



## **Biodiversity Conservation at the Landscape Scale**

A Program of the Wildlife Conservation Society Supported  
by the USAID/EGAT Global Conservation Program

### **Glover's Reef Living Seascape: Safeguarding Marine Resources and Rural Livelihoods in Belize**

Implementation Plan FY2009  
October 1, 2008 – September 30, 2009

Living Landscapes Program – Belize/Glover's Reef  
Wildlife Conservation Society  
30 September 2008

USAID EGAT/NRM/Biodiversity  
Leader with Associates Cooperative Agreement Award LAG-A-00-99-00047-00



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#### **Project Goal**

To ensure conservation of biological diversity in regions of global biodiversity importance, using a species-based landscape or seascape approach.

The Wildlife Conservation Society believes that protected areas must remain at the core of all nations' biodiversity conservation plans. These areas typically contain a higher diversity and abundance of plants and animals than landscapes or seascapes managed primarily for economic use. Yet, parks and reserves are always embedded in larger, human-dominated landscapes or seascapes and are seldom sacrosanct. Regardless of how large or small a protected area may be, the plants and animals it contains are often threatened either directly or indirectly by human resource use activities.

Management of parks and reserves cannot, therefore, occur in isolation from the surrounding human-dominated landscape or seascape, but must take into account where and how human activities conflict with biodiversity conservation, and where conservation adversely impacts human welfare. As human populations continue to expand over the next 50 years, the incentive for over-exploiting natural resources within and outside of protected areas will likely increase and the need for biodiversity conservation tools that address human-wildlife conflict will become even more important.

The Living Landscapes Program promotes conservation of landscapes or seascapes by focusing efforts on key animal species that require large areas for their conservation, that are particularly at risk because they cross land use and jurisdictional borders, and, that when protected, will have the greatest positive impact on biodiversity as a whole. These Landscape or Seascape Species are highly mobile, vulnerable animal species whose conservation fosters a focused and cost-effective way to retain a full complement of biodiversity and overall ecological integrity. To conserve these species, parks and reserves must be integrated into the broader landscape or seascape, a landscape or seascape in which people exploit natural areas and wild species to meet their socio-economic needs.

The Biodiversity Conservation at Landscape Scale (BCLS) program is designed to ensure biodiversity conservation in five core sites by identifying actions to conserve landscape species, and by increasing the capacity of local and national organizations to implement such actions. The five areas of global biodiversity importance for WCS involvement and USAID activity are currently:

- Greater Madidi Landscape Conservation Area (Bolivia)
- Glover's Reef Living Seascape (Belize)
- Maya Biosphere Reserve Living Landscape (Guatemala)
- The Eastern Steppe Living Landscape (Mongolia)
- Southern Sudan Transboundary Living Landscape (Southern Sudan)

## **The Glover's Reef Living Seascape Project**

**Goal:** To conserve the outstanding biodiversity and natural beauty of Glover's Reef and, by synthesizing and disseminating lessons learned, promote the sustainable use of its marine resources through the adoption of best practices within WCS and throughout the conservation community.

Glover's Reef, Belize is one of six globally significant landscapes or seascapes included in WCS' overall GCPI & GCPII/USAID portfolio of conservation sites, and the first coral reef site to be adopted under the WCS Living Landscapes program. This program seeks to develop and test wildlife-focused strategies that will identify and resolve conflicts between people and wildlife that threaten important wild places and the biodiversity they support. The approach is threats-based and highly participatory.

Although Glover's Reef Atoll has been established as a marine reserve, the protected area needs to be integrated into the surrounding region – to be managed within the realities of the regional social and economic context - if it is to prevail within an increasingly human-impacted seascape, as many of the threats originate beyond the boundaries of the reserve. One major means of integration is ensuring that the socio-economic requirements of the various stakeholders are openly considered and addressed.

The Atoll supports extraordinarily high biological diversity and possesses the greatest range of reef types in the Caribbean Sea. Located 30 miles off the coast of Belize, the Atoll's well-developed spur and groove outer reef structure encircles a shallow lagoon that is dotted with more than 800 patch reefs. The shallow protected waters of the Atoll's lagoon provide nursery and feeding habitats for at least three species of sea turtles, eight species of sharks and rays, more than twenty species of aggregating reef fish, and numerous species of coral. The northeastern corner of the Atoll is the site of one of the Caribbean's largest and last remaining Nassau grouper spawning aggregations, a spectacular biological phenomenon with cultural and economic importance that is severely threatened across the Caribbean. The benthic community of corals and sponges on the western wall of Glover's is among the most diverse and densely covered sites reported anywhere in the Caribbean, exhibiting 95% living cover and as many as 11 species per square meter.

Given its biological and ecological importance, its distance from the mainland, and its relatively pristine condition when compared with other Caribbean reef sites, Glover's Reef Atoll has emerged as a priority for long-term conservation. The Atoll is the third largest marine reserve in Belize with an area of almost 36,000 hectares, and was declared a World Heritage Site in 1996. Despite its protected status, Glover's Reef Atoll is threatened by human activities, both on- and off-site. On-site threats include over-fishing and inappropriate tourism development; while off-site threats include increased turbidity and nutrification due to increased terrestrial runoff (caused by deforestation) and the effects of global climate change such as increasing sea temperatures. In general, coral reefs flourish in clear water that allows sunlight to penetrate and provide the energy required for photosynthesis by the corals' symbiotic algae, promoting optimum coral growth. Waters high in nutrients often lead to overgrowth of macroalgae on corals and an ultimate decline in coral cover and diversity. Corals are particularly susceptible to high sea temperatures, which cause many corals to 'bleach' or lose their symbiotic algae, often resulting in coral mortality. The Wildlife Conservation Society seeks to ensure the long-term conservation of this world-class site by identifying specific threats to the Atoll, building and strengthening alliances with stakeholders to support long-term conservation, and strategic implementation of conservation interventions.

Key threats to the Atoll's biodiversity include the following:

- Unsustainable fishing
- Lack of alternative activities for fishermen

- Impacts of global climate change
- Nutrifaction and high turbidity of the Atoll's lagoon
- Lack of support for the marine reserve by some stakeholders
- Insufficient information available for strategic conservation management
- Lack of long-term financing.

The objectives of the Glover's Reef Living Seascape (GRLS) project, and proposed associated activities, are specifically geared towards reducing these threats through the development and implementation of a multi-partner strategy.

