Kayaking Opportunities on the Lower Chagres River

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Cover photograph: Kayakers on the Rio Congo.

KAYAKING OPPORTUNITIES ON THE LOWER CHAGRES RIVER PANAMA

Jerry Wylie
Ecotourism and Cultural Heritage Specialist
USDA Forest Service

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Contents

1. Introduction

The lower Chagres River flows 8 miles from Gatun Dam, which created the Lake Gatun portion of the Panama Canal system, to the Caribbean Ocean and is entirely within the San Lorenzo Protected Area. Over that distance it passes through largely intact tropical rainforest and is fed by numerous small rivers and streams that drain adjacent highlands and wetlands. The main river, adjacent small lakes and waterway, and some of the smaller tributaries are well suited for flatwater kayaking (also known as "sea kayaking").

This rapid assessment was completed December 6, 2000 with the assistance of Bill Bailey and his powerboat and Vinicio Wilson, a local birding expert and guide. Bill's boat was used to transport a folding kayak to each of these smaller waterways. An earlier trip along the main Chagres was made in May in the company of Charlotte Elton, Rafael Spalding, Scott Muller, Dan Mattson, Ramiro Villalvazo, Barbara Loste, and Skip Berger.

2. The San Lorenzo Protected Area

Situated at the Caribbean or northeastern end of the Panama Canal, the heavily forested 12,000 hectare (30,000 acre) San Lorenzo Protected Area (SLPA) is slightly outside the limits of the Panama Canal watershed but is nonetheless an integral part of the Canal Area (Map 1). The Gatun Locks are immediately to the east, the vast Gatun Lake forms the southwestern boundary and the majestic Chagres River —which provides the freshwater for the Canal system— flows through the heart of this area. Designated a "natural protected area" by Law 21 of July 1997 as part of conservation and development of the Canal Area, it is approximately 15 miles north to south, and 10 miles wide east to west.

This entire region was under the jurisdiction of the United States government beginning with the establishment of the Panama Canal in 1903. Beginning in 1910, Fort Sherman, a U.S. Army base, protected the northern entrance to the Panama Canal. It also preserved the SLPA's natural and cultural treasures during the 20th century. In recent decades, the area was used for jungle training by the U.S. military because of its high diversity of environments and topography (beach, cliff, hills, rivers, forests, etc). Military operations ceased in March 1999 and the Fort Sherman Military Reservation reverted to Panama in mid-1999.

Currently, the area is under multiple jurisdictions including: the Interoceanic Regional Authority (ARI), the agency charged with coordinating the use of reverted lands; the Panama Canal Authority (PCA), which controls much of the area's waterways including the Chagres River; the National Environmental Authority (ANAM), managing parks and protected areas; the Panamanian Tourism Institute (IPAT); and the National Cultural Institute (INAC), which is responsible for preservation of historic monuments. Other stakeholders include the Smithsonian Tropical Research Institute (STRI), which operates a canopy-level research crane, non-governmental organizations, and representatives of the local communities.

Because of the large number of players involved and their complicated and overlapping jurisdictions, a special collaborative effort has been launched to provide for the effective protection of San Lorenzo. The Panamanian Center for Research and Social Action (CEASPA), a local NGO, has the responsibility for this project, with funding from the Global Environment Facility and the World Bank. Project objectives include: 1) development of a management plan; 2) a program for community education, identity, and economic development; 3) financial mechanisms to ensure continued financial viability for environmental protection; 4) effective project management and evaluation; and 5) an appropriate institutional framework for the management of the area (CEASPA 1999). This discussion of kayaking is in support of the first objective: a management plan being prepared by a local consulting group, Consultores Ecologicos Panamenos (CEPSA).

The area is of exceptional biological and cultural importance. It provides an important link in the Panama Atlantic Mesoamerican Biological Corridor as well as the northernmost section on the north-south biological corridor between the Atlantic and Pacific Oceans. It is the most biologically diverse part of central Panama, containing 9 different forest types, from coastal mangrove swamps and Cativo forests in freshwater wetland areas, to semi-deciduous and evergreen humid tall forests in the uplands. It also has major riverine zones, tidal lakes, coastal beach and reefs, and extensive freshwater lake (reservoir) shoreline.

The SLPA also has very high bird diversity. More than 450 species have been identified, and the Panama Audubon Society counted 357 bird species here in one 24-hour period, a Western Hemisphere record. Other key species include jaguars, tapir, monkeys, sloth, and crocodiles/ caiman.

