

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

		Status:	Final
Name:	Percent of a country's territorial sea included in gazetted MPAs		
Description:	Justification-In order to be effective, networks of MPAs must cover an adequate percentage of the sea. Globally scientists have estimated that between 10% and 40% of the sea should be protected.		
Theme:	Theme 1 – Marine Protected Areas		

Ranking Criteria:

- 5 – At least 20% of territorial sea is inside MPAs
- 4 – At least 15% of territorial sea is inside MPAs
- 3 – At least 10% of territorial sea is inside MPAs
- 2 – At least 5% of territorial sea is inside MPAs
- 1 – 0-4% of territorial sea is inside MPAs

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 5- Very Good	2016: 5-Very Good	2013: 5-Very Good	2011: 3- Fair
Result:	<p>2020:- Belize continues to expand its MPA network and existing MPAs. The area inside MPAs is now 5,221.7 km² (representative of approximately 27%) of Belize's territorial seas. Therefore the rank remains at 5.</p> <p>2016:- Belize continues to expand its MPA network and expanded the area inside MPA to 4,013 km² that represents 21% of Belize's territorial seas. Belize maintains a rank of 5 for this indicator.</p> <p>*</p> <p>2013:- GIS overlays (Bz1.a.5) it was determined that 19.6% of Belize's territorial sea is inside MPAs. Belize has 18,768 km² of territorial sea, and 3,670.9 km² inside MPAs (Bz1a.6). The territorial sea is shown in the map (Bz1.a1) with MPAs, no-take zones, reef within no-take zone and in individual MPAs table (Bz1a.2) summary statistics table (Bz1.a2) and shape files (Bz1.a3). Further verification of the existence of the MPA boundaries and regulations are presented in the MPA Management plans under Indicator 1d (Bz1d.2 to Bz1d.14).</p>			

Observations:**Observations:**

The recent expansion of the Sapodilla Cayes Marine Reserve (from 167km to 1301km²)(1a.5-7) to seven times its original size has increased the area of MPAs in Belize by 6%. The new expansion now includes the Cayman Crown/Corona Reef, increases the connectivity of MPAs within the National Protected Areas System.	2020
Data were compiled by HRI using national government data on MPAs (BZ1a.2). A full list of MPAs is found in BZ1a.4. GIS layers (BZ1a.3) contain all the spatial information used in this analysis. Please note that some numbers may slightly differ from those reported in individual management plans due to the fact that we only calculated the marine portion of each reserve. Several management plans and country reports include the total area of an MPA, which may include the area of marine waters, inland waters and land in its summary tables. Slight differences may also be the result of using different GIS layers (maps).	2016

Source:

Document/File name	Date	Institution	Location	
BZ1a.1-BZE_Territorial_Waters_withMPAs_Reef (JPEG map)	25-Oct-13	HRI/TNC/Belize Land Information Center	HRI	2016
BZ1a.2-Belize Statistics Table for MPAs2015	15-Dec-15	HRI/TNC/Belize Land Information Center	HRI	
BZ1a.3- MPAs_NTZs_REEFS_in_the_MAR (KMZ files)	25-Oct-13	HRI/TNC/Belize Land Information Center	HRI	
BZ1a.4-MAR MPAs List2015	Dec-12	HRI	HRI	
BZ1a.5-Expansion of SapCayeMRBelize Press Office	2020	Belize Press Office	Belize Press Office	2020
BZ1a.6-SapCayesMRExpansionMap	2020	Belize Press Office	Belize Press Office	
BZ1a.7-SAPS File	2020			
NPAS	2020			

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Fisheries Department
Contact:	Adriel Castaneda/ Alicia Eck
E-mail:	alicia.nunez@fisheries.gov.bz

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

Status: **Final**

Name:	Percent of a country's territorial sea included in fully protected zones
Description:	While MPAs in general offer a variety of conservation measures, the fully-protected (non-extractive) zones or reserves provide the maximum benefits, allowing the replenishment of fisheries and restoration of ecosystem balance. Globally, scientists have called for between 10-40% of the ocean to be under full protection. The longer term target is 20% of territorial sea under full protection/ fisheries replenishment zones. This target represents a more realistic biennial approach to reach this target.
Theme:	Theme 1 – Marine Protected Areas

Ranking Criteria:

- 5 – At least 20% of territorial sea is fully protected (fisheries replenishment zones)
- 4 – At least 15% of territorial sea is fully protected (fisheries replenishment zones)
- 3 – At least 10% of territorial sea is fully protected (fisheries replenishment zones)
- 2 – At least 5% of territorial sea is fully protected (fisheries replenishment zones)
- 1 – Less than 5% of territorial sea is fully protected (fisheries replenishment zones)

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 3- Fair	2016: 3 - Fair	2014: 3 - Fair	2011: 2-Poor
Result:	<p>2020: Based on MPA Area calculation, fully protected areas represented 3% of Belize's territorial sea.</p> <p>2016:- Based on calculation fully protected areas represented 3% of territorial sea is fully protected.</p> <p>2014:-Using GIS overlays (BZ1a.3) based on official shape files from the Belize Land Information Center, it was determined that 2.7% of Belize's territorial sea is inside fully protected zones of MPAs (BZ1a.2 & BZ1a.3). Belize has 18,768 km² of territorial sea (BZ1a.2), and 399 km² inside fully-protected (no-fishing) zones of all MPAs (BZ1a.2). Data were compiled by HRI using national government data on all MPAs (BZ1a.1).</p>			

Observations:

Observations:	<p>Data were compiled by HRI into GIS (BZ1a.3) using national government data on MPAs (official source was Land Information Center). A full list of MPAs is found in BZ1a.2. GIS layers (BZ1a.3) contain all the spatial information used in this analysis. Please note that some numbers may slightly differ from those reported in individual management plans due to the fact that we only calculated the marine portion of each reserve. Several management plans and country reports include the total area of an MPA, which may include the area of marine waters, inland waters and land in its summary tables. Slight differences may also be the result of using different GIS layers (maps). The specific Statutory Instruments creating each MPA and its zoning scheme, are contained within each of the Management Plans (BZ1d.2 - BZ1d.14 or in the BZ1b.2: Bacalar Chico - p.194-196 of BZ1b.2; Hol Chan- p.189-191 of BZ1b.2 & p.39-47 of BZ1d.; Gladden Spit- p.137-139 of BZ1d.5; Glover's Reef-p.103-104 of BZ1d.2; Port Honduras-p.209-214 of BZ1b.2; Sapodilla Cayes-p.161-163 of BZ1d.7; Southwater Caye-p.116-118 of BZ1d.3; Turneffe Atoll MR-p.191-195 of BZ1d.17). Caye Caulker Marine Reserve fully protected zones were added after the completion of the management plan and are described in the legal instrument that created the zoning (BZ1b.1). There are 3 Spawning aggregation (SPAG) sites, Caye Glory, Sandbore and South Point Lighthouse, found in legislation on p.4 of BZ2b.2. National Parks Systems Act of 2000 defines natural monuments, national Parks and wildlife sanctuaries such as Blue Hole NM, Corozal Bay WS, Halfmoon Caye NM, Laughing Bird NM and Swallow Caye WS complete no take zones. However, in practice, Corozal Bay is not treated as a no-take and the park is being considered for re-zonation.</p>	2016
----------------------	--	------

Source:

Document/File name	Date	Institution	Location	
BZ1b.1-SI-115-2008-Caye Caulker	Dec-11	Government of Belize	Government of Belize	2016
BZ1b.2-SubsidiaryLaws_Fisheries-2003	2003	Government of Belize	Government of Belize	
BZ1b.3-NationalParksSystemAct	2000	Government of Belize	Government of Belize	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Fisheries Department
Contact:	Adriel Castaneda/ Alicia Eck
E-mail:	alicia.nunez@fisheries.gov.bz

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

		Status:	Final
Name:	Percent of mapped coral reef area included in fully protected zones		
Description:	Ideally, the amount of sea under full protection will be representative of each habitat or ecosystem type, including seagrass beds, mangroves, sand flats, etc. Given the historical conservation focus and high value of coral reefs, this indicator specifically measures efforts in fully protecting a portion of this critical ecosystem. The longer term target is 20% of coral reef under full protection/ fisheries replenishment zones .		
Theme:	Theme 1 – Marine Protected Areas		

Ranking Criteria:

- 5 – At least 20% of coral reefs are inside full protection/fisheries replenishment zones
- 4 – At least 15% of coral reefs are inside full protection/fisheries replenishment zones
- 3 – At least 10% of coral reefs are inside full protection/fisheries replenishment zones
- 2 – At least 5% of coral reefs are inside full protection/fisheries replenishment zones
- 1 – Less than 5% of coral reefs are inside full protection/fisheries replenishment zones

