroves in Marismas Nacionales may not survive the influx of fill dirt, marina development, and new sources of runoff. Local residents have enacted a forceful campaign entitled "Yo Vivo Aquí, Mi Opinión Cuenta" (or "I live here, my opinion counts") to challenge the FONATUR-

led development. The campaign has successfully engaged artisanal shrimp fishermen, aquaculture and land-based farmers, fishing cooperatives, and environmental groups in a strong response to poorly-planned tourism in sensitive mangrove areas.

It is not only marine areas that are affected by new development. Some of the most popular new retirement communities are planned near steep mountain areas, which provide amazing views, but are also particularly vulnerable to erosion, landslides, flash floods, and earthquakes. These mountain soils also absorb rainfall back into the groundwater aquifers, increasing the likelihood of a long-term water supply.

In Mexico, regulators are beginning to take action against projects that are located in sensitive areas or have damaged nearby protected areas. Hotels in Tulum, Cancún, Acapulco, and Nayarit have received sanctions for negative environmental impacts or lack of required documentation,⁶⁷ including a recent appeals court decision against Paraíso del Mar in La Paz, Baja California Sur that upheld the ruling that the development is operating without valid environmental permits.⁶⁸

Infrastructure Maintenance and Pollution

Infrastructure in emerging destinations in Mexico has not caught up with the resort and retirement community development - landfills, wastewater treatment plants, new power sources, and even desalination facilities are urgently needed in many

coastal tourism and retirement destinations in Mexico.

When U.S. retirees seek out coastal destinations in Mexico for the scenic views, crashing oceans, and laid-back lifestyle, they often assume that their adopted home will be able to provide utilities, services, and infrastructure while they live there. Depending on local authorities' ability and interest in managing growth effectively, many of these destinations suffer loss of services and negative impacts to infrastructure as a result of out-of-control growth.

For example, in Loreto, Baja California Sur, local municipal authorities approved a 20-year land use plan in 2005 that expanded the potential development areas for large-scale tourism projects, effectively projecting an additional 100,000 people in that time frame. Despite \$200 million in infrastructure investments by FONATUR in Loreto, wastewater treatment, energy, and water infrastructure cannot accommodate that population growth.⁶⁹

Another "retirement destination," Puerto Peñasco, or Rocky Point, is just a few short hours from Phoenix and Tucson, Arizona. Despite a relatively modest urban development plan, Rocky Point continues to

grow, affecting the Cholla Estuary and local fishing. The five-mile stretch known as Sandy Beach had no permanent residents until five years ago. Today, high-rise condo complexes line the beach, with an estimated 65,000 permanent residents in Rocky Point. Even elected officials are speaking out - PRI Senator Heladio Ramirez Lopez mentioned environmental degradation as one reason to avoid large-scale tourism development.⁷⁰

Zihuatanejo, a coastal town north of Acapulco, is considered an emerging tourist destination and is the site of one of the first large-scale resort projects, Ixtapa. To date, tourism growth has not resulted in upgraded services, infrastructure, or revenue for local businesses. Yet, the Guerrero state tourism ministry declared over \$1.7 billion in tourism dollars in 2006, much of that from cruise passengers.⁷¹

In fact, Zihuatanejo has struggled to maintain service levels. There is no modern landfill there, swirling wastewater is blocked from being carried out to open water by a half-completed rock jetty, and traffic has increased. There were 400 cases of dengue fever in Zihuatanejo in 2007. In a newspaper poll, only 5% of local residents were in favor of a cruise port.⁷² Local protests stopped the construction of the rock jetty in 2006, but the

"I don't think that Mexico has enough of a tax base to properly finance, construct, and maintain infrastructure improvements in sewer, energy, and water. And they are needed right now."

— ICF Focus Group participant, Rosarito, BC

damage is already done. Two new projects sponsored by FONATUR and the Secretary of Communication and Transportation (SCT) respectively are proposed to replace the original cruise port, one in the middle of the bay.⁷³ The town has since prohibited high-rise construction, leaving its coastal village atmosphere intact.⁷⁴

Mexico is responding to the increased demand in infrastructure, albeit slowly. In 2007-2008, Greenpeace Mexico identified 17 beaches in Mexico that were risky for swimming and publicized this data widely in an advocacy campaign designed to increase government attention to this issue. The activists argued that SEMARNAT's reporting

on water quality is "sporadic and faulty."⁷⁵

To respond, the Mexican government awarded CONAGUA a special \$120 million fund to upgrade wastewater facilities in high-priority areas, especially tourist destinations. At least seven requests for drainage, safe drinking water and wastewater treatment plants have been filed by June 2008.⁷⁶ Also, in 2008, President Calderón approved a \$73 million clean-up program for Acapulco to upgrade 12 of 15 wastewater treatment plants. In 2007, SEMARNAT launched a clean beach certification program. As of August 2009, eight beaches had been certified with ten more in process.⁷⁷