The area's historic resources are also impressive. At the mouth of the Chagres is the magnificent Fort (or "Castillo") San Lorenzo, erected during the late 1500s to defend one of Spain's principal routes to the Pacific coast and Old Panama. The fort became the target of pirates and buccaneers, including Sir Frances Drake, Sir Edward Vernon, and Henry Morgan. Together with its sister site at Portobelo, it was declared a *World Heritage Site* by UNESCO in 1980. The area also contains remarkably well-preserved WWI defensive batteries designed to protect the Panama Canal, as well as remnants of France's attempt to dig a sea-level canal in the 1880s. Other historic sites include small farms and plantations along the coast and along the Chagres River, the town of Chagres near Fort San Lorenzo, and numerous banana plantations scattered throughout the interior (Weaver, Bauer and Jimenez 2001).

3. Kayak Niche Markets

There are four basic types of sea kayaking each representing a potential niche market. These are based on psychographics (motivations), demographics, and associated activities and are summarized below. These categories are not mutually exclusive and there will be overlap between them. Various combinations will provide the package of experiences and personal benefits desired.

- **Recreational Kayaking** is outdoor recreation to enjoy nature, to relax and to have fun, frequently in the company of others. The level of physical risk and challenge is low. Aerobic exercise, pursuing hobbies, and learning or refining kayaking skills can be important motivations. This is primarily a daytime activity and is considered to be the most popular type of sea kayaking. The large supply of suitable areas and entry-level customers suggests a very high growth potential for this type of kayaking. Sport/Fitness paddling emphasizing exercise may be a "hard" form of Recreational Kayaking or it may be a separate niche.

- In **Educational Kayaking**, participants are primarily interested in improving their knowledge and discovering nature through high-quality information and observing unusual or spectacular species and ecosystems, such as whales, coral reefs, or tropical rain forests. Current use levels are estimated to be second to Recreational Kayaking. High growth rates are expected in this niche, at least for the USA market until 2030, when the Baby Boomer generation slows down.

- **Wilderness Kayaking** involves intense, personal experiences in a setting free of the obvious evidence of human impacts. Challenges and risks are moderate and an important part of the overall experience, as are solitude and primitive camping. The limited number of pristine areas and a narrow age profile for participants in this category keeps use levels and growth low.

- For **Adventure Kayaking**, the experience focuses on challenge, thrills, excitement, and personal accomplishment by overcoming nature and sharing this experience with others. It involves travel typically to remote places known for their natural beauty and physical attributes. The level of physical effort and risk ranges from moderate in "soft" adventure to high in "hard" adventure kayaking. Legal liabilities and a very narrow age profile limits current use levels and allows only moderate growth potential at best.

4. Kayaking as a Tourism Strategy

Because they are inexpensive, safe, easy to use, and environmentally friendly, flatwater kayaking has emerged as an ideal way to explore waterways and enjoy natural and cultural resources from a unique perspective. Sea kayaking or "kayak cruising" is one of the fastest growing segments of the marine sport industry and has the potential to open up coastal, lake and river environments the way SCUBA unlocked the underwater world.

There are several important advantages for adopting sea kayaking as a tourism development strategy, especially in developing countries (Wylie 2000a).

1. A relative small investment is needed (US$15,000-$20,000).

2. Unlike SCUBA diving, it does not require highly technical training or equipment or critical safety standards. Because it is based on simple human-powered equipment, a sea kayak business can function in areas where there is no technological support or expertise.

3. It can operate in virtually any area with good quality marine, lake or gentle river environments.

4. It fits well with and supports traditional fishing/water-based cultures and communities.

5. It attracts the "right" kind of visitors who are interested in and respect the local environment and culture.

6. It has greater potential to distribute benefits to rural areas. These benefits include profits, jobs, camping and entrance fees, taxes, tourism diversification, environmental education, resource conservation, and preservation of cultural traditions.

However, there are a few cautions: a) Sea kayaking will seldom be a high-volume business, b) Sea kayakers will expect and demand a high-quality experience, including pristine environments, high-quality environment in good condition, good interpretation, and professional tour guides; and c) Sea kayaks are very mobile and quiet and are able to enter areas not usually visited by conventional tourists. This may put them in situations where they unintentionally intrude on the privacy of residents or startle wildlife. However, proper information and supervision by trained guides can minimize these problems (Wylie 2000a).