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 5- Very Good	2016: 5 - Very Good	2014: 5 - Very Good	2011: 3- Fair
Result:	<p>2020: Belize has maintained the area of coral reefs within fully protected areas. Therefore, the rank remains at 5.</p> <p>2016:- Belize continues to expand its no-take areas and the area of coral reefs within fully protected increase from 311km² to 315 km². This represents 13% of Belize's territorial seas (BZ1a.2) and Belize maintains a rank of 5 for this indicator.</p> <p>2014:- Using GIS overlays (BZ1a.3), it was determined that Belize has 649 km² of coral reefs (BZ1a.4, BZ1a.1 and BZ1a.3) and 80.2 km² of coral reefs inside fully protected areas or zones (BZ1a.1-map). Thus, 12.0% of reefs are under full protection. This gives a score of 5. This is up 2 percent from 2011 assessment, 10.3%, and is related primarily to the declaration of new no-take areas Turneffe Atoll Marine Reserve.</p>			

Observations:

2020 Eco-Audit Results: Belize

Observations:	Data were compiled by HRI using national government data on MPAs fully protected zones and using the Reefs at Risk coral reef layer. A full list of MPAs is found in BZ1a.4 . GIS layers (BZ1a.2) contain all the spatial information used in this analysis. Please note that some numbers may slightly differ from those reported in individual management plans due to the fact that we only calculated the marine portion of each reserve. Several management plans and country reports include the total area of an MPA, which may include the area of marine waters, inland waters and land in its summary tables. Slight differences may also be the result of using different GIS layers (maps). The regional MPA map is provided for reference(BZ1a.1).	2016
----------------------	---	------

Source:

Document/File name	Date	Institution	Location	
BZ1a.1-BZE_Territorial_Waters_withMPAs_Reef (JPEG map)	25-Oct-13	HRI/TNC/Belize Land Information Center	HRI	2016
BZ1a.2-Belize Statistics Table for MPAs	1-Nov-13	HRI/TNC/Belize Land	HRI	
BZ1a.3- MPAs_NTZs_REEFS_in_the_MAR (KMZ files)	25-Oct-13	HRI/TNC/Belize Land	HRI	
BZ1a.4-MAR MPAs List	Dec-12	HRI	HRI	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Fisheries Department
Contact:	Adriel Castaneda/ Alicia Eck
E-mail:	alicia.nunez@fisheries.gov.bz

1d

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Percent of MPAs with good management	
Description:	The legal establishment of MPAs is an important milestone, but the attainment of conservation and management goals is only achieved through sound management. This indicator measures management capacity, which serves as a proxy for the overall quality of management. Management capacity is evaluated based on the existence of management plans, staff and equipment.	
Theme:	Theme 1 – Marine Protected Areas	

Ranking Criteria:

5 – At least 75% of MPAs must have a current management plan and adequate staff and equipment; and the remaining 25% should not be classified as having 'no current management plan' and 'no staff and equipment' or 'inadequate staff and equipment'

4 – At least 60% of MPAs have a current management plan and adequate staff and equipment; and from the remaining MPAs no more than 10% should be classified as having 'no current management plan' and 'no staff and equipment' or 'inadequate staff and equipment'

3 – At least 50% of MPAs have a current management plan and at least 50% have nearly adequate staff and equipment

2 – At least 25% of MPAs have a current management plan and at least 25% have nearly adequate staff and equipment

1 – Fewer than 25% of MPAs have a current management plan and fewer than 25% have nearly adequate staff and equipment

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 3-Fair	2016: 3 - Fair	2014: 3 - Fair	2011: 3- Fair
Result:	<p>2020:- Pre survey was conducted with MPA managers and then followed by a virtual meeting to review and finalize all scores. the presurvey and group session conducted revealed that 59% of MPAs had management plans, and 53% of MPAs had nearly adequate staff and equipment. The score of good management remains at 3.</p> <p>2016:- Survey conducted in 2015 showed that 53% had management plans and 53% have nearly adequate staff and equipment (18% adequate + 35% nearly adequate staff and Equipment). The score for Good management of MPA's remains at 3.</p> <p>Each MPA was ranked individually by its managing agency during the Belize Eco-Audit national workshop (BZ1d.1 & BZ1d.15). Approximately 50 percent of Belize's MPAs have up-to-date management plans, 29% have a <i>partial</i> management plans and 18% have <i>no</i> management plan. Only 6 % have <i>adequate</i> staff and equipment a decrease from 11% in 2011, 47% have <i>nearly adequate</i> staff and equipment, 18 percent of Belize's MPAs have <i>inadequate</i>, and 24 % of MPAs (Caye Glory, Caye Bokel, Dog Flea Caye, Sanbore, South Point Lighthouse, Turneffe) have <i>no</i> staff and equipment at all. As a result, at least 56 % aprox.) of MPAs have <i>at least nearly adequate</i> staff and equipment (includes 11% <i>adequate</i> + 44% <i>nearly adequate</i>). Thus over 50% of MPAs have a current management plan and at least nearly adequate staff and equipment; and no more than 22% of MPAs have no current management plan and 28% had incomplete management plans and 28% had inadequate staff and equipment , resulting in a grade of 3.</p>			

Observations:

Observations:	<p>It should be noted that two MPAs have recently adopted a new management plan: GRMR (2019-2023) & SWCMR (2019-2023). TASA has recently placed a call for consultations with the development of a new management plan for Turneffe Marine Reserve. Hol Chan Marine Reserve and Laughing Bird Caye National Park have also recently updated and adopted their management plans however, they have not formally been signed.</p> <p>COVID-19 has also played a large part in the scoring of good management of MPAs in Belize. Managers have provided separate scores to indicate the effect of COVID-19 (if any) and the management prior to the pandemic. This resulted in some managers indicating a reduction in staff which has resulted in scoring <i>inadequate staff during this period of the pandemic</i>.</p>	2020
----------------------	---	------

<p>It should be noted that the number of MPA's decreased with the declaration of Turneffe Atoll in December of 2012 that encompassed two MPA's/SPAG Sites Caye Bokol and Dog Flea, so there was loss in area under protection but an increase in MPA under protection and replenishment zones area increased (See result 1a for results.) The newly formed Turneffe Atoll Sustainability Association (TASA) recently signed a co-management agreement with The Ministry of Fisheries, so increased management activity is expected. While some management plans are technically out of date (BZ1d.9, BZ1d.10,BZ1d.11,BZ1d.12), Belize Fisheries Department representatives report that actions such as updating zoning for Bacalar Chico and Hol Chan have been taken, but these have not been officially incorporated into a revised management plan. So functionally the outdated management plan is still very relevant and in use, and an official updating exercise is planned or pending. Also Swallow Caye is still in the planning phase of developing it's management plan, as cultural norms within the Maya and traditional Mestizo communities of Swallow Caye are not accustomed to formal decision-making, and use informal channels (BZ1d.14/Paragraph 1). BZ1d.16/Summary of results p.76-78 provides a detailed assessment of the management effectiveness of Belize's protected areas and was presented as evidence to support survey results.</p>	2016
--	------

Source:

Document/File name	Date	Institution	Location	
BZ1d.1-MPA Original Data Collection	17-Nov-15	HRI	HRI	2016
BZ1d.2-Management Plan Glovers Reef Marine Reserve-World Heritage Site 2008-2013	2007	Glovers Reef Marine Reserve	Glovers Reef Marine Reserve	
BZ1d.3-Management Plan-Southwater Caye Marine Reserve World Heritage Site 2010-15	2009	Belize Fisheries Department	South Water Caye Marine Reserve	
BZ1d.4-A Management Plan for Caye Bokol Marine Reserve & Dog Flea Caye Marine Reserve	Sep-08	Turneffe Atoll Trust	Turneffe Atoll Trust	
BZ1d.5-Gladden Spit and Silk Cayes Marine Reserve Management 2011-2016	2011	Sea Belize	Sea Belize	
BZ1d.6-Half Moon Caye and Blue Hole Natural Monuments-Management Plan 2008-2013	2007	Belize Audubon Society	Belize Audubon Society	
BZ1d.7-Sapodilla Cayes Marine Reserve-Management Plan 2011-2016	2010	Southern Environmental Association	Southern Environmental Association	
BZ1d.8-Laughing Bird Caye National Park-Management Plan 2011-2016	2007	Southern Environmental Association	Southern Environmental Association	
BZ1d.9-Hol Chan Marine Reserve Management Plan	2002	IUCN	IUCN	
BZ1d.10-Bacalar Chico National Park & Marine Reserve Management Plan	2004	Green Reef Environmental Institute	Green Reef Environmental Institute	
BZ1d.11-Caye Caulker Forest Marine Reserve-Integrated Management Plan 2004-2009	2004	Belize Fisheries Department	Belize Fisheries Department	
BZ1d.12-Port Honduras Marine Reserve (Preliminary Draft Management Plan)	Jun-98	Belize Fisheries Department	Belize Fisheries Department	
BZ1d.13-Corozal Bay Wildlife Sanctuary Management Plan 2010-14 (DRAFT)	Dec-09	Sarteneja Alliance for Conservation and Development	Sarteneja Alliance for Conservation and Development	
BZ1d.14-Personal Communication Private Sector Support of Caye Caulker-Cultural norms	11/24/2011	HRI	HRI	
BZ1d.15-Belize Eco-Audit national workshop Attendance Sheet	9/14/2011	HRI	HRI	
BZ1e.16-The Status of Protected Areas in Belize-Report on Management Effectiveness, 2009	2009	Association of Protected Areas Management Organizations (APAMO)	Association of Protected Areas Management Organizations (APAMO)	
BZd.17-Turneffe Atoll Management Plan final	2012	Turneffe Atoll Trust/Belize Fisheries Department	Turneffe Atoll Trust/Belize Fisheries Department	
BZ1d.18-SL_Fisheries-regs2003	2003	Government of Belize	Government of Belize	
1d&e COMPILED PRE SURVEY BZ1e.1-MPA_Original Data Collection_Belize Compiled	2020	HRI	HRI	2020