Policy Recommendations for Tourism Planners, Developers and Investors

1. **Environmental considerations matter to new U.S. homebuyers, in the “green boomer” population of over 40 million.** The majority of retirees surveyed did not have the option of considering environmentally-friendly designs when purchasing their retirement home in Mexico, nor do they have the option to recycle. These services and options will improve your real estate product, and will protect Mexico’s natural capital at the same time.
2. **In coastal areas, view corridors and beach access also matter.** Re-think the emphasis of real estate development projects with golf courses as a key amenity, or at a minimum, devote equal attention to birdwatching areas, jogging and nature trails, and those activities that will appeal to the emerging demographic of “green” baby boomers.
3. **Take advantage of “green mortgages,” renewable energy incentives, and water/energy conservation programs.** They already exist in Mexico, but are not widely known in the construction sector, and yet, consumers have indicated that they will pay more for these “must haves” in their homes.
4. **Seek holistic and up-to-date information from consumers about their service and product preferences.** Many coastal tourism developers have been able to command premium prices by offering a more environmentally sustainable product.
5. **Look for up-to-date best practices, such as the MesoAmerican Reef Tourism Initiative’s “Guía de Planeación, Diseño y Construcción sustentable de instalaciones turísticas en el Caribe Mexicano” with the Secretary of Tourism of the State of Quintana Roo, SEDETUR.**

Policy Recommendations for Federal Decision-Makers

6. **Encourage or mandate development fees that contribute to upgrading municipal infrastructure, including wastewater treatment plants, water supply systems, and public transit.**
7. **Require reclaimed water use for golf courses. (e.g. Loreto Bay)**
8. **Protect coastal beach access and view corridors as new coastal developments and concessions are considered for approval.** Using the model of the California Coastal Commission and the California Coastal Act would provide a good legislative beginning.⁷⁸
9. **Consider regulations regarding renewable energy for new development projects.** Several Mexican laws already contain incentives for renewal energy, but developers are not taking advantage of them for large-scale projects. Furthermore, these laws can go further to initiate reverse metering programs that send excess energy production back to the grid, and encourages private power production.
10. **Codify good development practices, using published resources such as the “Guía del Desarrollador para el Desarrollo Costero Sustentable en Baja California Sur” and the “Modelo para un Turismo Sustentable en el Noroeste Costero de México” as the basis for new legislation.** At the state level, Mexican government agencies are taking the lead in legislating better development practices. The State government of Baja California Sur published a development guide in 2009 that outlines best practices in coastal tourism and real estate development. The nonprofit alliance, ALCOSTA, has also published basic criteria for sustainable tourism practices. These publications should be reviewed and incorporated into law by decision-makers in coastal communities and throughout Mexico.
11. **Codify the Global Sustainable Tourism Criteria, making Mexico a truly sustainable destination for tourism and retirement.** These criteria have been vetted by over 180 global experts in the tourism field and address planning, siting, operations, and maintenance, as well as community and cultural inclusiveness.
12. **Adapt the LEED certification system to Mexico’s standards and practices.** This would leapfrog decades of trial-and-error in the “green” building sector in the U.S. and would

provide additional confidence in the U.S. retiree who will recognize the brand standard. The Mexican Green Building Council is the natural lead organization for this activity.

13. **Establish an environmental health baseline study, followed by monitoring and reporting.** Like the “clean beaches” program that Mexico has established, transparent and accountable reporting to the public will help educate them on the issues, and also help develop appropriate standards for developers to follow.
14. **Mexico should take the lead in regulating the language regarding “green” marketing to ensure that consumers can validate the products being offered in the marketplace by the tourism development sector.** North American “green” consumers have choices in their retirement destinations. Failure to properly authenticate “green” marketing claims could lead to consumers selecting other retirement destinations outside of Mexico.

Policy Recommendations for Municipalities

15. **Promote land use policies that allow retirees to “age in place.”** Most Mexican retirement communities, like others in the United States, do not have land use policies that consider the changing lifestyle needs of aging adults. Current deficiencies include:
 - a. Dominance of automobiles as the primary transportation source
 - b. Lack of community support for land use policies that encourage safe places to walk
 - i. Unsafe sidewalks that increase the likelihood of trips and falls
 - ii. Walking is neither encouraged or facilitated
 - c. Rigid separation between residential, commercial and recreational uses in a community
 - d. Inadequate road design impedes mobility;
 - i. There is little connectivity between different modes of transportation.
16. **Clean up Mexican coastal communities.** Litter was seen as one of the most undesirable aspects of Mexican coastal life for American retirees. Local officials and real estate developers must make an extra effort to make litter clean up and environmental education a top priority if they wish Mexico to remain a top destination for U.S. retirees.
 - a. Creating recycling programs and a supply chain for recycled products will accelerate the success of this recommendation.
 - b. Beach cleanups at the development property and in the local community can be an activity that builds relationships between Mexican local residents and the non-Mexican resort residents.
17. **Finance academic-private partnerships to help create a local “green” supply chain that includes recycled products, adaptive “green” technology, and documents best practices.**

Research Methodology

The International Community Foundation's survey included both quantitative and qualitative methods. First, a thorough literature review of tourism- and retiree-related literature on Mexico was undertaken. The research also included a thorough review of government statistics from multiple sources (U.S. State Department, INEGI, Mexican Migration Institute, and OECD) to assess the size of the population of US citizens in the Republic of Mexico. Based on these data sources, the Foundation estimates that there is a permanent and floating population of U.S. residents in Mexican coastal communities of 200,000-300,000.

