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**USAID REGIONAL PROGRAM FOR THE MANAGEMENT  
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**REVISION OF MANAGED ACCESS AND NO TAKE ZONES  
REPORT AND AGREEMENT  
JANUARY 2013**

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# REVISION OF MANAGED ACCESS AND NO TAKE ZONES REPORT AND AGREEMENT

JANUARY 2013

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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## ACRONYM KEY

BFD	Belize Fisheries Department
BFF	Belize Federation of Fishers
EDF	Environmental Defense Fund
GRMR	Glovers Reef Marine Reserve
GUZ	General use zone
NTZ(s)	No-take zone(s)
PCNP	Payne's Creek National Park
PHMR	Port Honduras Marine Reserve
PRZ	Preservation zone
TIDE	Toledo Institute for Development and Environment
TNC	The Nature Conservancy
WCS	Wildlife Conservation Society

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## EXECUTIVE SUMMARY

The Port Honduras Marine Reserve (PHMR), encompassing 414 km<sup>2</sup> of nearshore habitat including mangroves, seagrass, coral reefs and sandy cayes, is managed by the Toledo Institute for Development and Environment (TIDE). Only 5% of the reserve is closed to extractive activities and approximately 115 fishers utilize rest of the area under a managed access license system. TIDE has been monitoring the health of the reserve and paying special attention to species of commercial importance since 2004. In 2009, they expanded their monitoring program in order to assess the commercial species by collecting and analyzing both fisheries dependent and fisheries independent data. During this time, the managed access licensing system was established in June 2011. The result has been improved management of the PHMR and TIDE has had to adapt as more information has become available. As part of this adaptive management, TIDE, along with its partners, is proposing a revision to the existing no take zones and a revision to the managed access program.

Over the past few years, there has been consensus across all sectors that there needs to be improvement in fisheries management. The authorities have also recognized the need for expansion of no take zones within existing marine reserves in order to improve the replenishment of fish stocks. Many reserves have had these zones expanded but this has not been accomplished in PHMR as yet. Consultations started in August 2009 and have been on-going and will continue until consensus is reached on the no take expansion.

Another initiative for improved fisheries management has been the establishment of managed access in PHMR and Glovers Reef Marine Reserve. This program started in June 2011 and after a year and a half of implementation, the effectiveness of the managed access program was assessed. The comprehensive assessment was completed in January 2013 and detailed recommendations which have been approved by the Managed Access Task Force are included in this report.

The recommendations presented in this document were produced as a result of multiple consultations, focus group sessions, and one-on-one meetings with community stakeholders, fishers, Government officials, conservation organizations and the general public. These recommendations are very specific for the revision of the managed access program as well as for the expansion of the no take zones. No formal agreement has been signed to date for either of these programs but it is widely accepted across the sectors that the implementation of both revisions will begin this year. The successful implementation of a lobster fishery enhancement project in 2013 in PHMR is critical in ensuring both the signing of this agreement and the expansion of the no-take zones.

## INTRODUCTION

The Port Honduras Marine Reserve (PHMR) lies off the coast of Southern Belize, starting from the mouth of Monkey River it extends south to 8km north of Punta Gorda Town and 25 km east to include the Snake Cayes (Robinson et al. 2004). The Marine Reserve covers an area of 414 km<sup>2</sup>, incorporating coastline, mangrove cayes, submerged banks and a number of ecosystems of critical importance to local coastal communities and to Southern Belize as a whole. Extensive seagrass meadows cover the shallow coastal areas and surround an intricate network of mangrove cayes. Thick mangroves cover nearly all of the 138 Cayes within the reserve and border the coastline and estuaries of PHMR. Fringing coral reefs encompass the offshore Snake Cayes and patch reefs are scattered throughout the reserve. These ecosystems are home to a myriad of flora and fauna, which live in delicate balance with one another and their surrounding environment. Some of these organisms, such as the queen conch (*Strombus gigas*) and the Caribbean spiny lobster (*Panulirus argus*) are of considerable commercial benefit to the local communities and to the wider economy of Belize.

PHMR was established in 2000 and is co-managed by the Toledo Institute for Development and Environment (TIDE) and the Fisheries Department. PHMR is composed of three zones: 95% is a General Use Zone or GUZ (regulated extractive activities allowed), 4% is a No Take Zone or NTZ (non-extractive activities only) and 1% is a Preservation Zone or PRZ (research activities only). As such, only 5% of the reserve is “no-take”. An extensive baseline study of the ecosystems and commercial species within PHMR was undertaken in 2003 by Robinson et al. (2004) and since then a comprehensive monitoring program has been in place.

Additionally, in 2007, a concept for a fisheries assessment of the PHMR was devised by TIDE and The Nature Conservancy (TNC) with guidance from Louisiana State University, in order to determine optimal exploitation levels for commercial and sport fishing activities. Various methodologies were considered and discussed during 2008, and in January 2009, data collection for the assessment started.