Sea kayaking in Central America and the possibility of developing a water route, as part of a Mesoamerica Trail to connect protected areas from Panama to Guatemala, has been recently documented (Wylie 2000b). That report mentions Lakes Gatun and Alajuela, as well as the section of the Chagres that connects them, as one of the 10 areas in the region that have the greatest potential for developing commercial sea kayaking. With new information provided by the current assessment, that recommendation can be expanded to include the lower portion of the Chagres. Indeed, this lower section has some of the best kayaking Panama and is key for establishing a water trail from the Caribbean to the Pacific. Such a route could connect the SLPA with the Lake Gatun Recreation Area, Barro Colorado Island, Soberania National Park, and Camino de Cruces National Park, forming the first link in a region-wide system of water trails.

5. Description of Areas along the Lower Chagres River

5.1 Chicken Landing

The small lagoon at the Chicken Landing boat launch is fairly attractive for kayaking. This is the put-in point for all boating on the Chagres. There is a small cascade on the western hillside, which has created a staircase of calcium carbonate, and a short trail and dock at the northwestern corner. Passing the island and entering the main river, there is a very dramatic view of Gatun dam (spillway) and passing ships in the lake (Map 2).

5.2 Main Chagres River

The main river, with an average depth of 13 meters, has a relatively gentle flow that varies based on seasonal releases from Gatun Dam. During the dry season there may be little to no water releases. There are no rapids or obstructions and ocean-going yachts can motor to within sight of the Gatun Dam. With few exceptions, the entire shoreline is natural appearing, with tall humid forest growing right up to the water's edge. The most interesting paddling is up against the shoreline, where it is easy to observe numerous species of birds, as well as monkeys, iguanas, sloths, butterflies, and flowers. Occasionally, large tarpon can be seen rolling in the main river and crocodiles and caiman, some said to be as large as 6 meters long, can also be found. The starting point is Chicken Landing and the take out point is the dock below historic Fort San Lorenzo.

5.3 French Canal and Lake (La Cuenca)

This neighboring waterway might be accessible to kayakers on the Chagres via a short trail of less than 100 meters. Paddlers would have to pull their boats over the historic railroad grade that runs along this side of the river. In fact, it is possible that the lake may once have been connected to the river before the construction of this 7-meter high roadbed. This shallow, mangrove-rimed lake connects with the 2-mile long French Canal, an early attempt at a sea level trans-isthmian water route. Because the forest is primarily mangrove and not the diverse and taller rainforest found along the Chagres, first impressions are that this would not be as attractive for paddling as the main river. However, this needs to be verified.

5.4 Quebrada Paulino

This stream is much different than the others, both in vegetation and water quality. It has a lot of palms and giant ferns and the water is a chocolate color. Smaller powerboats can negotiate the meandering channel up to and into the long "lagoon" section, a total distance of about 1800 meters. With a shoreline choked by ferns, the lagoon is rather monotonous and has no over-hanging trees and would be uninviting on a hot day. If there is an inlet on the upper end, as suggested by the topographic map, it could not be located.

5.5 Rio Indio

This is one of the most attractive rivers examined. It has two main branches and powerboats can make it to the "Y," about 800-900 meters upstream from the Chagres. The water is very clear because it drains from the highlands. The western arm contains a partially collapsed concrete bridge, about 400 meters upstream of the "Y." Other than some debris around the bridge, it is possible to paddle with relatively little trouble except for encountering occasional crocodiles in the shallow water. The eastern fork is also clear and shallow, with bedrock forming partial barriers separating deeper pools for about 500 meters from the "Y" and ending in a final pool with a small cascade.

5.6 Rio Negrita

The Negrita drains the highest terrain along the lower Chagres and may actually be two rivers incorrectly mapped as one. It is difficult to tell. There is one short stream which can be paddle for 200-300 meters at the elbow of the Chagres, and another even shorter one about 200 meters upstream. What may be the "western" branch of the Negrita can be paddled about 500-600 meters. None of these can be accessed by powerboats and all are heavily overgrown. They have limited potential for kayaking.

5.7 Rio Mojinga

The Rio Mojinga drains the Mojinga Swamp situated in the low region located between the Chagres and Limon Bay. It was not possible to paddle the entire way to the swamp due to downed trees. However, I was able to make it about 800 meters from the junction with the Chagres to an area where the river began to spread. Even this required a portage. The forest was very tall and attractive. Powerboat access is limited to the lower 200-300 meters. More work needs to be done to assess the swamp's potential for kayaking.

5.8 Rio Congo

This river flows out of the highlands of the old Fort Sherman Military Reservation and is one of the larger rivers in the lower Chagres area. It offers the longest paddle of a side river along the lower Chagres, slightly more than a mile, depending on how many downed trees you are willing to portage. Powerboats can get to within a 150 meters of the concrete bridge, about 500 meters from the Chagres. Kayakers can go another 850 meters until the way is blocked by numerous downed trees. It was on this river that a sleeping crocodile was surprised on the bank above the river during an earlier kayak trip. The forest is very dense and tall.