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Fisheries Department
Contact:	Adriel Castaneda/ Alicia Eck
E-mail:	alicia.nunez@fisheries.gov.bz

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Percent of MPAs with good enforcement	
Description:	Sound management of MPAs requires both the capacity and political will to enforce regulations. This indicator measures the degree of enforcement in each MPA. We recognize that both enforcement and compliance are important issues and coming up with a system to track this in MPAs is a recognized data gap.	
Theme:	Theme 1 – Marine Protected Areas	

Ranking Criteria:

- 5 – At least 75% of MPAs have good enforcement and the remaining 25% must have moderate enforcement
- 4 – At least 60% of MPAs have good enforcement and the remaining 40% must have moderate enforcement
- 3 – At least 50% of MPAs have at least moderate enforcement
- 2 – At least 25% of MPAs have at least moderate enforcement
- 1 – Fewer than 25% of MPAs have at least moderate enforcement

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 3-Fair	2014: 3-Fair	2011: 3- Fair	
Result:	<p>2020:- Pre survey and group survey for the Belize Eco-Audit allowed managing agencies to rank the level of enforcement for MPAs. More than 70% of MPAs received moderate enforcement, while 24% received inadequate enforcement. The remaining 6% of MPAs reported good enforcement. As a result, the MPA score remains at a rank 3-Fair.</p> <p>Each MPA was ranked individually by its managing agency during the Belize Eco-Audit national workshop (Belize City at the HRI Office September 14, 2011-BZ1e.1). Half of Belize's MPAs receive <i>moderate</i> enforcement (50%), while the remaining MPAs receive 44% <i>inadequate</i>, 0% <i>none</i>, and 6% <i>good</i> level of enforcement. As a result, Belize's MPAs have at least a <i>moderate</i> level of enforcement of 56% (includes 50% <i>moderate</i> + 6% <i>good</i>) and thus ranks 3.</p>			

Observations:

Observations:	<p>The expansion of SCIVIK has resulted in a moderate score for enforcement citing that since expansion, there are not enough personnel to cover the whole area.</p> <p>Port Honduras Marine Reserve has also reported an increase in fishing activity and thus moderate enforcement due to the job loss in the tourism industry. Participants have cited COVID-19 as a cause of inadequate enforcement. Managing entities grading each MPA have listed scores of MPA enforcement separately ("Pre-COVID-19" and "during COVID-19"). This resulted in a reduction of the score of good enforcement during COVID-19 due to fuel cuts and inadequate personnel for patrols. In an effort to further streamline enforcement activities among co-managers and the</p>	2020
----------------------	---	------

2020 Eco-Audit Results: Belize

Participants from the Belize Eco-Audit national workshop highlighted the recent budgetary cuts for fuel within the Belize Fisheries Department as a significant impediment to their enforcement efforts. On the other hand, participants noted that patrols from the Belize Coast Guard have contributed to enforcement efforts of the Fisheries Department for several MPAs, including those that have no dedicated staff and equipment. BZ1e.2/Summary of results p.76-78 provides a detailed assessment of the management effectiveness of Belize's protected areas and was presented as evidence to support survey results. BZ1e.3 (p.6-7), BZ1e.4 (p.3-4. 8), BZ1e.5 (p.4,9), & BZ1e.6 (p.12,13+), BZ1e.7 (p.1) were also presented as evidence, highlighting enforcement actions, patrol efforts and ecological impact.	2014
---	------

Source:

Document/File name	Date	Institution	Location	
BZ1e.1- MPA Original Data Collection	9/14/2011	HRI	HRI	2014
BZ1e.2-The Status of Protected Areas in Belize- Report on Management Effectiveness, 2009	2009	Association of Protected Areas Management Organizations (APAMO)	Association of Protected Areas Management Organizations (APAMO)	
BZ1e.3-Glover's Reef Marine Reserve-Annual Report (January-December 2010)	Dec-11	Belize Fisheries Department	Glover's Reef Marine Reserve	
BZ1e.4-Laughing Bird Caye National Park: Annual Report (December 2010)	2010	Southern Environmental Association (SEA)	Southern Environmental Association (SEA)	
BZ1e.5-Gladden Spit and Silk Cayes Marine Reserve Annual Report December 2010	2010	Southern Environmental Association (SEA)	Southern Environmental Association (SEA)	
BZ1e.6-Fisheries Dept. EMU Annual report 2010 (For Bacalar Chico, Caye Caulker, Hol Chan, South Water Caye, Gladden Spit, Port Honduras, Sapodilla Cayes)	2010	Belize Fisheries Department	Belize Fisheries Department	
BZ1e.7NewsLtr_HMC&BH_2010Enforcement_Report	2010	Belize Audubon Society	Belize Audubon Society	
1d&e COMPILED PRE SURVEY BZ1e.1- MPA_Original Data Collection_Belize Compiled	2020	HRI	HRI	2020
1e.8 SMART Patrols 2018	2018	WCS	WCS	
1e.9-2018 EMU Annual Report draft V2	2018	BFD	BFD	
1e.10-WCS Belize _ Initiatives _ Spatial Monitoring and Reporting tool (SMART)	2019	WCS	WCS	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Fisheries Department
Contact:	Adriel Castaneda/ Alicia Eck
E-mail:	alicia.nunez@fisheries.gov.bz

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Generation of alternatives for fishers within the network of MPAs	
Description:	Fisheries management strategies should provide alternative livelihoods for fishers and other communities whose income may be affected by the establishment of "Fully Protected (Replenishment) Zones" which prohibit fishing. This Indicator measures the level of implementation of measures to achieve this objective.	
Theme:	Theme 1 – Marine Protected Areas	

Ranking Criteria:

5– A national-level strategy to provide fishers with long-term economic alternatives generated by the recovery of ecosystems through productive activities and/or payment of ecosystem services exists and is being implemented in between 85-100% of MPAs

4 – A national-level strategy to provide fishers with long-term economic alternatives generated by the recovery of ecosystems through productive activities and/or payment of ecosystem services exists with implementation in between 50-84% of MPAs

3 – A national-level strategy to provide fishers with long-term economic alternatives generated by the recovery of ecosystems through productive activities and/or payment of ecosystem services is being developed, with some alternative or sustainable livelihoods programs being implemented in between 20-49% of MPAs

2 – At least one program exists (in one MPA) that provides fishers in at least one locality with economic alternatives through productive activities and/or payment of ecosystem services

1 – No documented action that meets the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 3- Fair	2016: 3-Fair	2014: 2-Poor
Result:	<p>2020: A number of alternative livelihood programs exist and are currently being implemented by several organizations and projects for more than 20% of MPAs. Some projects identified focus on diversifying fisheries therefore are not considered under this theme. The grade remains at 3.</p> <p>2016: A national-level strategy has been drafted (BZ.1f.2) and more than 20% MPA's have ongoing Alternative and sustainable Livelihoods programs and projects include NGO such as TIDE, SEA and Belize Audubon Society (BZ1f.3, BZ1f.4, BZ1f.5.)</p>		

2020 Eco-Audit Results: Belize

The Nature Conservancy is spearheading a working group (1f.1) and has secured resources for the development of a plan in consultation with stakeholder. Consultants have been hired with the specific task of drafting a national .