Furthermore, in July 2011, a managed access program was introduced at two pilot sites, namely, PHMR and Glovers Reef Marine Reserve (GRMR). After a year and a half of the implementation, TIDE and its partners conducted an independent assessment of the newly implemented fisheries management program.

The results of all the above assessments and monitoring efforts including multiple consultations over the last four years has resulted in recommendations for expansion of the replenishment zone and revisions the managed access program that are outlined in this report.

## **METHODOLOGY**

### **Replenishment Zone Expansion**

As co-managers of the PHMR, TIDE has been engaging stakeholders on a regular basis through public consultations, focus group meetings and one on one discussion. Various methods of community consultation have taken place with regard to the expansion of the no take zones within PHMR. During July and August 2009, a management effectiveness survey of PHMR was conducted in the buffer communities of Punta Gorda, Punta Negra and Money River. A total of 88 households were randomly selected from the three communities and surveyed regarding their views about PHMR and its management. In addition, 27 fishers were surveyed from the three communities. During these surveys, participants were questioned on their views on the current size of PHMR and the no take zones.

During October 2009, a short questionnaire was randomly distributed to attendees at an educational and outreach event. Of the five questions asked, two related directly to the size of PHMR and the size of the no take zones.

During February and March 2010, five community meetings and presentations were held in Punta Gorda, Monkey River and Punta Negra. During these meetings attendees were presented with information from the biological monitoring program conducted within PHMR from 2003 to 2009. Data related to water quality, commercial species abundance (conch and lobster) and reef condition (coral health, reef fish abundance) were presented as handouts, on a slide show and during discussions. Attendees of the meeting were invited to share their thoughts and opinions during the meetings (or afterwards if they preferred) regarding the success of PHMR as a whole, and of the not take zones in enhancing the populations and ecosystems within PHMR. Suggestions for improvements to the marine reserve were requested from the meeting attendees.

### **Managed Access**

Since 2011 consultations and meetings have been more focused on the design, implementation and assessment of the Managed Access program. Furthermore, consultants were hired to complete an assessment of the Managed Access program. The full report is provided in Annex B. Below is an excerpt describing the methodology used for the assessment.

#### **Preparatory Meeting**

A detailed work plan was developed, incorporating timelines and identifying key stakeholders. This was then refined with input from the relevant participating agencies. In addition, two survey instruments were developed to gather the required information - one for managers responsible for implementation of managed access and the other for fishers participating in the pilot sites.

### **Literature Review**

Relevant literature was identified, sourced and reviewed to provide a background to Managed Access in Belize, and the objectives and implementation to date. Examples from other Managed Access projects were also reviewed, to provide a more global context, identifying relevant strengths, weaknesses, limitations and successes in Managed Access projects elsewhere in the world, guiding the development of the surveys and interviews. The literature review also provided information on the specific activities that participating entities have engaged in throughout the implementation process, the assessment outputs to date, and the approach taken to raise awareness of Managed Access in Belize.

### **Stakeholder views / Consultations**

Based on the fisher profile, a series of one-on-one consultations (structured interviews using survey forms) were conducted in the buffer communities with both managed access and non-managed access fishers, along with focal group meetings with key stakeholders, to obtain feedback on the implementation of managed access to date. Consultants also met with all participating entities to obtain information regarding the roll out process and the activities implemented to date from each organization's perspective. To this end, meetings were held with representatives from the Fisheries Department, TIDE, WCS, EDF, BFF, members of the advisory bodies, and the Managed Access Committees.

These consultations highlighted the key strengths and weaknesses of the implementation process, provided valuable insight as to the effectiveness of Managed Access to date, and contributed to the development of recommendations for potential improvement.

### **Consolidation and analysis of findings**

A considerable amount of information was collected as a result of the literature review and consultations. The information gathered during the one-on-one consultations and focus group session was consolidated for analysis and subsequent development of the final assessment report.

The consultants used the analysis of the consolidated information gathered through the interviews and focus group session, along with the additional information obtained through the research process in order to prepare and present the draft assessment report to Toledo Institute for Development and Environment (TIDE) and partners for their review and initial feedback.

## **CURRENT STATUS OF PHMR**

Since 2009, the Belize Fisheries Department (BFD) has been working towards the expansion of NTZs in all the marine reserves. PHMR is no exception and whereas this has been successfully implemented in other marine reserves, it is something that BFD and TIDE are still working towards in PHMR. Fishers have varying opinions on the expansion so the process has been a slow one. There is general consensus for the expansion but alternatives and/or subsidies needs to be implemented as part of the expansion for those fishers most directly affected by the expansion. Some alternative livelihood activities enhancement programs are already underway which will assist in finalizing the expansion of NTZ in PHMR.