In addition, between August 1 and November 15, 2009, the International Community Foundation carried out a survey utilizing purposive sampling (snowball) technique to secure participation and a representative sampling of U.S. citizens and U.S. permanent residents 50 years of age and older residing in Mexico either on a full-time or part-time basis. For the study in question, a total of 1,003 individuals elected to participate, responding either using an online survey tool or printed questionnaires. Survey respondents self-identified their "adopted

communities" as Baja California, Baja California Sur, Sonora, Nayarit, Jalisco, and Quintana Roo (among other locations). Once the participants were filtered to include only the targeted profile, a total of 842 surveys were able to be used (76%). If it is assumed that some degree of random participation was achieved amongst the target group, results would reflect a confidence level of 95% +/- 3.4%.

Concurrent with the Foundation's literature review, survey, and subsequent analysis, five focus groups were organized between August-December 2009 in Rosarito, Baja California (BC); La Paz, Baja California Sur (BCS); East Cape, BCS; San José de Cabo, BCS; and Todos Santos, BCS. Each focus group consisted of 10 to 15 participants all of which were self-identified U.S. retirees living in Mexico. The focus group sessions were 2 hours in duration, allowing the Foundation to assess the viewpoints of participants on a wide range of issues impacting the U.S. retiree community in Mexico. For their participation in the focus groups, each participant and their spouse were invited to a lunch hosted by the Foundation. To avoid a possible sample bias, spouses were asked not to participate in the focus group sessions.

A thorough discussion of the research methodology is available at:
http://www.icfdn.org/publications/retireeresearch/?page_id=192.

References

A full reference list is available at
http://www.icfdn.org/publications/retireeresearch/?page_id=169.

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Baja Western Onion

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David Veniot, VP, Sustainability, Villages at Loreto Bay (former)

About the International Community Foundation

Among U.S.-based community foundations, the International Community Foundation is unique in that unlike other community foundations that serve a defined geographic region in the United States, the Foundation is dedicated to assisting American donors to charitably support their communities of interest internationally. Approximately 22% of the International Community Foundation's donors are immigrants; close to 50% of the International Community Foundation's donors are retirees living abroad either full- or part-time with the majority of these American expatriates residing in coastal communities in Northwest Mexico. For more information regarding the International Community Foundation, visit: www.icfdn.org

About the Retiring Responsibly in Mexico Initiative

With a growing number of Americans now retiring in Mexico, there is a need to better respond to the needs of this fast-growing expatriate population. Through its "Retiring Responsibly in Mexico" initiative, the International Community Foundation seeks to inform, educate, and engage would-be retirees, targeted buyers, real estate developers, nonprofit organizations and policymakers at the local, state and federal levels of governmental in both the United States

and Mexico about issues related to environmental sustainability, financial and environmental transparency, and responsibilities for stewardship related to coastal tourism residential developments with an emphasis on the 50+ population from the United States seeking to retire in Mexico. The Foundation's "Retiring Responsibly in Mexico" Initiative has three key objectives:

- 1) Undertake timely and relevant research on the demographic patterns of U.S. retirees in Mexican coastal communities to better understand the impacts of current north to south migration trends as they relate to emerging issues of economic security, health care and public safety.
- 2) Understand the impacts of recent coastal development in Mexico fueled by the influx of U.S. retirees, assessing the impacts on surrounding ecosystems, documenting trends in sustainable retirement communities, and recognizing the legal/financial risk for homebuyers.
- 3) Assess the level of social capital among U.S. retirees residing in Mexico with a focus on volunteerism, charitable giving, and civic engagement in their adopted communities.