Observations:

Observations:	The generation of alternative livelihoods is increasingly becoming a fixture in management plans and projectized approaches to MPA management. More recently alternative livelihoods have focused around tourism activity and seaweed mariculture. Other alternative livelihood projects under the MCCAP (1f.8) have focused on diversifying fisheries activities: eg. deep sea fisheries and PESCA tourism.	2020
	Consultations with fishers and other stakeholders and a technical team including The Belize Fisheries Department, WCS, TNC and HRI is also providing technical support as the steering committee for the consultancy. Regional consultations with stakeholders are ongoing and the draft of the Economic Alternatives and Fisheries Diversification strategy is expected late this year or early next year (BZ.1f.1).	2016

Source:

	Document/File name	Date	Institution	Location	
2014	BZ.1f.1-TOR Economic alternatives sub committee_RZ Expansion Project_revised_June12	2012	TNC	TNC	
2016	BZ.1f.2-Economic_Alternatives_&FisheriesDiversificationPlan_Rev 10-4-14	2014	TNC	TNC	2016
	BZ.1f.3-BAS2014AnnualReportEXCERPTpg39	2014	Belize Audubon Society	Belize Audubon Society	
	BZ.1f.4-TIDE2014annual report_EXCERPT	2014	Toledo Institute for Development and Env.	Toledo Institute for Development and	
	BZ.1f.5-SEA Report2013EXCERPT	2013	Southern Environmental	Southern Environmental	
	BZ1f.6-SWCMR-Annex-11-Community-Development-Strategy	2018	BFD	BFD	2020
	BZ1f.7-BMF-Strategy-20_5_19-Final	2019			
	BZ1f.8-Final-MCCAP-Summary-Report-Alternative Livelihoods	2016	MCCAP	BFD	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

2a

Healthy Reef Initiative
Collection Sheet Eco-Audit 2020 - Belize
Indicator:

	Status:	Final
Name:	Harmonizing fisheries regulations among countries	
Description:	Over the past few years a number of regional initiatives have attempted to harmonize fisheries regulations for economically important fisheries (e.g. lobster and conch). This indicator measures the extent of harmonization of regulations on size limits and closed seasons, because differences in these two regulations across countries has been shown to lead to substantial trans-boundary illegal and unreported fishing.	
Theme:	Theme 2 – Ecosystem-based Fisheries Management	

Ranking Criteria:

5 – Regulations for closed seasons and size limits are fully harmonized among the four countries and two commercial fisheries
 4 – Regulations for closed seasons and size limits are fully harmonized among three countries and two commercial fisheries
 3 – Regulations for closed seasons and size limits are fully harmonized among three countries and one commercial fishery
 2 – There has been some effort at harmonizing regulations (draft regulations, project planning or joint research)
 1 – No documented action that meets the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 3- Fair	2016: 3- Fair	2014: 3- Fair	2011: 3- Fair
Result:	<p>2020:- The FAO along with WECAF and OSPESCA has released the Regional Queen Conch Fisheries Management and Conservation Plan (2a.5). The plan outlines areas in which regulating bodies can harmonize queen conch fisheries management measures.</p> <p>2016: Resolution made by SICA in 2014, efforts are underway to regionally protect Whale Sharks, integrate the use of Turtle Exclusion Devices in fishing operations and to reduce Illegal, Unreported and Unregulated fishing in the region.</p> <p>*Harmonization of the regulations (closed season and size limits) for the lobster fishery (<i>Panulirus argus</i>) exists for Belize, Guatemala and Honduras. Article 11 (p.19, BZ2a.1; GU2a.1; HN2a.1; MX2a.1)- explains the following measurements for lobster as: minimum length (140 mm tail length from the first section of the abdomen to the rearmost section of the tail fan) and minimum weight (5 oz per unit and between 5.5-5 oz for tails-not frozen). Other major fisheries (in terms of value and quantity) are conch (<i>S. gigas</i>), and over a dozen different grouper and snapper species. Although not considered a major commercial fishery in the MAR, shark finning has notably been prohibited in Mexico, Belize, Guatemala and Honduras.</p>			

Observations:

Observations:	2016: Based on queries (http://www.fao.org/fishery/psm/search/en) both Honduras and Belize have not not ratified Port State Measures under the Food and Agriculture Organisation Agreement to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IUU). Over the last 2 years, Sea Cucumber has also emerged as a fishery in Belize. With existing Guatemala, Honduras, and illegal fishing of Sea Cucumber in the Yucatan region of Mexico, this species highlights the need for stronger coordination within OSPESCA and the MAR states to address issues of IUU.	2016
----------------------	--	------

Observations (Cont'd)	<p>The Regional Regulations for Caribbean Lobster Fishing OSP-02-09 made by OSPESCA (Organización del Sector Pesquero y Acuicola de Centroamérica) (GU2a.1; HN2a.1; BZ2a.1; MX2a.1) serves as a starting ground and benchmark for the countries of the SICA (Sistema de la Integración Centroamericana) to harmonize commercial fisheries. This regional regulation then requires national regulations be passed to ensure country-state compliance. Mexico, Guatemala and Honduras have a closed season for lobster from March 1-June 30 (Belize will maintain it's similar closed season from February 14-June 14). These dates were considered close enough to comply as being harmonized. See p. 10 for signatories (GU2a.1; HN2a.1; BZ2a.1; MX2a.1).</p> <p>OSPESCA established a working group in Central America to develop a working plan to regulate the Strombus gigas (Queen conch) fishery. The report "Mejoras de la situación y tendencias de la captura del caracol reina en la región del Caribe" (GU2a.2; MX2a.2; HN2a.2) represents the initial step towards harmonized regulations for the conch fishery. Another SICA OSPESCA document proposes harmonizing the fisheries regulations for lobster and conch in the entire Caribbean (GU2a.8; HN2a.6; MX2a.6; BZ2a.2). There is still work needed for the regulation of the conch fishery and for groupers and snappers in the MAR</p> <p>More recent efforts also include recommendations from the CFMC/OSPESCA/WECAFC/CRFM Working group for the development and adoption of sub-regional regulations for "conservation and management of Queen Conch". This has been supported by a CITES decision that expects nation-states to complete activities including standardized instruments for reporting, species management plans, and development of a product processing conversion factor.</p> <p>The Regional Action Plan for Central America on sharks talks about supporting the creation of a Regional Centre for Research and Training on Marine Resources. On January of 2012 the Regional Regulation OSP 05-11 bans the practice of Shark Finning in the countries of the SICA taking effect simultaneously across Central America, which aims to establish regional management measures for the sustainable use of shark resources that contribute to the eradication of finning (GU2a.3; GU2a.4; HN2a.7; HN2a.8; MX2a.7; MX2a.8; BZ2a.3; Bz2a.4). In Mexico, the NOM 029 PESC 2006 (MX2a.5, p. 2, 7 and 10) bans the practices of finning in all species of sharks and commercial fishing is prohibited in refugee zones for sharks and rays as well as drifting nets. Sharks are protected in critical periods such as reproduction and birth prohibiting fishing in specific zones and having closed seasons.</p> <p>The Regional Regulations for Caribbean Lobster Fishing OSP-02-09 made by OSPESCA (Organización del Sector Pesquero y Acuicola de Centroamérica) (GU2a.1; HN2a.1; BZ2a.1; MX2a.1) serves as a starting ground and benchmark for the countries of the SICA (Sistema de la Integración Centroamericana) to harmonize commercial fisheries. This regional regulation then requires national regulations be passed to ensure country-state compliance. Mexico, Guatemala and Honduras have a closed season for lobster from March 1-June 30 (Belize will maintain it's similar closed season from February 14-June 14). These dates were considered close enough to comply as being harmonized. See p. 10 for signatories (GU2a.1; HN2a.1; BZ2a.1; MX2a.1).</p> <p>OSPESCA established a working group in Central America to develop a working plan to regulate the Strombus gigas (Queen conch) fishery. The report "Mejoras de la situación y tendencias de la captura del caracol reina en la región del Caribe" (GU2a.2; MX2a.2; HN2a.2) represents the initial step towards harmonized regulations for the conch fishery. Another SICA OSPESCA document proposes harmonizing the fisheries regulations for lobster and conch in the entire Caribbean (GU2a.8; HN2a.6; MX2a.6; BZ2a.2). There is still work needed for the regulation of the conch fishery and for groupers and snappers in the MAR</p> <p>More recent efforts also include recommendations from the CFMC/OSPESCA/WECAFC/CRFM Working group for the development and adoption of sub-regional regulations for "conservation and management of Queen Conch". This has been supported by a CITES decision that expects nation-states to complete activities including standardized instruments for reporting, species management plans, and development of a product processing conversion factor.</p>
	<p>The Regional Action Plan for Central America on sharks talks about supporting the creation of a Regional Centre for Research and Training on Marine Resources. On January of 2012 the Regional Regulation OSP 05-11 bans the practice of Shark Finning in the countries of the SICA taking effect simultaneously across Central America, which aims to establish regional management measures for the sustainable use of shark resources that contribute to the eradication of finning (GU2a.3; GU2a.4; HN2a.7; HN2a.8; MX2a.7; MX2a.8; BZ2a.3; Bz2a.4). In Mexico, the NOM 029 PESC 2006 (MX2a.5, p. 2, 7 and 10) bans the practices of finning in all species of sharks and commercial fishing is prohibited in refugee zones for sharks and rays as well as drifting nets. Sharks are protected in critical periods such as reproduction and birth prohibiting fishing in specific zones and having closed seasons.</p>

Source:

Document/File name	Date	Institution	Location	
BZ2a.1-Regulation OSP-02-09-Regional Regulation of Caribbean Lobster Fishing	May-09	Organization of Fishing and Aquaculture in Central America	Regulation OSP-02-09	2016
Bz2a.2- Reglamento OSP 05-11 para prohibir la práctica del aleteo del tiburón en los países parte del SICA	Jan-12	OSPESCA	OSPESCA	
Bz2a.3-SI_78_of_2011_Nets&Sharkfins	Jul-11	Belize Fisheries Department	Belize Fisheries Department	
Bz2a.4-Fisheries and Aquaculture Integration Policy for the Central American Isthmus	2005	SICA	SICA	
BZ2a.5-Regional Queen Conch Fisheries	2017	FAO	FAO	2020

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Special regulations for grouper / spawning sites	
Description:	The reef food web is highly complex. The removal of just one group of fish from the food web can have widespread effects throughout the reef ecosystem, ultimately weakening and destabilizing it. Groupers' reproductive behavior makes them particularly vulnerable during spawning, and many spawning aggregation sites (SPAGs) have already been overfished and depleted of grouper. This indicator measures efforts to protect these sites and species.	
Theme:	Theme 2 – Ecosystem-based Fisheries Management	

Ranking Criteria:

- 5 – At least 90% of known grouper SPAGs are fully protected (year-round in MPAs) with legal regulations and at least 50% of these have good enforcement
 4 – At least 75% of known grouper SPAGs are fully protected (inside MPAs) and at least 20% have at least moderate enforcement
 3 – There are closed seasons, size limits or catch limits specific for grouper
 2 – There has been some effort at drafting regulations, research or a public campaign on the topic
 1 – No documentation of actions that meet the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com
	BZ2b.1-SPAG Summary_Enforcement Table

Grade:

Grade:	2020: 4- Good	2016: 4 - Good	2014: 4 - Good	2011: 4 - Good
Result:	<p>2020:- There has been no increase in the number of SPAGs protected area. There has been an increase of enforcement monitoring. MPA managers reported (2b.7) that at least 63% of SPAG sites have moderate enforcement. The grade remains at a 4.</p> <p>2016:- There has been no increase in the number of SPAGs protected and level of enforcments within these. In Belize, 77% of known grouper SPAGS are legally fully protected, with 20% having moderate enforcement.</p>			

Observations:

Observations:	2020: The Spawning aggregation continues to monitor the activity and recovery and selected SPAG sites (2b.6). Sites such as Maugre Caye have been highlighted as a critical site for the recovery of the Nassau Grouper.
----------------------	--

2020 Eco-Audit Results: Belize

Thirteen grouper SPAGs have been identified (BZ2b.1), with 10 fully protected (77%) by SI 161-2003 (BZ2b.2/p.1) and SI 162-2003 (BZ2b.3/p.1). Two of these SPAGs have been incorporated into the Turneffe Atoll Marine Reserve as no-take areas. Each SPAG was ranked by its managing agency during the Belize Eco-Audit national workshop (BZ1d.1). However, one site (Gladden Spit) is not fully protected because it is issuing special licenses to traditional fishers for the snapper spawning season (BZ2b.5/p21). These licenses, however, are not issued during the grouper spawning season. Of the 11 fully protected grouper SPAGs none have adequate enforcement (BZ2b.1). The majority of SPAG sites (80%) are inadequately enforced, and the remaining 20% are moderately enforced (BZ2b.1). BZ2b.4 does not specifically address the ranking of this indicator, but has been included as a resource that may be useful to promote future research and also to help identify management options.

Source:

Document/File name	Date	Institution	Location	
BZ2b-1 SPAG Summary_Enforcement Table	Sep-11	HRI	HRI	2016
BZ2b.2-SI-161-2003/Fisheries (Spawning Aggregation Site Reserves) Order	Oct-03	Minister of Agriculture, Fisheries & Cooperatives	WCS	
BZ2b.3-SI-162-2003/ Fisheries (Nassau Grouper Protection) Regulations	Oct-03	Minister of Agriculture, Fisheries & Cooperatives	WCS	
BZ2b.4-Critical Analysis of Information on Spawning Aggregation Sites in MBRS Project Countries and Recommendations for their <u>Monitoring and Management</u>	Nov-02	Green Reef Environmental Institute	Mar Fund	
BZ2b.5-Gladden Spit and Silk Cayes Marine Reserve Management 2011-2016	2010	Southern Environmental Association (SEA)	Southern Environmental Association (SEA)	
2b.6- SPAGS Newsletter 2019 - FINAL	2019	Belize Spawning Aggregation Working	Belize Spawning Aggregation Working	2020
2b.7-COMPILED PRE SURVEY BZ1e.1-MPA_Original Data Collection_Belize Compiled	2020	HRI	HRI	
2b.7a-Healthy Reefs Initiative_MPA_Agenda	2020	HRI	HRI	
2b.7b-Healthy Reefs Initiative_MPA meeting minutes	2020	HRI	HRI	
2b.7c- Healthy Reefs Initiative_MPA_zoom_0	2020	HRI	HRI	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Fisheries Department
Contact:	Adriel Castaneda/ Alicia Eck
E-mail:	alicia.nunez@fisheries.gov.bz

Healthy Reef Initiative
Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Protection of key grazers (parrotfish)	
Description:	As the number of large predatory species declines due to overfishing, fishers often target smaller herbivorous fish. The removal of herbivorous fish results in increased algal overgrowth, and ultimately decreased resilience of the reef ecosystem. This indicator measures the degree of protection for parrotfish among the four countries.	
Theme:	Theme 2 – Ecosystem-based Fisheries Management	

Ranking Criteria:

- 5 – Parrotfish are fully protected through regulations with at least good enforcement
- 4 – Parrotfish are fully protected through regulations with at least moderate enforcement
- 3 – There exist draft regulations or a public campaign on the topic
- 2 – There has been some effort (strategic plans or consultation reports) at drafting regulations and/or educational outreach (development of educational brochures or pamphlets)
- 1 – No documented action that meets the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 5- Very Good	2016: 5 - Very Good	2014: 5 - Very Good	2011: 4 - Good
Result:	<p>2020: Belize has maintained the full protection of key grazers particularly parrot fish and has reaffirmed its protection (in addition to surgeon fish, angelfish, and triggerfish) in the Fisheries Resources Act 2020 (BZ2c.4).</p> <p>2016:- Belize continues to maintain Regulations for full protection of parrotfish exist and there is evidence of good enforcement (nearly 90% compliance) (Table 1/p.5 in BZ2c.2) and no parrotfish in catch (landings) data from Glovers Reef (BZ2c.3/p.1) and expert review based on MPA enforcement criteria (BZ1d.1).</p>			

Observations:

2020 Eco-Audit Results: Belize

Observations:	<p>2016:- HRI in partnership with Courtney Cox of Smithsonian Institute (SI) collected tissues from retailers (Restaurants and resorts) at select sites, San Pedro, Placencia and Belize City with assistance from the Belize Fisheries Department and preliminary results suggest that there is good compliance with Parrotfish protection laws in Belize.(pers. communication Courtney Cox -SI/RobertoPott-HRI)</p> <p>*</p> <p><u>Restriction 6</u>-No person shall take in the waters of Belize, or buy, sell or have in possession any grazers (defined as any fish of the scaridae family including the genus Scarus and Sparisoma; any fish of the Acanthuridae family)(BZ2c.1). During the Belize Eco Audit national workshop (Belize City at the HRI Office September 14, 2011-BZ1d.15) participants noted that protection of parrotfish was "good", based on thier expert opinion and observations, as defined by the ranking criteria on overall compliance, patrolling, level of poaching, if ecological integrity is thought to be maintained or impacted or if local community feedback demonstrates a high level of concern (defined in the MPA worksheet - BZ1d.1). Results from the Glover's Reef Fisheries catch data (BZ2c.3) and the University of North Carolina of fish fillet sampling study (BZ2c.2) serves as independent supporting evidence. According to recent research by the University of North Carolina, 9% of fish fillet sampled from the primary fish markets and restaurants were identified as</p>
----------------------	--

Source:

Document/File name	Date	Institution	Location	
BZ2c.1-SI-49-2009/Fisheries (Nassau Grouper & Species Protection) Regulations, 2009	Oct-03	Minister of Agriculture, Fisheries & Cooperatives	Wildlife Conservation Society	2016
BZ2c.2-Tracking the effectiveness of a fishing ban in restoring grazer populations and coral reef resilience in Belize	Jul-05	University of North Carolina at Chapel Hill	University of North Carolina at Chapel Hill	
BZ2c.3-Glover's Reef Marine Reserve Fisheries Catch Data Collection Program	Nov-10	Wildlife Conservation Society	Wildlife Conservation Society	
BZ2c.4 Act-No.-7-of-2020-Fisheries-Resources-Act	Jul-05	Belize Press Office	Belize Press Office	2020