In Belize, fishers are fully aware of the importance of fisheries for foreign exchange and livelihoods, particularly in coastal communities. They are conscious of the quick depletion of the commercial fish stock and point to ‘open access’ fishing, legally practiced in Belize, as a major threat to sustainability of this resource. In an effort to work closely with commercial fishers to enhance the sustainability of fisheries, improve their livelihood and enhance stewardship of this valuable resource, TIDE, Wildlife Conservation Society (WCS), the Fisheries Department and partner organization, Environmental Defense Fund (EDF) worked diligently with fishers and other stakeholders to design a managed access program -- a fisheries management tool intended to guarantee access and economic benefits to commercial fishers who traditionally depended on this resource within two pilot sites, namely, the Port Honduras Marine and Glovers Reef Marine Reserves. This was accomplished through the introduction of a new licensing regime intended to enhance participation and stewardship among beneficiaries.

## **RESULTS AND DISCUSSION**

### **Replenishment Zone Expansion**

The results of the PHMR monitoring program from 2003 to 2009 demonstrate that the 5% no take area within the marine reserve is effective in enhancing benthic cover. A significant increase in live coral from 2003 to 2009 in both the replenishment zones and general use areas of PHMR highlights the positive effect that the no take areas, and the marine reserve as a whole, are having. Combined with a decrease in macroalgal cover within the no take areas, it is evident that the increased protection provided within these no take zones to herbivorous species, is having a positive effect on the benthic cover and coral reef ecosystems. In contrast, commercial species and reef fish within PHMR are not showing the same positive increases in abundance as that observed for sessile, benthic species.

One explanation for the difference in recovery of the commercial species and reef fish compared to the benthic cover is the mobility of these species. Reef fish are highly mobile species, and lobster and conch can also move considerable distances, meaning that the small area of no take zone within PHMR has only a limited effect on the recovery of these populations. The NTZs only extend half mile in radius around the Snake Cayes

and Wild Cane Caye. In addition, they are separate which increases the edge effects. As a result reef fish, conch and lobster species do not have to travel great distances before they enter the GUZ and are exposed to fishing pressures. Even daily migration patterns for food, or movements among nursery and adult grounds can result in an individual frequently entering a GUZ, thereby increasing its risk of being caught prior to reaching sexual maturity. However, the of more sessile species and the least mobile of the species, hard coral and conch, exhibit higher densities in the NTZs, indicating that there is a positive effect on these species. An increase in size of the NTZs could speed up the recovery while also enhancing populations of more mobile reef fish and lobster species.

Based on information from the scientific literature, recommendations for a minimum MPA size, specifically designated as a no take area, range from 4-20km in diameter to effectively conserve biodiversity (Salm 1984; Friedlander et al. 2003; Shanks et al. 2003). In addition, studies have shown that many species utilise seagrass beds, mangroves and coral reefs at various stages of their life history (Acosta and Robertson 2003; Roberts et al. 2003; Mumby 2006). Thus, an increase in the NTZ area of PHMR would ensure inclusion of a larger area of each of these key habitats, thereby protecting connectivity between functionally linked habitats (McLeod et al. 2009). Moreover, specific studies have also demonstrated the success and benefits of long-term no take areas. A decrease in macroalgal cover and an increase in live coral cover, attributed to the recovery of herbivorous fish populations, has been observed at sites within the Exuma Cayes Land and Sea Park, Bahamas (Mumby and Harborne 2010). Populations of the Caribbean Spiny Lobster, *Panulirus argus*, located on patch reefs within NTZs at Glovers Reef showed significant increases over a five year period from 1996 to 2001 (Acosta and Robertson 2003).

Based on the results of the PHMR monitoring program and information from the scientific literature, it is recommended that the no take area within PHMR be increased to incorporate between 20-30% of the reserve area (Bohnsack et al 2000 and Fernandes et al 2005) and be greater than 5km in diameter.

The size of the NTZ is too small to have a significant effect on the more mobile and transient species. Consequently, a recommendation has been made to the Belize Fisheries Department to extend the NTZs to at least 20-30% of Port Honduras Marine Reserve protecting all key fisheries habitats in the reserve. Several recommendations for expansion were presented to stakeholders (Figures 1-3) and after multiple consultations; Figure 3 was determined to be the best possible scenario. However, not all stakeholders are in agreement with Figure 3 and this forms the basis for ongoing consultations and fisheries enhancement programs for 2013.