With the support provided by USAID, we will have in place a sound management framework in terms of a Conservation Strategy for the Atoll, which we have developed in a participatory manner, learning as we applied the Seascape Species Approach. This Strategy will be reinforced by the related management tools of a newly revised management plan, a business plan and best practices guiding development of the cayes. Along with our partners, we will also have in place several long-term monitoring programs geared towards ensuring that we can determine our progress in reaching our conservation targets, and, where necessary, change our management activities to adapt to the reality reflected by the newly available monitoring data. By the end of this project, we will have stronger community-based involvement in marine resources management through the work of the Glover's Reef Advisory Committee (GRAC), the Spawning Aggregation Working Group, and our collaborations with local NGOs such as the Hopkins Fisherman Association and the Sarteneja Wildlife, Environment and Ecotourism Team (SWEET).

**Total Anticipated Level of Effort in FY2009**

**Glover's Reef Living Seascape: \$ 354,607** (USAID/EGAT: \$ 149,607; WCS: \$205,000)

**IMPLEMENTATION PLAN FY2009**

**OBJECTIVE 1: Develop and adopt a participatory strategy to reduce threats to marine life in the Glover's Reef Living Seascape**

**Level of Effort (Total Objective 1): \$ 37,000** (USAID/EGAT \$12,000; WCS \$25,000)

This year we will complete the printing of our Conservation Strategy and disseminate copies widely to all our partners. We expect that the Glover's Reef Advisory Committee (GRAC) will use the Strategy as a guide for management of the reserve over the next several years. WCS is committed to supporting the implementation of the 16-point plan included in the Strategy and assisting with the monitoring program outlined in the document.

**Activity 1.1 Complete threats and stakeholder analyses through a series of focused meetings in consultation with the Glover's Reef Reserve Advisory Committee.**

This activity was completed in FY04.

**Level of Effort (Total Activity 1.1): \$0** (USAID/EGAT: \$0; WCS: \$0)

**Activity 1.2 Create a "roadmap" for conservation intervention by completing a Seascape Species Analysis.**

With the preparation of the final version of our *Conservation Strategy for the Living Seascape of Glover's Reef* prepared in FY08, this activity has now been completed. We will be making the final arrangements for copies to be printed during the first quarter of FY09, and then the Strategy document will be distributed widely, particularly to the GRAC members, co-managers of marine protected areas, reserve managers, and to the Association of the

Protected Areas Management Organizations (APAMO). Copies will also be sent to relevant government agencies such as the Fisheries and Forest Departments, and the Department of Environment, private sector organizations such as the fishing co-operatives and the Belize Tourism Board, our international partners, and our two local universities. Although we hope to continue refining the Conservation Seascapes for our suite of Seascape Species as new information becomes available, our focus will be directed towards supporting the implementation of the 16-point action plan of the Strategy, and continuing to monitor the status of our Seascape Species to determine whether there is any improvement in their populations as a result of more effective management of the marine reserve through applying the Strategy.

**Threats addressed and results/outputs anticipated:**

The printing and distribution of the Conservation Strategy will encourage wider awareness of the conservation issues unique to Glover's Reef and provide a clear example of how the Living Landscapes Program's Landscape Species Approach can be applied to a Seascape. The document will hopefully be adopted in practice by the GRAC as its overall plan for the future management of the marine reserve.

**Level of Effort (Total Activity 1.2): \$24,000** (USAID/EGAT: \$9,000; WCS: \$15,000) USAID funds will be used to cover staff, communication and printing costs.

**Activity 1.3 Identify high priority interventions.**

As mentioned above, our high priority interventions are outlined in the 16-point plan which forms an integral part of the Strategy for the Atoll. These actions reflect many of the interventions included in our conceptual model, and are geared toward reducing the identified threats. They include actions at the policy level, such as advocating for restrictions on spear fishing, protection of parrot fish, size limits of Nassau grouper and an amended size limit for conch, the introduction of limited access to fishing at the atoll, and possible recommendations for zone boundary changes within the reserve. At the management level, actions include support for enforcement, boundary marking, the GRAC, promotion of best practices on the cayes that will protect their habitats and surrounding marine environment, and sustainable financing measures. Capacity-building actions include training and education activities, conducting an economic valuation, and addressing alternative livelihoods for fishermen.

Related to our interventions or plan of action, we will also continue to monitor the status of our Seascape Species, as outlined in the Monitoring and Adaptive Management section of our Strategy document. This includes monitoring the recovery of the Nassau grouper spawning aggregation site on the northeast corner of the Atoll that was closed to fishing in 2002, and the status of conch, hawksbill, Caribbean reef shark, osprey and *Diadema* populations. This year we also plan to initiate a WCS coral reef monitoring method for recording bleaching and general reef health. Our monitoring framework will guide the measurement of our progress towards reaching our conservation objectives for our seven Seascape Species, as well as the reduction of threats and the implementation of our interventions. The monitoring framework is a living document that allows us to see changes in the status of our indicators over time.

**Threats addressed and results/outputs anticipated:**

By bringing the attention of the authorities and fishermen to the depressed state of many commercially-fished populations, especially Nassau grouper and conch, we expect greater compliance with the laws by fishermen and also action by the authorities to institute new measures to ensure their protection. By supplying our monitoring results, we are improving the knowledge-base upon which better management decisions can be made. This, in turn, should lead to the recovery of our conservation targets over time.

**Level of Effort (Total Activity 1.3): \$13,000** (USAID/EGAT: \$3,000; WCS: \$10,000) Funds will cover staff costs.

**OBJECTIVE 2: Develop and implement sustainable and adaptive mechanisms to strategically address threats across the seascape**

In FY09, we will focus on consolidating our core priority actions and sharing the lessons that we have learned over the past five years.

We will continue monitoring our Seascape Species, working in collaboration with our major partner, the Fisheries Department. This work will include our LAMP (Long-term Atoll Monitoring Program) surveys, fisheries catch data collection program, spawning aggregation counts, and in-water sea turtle surveys. We will also continue our monitoring of *Diadema* through our collaboration with the University of Belize. This year we also hope to continue the work on ospreys initiated in FY08, and to start a coral reef monitoring program focused on recording coral bleaching, which will form part of a WCS-wide monitoring of reefs. Because waters high in nutrients can lead to macroalgae overgrowth and, ultimately, coral density/diversity declines, we also plan to expand our water quality monitoring capability by adding nutrients to the parameters that we measure. Increased levels of nutrients can lead to eutrophication, causing in a loss in coral cover and an overgrowth in macroalgae on the reef, one of the major threats to coral reef health at Glover's Reef.