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End Notes

- ¹ AARP. *Bulletin*, Vol. 49:4, May 2008, p43.
- ² Neswadi, John. "Impact of Baby Boomers on Green Economy," *Green Aware*, 11/09/09. Accessed on 8/19/2010 at <http://greenaware.experian.com/blog/2009/11/19/impact-of-baby-boomers-on-green-economy/>.
- ³ Hopkins, Denise. "Riches in Niches: Connecting to Behavioral Greens," *Target Marketing*, 2/11/09. Accessed on 8/27/10 at <http://www.targetmarketingmag.com/article/riches-niches-connecting-green-customers-402997/2>. and Hopkins, Denise. "Riches in Niches: Connecting to 'Think Greens'," *Target Marketing*, 2/18/09. Accessed on 8/27/10 at <http://www.targetmarketingmag.com/article/riches-niches-connecting-think-greens-403265/2>.
- ⁴ Focalyst. *It's Good to Be Green: Socially Conscious Shopping Behaviors Among Boomers*, 2007, p1.
- ⁵ Focalyst, pp3-4.
- ⁶ Focalyst, p7.
- ⁷ Cohen, Stephanie. "Earth Movers: Pitching boomers housing that is green as their hair goes gray," *Market Watch*. Accessed on 8/19/2010 at <http://www.marketwatch.com/story/pitching-boomers-homes-that-are-green-as-their-hair-goes-gray>.
- ⁸ Miller, Aimee. *Survey Results: Going Green in the Property Management Industry*, July 2010. Accessed on 8/19/10 at <http://www.greenpropertymanagement.com/2010/07/survey-going-green-property-management-industry/>.
- ⁹ GreenBiz. "The Green Economy's Next Secret Weapon: Baby Boomers," on <http://www.greenbiz.com/print/33982>. Accessed on 8/19/10.
- ¹⁰ Focalyst. *How well do you know boomers? Counting down the top 10 boomer myths*, 2008, p1.
- ¹¹ Valdez, Julio Cesar Torres, Pedro Maldonado Cruz, and Andrés E. Miguel Velasco. "Tourism Competitiveness in Mexico: The elements of a More Rational Tourist Policy," Instituto Tecnológico de Oaxaca, 2009.
- ¹² "International tourist arrivals by country of destination," http://en.wikipedia.org/wiki/World_Tourism_rankings, accessed on 12/2/2010.
- ¹³ Gómez Cruz, Oscar. *Gobierno inteligente hacia un México Competitivo. La competitividad del sector turístico en México*. México: CMIG- TABASCO, 2005.
- ¹⁴ Walljasper, Jay. "133 Places Rated: North America," in *National Geographic Traveler*, Nov/Dec 2009. Accessed on 9/1/10 at <http://traveler.nationalgeographic.com/2009/11/destinations-rated/north-america-text/1>.
- ¹⁵ Walljasper, Jay. "133 Places Rated: North America," in *National Geographic Traveler*, Nov/Dec 2009. Accessed on 9/1/10 at <http://traveler.nationalgeographic.com/2009/11/destinations-rated/caribbean-text/3>.
- ¹⁶ Walljasper, Jay. "133 Places Rated: North America," in *National Geographic Traveler*, Nov/Dec 2009. Accessed on 9/1/10 at <http://traveler.nationalgeographic.com/2009/11/destinations-rated/central-and-south-america-text/7>.
- ¹⁷ Prescher, Dan. "International Living Releases 2010 Index of World's 25 Best Retirement Destinations," at <http://internationalliving.com/2010/09/01-international-living-releases-2010-index/>. Ecuador was first with 81 points, Mexico was third with 79 points, Costa Rica was 10th with 75 points, Belize was 18th with 70 points, and the Dominican Republic was 24th with 63 points.
- ¹⁸ AL COSTA, *¿Desarrollo Turístico Regional? Monitoreo de los Desarrollos Turísticos e Inmobiliarios Costeros del Noroeste de México 2005-2006*, 2006, p67.
- ¹⁹ Focalyst, *How well do you know boomers? Counting down the top 10 boomer myths*, p2.
- ²⁰ Kaufman, Joanne. "Vacation Homes: Seeking Birds, Not Birdies," in *The New York Times*, October 6, 2006.
- ²¹ 70% of survey respondents have an annual income over \$25,000 compared to \$11,410 - \$14,200 per capita income estimates for Mexican citizens from the World Bank and the U.S. State Department.
- ²² TopRetirements.com "Top 10 Trends for Active Adult Communities in 2009," 1/19/09. Accessed on 8/27/10 at <http://www.topretirements.com/blog/active-adult-communities/top-10-trends-for-active-adult-communities-in-2009.html/>.
- ²³ TopRetirements.com. "Top 10 Baby Boomer Retirement Community Trends for 2008," 1/7/08. Accessed on 8/19/10

The Greening of U.S. Retirement Destinations in Mexico: Emerging Issues and Trends in Coastal Communities

32

at <http://www.topretirements.com/blog/baby-boomer-issues/top-10-baby-boomer-retirement-community-trends-for-2008.html/>.

²⁴ Kaufman.

²⁵ Commission for Environmental Cooperation. *Green Building in North America: Opportunities and Challenges*, 2008, pp 17-22.

²⁶ LEED website portal:

<https://www.leedonline.com/irj/servlet/prt/portal/prtroot/com.sap.portal.navigation.portallauncher.anonymous>. Accessed on 12/8/10.

²⁷ Commission for Environmental Cooperation, p6.

