

Exploration of Market-Based Conservation Opportunities for the Turtle Lake Watershed



Eleuthera - Bahamas



Findings of the Kinship Conservation Fellows
Watershed and Coastal Resiliency Affinity Group's
Strategic Project Immersion

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Executive Summary

In April 2013, a team of conservation professionals organized by the Kinship Conservation Fellows Watershed and Coastal Resiliency Affinity Group convened on the island of Eleuthera, Bahamas to investigate the market-based conservation opportunities at a 68 acre inland blue hole named Turtle Lake.

The lake was chosen as a project area because of its unique natural resource attributes which include: a population of sea turtles, fish, and birds; a pending threat of high density housing development on its shores; and pre-existing relationships with local land-owning stakeholders and team members. The team conducted reconnaissance of the lake, assessed local and regional socio-economic conditions and adjoining resource attributes, and identified potential local and outside strategic project partners.

A significant part of vision development for the lake included an evaluation of land ownerships along the lake shore and watershed and identification of key stakeholders and their potential interest in further vision development.

The team recommends that stakeholders focus on understanding the lake and watershed ecology and its

ability to support a range of on site income generating opportunities ranging from recreational/tourism based businesses to boutique agriculture and mariculture. Preliminary business plans have been developed and are presented that reflect both "in-process" and planned activities and include the identification of capital needs and resources and preliminary design elements. These preliminary ideas have received more comprehensive analysis by a Design Studio class at the Woodbury University School of Architecture in California taught by team member Clark Stevens

The team recommendations include creating a nature preserve complimentary to and possibly affiliated with the Leon Levy Native Plant Reserve; establishing a self-supported water sports rental business and; a creating hub for guided ecotourist activities inclusive of birding, kayak and stand up paddle board trips, hiking and natural history, and wellness activities such as yoga and natural medicinal offerings. Importantly, these activities represent ways to monetize the lake and celebrate its cultural history while also protecting the unique ecology of this inland blue hole lake.

OBJECTIVES

1. Understand the ecological and potential conservation values of Turtle Lake and its watershed.
2. Working with the Burrows family, identify a range conservation-friendly uses of Turtle Lake utilizing the families long-term use lease of the waters in addition to family members titled land and generational claims.
3. Within the range of uses identified, develop and vet preliminary strategies and business models for realistic actionable projects. This includes identification of keystone land tenure and use conditions for business model viability.
4. Provide ongoing professional expertise and support for project development inclusive of design, mentoring, strategy, management and raising operating capital for selected projects.

Introduction & Project Setting

There is a saltwater lake on the Island of Eleuthera, Bahamas that is home to sea turtles, surrounded by mangroves, and tidally connected through a cave-system to the Atlantic Ocean. The lake is almost never visited by tourists or locals but has a vibrant past and now an uncertain future. Known locally as “Burrows Pond,” “Edwin’s Fishing Lake,” or “Turtle Lake,” it was settled by Mr. Edwin Burrows and his family in the 1940s and has served as an economic and cultural focal point of the Burrows Family for nearly 75 years. The lake is a type of blue hole, an example of one of the most unique and sensitive marine habitats in Caribbean.

In April 2013, a team of conservation professionals organized by the Kinship Conservation Fellows Watershed and Coastal Resiliency Affinity Group convened on the island of Eleuthera to investigate the market-based conservation opportunities at Turtle Lake.

The Turtle Lake project began with our understanding that, while the lake is a unique natural resource with significant trans-generational meaning for the heirs of family patriarch, Edwin Burrows, the current and future uses of the lake and

Project Conception and Objectives

The Kinship team engagement with the Burrows family was designed to provide supporting energy for conservation and bring forward “found” and professionally vetted ideas for their consideration that reflected both Edwin Burrows’ legacy vision for the lake integrated with the conservation opportunities and current economic climate of Eleuthera and the Governor’s Harbour area. The culmination of this vision is that the current generation of Burrows will find both economic opportunity and the pride of authorship and ownership in new conservation models on Eleuthera and in the Bahamas.

Our vision therefore coalesced around the process and means by which the Kinship team could catalyze stakeholder conversations, bringing our ideas, professional expertise and on-going tangible support to find a



Blue Holes

“Blue hole” is the term for water bodies formed by limestone sinkholes or submarine caves. They are given their name because of the contrasting deep blue of the hole and the lighter blue of the shallows around them. Some blue holes are located within the ocean, while others, such as Turtle Lake, are inland systems more similar to lakes. Because of unique water quality and isolation of the cave system, each blue hole has its own distinctive biodiversity.

surrounding watershed are under question. Several years ago, developers installed a small network of roads and a boat launch on the southern edge of the lake intending on selling developable lots. There is concern by the Burrows family that unabated development could severely alter the ecology of the lake, dampen future sustainable economic opportunities in its watershed, and threaten the conditions of the governmental lease to use the lake owned by the family.

viable future for the lake and renewal of the Burrows Family heritage.

A central aspect of this vision included exploration of future stewardship models within the framework of market-based conservation tenets so that conservation can be integrally tied to stakeholder economic gain. Indeed, while other Turtle Lake watershed stakeholders are actively pursuing

traditional economic return off of their land ownership via traditional real estate sales. Appropriately monetizing the natural attributes of the lake and surrounding area is critically important for preserving the ecological integrity of this unique environment while also enhancing economic diversification and independence on Eleuthera.



Eleuthera Project Team Members at Leon Levy Plant Reserve field visit: Clark Stevens (second from left standing), Csaba Vaszko, Christian Henry, Scott Gillilan, Paul Hoobyar, Tanya Bryan, Patty Lee, Dan Tonnes, Fernando Bretos, (kneeling), Leon Levy project botanist Ethan (far left standing). Not pictured: Neil Ever Osborne, Catherine Rabenstine.

Team Members and Immersion Sponsors

The immersion was financially sponsored by Kinship Conservation Fellows and ProPesca and hosted locally by the Island School and the Burrows Family. The immersion was organized by Kinship Conservation Fellows Dan Tonnes, Christian Henry and Scott Gillilan, with three additional Kinship fellows and conservation professionals (see below). We were joined for one day by Felicity Burrows, who is related to Edwin Burrows and is a marine biologist working for The Nature Conservancy in Nassau, Bahamas.

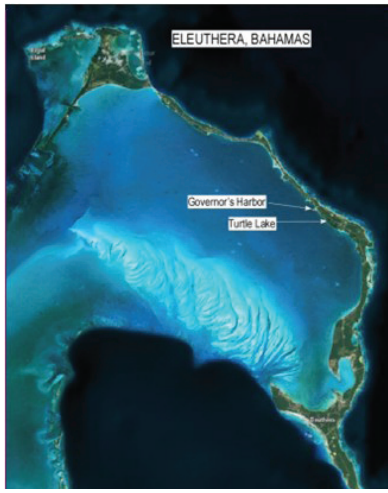
The expedition was organized as an “immersion” conducted by hand-picked group of diverse conservation specialists that could, with extensive pre-project collaboration and research, assemble onsite, rapidly assess relevant physical, socio-economic and market conditions in the project areas and generate realistic and actionable conservation project ideas.

The efforts of our team, and indeed the very reason we gathered on Eleuthera, were guided by the overarching belief in the potential value of market-based conservation

strategies within the larger toolbox of conservation approaches. While an elegant and appealing model in theory, as seasoned conservation professionals we are aware of the need for more market-based conservation “proof of concept”. The concept of making conservation “pay for itself” introduces another level of challenge that exceeds traditional efforts. The most promising projects succeed not by creating windfalls for the stakeholders but rather by creating additional/sustaining income within a community or group of stakeholders who also have an inherent desire to achieve conservation outcomes.