5.9 Unnamed River with Waterfall

There is a very small but attractive stream on the opposite side of the Chagres just downstream from the mouth of the Congo River. It drains a low but steep hillside. After about

300 meters it ends in a 2-meter waterfall into a dramatic pool. It is possible to paddle through a narrow cleft in the rock and enter an enchanting room-sized area carved by the stream. A series of stair steps are eroded into the stone beside the waterfall, which provide access to additional pools above. However, the steps are too high to reach from a sitting position in a kayak and seem to be designed for a higher watercraft. Perhaps they were created to assist early sailors in obtaining freshwater supplies. Bill Bailey found a way to climb to these pools from a point slightly further downstream. The water here is very clear and the forest is attractive.

6. Strengths, Weaknesses, Opportunities and Threats (SWOT) Assessment for Kayaking on the Lower Changes River

6.2 Strengths

- Attractive, intact tropical rainforest
- Large main river and numerous tributaries
- Incredible variety of birds and wildlife
- Rich Spanish colonial history
- Gentle current and controlled flow
- Lack of apparent human modification

6.3 Weaknesses

- Limited availability and high cost of rental kayaks
- Lack of visitor services and information
- Down trees blocking passage on tributaries
- Lack of time available for cruise ship tourists
- Lack of advertising
- Possible wildlife hazards (sharks, crocodiles)
- Some serious “adventure” kayakers may not appreciate sit-on-top kayaks
- Muddy water in most side tributaries
- 8 miles plus side trips is a long paddle for beginners

6.4 Opportunities

- Adventure and educational niche markets
- Combination nature and cultural tours
- Use of kayaks with conservation volunteer projects
- Fishing from kayaks
- Yacht niche market
- “Mother ship” overnight kayak trips

6.5 Threats

- Wildlife conflicts and impacts
- Future increases in downed trees will further limit access on tributaries
- Conflicts with powerboats (and jet-skis?)

7. Recommendations

7.1 Provide more information, interpretation and good-quality kayak equipment for visitors. Encourage the use of more efficient types of sit-on-top kayaks (e.g., Scupper Pro) and focus on both the Panamanian and international market.

7.2 Investigate the potential wildlife hazards. In particular, determine the seasonal risks of sharks at the mouth of the river and crocodiles protecting their nests. Avoid situations which would put people in conflict with potentially dangerous animals (places and times).

7.3 If kayaking is determined to be appropriate for smaller tributaries, consider clearing downed trees to improve access.

7.4 Target the educational and adventure kayaking niche markets and consider using kayaks with conservation volunteer projects.

7.5 Develop tour routes down the main river which include short excursions up smaller tributaries for different scenery, shade, stretching legs, and taking a freshwater swim. Two excellent candidates are the Rio Indio, which would make a great halfway stop for lunch and the short unnamed stream about a mile above the mouth of the river.

7.6 Investigate the potential for sensitive wildlife to be disturbed by kayakers. Studies in the USA suggest that nesting waterfowl are more likely to be surprised by quiet kayakers than by powerboats.

7.7 Prohibit powerboats in some or all side tributaries to avoid conflicts with wildlife and kayakers.

7.8 Consider requiring all kayakers to utilize the services of a trained, local guide. This would improve safety, interpretation, and visitor satisfaction, and minimize potential conflicts with wildlife.

7.9 Conduct additional exploration to determine the kayaking potential of the Mojinga Swamp and the French Canal/Lake system.

7.10 The length of the paddle, a minimum of 8 miles plus additional side trips up the smaller tributaries, possibly as much as another 2-3 miles, is pushing the upper limit for beginner paddlers. This could be mitigated by using more efficient kayaks and planning for a mid-trip rest break perhaps combined with a snack and swim in one of the clearer streams.

7.11 Explore the potential for offering kayak trips to yachts anchoring in the main river. Another opportunity would be to provide overnight accommodations for kayakers on houseboats or floating platforms.

7.12 Explore the feasibility of developing a water trail from the Caribbean to the Pacific to connect existing national parks and protected areas in Panama.