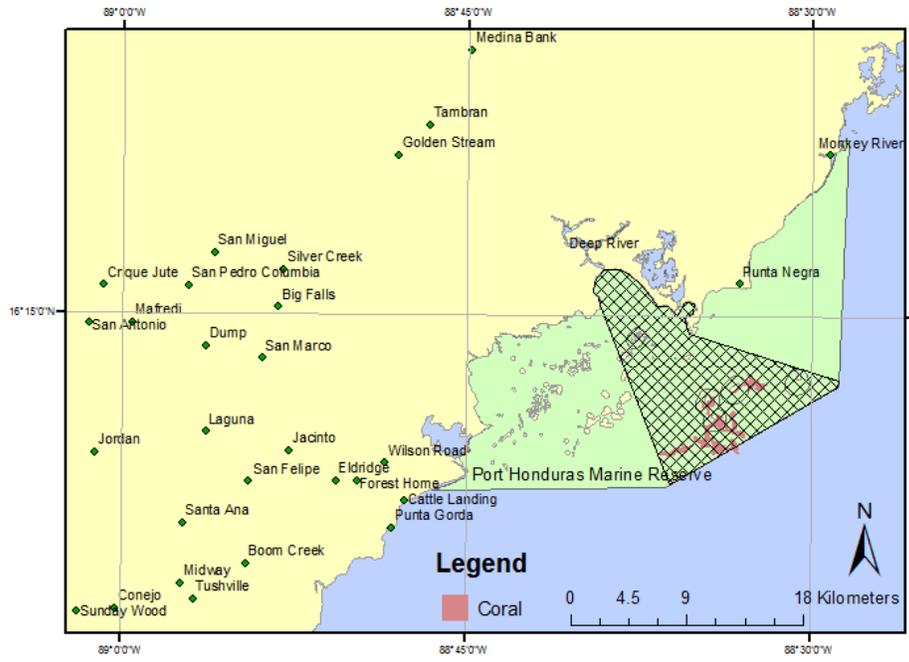


Figure 1: Port Honduras Marine Reserve showing a possible extension to the no take zone (hatched area) that will incorporate 32% (133km<sup>2</sup>) of the reserve area.

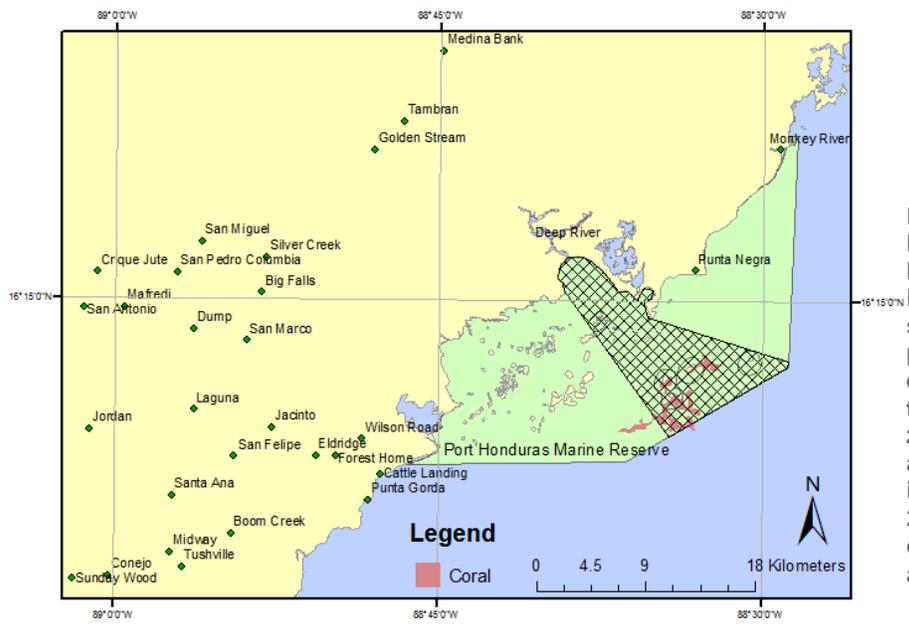
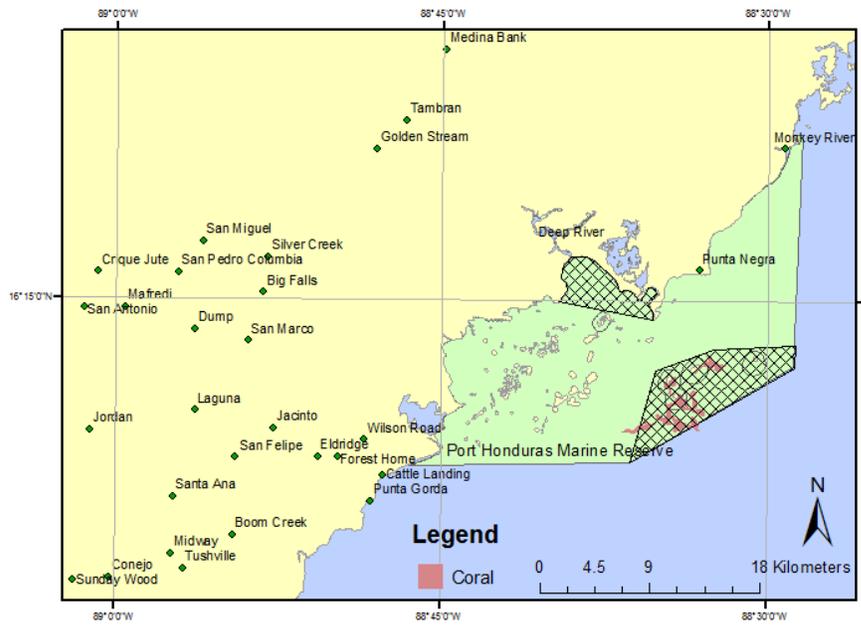


Figure 2: Port Honduras Marine Reserve showing a possible extension to the no take zone (hatched area) that will incorporate 25% (105km<sup>2</sup>) of the reserve area.