With that model for success in mind, our task was to identify and support the growth of tangible opportunities for the Burrows family, project partners and the local community to economically benefit from our efforts at Turtle Lake. A natural extension of this vision is that success at Turtle Lake will translate into a replicable model for other unique Bahamian areas that are not already preserved by more traditional mechanisms such as national parks.

Geographic Setting



Satellite photo of Eleuthera, Bahamas

The island of Eleuthera lies 58 miles east of Nassau, Bahamas and 250 miles southeast of the southern tip of Florida, USA. Its population of 11,000 is spread over several towns and settlements along its 110 miles length. The Island averages less than 1.5 mile wide, and is bounded to the west by the Caribbean Ocean and by the Atlantic Ocean to the east. Turtle Lake is located in central Eleuthera approximately 2.5 miles south of Governor's

Harbour, on the island's main north-south road named the Queen's Highway. It sits 0.5 miles from the Caribbean and Atlantic Ocean.

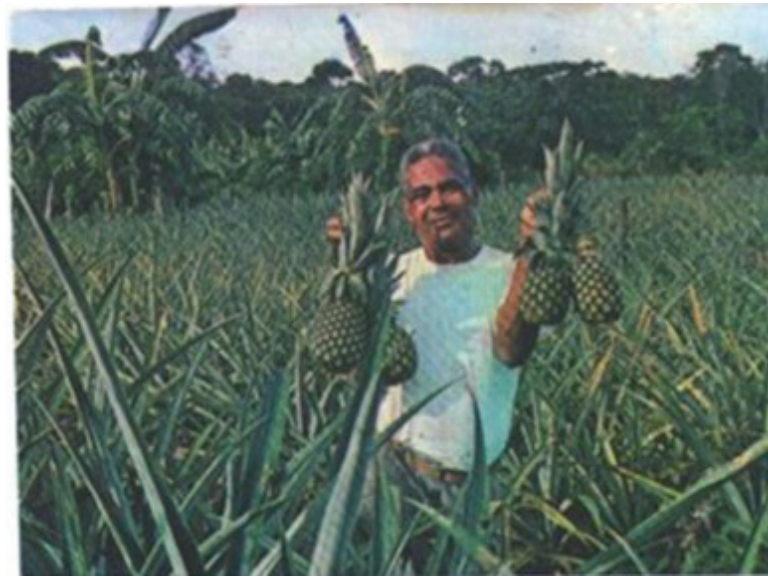


Restored colonial building in Cupids Cay overlooking Governors Harbor. Photo by Scott Gillilan.

Governor's Harbor is the largest town on Eleuthera and the oldest settlement in the Bahamas, and was founded by English pilgrims who established the settlement of Cupid's Cay 350 years ago. Today Governors Harbor has numerous

historic colonial style buildings with the historic heart being Cupid's Cay, a once active anchorage for trading vessels exporting locally produced pineapples and other agriculture and still the focal point for incoming small cargo vessels, pleasure boaters and a ferry service from Nassau.

Cultural History of Turtle Lake



Edwin Burrows.

Edwin and Gertrude Burrows, born in the early 1900's, were early settlers of the Cupids Cay area of Eleuthera. Edwin was a businessman of diverse talents—over the course of raising 14 kids and several grandchildren, he and his wife opened a bar on Cupids Cay, farmed pineapples and vegetables, and fished.

"My father had a vision to make the Lake one of the premiere eco-friendly tourist attractions in the world. He wanted to offer fishing tours and also bird and turtle watching. My father was a man of great vision. A trailblazer who was not afraid of hard work and loved challenges."

—James Burrows

His love of the sea and entrepreneurial style met a certain harmony at Turtle Lake, an inland saltwater lake that "magically" fell and rose with the tide. Sheltered from the wind, waves and predators of the open seas, the lake was an ideal place to stock wild fish, lobsters, and turtles and, because it was contained it would be easy place to harvest them after they grew. And grow they did - as elaborated later in this report - sea-life would invariably grow bigger than their ocean-counterparts due in part to the productivity of the mangrove groves ringing the lake.

In order to protect his use and vision for the lake Mr. Burrows secured a lease for exclusive use from the Bahamian Government - otherwise the fish, lobster, and even turtles would be easy prey to other fishermen looking to capitalize on his industry and catch a quick meal. The lease grants the Burrows family to use its waters and some surrounding land, and over the course of 40 years Edwin used the lake to raise fish, spiny lobster, and farm sea turtles to support his family.

Edwin built a small structure and bulkhead on the lake shore off of the main north-to south road, (Queens Highway) to serve as a base of operations and moorage for his small boat. Illustrative of his creativity the walls of the shack were made of concrete and glass pop and beer bottles and patterns on the walls include a Christian fish symbol overlaid with fish scales.



Photo by Scott Gillilan.

Realizing that sea-turtles in a mangrove-lined lake could not reproduce, he cleared a 100-foot long strip of mangroves, imported and placed sand to create a turtle-egg laying beach that was soon used annually by the turtles. Upon their emergence from the sand

Regional & Local Economic Environment

Tourism is king in the Bahamas and accounts for over 60% of the Bahamas Gross Domestic Product (GDP) with the vast majority (80%) of visitors coming from the United States and the eastern seaboard there particularly. Financial and off-shore banking accounts for 17% of GDP with manufacturing and agriculture accounting for less than 10% of GDP. Local agricultural production is now relatively limited, thus the nation imports 80% of its food. There is an important export trade in lobster, fish and conch, and most agriculture is small-plot based with no large-scale operations. Bahamians have the highest per capita income of all the Caribbean nations at approximately \$23,000/year though this figure is distorted by a concentration of higher income jobs in Nassau. The Islands of New Providence and Grand Bahamas are the economic and population centers of the Bahamas, while the outlying "Family Islands" appear to be left behind with little or no local economic activity.

Dating back to the emergence of global jet services in the late 1950's, Eleuthera's economy and fortunes have risen and fallen with tourism related outside investment, support services and tourism related construction and the collapse of these specific projects. Our team toured failed resorts from Governor's Harbor south to Cape Eleuthera, including the defunct Club Med development east of Governor's Harbor, whose ruins frame a world-class pink sand beach. The initiation of and failure of Club Med here, in addition to others including Cotton Bay and Cape

he collected the baby turtles and reared them in a small rock-lined alcove, otherwise the giant grouper in the lake would make a quick meal of the progeny. When the turtles were large enough he would sell some for food, release some in the ocean, and release some back into the lake.

When he died in 1982, the economic use of the lake by the Burrows Family diminished, though it remains extremely important to his children and grandchildren.



Signage painted on the walls of Edwin Burrow's headquarters. Photo by Shamika Fernander.

Eleuthera Resort, appear to us as part of a chronic speculation cycle with no real underpinnings with respect to economic viability. Interestingly, this speculative atmosphere surrounding new large luxury resorts on Eleuthera appears persistent to this day. While anecdotal, there is various media and people familiar with Eleuthera that suggest there is a strong "entrepreneurial culture" present among Eleutherans. While this may be true, and particularly as it relates to providing subsistence income, during our visit we found little in the way of micro-businesses catering to the tourist trade that one typically finds in healthy tourism-driven communities.

Most Bahamians born on the Family Islands must move to New Providence or Grand Bahamas in order to find sustained employment, typically in the tourist sector (of Edwin's 14 kids, only two continue to live on Eleuthera today with the rest in Nassau and the United States). Investment capital is extremely difficult for local entrepreneurs to secure—credit cards are typically not issued and even the gainfully employed have difficulty securing house mortgages. Most new economic investments in the Bahamas come from out of the country, such as China, and are concentrated on the two most populated islands of Nassau and Grand Bahama. These investments are typically for large-scale tourist destinations with little or tie to the unique culture of the Bahamas, nor concern for environmental protections.