²⁸ Universia. "Necesaria la planeación turística en el país", <http://noticias.universia.net.mx/ciencia-ntt/noticia/2008/08/12/20386/necesaria-planeacion-turistica-pais.html>, 08/12/08.

²⁹ Center for Biological Diversity, *Greenwashing Risks to Baby Boomers Abroad: an assessment of available strategies to address "green" marketing misrepresentation to U.S. retiree real estate investors overseas*, March 2009, p5.

³⁰ U.S. Green Building Council. <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1988>.

³¹ U.S. Green Building Council. <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=148>.

³² Commission for Environmental Cooperation, p57.

³³ Tourism Sustainability Council. <http://www.sustainabletourismcriteria.org/>.

³⁴ InterAmerican Development Bank. "Tourism Sustainability Scorecard for Private Sector Projects", <http://www.iadb.org/tourismscorecard/index.cfm>, accessed on 12/10/10.

³⁵ Baja Life #25, 2008; *New York Times Magazine Supplement*, 1/25/09; <http://www.loretobay.com/loretosep/>; <http://www.playaviva.com/>; <http://www.olabrisa.com>; <http://www.paradiseofthesea.com/en/index.html>; <http://www.playadelapaz.com>; <http://www.losarbolestulum.com>.

³⁶ Over half of the "new homebuyers" surveyed were under 40 years of age and two-thirds were women. One-third were single and two-thirds had at least one child. This profile does not match ICF's demographic for its survey, which focused on U.S. retirees over 50 years of age, half of whom were women, and most had grown children not still living at home. Yet, the results reflect the same message - these buyers want energy-conserving features and "green" technology in their newly-constructed homes.

³⁷ *Builder/AmericanLIVES. The 2009 Builder/AmericanLIVES New Home Shopper Survey*, accessed on 9/1/10 at http://www.builderonline.com/Images/2009%20Builder%20American%20Lives%20New%20Home%20Shopper%20Survey%20V5_tcm10-175317.pdf.

³⁸ Proscio, Tony. *Sustainable Affordable Doable: Demystifying the Process of Green Affordable Housing*. Enterprise Community Partners, 2008, p1.

³⁹ International Business Strategies, p6.

⁴⁰ Proscio, p9.

⁴¹ Loreto Bay Foundation and Sherwood Design Engineers. *Developer's Guide to Sustainable Coastal Development in Baja California Sur*. August 2008.

⁴² Gulyas, Carol. "Looking for Green Retirement Communities," http://www.topretirements.com/tiops/Green_Communities, adapted from www.greengeezzer.com, 9/8/09.

⁴³ Commission for Environmental Cooperation, p30 and p75.

⁴⁴ Commission for Environmental Cooperation, p16.

⁴⁵ Commission for Environmental Cooperation, p53.

⁴⁶ United Nations Development Programme. *Human Development Report, 2006*. Accessed at http://www.data360.org/dsg.aspx?Data_Set_Group_Id=757 on 12/10/2010.

⁴⁷ Steinitz, Carl, et.al. *Alternative Futures for the Region of La Paz, Baja California Sur*, 2004, p45.

⁴⁸ Ibid.

⁴⁹ Sherwood Design Engineers, *Water Management Challenges in the Loreto Region*, 2006, p10.

⁵⁰ Steinitz, Carl, et. al. *Alternative Futures for the Region of Loreto, Baja California Sur, Mexico*, 2005, p20.

The Greening of U.S. Retirement Destinations in Mexico: Emerging Issues and Trends in Coastal Communities