Work will continue on the economic valuation that we are completing in partnership with the World Resources Institute. The results of this evaluation will be very useful in justifying further investment in the reserve and will also act as an example for evaluations of other marine reserves within the network. We will continue to implement the recommendations of the draft business plan, completing the web site for the marine reserve and assisting the Fisheries Department with the improvement of entrance fee collection.

We will continue to intervene on behalf of alternative livelihoods through our continued support to SWEET (Sarteneja Wildlife Environment and Ecotourism Team), an NGO in Sarteneja, which provides the enabling environment for ecotourism to become a viable livelihood option for fishermen of that community. Through our project with SWEET, we are also strengthening our ties with the Sarteneja Tour Guide Association and the Sarteneja Fishermen Association.

We will continue to work with the Glover's Reef Advisory Committee (GRAC) in the coming year, particularly in working for the implementation of limited access to fishing on the atoll. We also plan to use our experience and lessons learned with this marine reserve committee to help strengthen similar committees such as the South Water Caye Advisory Committee, which we plan to revitalize by working with the Fisheries Department, and the committee being established for the two WWF-sponsored spawning aggregation marine reserves on the Turneffe Islands, for which we currently act as advisor. Furthermore, we will continue to serve as the secretariat for the Spawning Aggregation Working Group, which has been active in public outreach and policy reform.

Our main training focus in FY09 will be one-on-one training in data analysis for our local NGO partners. This activity follows on from the training that we have provided over the past few years to reserve biologists in the LAMP and spawning aggregation monitoring techniques. With several co-managers presently using these methods and collecting data, we now need to provide technical assistance in data management, analysis and interpretation. We will also continue our field training for the in-water sea turtle surveys, and plan to share our specially-designed protocol with co-managers and other partners by the end of 2008.

During FY09 we will supply further support to Glover's Reef Marine Reserve enforcement staff, by providing some equipment and assessing the effectiveness of a radar system to detect illegal fishing. We also hope to work with the reserve staff to map the areas where most infractions occur, and thus help to make their patrols more strategic and cost-effective.

Finally, we are planning to work with the Environmental Defense Fund on a project to promote sustainable fisheries in Belize, in which Glover's Reef will be used as a pilot site. The main purpose of this project is to

introduce incentive-based fisheries management through special marketing strategies for products originating from a fishery that is sustainably managed. With the groundwork that we have laid at Glover's Reef in terms of initiating limited access and having reliable information on catch, we have the basis of a good site-based study that could be used as a model for other marine protected areas in Belize. We hope that this project will start in late 2008.

**Level of Effort (Total Objective 2): \$238,000** (USAID/EGAT: \$95,500; WCS \$142,500)

**Activity 2.1 Implement Seascape Conservation Strategy in cooperation with Glover's Reef Marine Reserve staff and Advisory Committee.**

During the first quarter of FY09 we will be working with SWEET to finalize their project on institutional strengthening of their organization and the Sarteneja Tour Guide Association, and the preparation of a tourism development plan for the village. The Ministry of Tourism has expressed interest in including Sarteneja in its tourism master plan, but first needs a plan from the community that indicates how it proposes to develop within the tourism sector. We have been involved, along with several other organizations, in providing training for fishermen and other interested community members in tour guiding (Intervention 7<sup>1</sup>). A survey that we supported shows, however, that the majority of these trained guides are not currently working, as they would prefer to have jobs in Sarteneja. The village and its surroundings have huge potential as an ecotourism destination, but central government help is needed to improve access and infrastructure. As tourism within the village develops, other livelihood options will also develop and provide a source of jobs other than fishing, thus leading over time to a reduction in fishing pressure (Direct Threat 1 – over-fishing). Fishing pressure will, however, only likely reduce if it is tied to limiting access to fishing. A pool of trained tour guides, who were previously fishermen, now exists to take up the role of guiding as opportunities within the village arise. We are also acting as a source of contact between the Ministry of Tourism, the Belize Tourism Board and SWEET, ensuring that the authorities are aware of the progress being made on the tourism development plan. Once the plan has been completed and formally submitted, we expect to provide support for some aspects of its implementation, working either through SWEET, the Sarteneja Tour Guide Association or the Sarteneja Fisherman Association.

We will also maintain close contact with the Hopkins Fishermen Association to determine whether they have become reactivated and are interested in implementing a (similar) project to develop alternative livelihoods.

We will continue, as we have during the last five seasons, to hire at least two fishermen from Hopkins to assist with the monitoring of the Nassau grouper spawning site at Glover's in December/January (Intervention 4), thus helping to provide some income to them to replace what they have lost (or foregone) by not being able to fish at the site any more.

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We will continue to work closely with the National Spawning Aggregation Working Group<sup>2</sup> (Intervention 11) as its secretariat. During the upcoming year, the Group will develop its third annual work plan for its main activities of monitoring, data analysis, training and outreach. As a member of the Group, we will continue to support the implementation of the recommendations that the Group submitted to the authorities in October 2007, which

<sup>1</sup> Please refer to Appendix 1 for this and other numbered interventions or threats highlighted in the text that follows. This appendix details the general and Seascape Species specific conceptual models for the Glover's Reef Living Seascape, showing the goal, conservation targets, the key threats to those targets and the strategic interventions that are being carried out to mitigate these threats. The conservation targets, threats (direct and indirect) and interventions are uniquely numbered and these numbers carry over between all four models.

<sup>2</sup> Members of the Group include representatives from the Fisheries Department, the Coastal Zone Management Authority & Institute, Belize Audubon Society, Green Reef, Toledo Institute for Development and Environment, Friends of Nature, Toledo Association for Sustainable Tourism and Empowerment, University of Belize, Belize Fishermen Co-operative Association, Hopkins Fishermen Association, Placencia Fishing Co-operative, WWF, TNC and WCS.

include instituting stronger enforcement, limiting fishing access, banning spear fishing in marine reserves, establishing minimum and maximum size limits for Nassau grouper, and introducing a 5-year moratorium on the take of Nassau grouper (Intervention 2). We will also support efforts to hold consultations to garner support for these recommendations, using the outreach material that we have developed. We plan to broadcast the television and radio spots again during the upcoming Nassau grouper spawning season, publish and disseminate the Group's annual newsletter, and broadcast the Nassau grouper documentary in late 2008 to coincide with the beginning of the spawning season.