FINDINGS

Tourism and Economic Development

There appears to be an emerging capacity and desire of Eleutherans for increased self-determination through the protection and enhancement of local environments, economies and cultural heritage. These aspirations are led by among others the One Eleuthera Foundation and the Eleuthera Land Conservancy. Nascent projects to fulfill this vision include the emergence of an Eleutheran Heritage and Conservation Trail and the Leon Levy Native Plant Preserve. The One Eleuthera vision reads in part:

We recognize that Eleuthera has a unique opportunity to create an economy based on our unique heritage and sustainable/green practices that protect our cultural and physical environment.

Eleuthera has a plethora of world-class and uncrowded beaches, and locals are exceedingly kind and accommodating to visitors. However, during the course of our stay we noted that there was a general absence of boutique tourist shops, guides and advertised fee-for-activity offerings. While these types of businesses may well emerge with increased tourism, there appeared to be gaps in basic tourism related offerings typical of tropical settings with world-class beaches such as Eleuthera. Indeed-many travel blogs refer to Eleuthera as a “do it yourself” experience best fit for adventurous travelers who require little support or catering.

Eleuthera does have a significant ex-patriot and wealthy second home owner community (henceforth referred to as “winter residents”) which provides jobs for caretakers, groundskeepers related staff and related input into the local economy. It was our impression that, similar to other tourists, this cohort is also underserved with respect to opportunities to place money in the community via consumption of support services.

The most recent notable investment in the Governor’s Harbor area is the Pineapple Fields Resort located within a mile of Turtle Lake, along the Atlantic shore. This is a modest sized 40 unit condominium-hotel with modern construction and appointments, mid-range

Economic disparity is impeding individual opportunity, and cultural and environmental protection on the Family Islands. Most Bahamians born on the Family Islands must move to New Provenance or Grand Bahama in order to find sustained employment, typically in the tourist sector.

price points and a restaurant popular with guests, visitors and the second home owner community.

An important observation of the team was the recurring conversation with Eleutheran’s who have left the island for better paying work and prospects in Nassau with a desire to move back, provided there was a means to earn an income. There are very few professional positions available on the island and with the absence of large resorts, few opportunities for long-term employment and upward mobility such as found in the bustling resorts of Nassau.

During a sustainable tourism conference at the Island School in south Eleuthera at the conclusion of our visit, various local speakers noted that the lack of direct international flights and frequent ferry service to Eleuthera was a limiting factor in tourism related development. While undoubtedly true, it is also noted that tourist infrastructure is underdeveloped, including compelling branding of Eleuthera as an alternative destination to other Caribbean islands.

At least for the short-term, and discussed later in this report, we feel there is an under-captured tourism market that is present within the current existing transportation volume to the island unrelated to high-end, all-inclusive style resort offerings.

Turtle Lake Watershed Land Ownership

The Burrows family owns 7 acres near Turtle Lake, and uses several acres on the lake as part of the governmental lease. Much of the rest of the watershed is termed "Generational Land" or "Crown Land". Generational land is the term for land which is handed down by families from generation to generation, often without a clear titleholder. Generational land exists that is not yet apportioned to individuals or developed, but can be claimed by family members who have an heir that used the land previously.

with respect to land ownership. Land title and claims to use the land in the watershed are legally and socially complex because of historic land claims dating back to the emancipation of slave families and granting of plantation lands. There are now literally dozens of Burrows family heirs who could have legal claims over the land near the lake (labeled as "K-32" by governmental maps). Further, an antiquated land government ownership registry persists to this day making definitive title and land ownership determinations difficult.



Preliminary sketch of potential land use at Turtle Lake and on Parcel K-32, including a trail system. Prepared by Woodbury Architecture Design Studio

Early investigation into the identification and desires of the stakeholders both within the Burrows family and in the lake watershed revealed that seeing our vision through to an economically viable conservation outcome would involve some challenging issues



Topographical view of Turtle Lake watershed with parcel K-32 identified.

With our recognition that land ownership, aside from the 7 acres owned by the Burrows family, around the lake was and will likely remain a somewhat open question into the near future, the team was challenged to expand our vision, and more importantly, our ideas, to include market-conservation strategies that could work in the Turtle Lake watershed both with the existing parcels owned by members of the Burrows family, as well as the "ideal palate" of the entire watershed. Therefore, many of the working ideas presented here are all contingent upon the Burrows family using some or all of their 7 acres of land and/or exercise stewardship activities on generational land claims. Regarding the former, we began to focus on "what could work tomorrow" within the context of aligned Burrows family members with either titled land or generational land claims or lease lands in the watershed. On the latter, some of the ideas presented will necessarily involve some level of participation or buy-in from other titled land owners and/or claimants to generational lands.

Identified Natural Resource Assets



Green sea turtle photographed within Turtle Lake

At 68 acres Turtle Lake is one of the largest inland blue holes in the Bahamas. The namesake of the lake are the numerous sea turtles that were introduced beginning in the early 1950s. Sea turtles were once a common food source of Bahamians and Mr. Burrows placed hundreds of sea turtles in the lake, including green, loggerheads and leatherback.

“Ocean fish grow bigger in the lake than the ocean”
-Shirley Burrows

During our time on the lake we documented green sea turtles estimated to number from 18 to 40 individuals. The persistence and past reproduction of sea turtles within saltwater lakes of the Caribbean is unprecedented. The Bahamian government banned sea-turtle harvest in 2009 for conservation purposes and the decline of sea turtles in Bahamian waters renders viewing turtles in the wild relatively rare for most tourists.

In addition to turtles, Mr. Burrows placed ocean fish such as grunts and grouper in the lake, as well as spiny lobster. After the fish grew within the productive lake environment, he would harvest some to feed his family and to sell.

We documented several species of fish that continue to persist in the lake. The local lore of Turtle Lake

includes multiple local observations that “everything grows bigger in the pond” which may explain why Mr. Burrows chose it as a site for mariculture.

Turtle Lake is surrounded by an intact mangrove forest and upland vegetation, and the continuous input of leaves and other organic matter likely contributes to high biological productivity compared to the adjacent ocean. In the cave systems of blue holes, this high nutrient input leads to biological breakdown by bacteria and hydrogen sulfide gas. Sulfur reducing bacteria use this gas that creates water with low dissolved

oxygen. This condition is a natural preservative and is found in many blue hole systems.

Blue holes of the Caribbean host diverse and unique species that have only begun to be documented. In blue holes of Abaco, Bahamas, archaeological artifacts and other preserved remains of early life have been found along with cave-adapted crustaceans, and other life, many not found elsewhere on earth. In 1970, the lore of Turtle lake attracted an expedition by the National Geographic Magazine who explored the lake and its cave system.



Marine life on mangrove roots on the fringe of Turtle Lake.

Uplands, Mangroves and Carbon Storage

While the lake itself is the most striking natural feature of the watershed, another defining feature is the unique softly rolling and forested topography derived from the geology that led to the blue hole itself. Most of the Eleuthera is relatively flat, with scrubby upland forest providing little “scalable” space or view interest. Where such topographical variation exists, such as the nearby Leon Levy Native Plant Preserve, this topography has acted to capture wind-borne African soils creating rich deposits of fertility in the lees and hollows of the hills. These fertile areas were used by Mr. Burrows for pineapple and vegetable farming.