7.13 Analyze opportunities for local populations to develop micro enterprise businesses to support kayakers.

7.14 Provide kayak and nature guide training opportunites for local community members.

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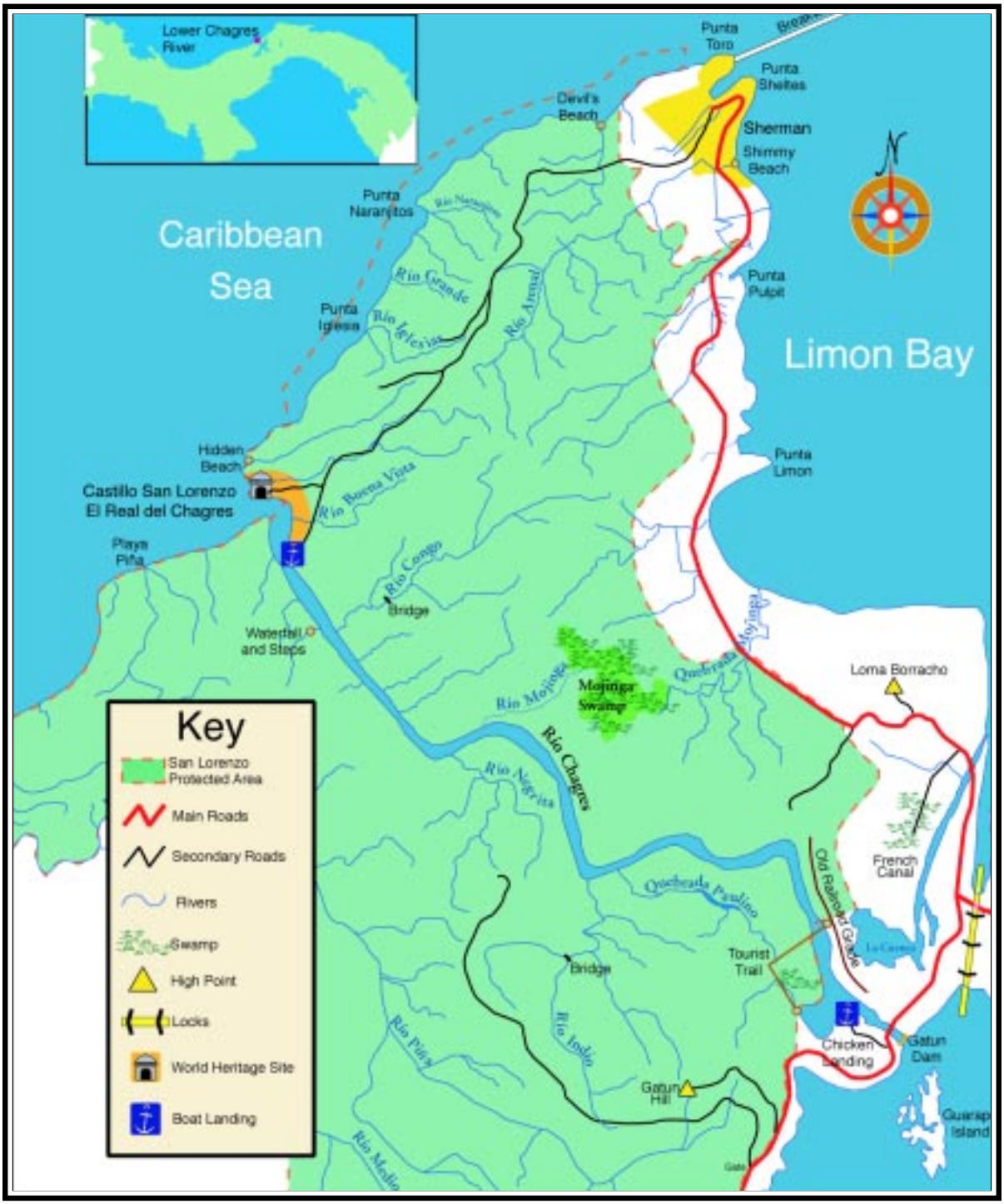
Map 1. Location of the San Lorenzo Protected Area.

Map 2. Lower Chagres River in the San Lorenzo Protected Area.



PHOTOGRAPHS

Photograph 1 – The lagoon near Chicken Landing is attractive and would make an excellent place for kayakers not interested in the longer trip downstream.

Photograph 2 - A fisherman's dugout canoe on the lake at the end of the French Canal.

PHOTOGRAPHS

Photograph 3 – Kayakers on the main Chagres River.

Photograph 4 – Exploring the lower reaches of the Congo River.

PHOTOGRAPHS

Photograph 5 – The small lake on Quebrada Paulino is ringed by palms and low trees.

Photograph 6 – The waters of most tributaries on the west side of the Chagres River such as here in the Rio Indio are much cleaner because they flow from rocky highlands.