During the first quarter of FY09 we expect to complete and launch the Glover's Reef Marine Reserve website, one of the recommendations of the draft Business Plan. The website should attract visitors to the reserve and inform them about the management of this unique and biologically diverse World Heritage Site (Intervention 14, addressing Indirect Threat 13). We will work with the Fisheries Department and the reserve staff to improve the collection of entrance fees, which is the most important source of revenue for the reserve, supplying about a quarter of its budget. It is one of the main points of the business plan – the need to improve fee collection, as we suspect that quite a sizable amount is being lost by sloppy procedures, etc.)

In the first few months of FY09 we will finalize the economic valuation of the Glover's Reef Marine Reserve, which we are conducting in partnership with the World Resources Institute (WRI) (Intervention 15). This project is being conducted as part of a broader national evaluation of our coral reefs and mangroves, with a focus on the importance of marine protected areas and their role in coral reef protection. Our fisheries catch data program is providing useful data for the estimation of the value of fisheries on the atoll, and we are working on compiling data on tourism use, visitation and entrance fee collection to help estimate the value of tourism. Putting a monetary value on the goods and services provided by the marine reserve should help to strengthen the case for investments that improve its management and secure its protection.

In addition, as mentioned below, other interventions include the collection of fish catch and effort data, training activities, and monitoring of reefs and our suite of Seascape Species. By involving fishermen, GRAC members and reserve staff in these activities, and sharing the resulting data with these groups, we will also help to raise awareness through increased knowledge (addressing Indirect Threats 9 and 10).

**Threats addressed and results/outputs anticipated:**

The preparation of a tourism development plan for Sarteneja will stimulate the growth of tourism in this fishing community and result in jobs for tour guides that can be filled by the many fishermen who have undergone the tour guide training which we have supported. This will ultimately help to reduce their dependence on fishing and, at the same time, help to reduce the unsustainably high fishing pressure- the largest threat to Glover's Reef. The educational and public awareness activities of the Spawning Aggregation Working Group will also garner support for stronger measures that aim to reduce fishing pressure, and in particular, to conserve the Nassau grouper. Implementing the recommendations of the business plan should allow the marine reserve to attain a greater level of financial sustainability. The economic valuation should strengthen our call for greater investment in the management of the reserve, not only on the basis of biodiversity protection, but also to sustain its value to fisheries and tourism, two pillars of the Belizean economy.

**Level of Effort (Total Activity 2.1): \$52,500** (USAID/EGAT: \$12,500; WCS: \$40,000) Costs of meetings, grant award, travel, office supplies, communications and staff will be covered by USAID funds.

**Activity 2.2 Provide technical support and training to the Glover's Reef Marine Reserve staff, the Belize Fisheries Department, and the CZMAI to improve management of the reserve and enforcement of fisheries and land-use regulations**

Support to the Glover's Reef Advisory Committee (GRAC) will continue over the course of the year (Intervention 11), and travel costs for members to attend the quarterly Committee meetings will be covered. Weather

permitting, one of the meetings will be held on site at Glover's Reef to give the members the opportunity to observe reserve management firsthand. By holding at least one meeting on-site each year we keep the members fully aware of the challenges on the ground and allow any new members of the GRAC to become familiar with the site. As Secretary of the Committee, WCS will provide assistance to the Marine Reserve staff in arranging Advisory Committee meetings, and documenting and distributing the minutes of meetings. During this year the GRAC will build on its earlier success of introducing limited access to the atoll, and aim for the system of special licenses that was initiated in January 2008 to be re-instated. We believe that the Fisheries Department realizes that limited entry is one of the only tools that they can apply to reduce fishing effort, and are supportive of the concept. So we think, with Fisheries support there is a chance of success and we therefore need to pursue it. We will also pursue, with the Fisheries Department, the adoption of the enforcement policy, a written document outlining procedures for carrying out arrests, handling evidence, and governing conduct of enforcement officers that was first instigated at the recommendation of the GRAC. If the Fisheries Department's marine reserve proposal to the Protected Areas Conservation Trust is funded, we will also negotiate a means of gradually transferring the responsibility for funding the GRAC meetings to the Department.

In FY09 we will apply the lessons learned in working with the GRAC to the revitalization of the South Water Caye Advisory Committee, which is currently not meeting regularly and has problems with its structure, procedures and retaining the active participation of its members. We will work closely with the Fisheries Department and the reserve manager to help re-organize the Committee, and to offer training workshops on the procedures for running a meeting, drafting their terms of reference, and selecting a new chair and secretary. We may also ask some of the GRAC members to participate in a couple of the meetings so that they may share their experience with the South Water Caye Committee. As the Committee progresses, we will provide additional support, offering further trainings (e.g., in leadership and conflict resolution) and arranging for the members to tour the reserve. We have also agreed to act as an advisor to the advisory committee for the two spawning aggregation marine reserves at Turneffe Islands, sharing the experience we have gained in fostering a successful and active GRAC.

In terms of fisheries, we will work closely with the reserve staff to strengthen enforcement. Through a related project, we plan to provide a radar system to help with detection of vessels that may be involved in illegal fishing. This will be set up as a pilot project, and if successful can serve as model for other marine reserves. We will also continue to assist with enforcement activities by supplying equipment such as flares, which are shot up in the air with a flare gun, providing a bright light over quite a large area, thus allowing the rangers to see any boats in the vicinity. These are useful for use during night patrols. Other support includes material for the boundary markers, and the construction of an observation tower to enhance detection of boats from the reserve headquarters. Finally, we will work with reserve staff and the CZMAI to begin mapping the locations of infractions to analyze, through the use of GIS, the areas most vulnerable to illegal fishing. With the rising cost of fuel, carrying out more strategic and cost-effective patrols is even more essential.

Though CZMAI had become dormant over the past couple of years, recently (September 2008) there was some very welcome action to re-vitalize the agency, and a new CEO has been hired and has already taken up his duties. A new Director will be hired very soon. We plan to engage with CZMAI as soon as possible.

**Threats addressed and results/outputs anticipated:**

Maintaining the work of the GRAC and improving the level of attendance and participation of members at meetings will help to ensure that the main stakeholders continue to have a means of contributing to the reserve's management. With the guidance supplied to the Committee by the Conservation Strategy and the best practices for the cayes, members will have a sound framework of reference within which to ensure that the reserve management is effective and meets its objectives. Improving enforcement is the most critical action for the marine reserve, helping to ensure that its resources are protected and used in a sustainable way. Without adequate compliance, most of our other efforts will not succeed.

**Level of Effort (Total Activity 2.2): \$40,000** (USAID/EGAT: \$15,000; WCS: \$25,000). Funds will be used to cover staff costs, meetings, travel, consultant fees, supplies, printing and communications.