The fringe of mangroves around Turtle Lake play an important role in creating the unique structure of the lake, biologically and physically. Not only do they provide shade and nutrients, which helps to support the high biodiversity found within the lake, but these surrounding mangrove forest also help remove excess carbon dioxide from the atmosphere (as does the lakes substrates). Certain types of ocean habitats, in particular mangroves, salt marshes and seagrass, play a fundamental role in the global carbon cycle, primarily through the chemistry and biochemistry of the carbonate/bicarbonate system. These habitats are collectively referred to as Blue Carbon sinks. Carbon is



Mangroves ringing Turtle Lake.

fixed into living tissue by shallow-water marine plants via the process of photosynthesis. It is then buried in sediments, isolating it from further circulation in the carbon cycle, generally for some thousands of years. If left undisturbed, these habitats are able to trap and isolate organic carbon in sediments over millennial time scales, making them very valuable ecosystems in to buttress against climate change. Unfortunately, due to their prime location as valuable areas for development, these habitats are often in need of additional protection in order to ensure that they remain intact and to keep the sequestered carbon stored away for millenniums.

Existing Threats to Long-Term Conservation

Several years ago a network of roads and a boat launch were built on the southern edge of the lake and developable lots were placed for sale (to date no further development has occurred). Unabated development could severely alter the condition of the lake and dampen future sustainable economic opportunities in its watershed.

Risks of development along the shoreline of the lake are many. Dense development will inevitably create stormwater runoff and sedimentation input that could alter the entire lake ecosystem. The removal of a significant portion of the mangrove forest would eliminate the crucial input of leaves and other biological material as well as the numerous invertebrates that rely on the mangrove root system. The loss of mangroves and biota associated with them would reduce nutrient input and dampen local productivity, including food sources for sea turtles, and would likely result in increased water temperatures from the loss of shade. All of these

factors have the strong potential to alter the unique water conditions within the cave systems.



Approximate overlay of Lakeview Estates proposed development. Graphic prepared by Scott Gillilan.

Discussion of Burrows Family Interests

Prior to the team immersion an on-line survey was sent to members of the Burrows Family that had first-hand experience on the lake with Mr. Burrows (n:15). The survey solicited their memories and knowledge of the historic use of Turtle Lake, and their opinions for future uses (see appendices with full list of questions). These family members were asked what species of fish, turtles and other marine life were released by Mr. Burrows into the lake, what he did with them upon their release, and their favorite memory of the lake (all respondents were informed prior to taking the survey that information may be used in this report). In addition, each family member were asked to express their opinions of various future uses of the on a scale

of 1 to 5 (i.e. "1" represented strong support, "5" strong opposition) (responses below).

Aside from the survey—numerous conversations and emails occurred between family members and various members of the Kinship team prior to and after arrival in the Bahamas.

Because the Burrows family is large it is difficult to characterize the family as a whole in terms of the future of Turtle Lake. However, many discussions with the family revealed a strong desire to continue the legacy use of the lake, as does the results of the survey.

The extended Burrows family – now settled from Nassau, Miami, New York and Seattle-seeks a way to reconnect with the island of their youth, and to have a place that is vital and provides an appropriate level of economic sustenance for the and their home community.

Burrows Family Survey Responses

Future Uses of Turtle Lake

	Strongly support	Support	Neutral	Oppose	Strongly Oppose
The lake and surrounding mangrove habitat is formally designated as a nature reserve.	100%				
The lake is used to support turtle recovery and conservation.	100%				
The lake is used to support a local fishing/aquaculture business.	75%	25%			
The lake is used to support large scale development.				50%	50%
The lake is used to support small-scale development (i.e. an ecolodge).	50%	50%			
The lake is used to support a kayak guiding business.	50%	50%			
The lake is just left alone with no formal changes or protections.	25%			75%	
The lake is better studied to understand its species composition and ecology.	100%				

Market-Based Opportunities & Principles for a Path Forward

These following business ideas for the Turtle Lake watershed have been conceived with overriding principles that are intended to apply to each proposal. Importantly, some of these principles also specifically reflect the identified values of the current generation of the Burrows family as identified by the survey and conversations with the Kinship Team:

- Economic gains from the lake should be used, at least in part, to sustain the ecological integrity of the lake, and the current and future generations of Burrows family.
- Future uses of the lake should be at least have benign effects on its unique environment, and ideally serve to directly or indirectly lead to the preservation of the lake and watershed.
- Research to better understand the lake ecosystem, underground caves, bird community, mangroves and upland vegetation should occur, in addition to how its natural resource assets could be used to sustain the local oceanic and upland environments of Eleuthera and beyond.
- Declaration of Turtle Lake as the “Edwin Burrows Turtle Lake Preserve”. Future uses of the lake should celebrate the distinct heritage of the Burrows Family, the vision of Edwin Burrows, and the strength of the desire of the family for a unified path forward.

We suggest that Turtle Lake and the attached long-term lease for lake uses be formally declared as a “preserve”. The preserve does not have to be a legal structure but rather a statement of purpose and intention created by the family and effectively a stewardship guidance document for the generational lands. The definition of “preserve” can be left to family development but ideally gives voice to family member intentions to create a legacy of protection and conservation of the natural values of the Lake and parcel K-32. In addition to being a starting point for focused family discussions regarding future uses of their generational land claims, if a preserve status is designated it can become a centerpiece of a marketing effort for nature-based experience income streams discussed in following sections.

Sustainable Income Business Models

The ideas presented here represent potential business models that we believe will have a reasonable chance of proving successful pending additional due diligence and planning.

We have divided this discussion into “Low-Capital Investment” and “Higher Capital Investment”

Low Capital Investment Opportunities

Tourism Support Business at Turtle Lake

There is a lack of self-supported or guided recreational opportunities on Eleuthera for tourists or winter residents. Turtle Lake could become both a hub for these services as well as destination experience under a new business that could for example be branded as “Turtle Lake Preserve and Outfitters”.

The following categories of tourism experiences could be supported at Turtle Lake to offset/maintain an

opportunities and strategies. The former are considered actionable plans with relatively low risk to invested capital and human resources. The latter would require raising capital at levels that would likely require outside partners. Notably, many of the proposals described here could occur in a staged-manner or simultaneously.

investment in protecting the land with a minimum of capital investment :

Water Sports Outfitting

Watersports equipment rental and support business appears to be seriously under-served in the Governor’s Harbor area. For active travelers, experiencing the Caribbean and Atlantic coasts on the water ranks high on the list of half-day, full day or multiple day “keystone experiences”. For example,



stand up paddle boarding is the fastest growing water sport in the world, accessible to both first-timers/ beginners and widely practiced by intermediate and advanced recreationists. However, we are not aware of a single paddle board outfitter in the Bahamas, much less Eleuthera. The opportunity to become the first paddle board outfitter in the Bahamas cannot be underestimated in terms of a unique market opportunity.

Sea kayaks are also a popular and beginner-through-expert activity, and like paddle boards, transportation of these personal crafts to the island is a near impossibility. In the Governor's Harbor area, we are only aware of one small kayak rental stand at Pineapple Fields. We also encountered tourists in the area who were having difficulty finding snorkel gear to rent to further enjoy their beach time, not to mention tanks and gear for diving.

For the purpose of conceptualization, the cost for acquisition of the necessary water craft rental equipment, which can be scaled in number to experienced demand, is not a particularly high bar. Both income, craft utilization rate and fees could readily be increased by:

1. An effective local and web-based advertising program to capture both "found" tourists in the area looking for a unique experience plus those planning trips and on-island activities in advance from out-of-country.
2. Providing guided services including drop-offs and pick-ups and/or guided trips outside of Turtle Lake. Transportation of bulky gear and guests to put-ins and pick-ups combined with local knowledge and referrals for destinations, knowledge of weather and ocean conditions and providing a safety check-in/

check-out process would be key for most paddlers and provides additional revenue stream. Providing guides can significantly increase per/hour or day income and provides security for beginners and more tentative but adventurous tourists.