**Figure 3: Port Honduras Marine Reserve showing a possible extension to the no-take zone (hatched area) that will incorporate 20% (83km<sup>2</sup>) of the reserve area.**

The Belize Fisheries Department fully supports the extension to the replenishment zone of PHMR, particularly because it is a part of international agreements that were signed by the Government of Belize.

**Status Update**

It is important to mention that all the consultation and results in the information above occurred before the implementation of managed access in PHMR. Many realities have changed subsequent to the implementation of managed access in 2011; some fishers did not get a managed access licenses to fish in PHMR because they did not qualify; others refused to apply for a licenses. Even though the PHMR management plan of 2000-2005 highlighted ‘Special License’ (Now called Managed Access) as an option for fishers in Southern Belize, many fishers did not fully understand the responsibilities that came along with it. Since managed access was scheduled to be rolled out in early 2011 the consultation on the extension of the replenishment zone was deferred until a later date. After one year into the implementation of managed access, it was time to revive the consultation process regarding the extension of the replenishment zone in PHMR.

To date, a team comprising of TIDE’s Marine Manager, Science Director, Managed Access Coordinator, TIDE’s Executive Director and Fisheries Department and TNC personnel held consultation meetings in Punta Gorda with the Toledo Tour Guide Association and the MA fishers of PHMR.

It is not surprising to note that what was initially agreed to in 2011 with respect to the location of the replenishment zones differs significantly from what stakeholders want today. Majority of the tour guides prefer a triangular replenishment zone enclosing the 3 snake cayes that are in close proximity (West, South and Middle snake cayes) in addition to an area around Abalone cay where TIDE’s ranger headquarters is and the existing

area around wild-cane caye. They also felt that East Snake Caye should continue to be a replenishment area but it should be separate from the remaining Snake Cayes. In addition, they were supportive of a small replenishment area enclosing the area in front of Deep River linking to the entrance of Payne's Creek National Park. This area has not been mapped to date but will be included in consultations for 2013.

This new proposed area was presented as an option along with the options developed in 2011 to the Managed Access fishers of Punta Gorda and surrounding area. While the attendance was poor, majority of those present opposed the proposal submitted by the Tour Guide Association. They felt that the triangular area should be decreased even further and the area in front of Deep River and Payne's Creek National Park entrance should be removed totally from the list of options.

Clearly there is significant disagreement among users of the marine reserve with respect to the location and size of the replenishment zone in PHMR. While the Fisheries Department has already committed to extending the NTZs in all marine reserves in the country the ground work such as building awareness and community support for this movement rests squarely on TIDE's shoulders. As can be seen, much more work needs to be done with these stakeholders to ensure they are in full support of this movement.

### **Next Steps**

Both TIDE and the stakeholders agree that there needs to be additional consultations and education on the benefits of a larger NTZ. As such, the TIDE team has already scheduled meetings in Monkey River, Punta Negra and another meeting in Punta Gorda. Some fishers are also of the belief that they should be compensated if they are to give up any part of their traditional fishing grounds for NTZs. TIDE is considering this trade-off option for those fishers who have lobster shades in the proposed NTZ. The type of compensation contemplated by TIDE is the replacement of the lobster shades that will be lost due to the revised boundaries.

In addition, TIDE will hold small focus group meetings with key fishers to raise their awareness of and build support for the extension of the NTZ. Key to these focus group meetings are the actual users of the proposed extension zones, TIDE believes that once these fishers are on board the rest of the wider fisher-folks will also join in and support the extension.

### **Signed Agreement**

In addition to the factors listed above there are a few community members who have developed a lack of trust due to the fact that certain promises were made to them or their communities through the implementation of certain projects; these promises never materialized. One major past project referred to is the Caribbean Regional Environmental Programme (CREP) that was designed from the bottom up. When other countries failed to meet their obligations under the project contract the funding was withdrawn from all countries including Belize. Consequently, alternative livelihood projects developed by the communities were never implemented. This led to the

perceived 'lack of trust' towards TIDE even though ultimately TIDE was not responsible for the funding cut.