**Activity 2.3 Strengthen and expand stakeholder support for the Seascape Conservation Strategy – e.g. fishermen (divers for lobster, conch and finfish, as well as handline fishers), Atoll residents, and tourism operators, as well as mainland communities that are highly dependent on the health of the reef (Hopkins, Sarteneja and Dangriga).**

The fisheries catch data collection program for the Atoll will continue during FY09 (Intervention 8, addressing Indirect Threat 4). A longer data collection period allows for greater confidence in the results and more opportunities for determining whether there are any meaningful trends. We will be working with WCS fisheries experts to carry out various analyses of the data, such as developing sustainable fishing models, determining effects of fishing on the species composition of finfish at Glover's, and identifying which management tools are best suited for promoting sustainable fishing on the atoll. Based on the results of these analyses, we will be in a better position to make recommendations for improved management. We will continue using data collectors on-site at Glover's and at the landing beach in Hopkins, and will continue issuing fuel coupons in exchange for each round of data submitted. This system of giving fishermen coupons in return for participation has worked very successfully in the past, and has so far encouraged the participation of over 200 fishermen. During the first quarter of FY09 we will be sharing the results of our preliminary analysis of the data with the fishermen of Sarteneja and Hopkins. In the third quarter we will include the 2008 data in an updated analysis and share these results as well. As part of this analysis, we also plan to include an assessment of the catch per unit effort according to distance from the no-take zone, thus hoping to demonstrate a positive spillover effect of this zone to fisheries.

Through our proposed collaboration with the Environmental Defense Foundation (EDF), we plan to share our fisheries catch data collection experience more closely with the second pilot site included in the EDF project, the Port Honduras Marine Reserve.

We will also continue to involve fishermen in our monitoring programs, including the spawning aggregation counts, the LAMP surveys, and the in-water sea turtle surveys (Intervention 4, addressing Direct Threat 1 and Indirect Threat 10).

**Threats addressed and results/outputs anticipated:**

Involving fishermen in catch data collection and monitoring is intended to enhance their sense of ownership of the reserve and their appreciation for its benefits, and thus increase their support for its continued protection. Lack of their support has been a major indirect threat, leading to illegal fishing. Over time, the benefits of the reserve to fisheries production should be demonstrated through the results of these data collection and monitoring programs. We expect that the results of the catch data collection program will help buttress efforts underway to protect parrotfish, halt spear-fishing in the reserve, and limiting access.

**Level of Effort (Total Activity 2.3): \$40,000** (USAID/EGAT: \$17,500; WCS: \$22,500) Costs of staff, travel, training workshop, supplies and communication will be covered by USAID funds.

**Activity 2.4 Introduce innovative co-management arrangements with stakeholders to foster buy-in for conservation action.**

The National Protected Area Policy and System Plan, which has been endorsed by the Government, recommends co-management as the most favorable form of management for protected areas. A moratorium on co-management agreements, however, has been in place to allow time for the legal framework to be developed. The Association for Protected Area Management Organizations (APAMO) is in the process of drafting the framework required, including developing the template for such agreements. We expect that this will be completed and adopted by the end of 2008. Nevertheless, no NGO is presently in a position to assume the co-management of the Glover's Reef

Marine Reserve. We will therefore continue to foster the GRAC as the most appropriate stakeholder body to ensure that management of the reserve considers the advice and recommendations of its users (Intervention 12).

The participation of fishermen in collecting catch data and assisting with patrols and environmental monitoring are examples of stakeholders providing direct management assistance to the marine reserve through informal co-management arrangements. Resort owners on Long Caye and Northeast Caye will also continue to help to co-manage through their assistance in collecting data on sea turtle nesting activity on their islands (Interventions 11 and 28).

Through the work of the GRAC and the reserve staff, we expect that this assistance from stakeholders will continue and increase.

**Threats addressed and results/outputs anticipated:**

The increased level of responsibility of the GRAC in the management of the reserve will result in improved day-to-day implementation of activities that will reduce illegal fishing, increase support from stakeholders, and strengthen enforcement. This will lead to overall improvement in the level of protection of the reserve's resources and biodiversity. In addition, monitoring data collected on turtles, fisheries catch, and reef health will help to supply the basic data required to inform management (Indirect Threat 4).

**Level of Effort (Total Activity 2.4): \$12,000** (USAID/EGAT: \$4,500; WCS: \$7,500) USAID funds will go towards staff costs.

**Activity 2.5 Develop new, and strengthen ongoing, sustainable long-term programs to track reef health (e.g. coral cover, algal abundance, and coral species diversity), water quality, and population status of commercially and ecologically important reef species (e.g. groupers, sharks, snappers) by Reserve staff and staff of key agencies such as the Fisheries Department, CZMAI, and other NGOs involved in reef management.**

As part of the monitoring and adaptive management component of our Conservation Strategy, we are committed to work with reserve staff in the following monitoring programs.

Each quarter during FY09, GRLS staff will continue to work with marine reserve staff to collect monitoring data on commercially fished species such as lobster, conch, five finfish species and ten parrotfish species, using the LAMP (Long-term Atoll Monitoring Program) monitoring protocol (Interventions 18 and 23). The four datasets will be analyzed at the end of the year and the results of this analysis, along with the results for the previous three years, will be presented to the marine reserve staff, the Fisheries Department and the Glover's Reef Advisory Committee. The entire datasets will also be shared with the Fisheries Department. As mentioned earlier, we plan to work on an individual basis with the reserve biologists from several co-managing organizations over the coming year to assist in the analysis of their LAMP data. During FY09, we also plan to assist the South Water Caye Marine Reserve staff in strengthening their use of the LAMP monitoring methodology and sharing the experience we have gained at Glover's Reef, particularly in terms of the sampling design, data collection methods, and data management.

During the LAMP surveys in FY09, we will be placing greater emphasis on measuring water quality. We have recently acquired additional equipment through a related project and will now be sampling for level of nutrients, mainly nitrates and phosphates. High levels of nutrients are very detrimental to the coral reef system, and can change the balance to an ecosystem that is dominated by algal cover rather than coral cover (Direct Threat 2). These parameters will be monitored in addition to our measurements of turbidity, temperature, conductivity and salinity. By providing information as evidence of high nutrient levels, we can more strongly argue the case for developers to use compost toilets, reduce run-off from the cayes, and to protect the remaining mangrove and littoral vegetation, which help to absorb nutrients.