3. Hourly rental fees and lessons using Turtle Lake as a safe, (non-open ocean), family-friendly recreational "gateway" experience.
4. Establishing demand for stand up paddling as a "must do" Eleutheran tourist experience could significantly expand the demand for the number of rentable boards.
5. Hosting lake-based paddle festivals including lessons, fun and competitive races can serve to create a unique experience for tourists and exposure to the outfitting business.

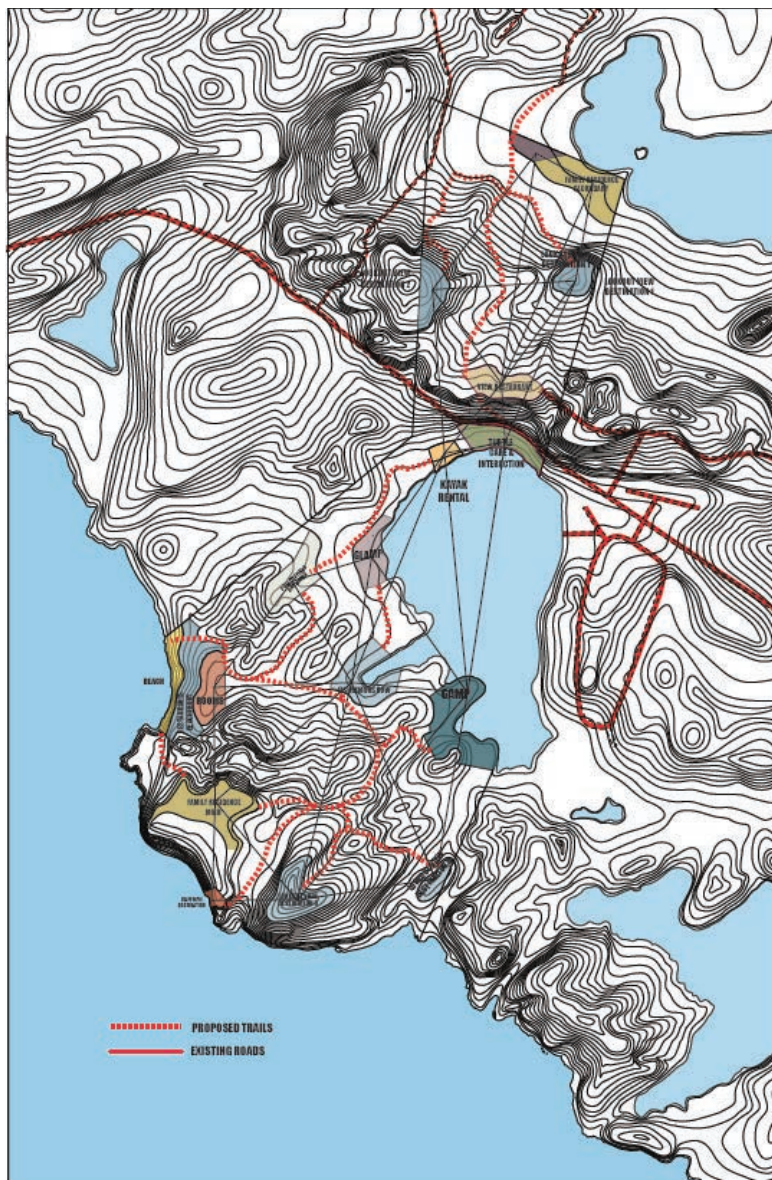
Ancillary capital outlays to support a water sports outfitting business at Turtle Lake would likely include:

- Secure storage of rental gear (lockable boat/gear shed/office).
- Advertising including web page development, flyers and signage.
- Operator/staff/guide wages and fees.

Creation of Destination Tourist Recreation Experience

Aside from the new Leon Levy Native Plant Preserve, there appears to be a lack of a single "signature tourism experience" on Eleuthera. Developing and branding Turtle Lake as a "must see destination" nature preserve, paddle water sports and recreation site could fill this void. In more advanced phases, this would require additional onsite amenities and services that make Turtle Lake more attractive and appealing to a wider range of both casual and destination tourists (see the figure on page 13 for a conceptual illustration of possible amenities) .

This could include harnessing the under-exploited birding tourist market with guided bird walks or custom guides and the development of a birding trail. General family recreationists could be attracted to a "Swim with the Sea Turtles" branding campaign that included opportunities for turtle viewing, photography and conservation education. As a destination to spend a few hours or even a full day, related physical amenities could be developed depending



- Bathroom/shower facilities and parking area improvements.

Sea Turtle Conservation and Education Experience

Turtle Lake is a natural aquarium and a living laboratory. It is a place where three species of sea turtles and large reef fish including grouper and snappers can be seen up close. As noted by the Burrows and as witnessed by members of the immersion, these specimens grow larger than they do in the nearby ocean. They can be seen from the shore and with a snorkel could be seen closer than they could on most coral reefs.

Being contained by an enclosed blue hole, yet flushed tidally by underground flows to the ocean and nourished from land, the marine organisms in the lake are both highly visible yet apparently quite healthy. This circumstance provides unique opportunities to learn about normally evasive mega fauna, particularly



Sample of a board walk through mangroves at the Leon Levy Preserve that can be replicated at Turtle Lake.

on the finalized vision and commitment of a family entrepreneur and capital campaign:

Improvement and expansion of existing "shack", bulkhead and a dock for craft launching.

- Creation of one or more small sand beaches for picnicking/lounging and swimming (and possible turtle egg laying).
- One or more covered gazebos on piers and connected to shore as "paddle to" destinations on the lake or multi-functional platforms for fish fry's, picnicking and "hanging out" and local gatherings.
- Develop a trail system around lake named, "The Edwin Burrows Conservation Trail" to provide an additional fee-based use for those looking to stretch their legs. This could dovetail with future trail expansion to include a loop trail that climbs and traverses the ridgeline to the west for stunning Caribbean views and potentially, connection to the Leon Levy Preserve, (see expanded discussion later in this report).

the enigmatic sea turtle. Sea turtles are timid, ocean dwelling creatures that spend only a few moments on land either to lay eggs, which is limited to adult female, or for the short crawl that recently hatched turtles make from their sandy nests to the sea. After that, they live a life confined to the open ocean and are hence difficult to observe let alone study.

Turtle Lake offers unique educational and research opportunities. In terms of educational experiences, the unique nature of the lake offers opportunities for visitors can see these animals up close. Through snorkeling and kayaking/stand-up-paddle boarding, they can get close to the turtles and observe their

behavior. They can bring photographs home and feel fondly about their unique experience. Local guides can be employed to find the spots where these animals and others like groupers and snappers congregate and can share the remarkable story of the sea turtle to visiting groups.

As much a unique experience for tourists, Turtle Lake also presents a unique opportunity to the sea turtle research community. Little is known about turtles and their broad migratory patterns and timid behavior makes them difficult to study. To date, most research is concentrated on nesting females and their migratory patterns. Studying a fixed turtle population could yield insights on turtle nesting behavior, genetics, pathology, toxicology and reproduction. Turtle Lake presents an interesting control group in which some factors such as fibropapilloma, a type of

As much a unique experience for tourists, Turtle Lake also presents a unique opportunity to the sea turtle research community. Little is known about turtles and their broad migratory patterns and timid behavior makes them difficult to study.

tumor that affects the epidermal layer of many species of turtles and is becoming an epidemic, are absent. The phenomena of heightened toxin levels such as mercury contamination might also be absent and could provide an opportunity to make comparative analyses between turtles inside Turtle Lake and in the open ocean. Also the accessibility of Turtle Lake's turtles could create opportunities for younger students to study basic biological features of sea turtles.

Preliminary studies will need to be carried out by professional sea turtle biologists to determine a portfolio of research projects that could be carried out at Turtle Lake but the area looks very promising for comparative analysis.