With all these stumbling blocks TIDE still managed to get fishers and other stakeholders to meet and discuss the extension of the NTZ; however, getting stakeholders to sign an agreement for the extension is currently not within TIDE's reach given the current circumstances. Many fishers who knew very well how managed access works did not comply and as a result are having difficulties obtaining a license to access the reserve for commercial fishing. These fishers are displeased with TIDE and are of the perception that "TIDE does not want them to fish" when clearly only the Fisheries Department can issue fishing licenses. Because of this dissatisfaction with both TIDE and the Fisheries Department, the signing of an agreement has been delayed until they have agreed to and are all fully in support of the proposal to increase the size of the NTZ.

As part of delaying the signing of the agreement, TIDE, with support from MAREA and TNC will engage fishers through additional consultations and a lobster fishery enhancement program. This program will identify lobster fishers who will be affected by the expansion will be subsidized with new lobster shades outside the proposed NTZ area. Additionally, its anticipated that the design of the new lobster shades will also assist with recruitment and therefore, increase the productivity of the fishery in and around PHMR. This should result in benefits to all fishers, regardless of whether they use shades or not. In theory, fishermen are not against the expansion but want to see some alternative or subsidy in exchange for losing their fishing area.

### **Managed Access**

It has been a year and a half since the implementation of Managed Access. An external evaluation of the program was completed using survey instruments, literature review, stakeholder interviews and consultations which involved one-on-one interviews and focus group sessions. In information was consolidated and presented to the Managed Access Task Force on January 29<sup>th</sup>, 2013 (Annex A).

The Task Force is comprised of the following organizations:

- Belize Fisheries Department
- Toledo Institute for Development and Environment
- Environmental Defense Fund
- Wildlife Conservation Society

The detailed assessment - *Assessment of the Effectiveness of Managed Access Implementation in Glover's Reef Marine Reserve and Port Honduras Marine Reserve*, is provided in Annex B. The recommendations were presented by Nicanor Requena of EDF and the report unanimously accepted by the Task Force. Partners revisited recommendations and pledged to work on implementing them to ensure ongoing improvement in the implementation of Managed Access at the pilot sites. The recommendations have also been included in detail in this report.

## CONCLUSIONS

Data from both lobster and conch programs shows that the zoning so far is not arbitrary. Important ecological functions that take place in NTZs sustain both fisheries in the GUZ. There has been a clear change in trends for both programs since the implementation of managed access. These changes are mostly positive in terms of increased sustainability, but there are concerns in some areas, particularly at East Snake Caye, that the new managed access regulations are changing fishing behavior, possibly by fishers who were not eligible for managed access licenses.

Not only should enforcement presence and power be stepped up in the NTZs, but a contiguous boundary would make it much easier to enforce due to ease of determining whether fishing is legally outside the NTZ boundaries, or illegally inside. This would in turn allow old megaspawner lobsters and conch to spawn unhindered, populating the surrounding GUZ via currents and the spillover effect.

Although we cannot get the fishers to sign an agreement to extend the replenishment zone in the Port Honduras Marine Reserve, we are working with the fishers using a different approach that will yield the same results. Our experience with the stakeholder communities is that they are open to discussion and eventually reaching a decision, but they are reluctant to sign any binding agreement. The immediate challenge is to agree on the location and size of the proposed expansion.

## RECOMMENDATIONS

### Expansion of No Take Zones

#### Design

1. Expansion of the NTZ area to encompass all of the Snake Cayes. This will make enforcement easier by eliminating access to people wanting to illegally extract commercial species in the NTZs, and by giving PHMR rangers legal power to halt boats in the Snake Cayes area that currently may be exploiting the ease of access surrounding the existing NTZs.
2. Area proposed needs to be large enough to improve fisheries replenishment. This will be more effective in minimizing edge effects and generally more cost effective. It is also more effective for more mobile organisms
3. The area proposed should be big enough to allow individuals of target species to complete all life stages. More specifically, setting the outer perimeter of the contiguous NTZ encompassing the Snake Cayes at a distance from these islands beyond that reasonable for a diver or snorkeler to reach a boat without surfacing is also critical in ensuring the effectiveness of the NTZs in protecting conch and lobster.
4. Coral reef areas should be kept within the NTZ. The areas around the Snake Cayes have some of the healthiest coral reefs in the region. The NTZ should encompass the entire reef system. It is felt that these reefs may be resilient or resistant to climate change.
5. The NTZ should also represent the diversity of the system. This would be very difficult to achieve in PHMR so the recommendation is that where it is not feasible to establish NTZs, special management zones may be established.
6. The proposed area should include areas that do not need high investment. The area should not be degraded or located in areas where there are high threats/impacts. Focus should be on maintenance and not restoration.
7. TIDE needs to maximize public understanding and facilitate enforcement of area by designing NTZs with simple shapes, with clear boundaries, and that are enforceable

#### Management

1. Due to sensitive issues surrounding no take zone expansion and possibility that it will affect some fishers more than others, it is vital that fishers remain informed and involved in the decision making process, and that ideas agree with local knowledge yet are also based on fisheries science. If fishers contribute to the final outcome, they will be more

likely to respect the rules, thus improving management effectiveness and promoting sustainability of the fishery.