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Fisheries Department
Contact:	Adriel Castaneda/ Alicia Eck
E-mail:	alicia.nunez@fisheries.gov.bz

Healthy Reef Initiative

Collection Sheet Ecoaudit 2020 - Belize

Indicator:

	Status:	Final
Name:	Transform all open-access fisheries to rights-based sustainable fisheries management systems	
Description:	Justification-Throughout the MAR region, fisheries management has not achieved sustainability, in large part due to reliance on open access and traditional management approaches and the inability to control illegal fishing, especially in remote areas. The lack of a clear allocation of fishing rights is a major factor contributing to overfishing, and tends to encourage unsustainable fishing practices such as the race-to-fish and illegal fishing. Open access also fuels conflict for fishing areas. Transforming fisheries management to a rights-based approach in the MAR region will promote better management of the fisheries stocks by fostering stewardship by fishers of designated fishing areas, facilitating the regulation of fishing through sustainable catch limits, and promoting community-based management of fisheries in the region.	
Theme:	Theme 2 – Ecosystem-based Fisheries Management	

Ranking Criteria:

5- More than 90% of total catch* is under a form of regulated rights-based fisheries management (RBM) covering at least three of the most economically valuable species/taxonomic groups
 4- 26-50% of total catch is under a form of regulated rights-based fisheries management, covering at least two of the most valuable species/taxonomic groups
 3- At least two fisheries and/or 25% of fishing communities is under a form of regulated rights-based fisheries management, covering at least one of the most valuable species/taxonomic groups
 2- At least one fishery and/or one community is implementing regulated rights-based fisheries management
 1- No documented action that meets the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	
Contact:	
E-mail:	
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 5-Very Good	2016: 2- Poor	2014: 2- Poor	2- Poor
Result:	2020:- Belize has successfully scaled up the managed access program nationally (BZ2d.3&5)			
	2016:- Belize is on the verge of rolling out Manage Access nationally, but this happened after the deadline of Nov. 15, 2015 for actions to be taken for such actions to be considered in the 2016 Eco-Audit.			
	Although the pilot of the managed access project (2d.1) includes members of about 7 out of 25 fishing communities, it is not all the fishers from these communities that are currently participating. The pilot project is planned for roll out to a national program(2d.2)			

Observations:

Observations:

2020: Under the Fisheries Resources Act (2d.3), the managed access program has adopted legally and in practice. Additional research (2d.4) has been published on the procedure, challenges, and opportunities of the national scaling of the program. Under this new regime, traditional fishers are vetted and required to register under two areas (2d. 5). Area 9 (Deep sea area) remains open to all fishers.	2020
Under the legal mandate of Belize Fisheries Department special licenses issued for 2 pilot sites. Through collaboration with organizations: TIDE, WCS, and EDF in close consultation with Belize Fishermens Cooperative Association and Fisheries Advisory Board, a managed access project was initiated in 2011. There are plans to roll out the project into a national program.	2016

Source:

Document/File name	Date	Institution	Location	
2d.1-ICRS2012_18A_2ManagedAccess	2012	TIDE	TIDE	2016
2d.2-ManagedAccessExpansionWorkplan 2015	2013	WCS	WCS	
BZ2d.3 Act-No.-7-of-2020-Fisheries-Resources-Act	2020	Belize Press Office	Belize Press Office	2020
BZ2d.4-Fujita et al. 2017	2017			
BZ2d.5-Revised MA Fishing Areas	2016	WCS	WCS	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Fisheries Department
Contact:	Adriel Castaneda/ Alicia Eck
E-mail:	alicia.nunez@fisheries.gov.bz

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

		Status:	Final
Name:	Coastal zone planning regulations		
Description:	Effective, integrated coastal planning emphasizing sustainable development, alongside enforcement of coastal development regulations can greatly reduce the pressures of coastal development. Development and implementation of comprehensive coastal zone management plans can guide sustainable development. This indicator measures the extent and implementation of such plans or steps towards developing such plans. Having a well-designed coastal zone plan is only the first step toward achieving successful coastal zone management. Effective enforcement of these plans is also essential. Due to a lack of data and record-keeping on enforcement of zoning and other regulations it was not possible to define quantifiable ranges to assess the level and impact of enforcement efforts. This represents a gap that must be addressed in subsequent audits (See Full Eco-Audit for details on gaps.)		
Theme:	Theme 3 – Coastal Zone Management		

Ranking Criteria:

5 – A spatially comprehensive coastal zone plan or zoning regulations exist for the country (or state within the MAR area) and have been legally adopted

4 – There is a coastal zone plan or zoning regulations (not spatially comprehensive) and they have been legally adopted for some areas

3 – A spatially comprehensive coastal zone plan or zoning regulations have been completed (drafted) for the country (or MAR area) and submitted for approval

2 – There is work (drafts in progress, consultation reports, research or strategic plans) at drafting a spatially comprehensive coastal zone plan or zoning regulations.

1 – No documentation of actions that meet the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 5 - Very Good	2016: 3 - Fair	2014: 2 - Poor	2011: 2-Poor
Result:	<p>2020: CZMAI released the Integrated Coastal Zone Management Plan 2016-2020 (3a.17) along with associated guidelines. The plan has been approved by both Cabinet and Senate and is being implemented. CZMAI has also reconstituted the coastal advisory committees for the regional planning zones and are in the process of updated the ICZMP to address climate issues and stronger management coordination. The state of the coast report now complete.</p> <p>2016- CZMAI reports that the revised plan (3a.1) has been presented to the CZMAI board who endorsed the plan, and this has been submitted for approval in 2015 by Cabinet of the Government of Belize via the Minister of Sustainable Development. Based on this "submission for approval", the score improved from 2 to 3.</p> <p>2011- 2013: There has been substantial effort and work in this sector over the last 13 years, and recent efforts over the last 2 years have updated this draft (3a.1), but there is still no plan in place. In 2003 a draft national plan was being assembled that included development guidelines from each of nine planning regions (MOV 3a.2; 3a.3; 3a.6; 3a.7, 3a.8; 3a.9, 3a.11; 3a.12; 3a.13; 3a.14., 3a.15) and an overarching policy (MOV 3a.10). There is a 2011 draft outline of the Belize Coastal Zone Management Plan (MOV 3a.1, Table of Content of revised draft plan, CZMAI has not released the latest draft of the full plan.)</p>			

Observations:

Observations:

<p>2020:- Much work has been done in the development of an ICZM plan and associated guidelines for each coastal planning area. Research has been published in regards to its development and InVEST modelling methodology used to develop scenarios of the plan. Though actions and guidelines have been adopted, there is no evidence to indicate an implementation progress report in the past four years.</p>	2020
<p>2016- The plan was revised and the draft plan submitted to CZMA&I board in 2014 and it was endorsed. It was then submitted for approval via the Ministry of Sustainable Development for approval in 2015 (Pers. Communication CEO CZMA&I, Chantalle Clarke-Samuels.)</p> <p>2014- "The Coastal Zone Management Act (1998) (MOV 3a.5) established the mandate of the Coastal Zone Management Authority and Institute (CZMAI) to develop a CZM Plan for Belize, as well as to implement needed monitoring programs and inter-institutional coordination. The CZM Strategy (2001) (MOV 3a.10) established Coastal Advisory Committees (CAC) (MOV 3a.4) in nine coastal regions. The committees provide a platform for collaboration between local stakeholders and the CZMAI, as well as to coordinate coastal management processes. This aim of this collaboration is to facilitate a participatory form of monitoring and resource management planning, while reflecting the needs and</p>	2016

Source:

Document/File name	Date	Institution	Location	
BZ3a.1- Draft National CZM plan March 2013 vers. (currently in process of adoption)	2013	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.2-Turneffe Isl_ Introduction Volume1	2003	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.3-Turneffe Islands Dev Guidelines	2003	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.4-Terms of Reference for Coastal Advisory Committees		Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.5-Coastal Zone Management Act Ch 329	Dec-00	Government of Belize	Government of Belize	
BZ3a.6-Southern Cayes Region Planning Guidelines Vol 10	Jan-04	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.7-Northern Cayes Region Planning Guideline Vol 2	Jan-04	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.8-Dangriga Cayes Region Planning Guidelines Volume 8	Jan-04	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.9-Belize City Cayes Region Planning Guidelines Vol 5	Jan-04	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.10-Cayes Development Policy	Apr-01	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.11-The National Integrated Coastal Zone Management Strategy	2001	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.12-Lighthouse Cayes Region Planning Guidelines Volume 7	Jan-04	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.13-The Placencia / Laughing Bird Caye Development Guidelines	Jun-05	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.14-Revised Master Development Plan for Ambergris Caye	Dec-09	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.15-Caye Caulker Development Guidelines	2004	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.16-Pers. Communication E-mail from CEO of CZMA&I	Nov. 2015	Coastal Zone Management Institute	Coastal Zone Management Institute	2020
BZ3a.17-BELIZE-Integrated-Coastal-Zone-Management-Plan	2016	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.18-Final CAC TOR 2020		Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.19-Ad-for-ICZM-Plan-evaluation-_Oct-2020	2020	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.20-Draft-The State of the Coast Report 2014-2018 V_08-0-2020	2020	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.21-belize_invest_scenarios_case_study	2016	Coastal Zone Management Institute	Coastal Zone Management Institute	
BZ3a.22-Full article_ Integrated planning that safeguards ecosystems and balances multiple objectives in coastal	2016	Coastal Zone Management Institute	Coastal Zone Management Institute	