Finally, with sea turtle populations facing perils such as overfishing and loss of nesting habitat, Turtle Lake offers a suitable refuge for these animals. A sea turtle "hospital" might be set up at Turtle Lake whereby injured sea turtles can be tagged and allowed to reside in the lake until they are healthy enough to return to the wild.

Lobster Ranching

Lobster were once thriving in Turtle Lake according to the Burrows Family and were documented by the National Geographic expedition in 1970, but it is unknown if they continue to persist in the lake. Turtle Lake could be the setting of a lobster fishery and habitat protection cooperative with artisanal fishers of the Bahamas. Spiny lobster are culturally valuable to Bahamians and are an important food source for large groupers, loggerhead turtles, octopus, and sharks. Crawfish are "reef cleaners" and are vital in keeping coral reefs healthy. The value of the fishery is estimated to exceed 78 million dollars annually but despite its economic and cultural value, rearing habitats of spiny lobster continue to be degraded and lost by nearshore development and dredging .

The lobster fishery is closed from April through July thus any lobster consumed and sold during the off-season must be caught during the open season and frozen. The food quality and market-price of frozen lobsters is diminished and many artisanal fishermen do not have the facilities to store and sell the frozen



Spiny lobster within a pen. Image from Wikipedia Commons. Spiny lobster are a staple food source for both islanders, tourists and winter residents in the Bahamas.

product during the closed season, leading to a sporadic income for local fisherman.

The concept of the fishery-cooperative centers on the harvest of lobster by fishers during the open season, and storing the live-stock in protected waters of Turtle Lake within underwater pens until the closed season. During the closed season, these live-stored lobsters would then be sold at prices that, theoretically, could exceed frozen lobster. Such a cooperative would then enable the fishers to better-monetize the fishery and a portion of the proceeds would go to protecting mangrove and seagrass habitats of Turtle Lake and the ocean that are essential for juvenile lobster rearing. This kind of project could serve as a viable market-based restoration tool to benefit local economies and essential habitats of the Bahamas.

Boutique Agriculture and Agrotourism

As noted previously, Eleutherans import the vast majority of their food and fresh farm raised foods are scarce and expensive in local store outlets. Edwin Burrows farmed the land near Turtle Lake and sold fresh vegetables and pineapples to local restaurants. While this opportunity would require additional investigation, aspects could include:

- Providing fresh produce and farm goods to local restaurants under a "Local Food Campaign." (Locally iconic and popular with the tourists Tippy's Restaurant at Pineapple Fields is already a

at Palmetto Point, just several miles south of Turtle Lake)

- Roadside produce stands and sales to locals, tourists and winter residents.
- Creation of a community garden selling to all of the above but with engagement of local school kids, family plots and other interested gardener/farmers tied to a campaign of ancestral practices, food security and healthy eating habits.
- While a modest market slice, there is a growing trend in "agricultural tourism" that is largely centered around organically grown local foods and showcasing indigenous traditions and there has been some significant investigations of the



This photo was taken at the Island School on Cape Eleuthera and represents the year-round ability to grow a wide range of produce. Photo by Scott Gillilan.



Lettuce and greens grown at the Island School utilizing effluent from the live fish research tanks and used daily by the kitchen staff for meal preparation. Photo by Scott Gillilan.

potential viability of such a tourism sector in the Bahamas.

- If the lobster ranching enterprise is established, this could be a synergistic draw for local food shoppers.

purchaser of locally grown food from Island Farms

Synthesis of Conceptual Water Sports Outfitting Business Plan Low Capital Investment

Establishment of a water sports outfitting business at Turtle Lake ranks as the simplest business model and a keystone element of attracting attention to the amenities of the lake. From a practical standpoint little is necessary for a "DIY" operation which could consist of a simple hosted kiosk with the ability to secure watercraft during non-business hours. This would be supported with local and area signage in addition to placement of pamphlets at area businesses and tourist entry points. Purchase of a limited number of paddle boards and kayaks and the cost of a kiosk and marketing materials would represent the only hard costs. This bare bones model could be easily upgraded with an expansion of amenities and services that could include: a dock and deck accessing the lake; composting toilet and outdoor solar hot water shower; swimming beach; pick up and drop off services; and guided trips and lessons. Capital for purchase of watercraft and other improvements could be raised by the family. Ideally, these improvements would be in context to larger and more capital intensive future business development phase (discussed further below). If family capital resources proved limited for this effort, the project team is prepared to assist in finding either micro-finance capital or loans.

Higher Capital Investment Opportunities

Our team also developed ideas for projects that could monetize the natural assets of Turtle Lake in a largely pristine condition though require significantly more business plan development, proforma development and capital investment. The central concept of all these is that there is an under-served lodging market for tourists interested in "place based lodging" that includes immersion in natural environments and an unusual or locally authentic experience. While "ecotourist lodges" is a typical name for these types of establishments, we feel in some ways this label is artificially constraining and does not cross-market to a broader range of travelers seeking a unique lodging experience.

All of the following ideas are completely synergistic with the "Low Capital Investment Opportunities" discussed earlier and in fact, the successful development of the low capital enterprises helps create the "place" in "place based" lodging may provide the springboard for the latter. Again, before proceeding with the discussion of potential programs of use for the Burrows Family Lands, we acknowledge that the discussion is not informed by any formal market research, but is rather a summary exploration based on the team's collective experience and scholarship in market-based conservation approaches.

to the special considerations of working with generational lands. Given that traditional lending-based investment in, and direct purchase of, generational has proven difficult historically, family- and individually-based business models provide the advantage of building from the direct interests and skill sets of the individual family members.

Additionally, generational lands are not subject to conventional zoning and planning restrictions, making creative, place-appropriate and sustainable mixed-use projects possible within a matrix of protected open and working lands at watershed scale.

The sheer number of extraordinary beaches on Eleuthera, while a key asset (and also potentially available as an amenity within the K-32 Burrows claim area) for destination tourism, typically require some distinguishing and capital intensive amenity to be constructed such as a winter home enclave community, a full service hotel, etc. At Turtle Lake, the blue hole and rolling hillside topography can provide this branding opportunity with less intensive Low Capital approaches. With family-based program generation and cooperative strategic land use planning, siting strategies that both protect and add value to these features can be developed.

The Lower Capital Investment approach is responsive

Glamping Lodging Experience

“Glamping” is a phrase coined in recent years to describe an approach to hospitality facilities that combine the locations and lightweight, semi-conditioned shelters associated with camping, with enhanced furnishings and services. Glamping is an increasingly popular option for more adventurous travelers who wish to connect with nature without sacrificing personal comforts.



Glamping units have proven highly successful all over the world for nature-focused and other “experiential” travelers. They are relatively low capital investments yet can have per day revenue as high as traditionally built lodging units. Photo from Wikipedia Commons.

The spectrum of Glamping products is broad, ranging from simple tented camps and tree houses to cabins, lodges and, in some definitions, luxury on-the-water villas. This approach intends to engage people more directly with their natural surroundings while providing comforts- even luxury- in furnishings and grounds. But the emphasis remains on the natural settings. The case studies for this approach have proven successful with several market demographics- from the active, adventure-oriented eco-tourist to more passive “safari-style” customers who simply seek reduction of distractions within a “simple luxury” setting in a national-park quality landscape.

Eco-lodge/Resort Development

In contrast to the Glamping approach, which emphasizes the individual space of the minimalist

shelter, the Eco-lodge adds a layer of common facilities and often more centralized and more solidly constructed destination architecture.

The Turtle Lake watershed amenities offer a variety of options for an eco-resort development. For example, a hilltop location would offer stunning views of the coastline and the sunset/sunrise, while a lakeside location would provide a more intimate atmosphere with views of the water and turtles.