In collaboration with marine reserve staff, we will continue to monitor the Nassau grouper spawning aggregation site at Northeast Point, Glover's Reef during the December 2008 – February 2009 spawning season (Intervention 1). We need to determine whether numbers of aggregating groupers continue the upward trend that was observed last season. Data collected will be entered into the new web-based database that is shared by members of the National Spawning Aggregation Working Group.

Data collected on the conch and Nassau grouper, two of our Seascape Species<sup>3</sup>, will help track their status over time and indicate whether population levels are increasing towards the target densities we have set as part of our Conservation Strategy. During FY09, we will continue to consult with the Fisheries Department and advocate for a new size limit for conchs (the current limit permits the harvesting of juveniles), a ban on spear-fishing in marine reserves to help protect the Nassau grouper, and protection of parrotfish (Intervention 2 for Indirect Threat 1). Parrotfish are key herbivores in the reef community, contributing to the health of the reef by keeping a check on algal growth and thus assisting in coral recruitment. We hope to work with Dr. Peter Mumby to develop a short documentary film on the critical importance of protecting these herbivores within the reef system, and will help to organize presentations by him on the subject in key locations.

GRLS staff, in collaboration with reserve staff, will continue the in-water sea turtle surveys at four-month intervals according to the protocol that we are finalizing. The surveys will be led by a local WCS scientist, Dr. Robin Coleman, with guidance from WCS sea turtle expert Dr. Cathi Campbell. The survey data will be entered into a specially designed database, and an analysis of the data for the 2007 and 2008 surveys will be conducted and a report produced. We also plan to present and publish our findings at the annual International Sea Turtle Symposium. Our survey reports will continue to be shared with the Fisheries Department and the National Sea Turtle Conservation Network. This work will help us track the status of another of our Seascape Species, the hawksbill turtle (Intervention 26), which is very endangered and experiencing declining nesting activity in this region. Those marine reserve staff that has been trained in the survey technique plan to share their knowledge with the staff of the South Water Caye and Sapodilla Cayes Marine Reserves and assist in launching similar turtle surveys at these sites. WCS will help to facilitate this sharing of experiences.

We plan to continue our collaboration with the University of Belize (UB) with the monitoring of the black, long-spined sea urchin, *Diadema antillarum* (Intervention 24). The program is being led by UB professor Dr. Leandra Cho-Ricketts, who involves at least two of her students in the monitoring. Dr. Cho-Ricketts will be carrying out an analysis of the 2007 and 2008 data and reporting on the results in November 2008. WCS will arrange at least two monitoring trips to Glover's for this program during 2009. We hope to track the recovery of this keystone species to normal levels of density ( $>2$  urchins/m<sup>2</sup>) that were recorded prior to the disease that caused a die-off of the species in the mid 1980s. *Diadema* is a keystone species on the reef, a very important herbivore that helps to keep algal growth in check, thus maintaining healthy levels of coral cover.

We plan to work with WCS ornithologist Dr. Nancy Clum again this year during the osprey nesting season, from November through January, to gain a better understanding of the status of the osprey population at Glover's. We hope to carry out surveys on the nesting activity of ospreys, another Seascape Species, and possibly initiate monitoring on their foraging and prey deliveries, identifying the habitat use of this species (Intervention 27). We hope that Dr. Clum will be able to conduct a training session for reserve and GRLS staff and caye residents in the monitoring and recording of osprey nesting activity, using special data sheets. We also propose to collect abandoned eggs to test for contaminants, which may be a cause of nest failure. These data will help us refine our seascape model for this species (Intervention 27) and develop appropriate management actions.

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<sup>3</sup> The Nassau grouper has been threatened by over-fishing and is now an endangered species, and grave concern has been expressed about the populations of conch, a species that is now included on Appendix II of CITES. Therefore our work is geared towards effecting policy changes that will help restore healthy populations of these species.

This year we will initiate basic coral reef monitoring according to a methodology developed by WCS reef expert, Dr. Tim McClanahan, which also focuses on monitoring the level of coral bleaching (Intervention 18). This effort is part of a wider WCS monitoring program that is applying the same technique at several sites around the globe, with the data to be entered in a centralized database. Thus the results for Glover's can be compared with many other sites, helping to give a global picture of the status of coral reefs. In FY09 we also plan to map the coral reef monitoring results for bleaching from various studies conducted at Glover's Reef over the past several years, and to incorporate any new data from our FY09 monitoring. We hope that this exercise will help indicate which areas of the atoll are more resilient to bleaching and whether they coincide with our previously mapped resilient or resistant areas (Intervention 20). This information will also be important in managing the star coral, a Seascape Species, and the other species on the reef for which it is an umbrella.

By gathering information on six of our Seascape Species (conch, Nassau grouper, hawksbill turtle, *Diadema*, osprey, and star coral), we will be better able to understand how human activities influence their abundance and what conservation actions are needed to maintain their critical habitats and to track the success of conservation interventions over time.

The LAMP, spawning aggregation, and sea turtle monitoring aspects described involve WCS partnering with marine reserve staff to carry out the programs. This joint monitoring is an important part of the ongoing program of capacity building and strengthening of the reserve staff, in particular the reserve biologist. The work on *Diadema* monitoring will be carried out in partnership with the University of Belize and the main training elements involved in this activity will be for the participating students. As mentioned above, another training component envisaged is a program in which osprey nesting activity is recorded by staff and caye residents.

**Threats addressed and results/outputs anticipated:**

Our activities address a weakness identified by the National Protected Area Policy and System Plan: biodiversity monitoring. The training component built into our monitoring programs addresses the need to strengthen national capacity in monitoring environmental health and the status of commercial species. Through this process we are helping to build a team of well-trained reserve staff and future marine biologists. The data resulting from monitoring is critical to determining whether the status of the conservation targets is improving, whether the investment in management and reduction of specific threats is worthwhile, and whether additional management interventions are necessary or the interventions need to be adapted or modified.

**Level of Effort (Total Activity 2.5): \$93,500** (USAID/EGAT: \$46,000; WCS: \$47,500) Funds will cover boat repair, staff, travel and accommodation, supplies, and communications costs.

**OBJECTIVE 3: Learn and teach best practices in the Glover's Reef Seascape and beyond.**

We have shared many lessons learned and the methods that we have developed over the past five years of the project. Our Conservation Strategy summarizes the approach and provides examples to illustrate the process. Copies of the Strategy will be shared widely with our national and international partners. Aspects of these lessons have also been included in several LLP Bulletins and Technical Manuals that are being shared as guides to others using this planning approach (the Landscape, or Seascape, Species Approach) around the world.