33

- ⁵¹ California Department of Water Resources. "Leak Detection Frequently Asked Questions," <http://www.water.ca.gov/wateruseefficiency/leak/>, accessed on 12/10/2010.
- ⁵² International Business Strategies. *Green Building Services and Products In Mexico*, March 2006, p2.
- ⁵³ U.S. Energy Information Agency. "Independent Statistics and Analysis, 2010." Accessed on 2/3/2011 at <http://www.eia.doe.gov/oiaf/ieo/highlights.html>.
- ⁵⁴ Celsius. <http://www.celsius.com/article/mexico-renewable-energy-potential/>, accessed on 12/10/10.
- ⁵⁵ Hawley, Chris. "Clean-energy windmills a 'dirty business' for farmers in Mexico," *USA Today*, 6/17/2009, http://www.usatoday.com/money/industries/energy/environment/2009-06-16-mexico-wind-power_N.htm.
- ⁵⁶ Ibid.
- ⁵⁷ International Business Strategies, p9.
- ⁵⁸ Commission for Environmental Cooperation, p5.
- ⁵⁹ Ibid, p53.
- ⁶⁰ Edwards, Peter. "Economic, Social impact of Tourism," *The Jamaica Gleaner*, January 4, 2009. Accessed on 9/2/10 at <http://www.jamaica-gleaner.com/gleaner/20090104/cleisure/cleisure2.html>.
- ⁶¹ Honey, Martha and David Krantz. *Global Trends in Coastal Tourism*, January 2008, p77.
- ⁶² Kiy, Richard and Anne McEnany. *Health Care and Americans Retiring in Mexico*, May 2010, <http://www.icfdn.org/publications/healthcare/005.php>.
- ⁶³ Beard, Dr. John. World Health Organization presentation at "Global Lessons on Building Livable Communities for the Future" in New York City, June 28, 2010.
- ⁶⁴ Ginzler, Elinor. "Livable Communities: An Agenda for AARP" in *AARP International Journal*, Summer 2010, pp64-65.
- ⁶⁵ Aburto-Oropeza, Octavio, Exequiel Ezcurra, Gustavo Danemann, Victor Valdez, Jason Murray, and Enric Sala. "Mangroves in the Gulf of California increase fishery yields," in *PNAS*. Vol. 105: No. 30 (July 29, 2008), p10456.
- ⁶⁶ Holguin, G. et. al. "Mangrove Health in an Arid Environment Encroached by Urban Development-a case study," in *Science of the Total Environment*. ELSEVIER, Vol. 3 (2006), p261.
- ⁶⁷ Sanchez, Julian. "Estudia PROFEPA Reubicar Hoteles que Dañan Medioambiente," in *El Universal*. 7/17/08.
- ⁶⁸ Centro Mexicano de Derecho Ambiental (CEMDA). "*PROFEPA Y SEMARNAT Permiten que Desarrolladores Operen sin Autorización en Baja California Sur*," accessed at http://www.cemda.org.mx/artman2/publish/Noticias_30/PROFEPA_Y_SEMARNAT_PERMITEN_QUE_DESARROLLADO_RES_OPEREN_SIN_AUTORIZACION_EN_BAJA_CALIFORNIA_SUR.php.
- ⁶⁹ Dibble, Sandra. "Big Changes Loom for Coastal Town" in *San Diego Union-Tribune*. 4/6/08. <http://www.signonsandiego.com/uniontrib/20080406/117.html>
- ⁷⁰ Perez, Diana Teresa. "Preocupa destrucción ecológica por desarrollos," in *Excelsior*. 4/18/08.
- ⁷¹ Paterson, Kent. "The Battle of Zihuatanejo," in *Americas Program Special Report*. 11/6/07, p2.
- ⁷² Paterson, p5.
- ⁷³ Paterson, Kent. "Dark Side of the Tourist Boom: Cruise Ship Controversies Cross Borders," in *CorpWatch*, 7/9/08. Accessed at <http://www.corpwatch.org/article.php?id=15125>.
- ⁷⁴ CruisePortInsider.com. "Ixtapa/Zihuatanejo History," on <http://www.cruiseportinsider.com/ixtapahistory.html>, accessed on 12/10/10 and "Reglamento de Construcciones para el Municipio de Zihuatanejo," accessed at <http://www.ixtapa-zihuatanejo.gob.mx/infoproteccion/Reglamento%20de%20Construcciones%20del%20Municipio.pdf>, p4.
- ⁷⁵ Greenpeace Mexico. <http://www.greenpeace.org/mexico/es/Campanas/Oceanos-y-costas/Que-amenaza-a-nuestros-oceanos/Turismo-depredador/Playas-sucias/>.
- ⁷⁶ SECTUR. "Private Tourism Investments total \$2.8 billion during First Four Months of the Year," press conference, 6/20/08.
- ⁷⁷ Rodríguez, Karla. "México Avanza en la Certificación de Playas Limpias," in *Planeta Azul*, 8/10/09. <http://www.planetaazul.com.mx/www/2009/08/10/mexico-avanza-en-la-certificacion-de-playas-limpias/>.
- ⁷⁸ <http://www.coastal.ca.gov/ccatc.html>.
- ⁷⁹ Hancock, Ralph. *Baja California*. Academy Press, 1953, p9.

The Greening of U.S. Retirement Destinations in Mexico: Emerging Issues and Trends in Coastal Communities

34

⁸⁰ VivaNatura. Accessed on 8/27/10 at <http://www.vivanatura.org/Biodiversity.html>.

⁸¹ Sarukhán, José, et al. *Capital Natural de México, Síntesis Conocimiento actual, evaluación, y perspectivas de sustentabilidad*, Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO), 2009, p22.

⁸² Sarukhán, et al. p24.

⁸³ Ibid, p29.

⁸⁴ Ibid, p31.

⁸⁵ Ibid, p46.

⁸⁶ Biocapacity is defined as “the capacity of a given biologically productive area to generate an on-going supply of renewable resources and to absorb its spillover wastes.” Accessed at <http://www.greenfacts.org/glossary/abc/biocapacity.htm> on December 2, 2010.

⁸⁷ Conabio. *Capital natural de México, Vol II: Estado de conservación y tendencias de cambio*. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad, México, 2009, p437.