Differentiating the resort in terms of positioning, design and product offering will be critical to its success. In the case of Turtle Lake, a small resort product could offer a unique alternative to the standard beach resorts found throughout the Bahamas and the Caribbean. Along with the amenities suggested as Low-Capital Investment Opportunities, guests would enjoy an eco - educational holiday experience capped with a memorable encounter with the turtles. Thus there is an opportunity to leverage the site and its unique natural attributes to create an alternative lodging product that would stand out not only in Eleuthera, but in the Bahamas and the rest of the Caribbean.

Whatever concept is chosen, the lodging development should be carefully designed to take advantage of the site’s natural attributes while minimizing the impact on the surrounding environment. If possible, it should be a leading example of sustainable design. This would not only support the conservation ideals of the Burrows family, but also differentiate the resort from a marketing standpoint.

From a management perspective, the use of environmental technologies would also contribute to a higher profit margin by lowering operating expenses. For example, the use of alternative energy sources could significantly reduce the inordinately high cost of utilities incurred at existing resort developments on the Island.

We believe that a well-planned lodging product on the site would complement, rather than compete with, existing resorts and attractions. One of the key success factors in sustaining and enhancing tourism in Eleuthera is ensuring that there is a critical mass of attractions to generate higher traffic volume to the Island. A wider spectrum of accommodation categories and an increased room count will enable

the Island to develop a broader portfolio of tourists to and cater to a larger market, enticing tour agents to promote Eleuthera as a destination.

Again, sighting considerations determine the “flavor” or “brand” of the Eco-lodge resort, with encounter’ experience, will add to Eleuthera’s inventory of tourist attractions, as would a in order to design appropriate programs, development strategies, and marketing approaches for that destination. Given the importance of the “Family Islands” to Bahamians who have found work and careers on Nassau, this market should be carefully considered.

One of the key success factors in sustaining and enhancing tourism in Eleuthera is ensuring that there is a critical mass of attractions to generate higher volume traffic to the Island.

Not only is the talent and investment for the Turtle Lake watershed development strategy likely to come from the Burrows family, but its ultimate customer base may well derive from Bahamians seeking a Family Land connection, and conventional tourists seeking to add a more authentically Bahamian component to their Nassau-centered vacation, along with those whose target experience is landscape-, adventure- and/or local culture-based and coming from the mainland’s to the East and West of the Bahamas.

Blue Carbon

A Blue Carbon project at Turtle Lake could easily be done in conjunction with several of the other suggested Low or High capital investment projects but has been listed as a higher capital investment project due to the need to involve outside partners who have previous experience in creating successful Blue Carbon projects. There is also are costs associated with preparing appropriate documentation regarding the site as well as having the project verified to ensure it meets internationally recognized standards. Within the Kinship team there are members who have worked with blue carbon projects previously and could leverage their expertise.

The term “Blue carbon” refers to atmospheric carbon that has been sequestered within sediments or vegetation within ocean environments. Although still quite young in relation to other carbon credit standards, there is a growing movement to establish formalized methodologies and give a standardized value to these types of projects. Globally, these Blue Carbon sinks are in danger. Currently, on average, between 2–7% of global Blue Carbon sinks are lost annually (the equivalent of losing 12 to 84 million hectares of primary forest), with approximately one third of the original extent of eelgrass habitats having been lost over the last 60 years.

By its very nature, the development of carbon credits creates a need for a buyer of said credits. This need could create the opportunity to allow local businesses, such as airlines, cruise lines or ferries to act as a buyer. Not only would they be helping reduce their carbon emissions, their involvement in this project would provide them with a chance to promote the location. This type of project would not only have financial gain through the sale of carbon credits, but it would also help to ensure that the mangrove ecosystems at the lake remain intact and provide additional protection for the future and would provide an excellent opportunity to educate visitors as to the importance of mangroves, not just to the lake, but to the planet as

Woodbury School of Architecture Turtle Lake Design Studio



Project team member Clark Stevens is currently teaching a design studio at Woodbury School of Architecture that was inspired by the project expedition and attracted 19 upper-level and graduate students. In conceiving the studio, Mr. Stevens noted: "All successful economic endeavors on the island to date have successfully navigated local systems and found a sustainable scale for their operations and strategic approaches to utilize local skills and resources and balance them with Bahamian and international markets."



The studio objectives include developing specific land-use approaches and alternatives derived from student analysis and family input. The students will develop two or three different strategic K-32 master plan alternatives well suited for the micro-finance based real estate options, recreational and perhaps agricultural

focus derived from family's initial interests, and to the important ecological conditions of the place.

Members of the Burrows family are visiting the campus studio to provide critical and human context for the students. The studio will culminate with students with the top reviewed final presentations visiting with the Burrows on Eleuthera to present their findings



Tourism & Potential Partnerships

a whole.

One of the more exciting project ideas began coalescing after the team was off-island and included ongoing conversations with Mr. David Barlyn, owner and developer of Pineapple Fields Resort and Governor's Harbor most popular tourist food and beverage gathering spot, Tippy's Restaurant. Mr. Barlyn expressed aligned interest with our investigation with respect to creating sustainable and tourist friendly destination experiences in the Governor's Harbor area that harnessed the area's natural resources and local economic development. He has first-hand knowledge this model's synergy having sold land adjoining Pineapple Fields to Shelby White Levy for her creation of the Leon Levy Native Plant Reserve.

The preserve has provided his guests with a very proximate nature tourism experience and he also gained a neighbor who is conserving and preserving his view-shed, effectively adding value to his resort development.



The observation tower at Leon Levy Native Plant Preserve is a fantastic destination served by artistically designed and executed nature trails. Photo by Scott Gillilan.

While still in an exploration phase, our team sees a very tangible synergy with both Mr. Barlyn's and Mrs. Levy's ventures and development of Turtle Lake, with the latter becoming an allied nature-based tourism, science and conservation experience increasing the opportunities for non-competitive cross-use and branding the area as a unique destination experience.

Our vision for such a cooperative relationship includes:

- Establishment of a "Sea to Sea Conservation Trail" that starts at Tippy's/Pineapple Fields beach, traverses near or through the Levy Preserve, to Turtle Lake connecting to the Edwin Burrows Conservation Trail that is extended to the scenic ridgeline overlooking Turtle Lake and the Caribbean Sea.
- Integration of a water sports outfitting business at Turtle Lake with a cooperative marketing agreement with Pineapple Fields that includes special services and rates for guests.
- A cooperative cross-use use plan and marketing effort between the Leon Levy Plant Reserve and Turtle Lake Preserve which links these two resources as conservation and scientific destinations for island residents and visitors.
- Cooperative vision development that could include expansion and extension of Leon Levy Preserve's: 1) conservation science; 2) community focused efforts on cultivation of native plants and area appropriate and sustainable food production and 3) an "extension of destination experience" through guided nature activities such as birding, hiking, water-based exploration, sea turtle conservation envisioned for Turtle Lake Outfitters.
- Exploration of a formal business enterprise that includes capital fund raising for envisioned hard costs necessary for the development of Turtle Lake Preserve and Outfitters. This could include but not limited to: 1) business start-up loans, 2) direct investment as part owners, 3) cooperative identification of aligned philanthropic and business capital and 4) financial guidance with respect to business and conservation lands management, advisory and hospitality training services for the involved Burrows family members and future staff.
- Potential "staff sharing" including guides, hospitality staff, site managers and researchers.

- Joint conservation research and management activities including supporting, fielding and hosting research expeditions and creation of a citizen science program.

Thinking further outside the box, many of the above cooperative efforts could be focused under a new and separate entity such as the “Central Eleuthera Conservation Cooperative.” This could be organized as a local non-profit or for-profit entity with a vision statement and objectives reflecting the unified goals of the principals.