To date, we have documented lessons learned in applying the Seascape Species Approach to a tropical marine site, had our threats assessment methodology adopted on a national basis as part of the official protected area management planning process, shared our fisheries catch data collection methodology and LAMP monitoring protocol with local partners, incorporated experience gained from Glover's in the formulation of best practices for the development of the cayes of Belize, and demonstrated the role of no-take areas in conserving commercially fished species. Some of our monitoring methods have been adopted by other marine reserves. During FY09 we will share our in-water sea turtle survey protocol with our local partners involved in sea turtle monitoring and

marine protected area management. We also plan to share the results of the economic valuation of the atoll, and our experiences with the GRAC with other marine reserve advisory committees.

As we implement the Conservation Strategy in the coming years, we expect that other best practices will be revealed in relation to the application of new types of partnerships and co-management arrangements, the importance of creating networks of marine reserves to enhance system resilience, and the introduction of innovative sustainable financing measures. The success of these practices will be monitored and shared with a wider audience within the country, the region and beyond.

**Level of Effort (Total Objective 3): \$32,500** (USAID/EGAT: \$10,000; WCS: \$22,500)

**Activity 3.1 Document the lessons learned from the application of the Living Landscapes approach to priority setting within a marine site.**

Our Conservation Strategy will be used as a case study or part of the GCP closeout report to document the planning approach used for this tropical marine site and to demonstrate the applicability and utility of the process. It will be included as part of a publication of case studies from other sites in a peer-reviewed journal or as a WCS Working Paper.

**Level of Effort (Total Activity 3.1): \$12,500** (USAID/EGAT: \$2,500; WCS: \$10,000) USAID funds will go towards staff and communication costs.

**Activity 3.2 Extract and share best practices, in terms of management and monitoring.**

We will continue to share the methodologies and best practices from our monitoring programs with our partners and to assist them in their implementation. In FY09, we will offer data analysis training to our partners who are co-managing marine protected areas and collecting LAMP data, such as the Belize Audubon Society, Friends of Nature, and the Toledo Institute of Development and Environment. We will distribute copies of our Conservation Strategy to marine reserve co-managers and our other partners as an example of a product of our application of the Seascape Species Approach to the Glover's Reef seascape. We will apply the experience we have gained in strengthening the Glover's Reef Advisory Committee to assisting the South Water Caye Advisory Committee, as part of a related project. We will also assist the South Water Caye Marine Reserve with the preparation of a revised management plan, developed along the same guidelines as the plan we supported for Glover's Reef. Other activities that we plan to conduct during FY09, with the aim of sharing best practices, include finalizing and distributing our in-water sea turtle survey protocol, which will be based on our firsthand experience and lessons learned in conducting surveys at Glover's Reef, and completing our assessment of the economic valuation of the Glover's Reef Marine Reserve in partnership with the World Resources Institute.

The products that we have produced so far during this project have been widely shared with our local partners in the form of reports, published papers, booklets, presentations, manuals and electronic files. We will continue to disseminate our results in these various forms.

**Threats addressed and results/outputs anticipated:**

In addition to the previous documentation of best practices for the development of cayes, the management plan, the LAMP monitoring protocol, and our fisheries catch data collection design, this year our Conservation Strategy and in-water sea turtle survey protocol will be documented and shared. These products, along with the sharing of advice and experience to assist other marine reserve advisory committees, will help provide some of the additional information that is needed to improve management, thus addressing the threat of lack of key management data (Indirect Threat 4).

**Level of Effort (Total Activity 3.2): \$20,000** (USAID/EGAT: \$7,500; WCS: \$12,500) Costs of staff and communication will be covered by USAID funds.

**OBJECTIVE 4: New York Coordination Unit Strategy: Guide the design and testing of wildlife-focused planning, implementation, and evaluation tools for effective conservation at a landscape scale, and promote learning across sites and beyond**

The NY-based Coordination Unit (CU) of the Living Landscapes Program (LLP) is designed to develop and test wildlife-focused, landscape-scale approaches to biological conservation across multiple sites. To ensure the widespread utility of these new conservation approaches, the program is testing them within landscapes that encompass a diverse array of ecological features, land-uses, resource-use issues, and jurisdictional arrangements. The CU is charged with designing and managing the program to develop new approaches, to facilitate and harmonize testing and implementation among these core sites, and to capture the synergistic benefits of diverse experiences. This unit guides the development of landscape-scale conservation strategies, tools and techniques; assists in the design and development of cost-effective intervention and monitoring programs at these sites; promotes cross-site learning; and ensures communication among the sites, WCS staff (central and field), USAID (DC and missions), and the larger conservation community.

During FY09, the priority for the Coordination Unit will remain working with field sites to promote adoption of best practice tools for effective conservation at a landscape scale, consolidating lessons learned and focusing to an even greater extent on sustainability of key activities. As this is the last year of GCP, we will work closely with our field sites to develop close-out reports that effectively capture key approaches, core activities and lessons learned in a concise and engaging format.

**FY09 Level of Effort: (Total Objective 4): \$ 47,107 (USAID/EGAT: \$32,107; WCS: \$15,000)**

**Activity 4.1 Provide technical assistance to site-based conservation**

Members of the NY Coordination Unit will provide technical input to all field site operations detailed in the previous sections of this implementation plan, some of which will involve consultation at sites, analysis in NY, and ongoing communication, advice and support, as needed. This year we will role out the use of Miradi at all GCP sites as a way to integrate many of the strategic planning and adaptive management tools that LLP has developed over the life of the GCP and to provide vital field feedback to the Miradi development team at the Conservation Measures Partnership and Benetech. Dr. Wilkie will also work closely with The Nature Conservancy to explore options for WCS gaining access to the ConPro web database developed by TNC to upload Miradi project files and conduct cross project synthesis and analysis.

With the addition of the South Sudan Transboundary Landscape to our portfolio of sites the NY Coordination Unit will provide targeted assistance to the new landscape team (and their Ugandan transboundary colleagues) to make use of LLP strategic planning and adaptive management tools – most specifically threats assessments, conservation target selection (landscape species), conceptual modeling, and monitoring frameworks. We will also explore the conservation value of and opportunities for modeling biological and human landscapes across the Transboundary area.

**Results/Outputs:**

Focused and timely technical assistance and collaboration provided to field sites based on needs, leading to conservation landscape strategies; targeted monitoring of effectiveness; and implementation of processes to increase participation of stakeholders; pilot testing of Miradi and user feedback for improvement of present modules and development of future modules.