2020 Eco-Audit Results: Belize

BZ3a.23 GOB Press Release on Legal Enactment of ICZM Plan	2016	Coastal Zone Management Institute	Coastal Zone Management Institute
---	------	-----------------------------------	-----------------------------------

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	CZMAI
Contact:	Arlene Young
E-mail:	director@coastalzonebelize.org

Healthy Reef Initiative
Collection Sheet Ecoaudit 2020 - Belize
Indicator:

	Final
Name:	Watershed management plans related to coastal zone planning
Description:	Justification: Effective, integrated land-use planning inside the watersheds of the MAR is essential to preventing erosion, sedimentation, and nutrient pollution into coastal and marine waters. In particular, nutrients are a major cause of the overgrowth of algae which can kill corals. Nutrients cause a major damage in reefs and benthic ecosystems. High water quality standards help to maintain coral reefs. Proper watersheds management includes appropriate land-use practices in erosion-prone areas and is essential for preserving water quality and ensuring that the transport of sediment, nutrients, and other pollutants to coral reefs is minimized. If sound watershed management plans are implemented, nutrient and sediment delivery are likely to be reduced, promoting recovery of degraded reefs. Watershed-based management plans foster sustainable development, and compliment similar coastal development plans along the coastline. This indicator measures the spatial extent and development of such plans or steps toward developing
Theme:	Theme 3 – Coastal Zone Management

Ranking Criteria:

5 – A spatially comprehensive and integrated watershed management plan(s) that regulate the coastal and marine resources, exists for the country (or state within the MAR area) and have been legally adopted

4 – A spatially comprehensive and integrated watershed management plan(s) that regulate the coastal and marine resources management, exists for the country (or state within the MAR area) but has (have) not been legally adopted; or have at least 50% of watershed area within plan(s) or zoning regulations that are legally adopted

3 – There is work (monitoring water quality programs, drafts in progress, consultation reports, research or strategic plans) leading to an integrated watershed plan(s) in at least 50% of watershed area

2 – There is work (monitoring water quality programs, drafts in progress, consultation reports, research or strategic plans) leading to an integrated watershed management plan(s) in at least 10% of watershed area

1 – No documentation of actions that meet the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 3-Fair	2016: 3-Fair	2014: 2-Poor
Result:	2020:- Much work has been conducted in the assessment of watersheds, water quality, and draft action plans for more than 50% of watersheds. There is no documentation of a national integrated watershed management plan or a singular watershed management body that has been established. The grade remains at 3.		

2016- Work assessing watershed across Belize were conducted in the last 2 years included more than 50% of watersheds. These are expected to inform the development of watersheds plans. With work underway to develop Management plans in more than 50% watersheds resulted in a score of 3.

2014:-With the passing of National Intergrated Water Resources Act (3b.1), Belize demonstrates a concerted effort to managed its watersheds. Additional steps are now underway operationalize the legislation including the formation of a dedicated national authority that will implement the development of national "master plans" for watersheds

Observations:**Observations:**

2020: A decentralized approach to the management of water quality has been adopted resulting in many local initiatives and projects along various watersheds: Belize River watershed (3b.4), New River Watershed(3b.5)a, and Monkey River Watershed(3b.6). Additionally, much work has also been conducted in the standardization of water quality mapping and methodologies (3b.7).

2016:- Results of watersheds assessment (3b.3) and land use change and impacts on water quality on most watersheds in Belize (3b.2) were shared during national watershed symposium in October 2015. These plans are expected to be used to develop an action plan for managing watersheds in Belize (Pers. Comm Nadia Bood/WWF).

2014:- In 2010, Belize passed legislation, National Intergrated Water Resources Act (3b.1), that includes legislation to support the formation of an authority with specific mandate for the management of Belize watersheds and the development and implementation of "Master plans" for all watershed in Belize nationally (p325-328, Sec.14), with the recent formation of a Water Resources Advisory Council, the development of Insitutional Architecture for the authority and the support of a national watershed assessment.

Source:

Document/File name	Date	Institution	
3b1. National_Integrated_Water_Resources_Act	2010	Government of Belize	2016
3b2.Managing land use change_Kay 2015	2015	ERI/Dr. Elmna Kay	
3b3.RapidAssessment ofUpper Belize River Valley_Boles Oct2015 Presentation	2015	Galen University/Dr. Ed Boles	
3b4.-Final_BRW Management Plan	2018		2020
3b5.-New River Watershed Assessment Report[32296] (1)	2017		
3b6.MRRoadmap_electronic_031419_logo	2019		
3b7-Boles 2018 Stocktake and Mapping of WQ Monitoring Programs Protocols Belize Final draft 20181112	2018		

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	Dr. Ed Boles
E-mail:	bzboles@yahoo.com

Healthy Reef Initiative

Collection Sheet Ecoaudit 2020 - Belize

Indicator:

		Status:	Final
Name:	3c. Mangrove extent as an indicator of the effectiveness of the coastal zone management plan implementation.		
Description:	Justification-Justification: Mangroves are regionally 'protected' on different levels through regulations requiring permits for their removal. However, even with the strictest regulations, many illegal clearings occur. Ultimately we need to track the remaining extent of mangroves in order to help protect their critical ecosystem functions, which include shoreline protection, provision of fisheries habitat, and biodiversity.		
Theme:	Theme 3 – Coastal Zone Management		

Ranking Criteria:

5 – A spatially comprehensive and integrated plan or mangrove regulations, that contribute to the objectives of the coastal zone management plans, exist for the country (or state within the MAR area) and has been legally adopted, having mangrove coverage preserved in 90% from baseline status (probably 1990). Or more than 90% of the mangroves in the country or state are legally and effectively protected.

4 – A spatially comprehensive and integrated plan or mangrove regulations that contributes to the objectives of the coastal zone management plans, exist for the country (or state within the MAR area) but have not been legally adopted, having mangrove coverage preserved in 70% from original status. Or more than 70% of the mangroves in the country or state are legally and effectively protected.

3 – There is work (monitoring mangrove extent, drafts in progress, consultation reports, research or strategic plans) leading to a spatially comprehensive and integrated plan or mangrove regulations, or at least 50% of original mangrove cover is maintained or legally protected.

2 – A plan or strong mangrove regulations exist, but doesn't contribute to the objectives of the coastal zone management plan or are poorly enforced, with many public records of illegal activity.

1 – No documentation of actions that meet the criteria to achieve a higher score is available.

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Criag
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 3-Fair	2016: 3-Fair	2014: 3-Fair	2011: 3-Fair
Results:	2020: The Forest (Protection of Mangroves) Regulations was legally adopted in 2018 which prohibits any alterations of mangroves except for selective trimming requiring a permit from the Forestry Department (3c.3&6). Recent research however, estimates ~90ha mangrove loss from 2014-2019 (3c.5). Belize maintains a mangrove cover above 50% however effective protection has not been achieved. The grade remains at 3.			

**Results
(Continued)**

2016: Draft regulations for mangrove legislation continue to be considered but has not progress pass the draft stage. Belize maintains mangrove cover above 50% intact based on results from previous EA. There is no change in score for this indicator.

An updated assessment of mangrove exists for Belize (3c.2), and stronger mangrove legislation has been drafted, but not legally adopted. The assessment showed that Belize still has the potential to effectively manage its mangrove and maintain over 70% of its cover (3c.1).

Observations:**Observations:**

2020:- The Forest Protection of Mangroves Regulations were passed in 2018 which emphasized the protection, management, and conservation of mangroves. The regulations sought to strengthen penalties and fines to deter illegal mangrove alteration. Recent studies however have shown that mangrove loss has continued but has slowed down.

2016:- Draft Mangrove regulations are currently being revisited under the MCCAP project and support has been secure to support the Solicitor General in reviewing the regulations for presentation to GoB (Pers. Communication- Wilbur Sabido; Chief Forest Officer.)

The Coastal Zone Management plan draft also provides close to 25% of Belize GDP, but noted that 58% of mangrove are at medium threat and 11% are at high threat from human activities including coastal development, aquaculture and others (3a.1, pg. 35). This implies that, without an effective plan and strong legislation, mangrove ecosystems and the services they provide could be severely impacted.