⁸⁸ Sarukhán, et al., p78.

⁸⁹ Morgan, Lance, et.al. *Marine Priority Conservation Areas: Baja California to the Bering Sea*, February 2005.

Appendix A: Mexico's Biodiversity and Ecological Footprint

"We are convinced that no more primitive area on land or water is within easier reach of the American sportsman, no place more picturesque than its remote oasis villages, and no scenery more fantastic than its cactus jungles."⁷⁹

— *Ralph Hancock, speaking about the Baja California peninsula in 1953*

In terms of biodiversity, Mexico is a megadiverse country, with 10% of the world's species within its borders.⁸⁰ The MesoAmerican Reef, the Mayan Rainforest, the Sonoran Desert, and the Gulf of California are just some of the species-rich ecosystems in Mexico. In addition to a diversity of wildlife, plants and fish, Mexico is also rich in natural resources that have sustained its economic growth in the last century.

Figure 1: The five countries with the highest vascular plant species diversity (CONABIO, 2006)

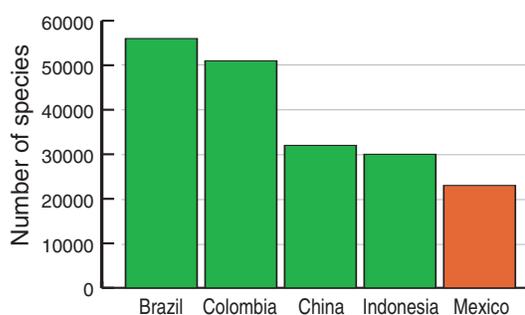
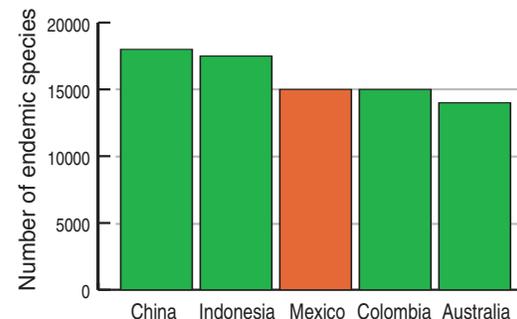


Figure 2: The five countries with the most number of endemic species of vascular plants (CONABIO, 2006)



Source: *Capital Natural de México, Síntesis Conocimiento actual, evaluación, y perspectivas de sustentabilidad.*⁸¹

Mexico's exceptional biological diversity is expressed in a multitude of ecosystems, numerous species, and its genetic variability. As seen below, it is one of the top five countries globally with regard to plant diversity and endemism.⁸² This means that Mexico has not only a large number of species available for agriculture and wildlife habitat, but also that they occur nowhere else on Earth. This creates an important responsibility for Mexico to steward its natural resources carefully.

Moreover, Mexico's biodiversity is distributed throughout the country - over 96 terrestrial ecoregions exist within its borders. And yet, scientists still do not know how many of these ecological processes function, making it difficult to exploit or develop parts of these systems without knowing if the intervention will cause an imbalance. The marine regions add another 28 ecoregions, including islands, the continental shelf, submarine mountain ranges, and many others.⁸³ Scientists know the least about the marine species, especially those at tremendous depths.

Figure 3: Technological Footprint and Biocapacity, 2006 (updated 2009)

		ECOLOGICAL FOOTPRINT	BIOCAPACITY	
	Population (million)	Ecological Footprint of Consumption (global acres per capita)	Total Biocapacity (global acres per capita)	Ecological (Deficit) or Reserve
Costa Rica	4.4	6.7	4.5	(2.2)
Dominican Republic	9.6	3.4	1.4	(2.0)
Ecuador	13.2	4.7	5.7	1.0
Mexico	105.3	8.0	4.2	(3.8)
Panama	3.3	7.9	8.5	0.6
Canada	32.6	14.2	42.2	28.0
United States	302.8	22.3	10.9	(11.3)

Source: Global Footprint Network, 2009. The Ecological Footprint Atlas 2009, www.footprintnetwork.org/atlas. Population data from the UN FAO.

The Greening of U.S. Retirement Destinations in Mexico: Emerging Issues and Trends in Coastal Communities

37

Mexico's coasts form yet another set of complex ecosystems, ecological processes, and biological variability. These areas are crucial for Mexico's economic future as many of the coastal communities and most marginalized social groups in Mexico depend on healthy coasts and near-shore waters for sustenance.⁶⁴ The coasts are also among the most targeted areas for new economic activity, including ports, tourism, and residential development.