**Level of Effort: \$15,000** (USAID/EGAT: \$15,000, WCS: \$0)

Deleted: 18,000

## **Activity 4.2 Design, implementation, and testing of decision support tools**

### Activity 4.2.1 Living Landscapes Program technical manuals

The Living Landscapes Program will continue to produce brief how-to guides, called Technical Manuals, after field testing and fine-tuning the methods at several WCS field sites. In FY09, Dr. Didier will complete one technical manual describing the procedures and steps for setting spatially explicit conservation priorities using LSA products. The manuals are designed to provide clear and practical instructions to field practitioners on using a number of conservation tools. The manuals will be translated into Spanish and French and disseminated to WCS projects, partners (government, NGO and local), and other conservation colleagues.

### Activity 4.2.2 Landscape Species Approach progress

In FY09, LLP-NY staff will conduct a second 2-week course on the Landscape Species Approach for interested staff from WCS projects around the world. The course will be designed to give a conceptual overview of all the LSA tools and to provide field staff with an opportunity to learn the details of the tools and apply them to their individual sites. As in FY08, we will provide an overview of Miradi and mentor staff to begin to develop a Miradi database for their project.

### Activity 4.2.3 Integrating strategic planning and project management

LLP-NY staff will continue to work with our field sites and WCS NY operations (i.e., regional program and accounting staff) to roll out a process for integrating strategic planning with operations planning and reporting. With the release of Miradi 2.0 and the incremental roll out of this desktop solution to landscape scale planning and reporting, we will work with WCS NY operations staff and field staff to provide feedback to the Miradi development team as to how best to improve modules for integrating strategic planning, work planning and activity costing (budgeting) modules.

#### **Results/Outputs:**

Technical manuals designed, tested in the field and distributed in hard copy and electronically (on CDs and on-line) for wider distribution. Technical feedback, based on field experience, to the Miradi development team for fine tuning or developing new modules in Miradi that integrate project strategic planning with annual financial management.

**Level of Effort: \$10,000** (USAID/EGAT: \$5,000, WCS: \$5,000)

## **Activity 4.3 Catalyze cross-site and cross-organizational learning, and communication**

### Activity 4.3.1 Annual meeting of WCS/LLP Staff

In this last year of the GCP the Living Landscapes Program plans to bring together the project leaders of many of our landscapes (USAID supported and some not) in NY to conduct a forward looking exercise with senior WCS/NY regional staff that will help build on the success of the GCP and guide our conservation investments and tools development into the future.

### Activity 4.3.2 CMP: leadership, design, writing and audits

LLP-NY staff will continue to play a leadership role in the identification, design and implementation of Conservation Measures Partnership activities. We will work closely with all CMP members to identify best-

practice tools to use as models for development of Miradi modules. We will provide CMP with ongoing lessons from our efforts to integrate project strategic planning and annual financial management, and offer recommendations as to how this experience can help guide the development of Miradi.

Activity 4.3.3 Development and dissemination of final reports for each site: showcasing and sharing lessons learned

LLP-NY staff will work closely with our field sites to generate close-out reports based on the format proposed by WCS and fine-tuned by USAID.

**Results/Outputs:**

Close-out reports for each site will be generated and widely disseminated.

**Level of Effort: \$15,000** (USAID/EGAT: \$10,000, WCS: \$5,000)

**Activity 4.4 Application of Living Landscapes Program tools beyond core sites**

Activity 4.4.1 Training workshops and technical assistance in the use of LLP tools

LLP-NY staff will work with the WCS Latin America program to integrate LLP tools developed with GCP support into their Amazon Andes Conservation Program landscapes. Dr. Didier and Strindberg will conduct a workshop in November to train staff to develop Miradi projects for their landscapes and to harmonize landscape species monitoring methods.

In FY08 WCS developed a collaborative project with TNC and WWF to convert LLPs 2-week introduction to GIS course for distance learning. LLP-NY staff will continue to work with TNC and WWF to finalize and launch this innovative approach to GIS training for the conservation community.

Activity 4.4.2 Technical Manuals

We will continue to make our series of Technical Manuals available to conservation practitioners and decision makers on our website, as hard-copy booklets and on CD. Manuals are available in English, French and Spanish.

**Results/Outputs:**

Principles, practices, and tools distilled from implementation of the USAID/EGAT-funded sites to other site-based conservation projects around the world. New manuals will be translated into French and Spanish and distributed. An introductory conservation GIS course will be available for free on the web.

**Level of Effort: \$5,000** (USAID/EGAT: \$0; WCS: \$ 5000)

**Activity 4.5 Ensure coordination and communication services for the program**

The LLP program director and/or assistant director and LLP program staff will continue to communicate with staff from the core sites and WCS regional programs to discuss the development and sustainability of the program, on-the-ground implementation of the Landscape Species Approach, and further development of tools relevant to the approach. Program staff will also meet with collaborators, NGOs, governmental officers, and representatives of other stakeholder groups to promote the use of LLP strategies and tools.

In this last year of GCP, LLP-NY will focus support to field staff in capturing lessons learned, as well as continued support in reporting on Performance Monitoring forms, and submitting the last Annual Report/Closeout

Report. The program director and/or assistant director and other WCS staff members (as necessary) will attend quarterly USAID/EGAT meetings in Washington DC and will ensure regular reporting and updates to USAID.

**Results/Outputs:**

The Coordination Unit will continue to serve as a hub for management and communication regarding the Living Landscapes Program among LLP field site staff, USAID, WCS/Regional staff, current and potential conservation partners, and interested members of the general public. The CU will ensure timely preparation and submission of USAID reports.

**Level of Effort:** \$ 2, 107 (USAID/EGAT: \$2,107; WCS: \$ 0)

**TRAVEL SCHEDULE: The estimated travel for FY09 is shown in the table below.**

<b>Name</b>	<b>Destination</b>	<b>Reason</b>
Janet Gibson	From Belize to NY	To report on project progress; to participate in final Living Landscapes Meeting with USAID-funded site Project Directors in NY
Cathi Campbell	From Florida to Belize	To assist analysis of turtle monitoring data and preparation of scientific publication
Robin Coleman	From Belize to NY	To work with Samantha Strindberg on further fisheries catch data analysis
Samantha Strindberg	From NY to Belize	To help finalize the case study document and provide statistical design & analysis support
NY Program Director or Assistant Director	From NY or Boston to Belize	Program oversight and management support

**Appendices**

1. General and Seascape Species Specific Conceptual Models for Glover’s Reef.