2. It is recommended that no fisheries products are allowed on board a vessel in NTZs. Currently a boat can be positioned only a few meters from conch and lobster habitat in NTZs and be loaded with conch and lobster without risk of arrest, as there is no proof that the product has come from NTZs.

3. Identify individual fishers that will be affected by the NTZ expansion and ensure that they are part of alternative livelihood or fisheries enhancement programs prior to the establishment of the NTZ.

3. Continued consultations, focus group sessions and one on one meetings with the identified fishers before, during and after the establishment of the expanded NTZ.

### **Managed Access Program**

The following recommendations are considered to be critical in order to strengthen the implementation of managed access at the two pilot sites, whilst also being realistic and achievable. They have been allocated into five different sections:

- Management
- Design
- Licenses
- Enforcement
- Data

#### **Management**

1. Develop a Terms of Reference for the National Managed Access Task Force to provide greater structure and guidance to its work. This would provide an extremely effective communication and decision making mechanism, and can provide significant strengthening towards effective implementation of managed access at site levels.

2. Operationalize Managed Access throughout both management organizations – Managed Access should be seen as a part of on-going management, with all levels of the organizations involved - not as a short term project.

3. Conduct a workshop with all the staff involved in Managed Access implementation, to strengthen awareness of the national MA goals and objectives and to share site level successes experiences and challenges. This is important for capacity building at all levels and will provide a much needed forum to develop a more effective partnership between these two sites, each with its own unique characteristics. For rangers and site-level managers, it will provide an opportunity to develop further program ownership and sharing experiences on how each will address their unique challenges. It will also provide

an opportunity to work together in building a team of committed staff with a clear vision of what they are trying to achieve.

4. Continue conducting on-going training sessions with Managed Access Committee members on the role and responsibility of the Committee as well as the goal and objectives of Managed Access in order to increase their understanding and build their capacity to share and pass on information to the fishers they represent.

5. Conduct a rapid evaluation of the PHMR MA committee and address identified capacity building requirements.

6. Identify and implement mechanisms to assist Managed Access Coordinators and community representatives on the Managed Access Committees to better disseminate information and outputs of the Committee meetings to the fishers they represent. Facilitating community MA meetings would appear to be the favored mechanism, based on feedback from the fishers.

7. Share the long term vision for Managed Access / catch shares with all fishers to improve understanding of the long term goals. Fishers would like to understand how their actions today are predicted to benefit them in the next 5, 10, and 20 years, and how.

8. Incorporate Managed Access into TIDE's daily operations in particular into its Education and Outreach Program, with Outreach officers trained as stewards of the program within the coastal communities in which they already work.

9. Improve communication between GRMR and PHMR at the site managers level, including Managed Access Coordinators, with sharing of experiences through regular / quarterly meetings.

10. Build capacity in the following areas:

- Management
  - Managed Access concepts – increased awareness and sensitization at all levels throughout all participating organizations will greatly facilitate in reducing misunderstandings and potential conflicts, as well as increasing success of outcomes. All staff should know and understand the concept, goals and objectives of Managed Access, even if they are not directly involved in MA implementation.
- Fishers
  - Basic key vocabulary – when interviewing fishermen, particularly in PG, there were several incidences of miss-use and confusion of key terms such as sustainable, subsistence and artisanal. It is important that fishermen have a clear understanding of these terms if they are to be used in presentations and meetings.
  - Basic concepts – it is equally important that fishermen become familiar with terms used as part of Managed Access, and understand the concepts they

- represent (eg. Total Allowable Catch), through mechanisms such as the EDF pamphlet being developed
- Basic charts – capacity building in interpreting very simple graphs (bar charts, line graphs, pie charts) will also help increase communication and understanding between managers and fishermen, and increase the fishers understanding of what their catch data is showing.

## **Design**

1. Develop / support strategies at both sites to address alternative or supplemental livelihoods for fishers who are considered to have been displaced by the program and /or who will be impacted when the transition phase ends by not being able to fish outside of marine reserves.
2. Build climate change adaptation into Managed Access planning at both sites, with consideration of alternative or supplemental livelihoods for Managed Access fishers to reduce current pressure on the marine resources within GRMR and PHMR.
3. Ensure fishers continue to be an integral part of the design process, particularly to ensure that they are engaged in the identification of the various methods of fishing to be considered when moving toward catch limits and expansion of this initiative.
4. Evaluate the spatial extent of the PHMR Managed Access site, and whether the Managed Access area (not necessarily the Marine Reserve) needs to be extended to encompass the whole traditional fishing area to be effective. If it was found that this was so, any changes would need to be done through a full consultation / participation process with all fishermen (Managed Access and non-Managed Access). This ties in to some extent with the proposal to extend the Marine Reserve to include the Monkey River fishing area, though it should be borne in mind that:
  - the Managed Access and Marine Reserve boundaries do not necessarily need to be the same
  - any changes to include additional fishing areas will result in increased financial burden to the management organization, TIDE
5. Develop an economic alternatives strategy geared toward those whose traditional fishing grounds extend beyond PHMR and fall outside any marine reserve, to compensate for the loss in fishing grounds and therefore loss in income. This will create greater buy-in from fishers.