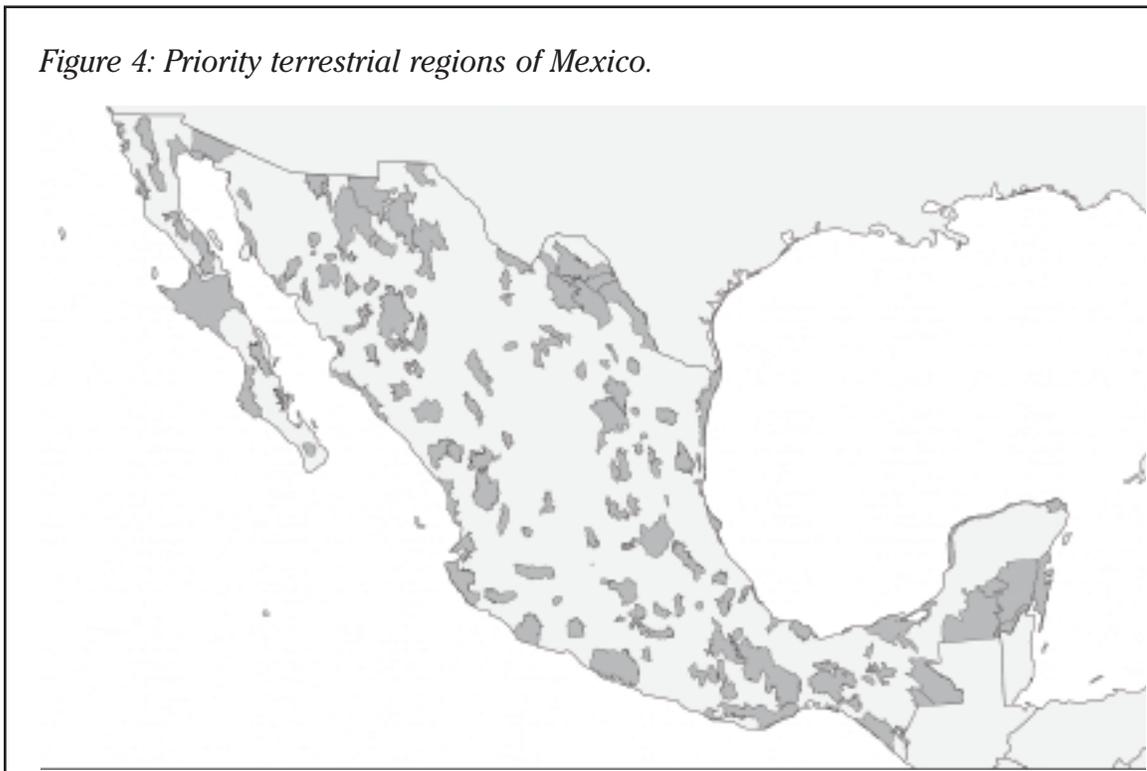
Human impacts on the viability of Mexico's ecosystems have increased over the past 40-50 years, as Mexico has developed its economy, grown its population, and exploited its natural resources. In fact, deforestation, overexploitation, and pollution, as well as invasive species and climate change, are directly responsible for Mexico's loss of natural capital.⁶⁵

Another way to view human impacts on Mexico's natural capital is to look at its national "footprint." The Global Footprint Network has designated Mexico as an "ecological debtor," which means that the country's carbon footprint is almost double its biocapacity⁶⁶, decreasing Mexico's ecological assets each year. Compared to other retirement destinations, such as Costa Rica and Ecuador, Mexico is depleting its natural capital much more quickly (see Figure 3).

Appendix B: Mexico's Priority Regions for Conservation

With improved scientific information in hand, Mexico's decision-makers have recognized the importance of natural capital as an economic asset, and therefore, have sought to protect its resources in natural protected areas, and by using economic incentives and other policy and regulatory tools. However, these protected designations do not always cover the full extent of the ecosystem or species range. A systematic review and site prioritization over the past decade between the Mexican government, international and national-level non-governmental organizations, and the scientific and academic community have resulted in a comprehensive look at Mexico's territory with regard to conservation.

Figure 4: Priority terrestrial regions of Mexico.



Source: *Capital natural de México, Vol II: Estado de conservación y tendencias de cambio.*⁸⁷

Figure 5: Priority sites for marine biodiversity conservation in Mexico.



Source: *Capital natural de México. Síntesis: conocimiento actual, evaluación y perspectivas de sustentabilidad.*⁸⁸

Because of overfishing and near-shore habitat destruction, Mexico's marine areas have been targeted for more ecological investments in the future. A similar prioritization exercise has been underway since 2001 across North America to encompass migratory species such as whales, turtles, and birds under the auspices of the Commission for Environmental Cooperation of North America.⁸⁹ This exercise, and many subsequent discussions, has resulted in a consensus on the highest marine priority areas, many of which also overlap with commercial and industrial fishing grounds, as well as target sites for large-scale coastal tourism development.

From these maps, it is clear that Mexico's coastal areas are both high priorities for terrestrial and marine conservation. As mentioned above, these same areas are targeted for large-scale coastal tourism development, ports, and marinas. The irony is that it is Mexico's diversity - both cultural and natural - that brings retirees to Mexico in the first place.