Another unifying vision may include Mr. Barlyn’s efforts to promote sustainable tourism and economic development in the Governor’s Harbor area. His

initiative includes some exciting ideas for increasing employment opportunities through a range of services that includes area beautification, improvement of emergency health care and more.

The Turtle Lake project could pro-actively share this vision promoting and creating local economic development through creation of destination conservation and unique tourism experiences honoring the history and needs of the local community.

At the time of this report discussions are underway to see if the construction of the Sea to Sea Conservation Trail can become a mutual pilot project benefitting our area neighbors and potential partners.



The pool and grounds of Pineapple Fields, a successful new condo-hotel resort neighboring Leon Levy Preserve and conceived, developed and owned by renowned resort designer and project cooperater David Barlyn. Photo courtesy of Pineapple Fields.

Discussion of Challenges and Progress Benchmarks

Turtle Lake Project Development Time line and Benchmarks

TURTLE LAKE PROJECT DEVELOPMENT TIME LINE AND BENCHMARKS



While still early in our project development some central challenges have arisen that will require some focus to overcome. Chief among these challenges is the need for some capital to advance project goals. For example, the project team is still working on an uncompensated basis outside of their professional obligations, resulting in a relatively slow pace of project development and ongoing out-of-pocket expenses. Ideally, some sort of seed funding for further project development will be manifested for both compensated project development time and at a minimum off-setting team travel costs to the island. Additionally, funding to hire professional ecological surveys of the Turtle Lake watershed inclusive of: terrestrial flora and fauna surveys and cave diving exploration and documentation are necessary.

Other challenges include the difficult process of identifying and establishing land use and legal title in the watershed. Our understanding is that these matters typically cannot be resolved without significant investment into locally sourced professional title searches (another area where financial resources will have to be invested in the short-term).

The completion of this report is the first project benchmark – a not insignificant one as it is the

summation of hundreds of hours of planning, on-island time and follow-up. Upcoming benchmarks include:

- Completion of Clark Stevens' Woodbury School of Architecture graduate design studio on Turtle Lake and their visit to the site and presentation of findings in January 2014 by Clark Stevens, Scott Gillilan, and select students.
- Development of initial professional business plan for the first phase of Turtle Lake development focusing on the water sports outfitting business, (completion by early 2014).
- Meeting with the extended Burrows family in Nassau to present project summaries and opportunities in March 2014.
- Completing baseline biological site surveys, (TBD).
- Formalizing cooperative agreements and work plans with local project partners (ongoing).
- Meet with Bahamian Government (TBD).
- Capital fundraising (ongoing).

Potential Sources of Capital and Support for Project Development

Creation of Business Development Finance Vehicle

As an extension to this project, team members Gillilan, Tonnes, and Stevens are exploring the ability to tap into conservation and social welfare impact investment entities. This includes researching and making contact with existing programs as well as the possibility of creating a new and specific Bahamas-centric, (even Eleuthera-based), impact investment group made up of both winter residents and other high net worth individuals with ties to the area.

We will also be exploring potential micro-finance and grant opportunities. As noted under the discussion of project challenges, identifying suitable grant-making programs and preparing quality applications to compete for funding will require significant uncompensated project team efforts and/or support from an existing NGO which can invest time and resources in such an endeavor.

Investment Opportunities

In parallel or as a precursor to creating and impact investment opportunity, we will create a professional business plan detailing the development visions for Turtle Lake and the required capital to move forward. In that plan we identify: short-term and long-term investment targets; expected profit/loss scenarios over a 1-5 year window and; risk to invested capital. Once in-hand, we can approach private capital sources inclusive of existing impact investment entities.

Stakeholder Capital Inputs

Once initial capital costs are identified as part of the business plan the Burrows family will be able to assess potential stakes they would like to share in the business and what financial resources they can commit. It is likely that a shares-based ownership structure will allow the most flexibility for these investments. Based on committed capital, the family can then, with our assistance if desired, seek outside investment.

Philanthropic Support

At this time we have not targeted a specific foundation or individual for financial support. We may try and develop these resources depending on soon to be identified project development and implementation costs as well as team members' ability to invest in cultivating these opportunities. With the completion of this report we will turn to creating brief "project briefing and prospectus" materials suitable for putting in front of philanthropic interests.

Ocean and Watershed Affinity Group In-Kind Support

To-date the in-kind contributions of affinity group team members is in the hundreds of hours and several thousand dollars of hard costs. We will continue to keep our affinity group abreast of the project and hope to identify other members who would like to collaborate with the ongoing development of the project. Realistically, the majority of further in-kind efforts will be undertaken by the project leads until we can find some seed money to cover travel of new and current team members to the island.

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APPENDICES

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Burrows Family survey questions

- 1) During what time period did Edwin Burrows use the Pond? (approximate year-to-year)
 - 2) How did he use the Pond? (multiple answers are fine)
 - a) Fish farm/fishing, b) turtle farming, c) pineapple farming d) anything else?
 - 3) What kind of fish did he place in the pond?
 - 4) Where did these fish come from?
 - a) Atlantic Ocean b) Caribbean Sea c) both
 - 5) How often did he place fish in the pond?
 - a) often—(i.e. about every month), b) infrequently—(i.e. one time per year) c) I don't know
 - 6) What kind of Turtles did he place in the pond?
 - 7) Where did these turtles come from?
 - a) Atlantic Ocean, b) Caribbean sea c) both d) I don't know
 - 8) How often did he place turtles in the pond?
 - a) often—(i.e. about every month), b) infrequently—(i.e. one time per year), c) I don't know
 - 9) How many adult turtles would you estimate he placed in the Pond?
 - 10) What did he do with the baby turtles that hatched in the pond? (multiple answers are fine)
 - a) eat them, b) sell them, c) release them into the ocean, d) let them live in the pond, e) I don't know
 - 11) Were there things that he wanted to do with the Pond but did not get to? (such as project or business ideas).
 - 12) Do you know who owns property around the lake?
 - 13) Do you have any concerns about the future of the lake? If so, please list what these concerns are.
- For the following questions, please indicate on a scale of 1 to 5 your support of the following future actions (1 is strong support, 5 is strong opposition)
- 1) The lake and surrounding mangrove habitat is formally designated as a nature reserve
 - 2) The lake is used to support turtle recovery and conservation
 - 3) The lake is used to support a local fishing/aquaculture business
 - 4) The lake is used to support large scale development
 - 5) The lake is used to support small-scale development (i.e. an eco-lodge)
 - 6) The lake is used to support a kayak guiding business
 - 7) The lake is just left alone with no formal changes or protections
 - 8) The lake is better studied to understand its species composition and ecology
- 14) Please share your favorite memories of the lake, or any further comments.

Photo Log



Shirley Burrows talks about the future of Turtle Lake during a process session at the Island School. Cape Eleuthera, Bahamas.



Felicity Burrows and Paul Hoobyar at Club Med beach. Governors Harbour, Eleuthera, Bahamas.



Kinship fellow Scott Gillilan and Paul Hoobyar speaking during a process session at the Island School. Cape Eleuthera, Bahamas.



Camilla Adair (granddaughter of Edwin Burrows) and Fernando Bretos during a process session at the Island School. Cape Eleuthera, Bahamas.



Csaba Vaszko speaks with Cathy and James Burrows about Turtle Lake. Nassau Bahamas



Dr. Ethan Freid, chief botanist at the Leon Levy Native Plant Preserve located near Governors Harbour on Eleuthera Island. Bahamas.



Tanya Bryan talks about Turtle Lake at the Island School. Photo by Dan Tonnes.



Patty Lee and Chris Maxey at the Island School. Cape Eleuthera, Bahamas.



Paul Hoobyar moderates the Coastal and Tourism Conference at the Island School. Cape Eleuthera, Bahamas.

E + G Family Tree