## **Licensing**

1. Distribute Managed Access application forms through the implementing organizations and cooperatives willing to facilitate completion of the forms with fishers, prior to submission to the Fisheries Department.

2. Ensure fishermen are provided with clear information on licenses in a timely manner by their Committee Members and directly, to avoid potential conflicts. This includes:

- Who is eligible for a Managed Access license
- Where application forms can be collected from
- How many license fees fishers need to pay, and the cost
- Who will assist them in completing the form
- Who they need to submit the application form to, and where they can do this
- How long the process will take from submission to license

3. Investigate a mechanism for storing and using the license database off-line, with automatic synchronization to the central database when on-line. This will greatly facilitate access and use of the system, especially if combined with ensuring equipment availability to enable mobile licensing.

4. Conduct a workshop for all staff involved in the licensing process to clarify roles and responsibilities to avoid any conflicts or misunderstandings. This would include the roles to be played by the PG Fisheries Department and TIDE offices.

### **Enforcement**

1. Prioritize enforcement at both sites – all respondents identified effective enforcement as key to the success of Managed Access.

2. Improve engagement of enforcement staff at both sites (but particularly PHMR), with clear realignment of roles under the Managed Access regime towards improving ranger-fisher relations.

3. Capacity building in conflict resolution for rangers in approaching and dealing with fishers. Ensure that at least one ranger on a patrol is bi-lingual.

4. Conduct a working session to engage both rangers and fishermen as partners in discussing a single vision for enforcement at each specific Managed Access site. This is particularly relevant for PHMR.

5. Support Managed Access with a clear zero tolerance for ranger-corruption.

6. Build enforcement capacity at both Managed Access sites, with training of rangers. This will require additional resources in the form of personnel, vessels and resources to maintain the vessels, fuel, and night vision goggles for night patrols to list a few. The rangers of PHMR would also benefit from closer liaison with Fisheries Department and participation in Fisheries Department training opportunities.

### **Data Collection and Analysis**

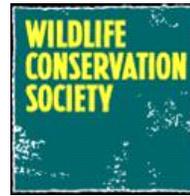
1. Agree on standardized scientific monitoring goals and monitoring requirements. This is important in ensuring that the data needed to make management decisions is being collected accurately and is reliable. Parameters to determine CPUE and to complete stock assessments need to be agreed on, as does the methodology used for analysis of the data. A quarterly workshop should be conducted for all those involved in data collection, analysis and monitoring, to meet and update current progress, discuss challenges that might be causing delays, and identifying how to address these.
2. Build in cross-organizational skills transfer at task force and management levels for data management, analysis and modeling, with initiatives such as the lobster seminar to share results and increase partner engagement and agreement on design.
3. Continue to work with fishermen to maintain /improve level of reporting.

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## [ANNEX A] MANAGED ACCESS TASK FORCE AGENDA



### *Managed Access task Force Meeting* *January 29<sup>th</sup>, 2013* **AGENDA**

1. *Presentation on Managed Access Assessment-(Zoe Walker)*
2. *Status update of project sites*
  - a. *Glover's Reef Marine Reserve- (Julio Maaz)*
  - b. *Port Honduras Marine Reserve- (Nicanor Requena, Celia Mahung, Lyndon Rodney)*
3. *Licensing Update-(Julio Maaz, Adriel Castañeda)*
4. *Matters arising*
  - a. *Expansion*
    - i. *Suggestions for new task force for expansion (open discussion)*
    - ii. *Site Evaluations (Enforcement needs, General needs of Marine Reserves (Julio, Nick, Adriel, Lyndon)*
    - iii. *Update on work plan submitted to Fisheries (Adriel Castaneda)*
  - b. *Washington Meeting (Nick)*
5. *Next Steps*
  - a. *Next meeting?*
  - b. *Other needs*

# [ANNEX B] ASSESSMENT OF THE EFFECTIVENESS OF MANAGED ACCESS IMPLEMENTATION IN GLOVER'S REEF MARINE RESERVE AND PORT HONDURAS MARINE RESERVE

## Assessment of the Effectiveness of Managed Access Implementation in Glover's Reef Marine Reserve and Port Honduras Marine Reserve

Nellie Catzim and Zoe Walker

January, 2013

For: Toledo Institute for Development and Environment,  
Wildlife Conservation Society, Environmental Defense Fund,  
and the Fisheries Department