Source:

Document/File name	Date	Institution	Location	
3c.1-TECHNICALREPORT: Cherrington_etal2010BZ_Mangroves	2010	CATHALAC	www.cathalac.org	2016
3c.2-Excerpt of Subsidiary Laws of Belize Chapter 213 (Mangrove Regulations)	2000	Governement of Belize	Government of Belize	
3c.3-Forests Protection of Mangroves Regulation 2018_final enacted	2018	Governement of Belize	Governement of Belize	2020
3c.4-bz_mangrove_cover_change_2014_2019_final_v2	2020	MCCAP		
3c.5-Coastal forest mapping_Emil_2020	2020		https://www.sciencedirect.com/science/article/pii/S0924646020300000	
3c.6-Belize Press Office_2018_Mangrove Protection	2018	Belize Press Office	Belize Press Office	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Standards for wastewater management/sewage treatment	
Description:	International efforts to improve sanitation, particularly near sensitive ecosystems such as coral reefs and seagrass (e.g. Class I waters), have evolved, specifically through the creation of regional standards for sewage treatment. This indicator measures the extent of each country's adoption and implementation of these regional standards within the Cartagena Convention's Protocol Concerning Pollution from Land-Based Sources and Activities (LBSMP Protocol).	
Theme:	Theme 4 – Sanitation and Sewage Treatment	

Ranking Criteria:

5 – LBSMP Protocol for Class I waters are legally adopted and there is good implementation by the country
 4 – LBSMP standards for Class I waters are legally adopted but there is inadequate implementation by the country
 3 – LBSMP standards for Class II waters have been legally adopted and there is good implementation by the country
 2 – LBSMP standards for Class II waters are legally adopted, and there is inadequate implementation by the country
 1 – No standards or standards below Class II

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com
Organization:	Belize Water Services Limited
Contact:	Dave Pascascio (Operations Manager);
E-mail:	dave.pascascio@bwsll.com.bz; keith.hardwick@bwsll.com.bz; william.lamb@bwsll.com.bz

Grade:

Grade:	2020: 4-Good	2016: 4-Good	2014: 4 - Good	2011: 4 - Good
Result:	2020:- There is no evidence that Belize has improved its compliance with LBSMP standards by enforcing existing regulations and effluent standards that are consistent with LBSMP			
	2016:- There is no evidence that Belize has improved its compliance with LBSMP standards by enforcing existing regulations and effluent standards that are consistent with LBSMP standards.			
	Belize has ratified the Cartagena Convention's Protocol Concerning Pollution from Land-based Sources and Activities (MOV BZ4a.2) , and has passed national effluent regulations (MOV 4a.3) in order to meet these standards. However, based on readings for outfall in docs BZ4a.4 and BZ4a.5 discharge levels are below Class I standards (30 mg/L for BOD and suspended solids), which highlights that there has been a lack of implementation, resulting in a rank of 4.			

Observations:

Observations: The Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (WCR) is a comprehensive, umbrella agreement for the protection and development of the marine environment. This regional environmental convention is recognized as the paramount framework for cooperative regional and national actions in the WCR. In particular, the Convention's LBS Protocol (Protocol Concerning Pollution from Land-based sources and Activities) is considered an important framework for countries in the Wider Caribbean Region (WCR) to address land-based pollution (BZ4a.1 & BZ4a.2). A joint initiative by the Inter-American Development Bank, the United Nations Environment Programme, and the Global Environment Facility to finance wastewater treatment management projects throughout the Caribbean draws on the LBS Protocol as the legal framework to justify its efforts. Pilot projects are planned for Belize, Trinidad & Tobago, Guyana, and Jamaica (all signatories of the LBS Protocol). Each country in the MAR, excluding Honduras, has signed the Cartagena Convention's Protocol Concerning Pollution from Land-based Sources and Activities. Belize has passed national effluent regulations (p.11 in BZ4a.3) in order to meet international standards set by the LMSMP (Annex 3, Sec.1&2).

Source:

Document/File name	Date	Institution	Location	
BZ4a.1-Protocol Concerning Pollution from Land-based Sources and Activities to the Convention for the Protection and	Jun-05	Caribbean Environment Programme	Caribbean Environment Programme	2016
BZ4a.2-Ratification of LBS Protocol-Map	(Downloaded) Oct-11	Caribbean Environment	Caribbean Environment Programme	
BZ4a.3-Environmental Protection - Effluent Limitation Amendment Regulation 2009	Jul-05	Government of Belize, Dept. of Env.	Department of Env.	
BZ4a.4-BWS_Water_QualityJan_2011	Jan-11	Belize Water and Sewage Ltd.	Belize Water and Sewage Ltd.	
BZ4a.5-BWS_WaterqualityJuly2011	Jul-11	Belize Water and	Belize Water and Sewage	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Water Services Limited
Contact:	Dave Pascascio (Operations Manager);
E-mail:	dave.pascascio@bwsl.com.bz; keith.hardwick@bwsl.com.bz; william.lamb@bwsl.com.bz

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	New infrastructure for sewage treatment (in the last 5 years)	
Description:	In order to meet the LBSMP standards, new and improved sewage treatment facilities are typically required. Given the high cost of this infrastructure, change is likely to be incremental. This indicator measures progress (relative to population size) in installing such facilities. The target of 5% of the coastal population may seem low, but it refers to the additional population serviced by the installation of new infrastructure, and not the total population with sewage service.	
Theme:	Theme 4 – Sanitation and Sewage Treatment (in the last 5 years)	

Ranking Criteria:

- 5 – New coastal municipal sewage treatment plant(s), which meets the LBSMP standards for Class I waters, exists (serving at least 5% of the coastal population)
- 4 – New coastal municipal sewage treatment plant (s) for coastal population, which meets the LBSMP standards for Class I waters, is under construction or approved (serving at least 5% of the coastal population)
- 3 – New coastal municipal sewage treatment plant (s), which meets LBSMP standards for Class I waters exists, is under construction or approved (serving less than 5% of the coastal population)
- 2 – New coastal municipal sewage treatment plant (s), which meets at least LBSMP standards for Class II waters exists, is under construction or approved
- 1– No documented action that meets the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com
Organization:	Belize Water Services Limited
Contact:	Dave Pascascio (Operations Manager);
E-mail:	dave.pascascio@bws.com.bz; keith.hardwick@bws.com.bz; william.lamb@bws.com.bz

Grade:

Grade:	2020: 3-Fair	2016: 3-Fair	2014: 3-Fair	2011: 3- Fair
Result:	<p>2020:- Wastewater treatment plants are present in two coastal communities: Belize City & San Pedro. There are currently two major fuded projects for wastewater treatment detailed design expansion. Funding is currently being sourced. A third project: Third Water (South Ambergris Caye Water and Sewerage Expansion) Project is currently underway and is expected to be completed by the end of the 2020/2021 fiscal year (BZ4b.9&10)</p> <p>2016: New construction remains in approval stage but construction may not occur until 2017 due to a shortfall in budgets or lack of investment (BZ4b.6).</p> <p>New construction has been approved (BZ4b.4) for a municipal plant in Placencia and will fully meet LBS Class I standards (MOV BZ4b.1 pg. pg. 8 or PDF pg.3) . However, adequate documentation has not been found to verify that it will serve almost 8,000 people (5% coastal population). Work continues including a feasibility study (BZ4b.5) and the government has agreed to hand over management of the water system and sewage system to BWS</p>			

Observations:

Observations:

2020: Two major projects that wait funding security are focused along Abmergirs Caye and Placencia (4b.9&10). A study of the Placencia Lagoon and Sea for the siting of regional wastewater treatment plant and outfall (4b.11).

2016: Although construction was approved and \$25 million BZD was secured for construction, challenges arose from finding an appropriate site for the facility that did not conflict with other users such as the shrimp farmers in the area. Related shortfalls in budget prevented the project from progressing to construction phase. If funds are secured, construction is not expected to begin before 2017(BZ4b.6).

Belize received IDB assistance (BZ4b.4 pg.) to design and install a new sewage treatment facility in Placencia - one of the fastest growing tourist destinations. Funding has been set aside and bid is out for design of plant for Placencia. New construction approved and Terms of Reference require design to "comply with target performance standards in effect in Belize" (which is EPA effluent limit.reg. 2009 - and meets Class I standards)(BZ4b.1). According to the 2010 population census, there are 312,698 people in Belize (see PDF page 43 of document BZ4b.2) with about 45% (or 140,714) along the coast (See page 17 of document BZ3a.11 for an official estimate of the percent of the Belize population that is coastal). Thus 5% of the coastal population is approximately 7,036 people (MOV BZ4b.3.) The feasibility study (BZ4b.5) is used to verify that work progress. Final plans are to be completed by January 2014 at which time

Source:

Document/File name	Date	Institution	Location	
BZ4b.1-PLC Sewage Study TOR	2010	Belize Water and Sewage Ltd.	Belize Water and Sewage Ltd.	2016
BZ4b.2Belize 2010 Census Summary	2010	Statistical Institute of Belize	Statistical Institute of Belize	
BZ4b.3 Belize Coastal Population HRI Calculations		Healthy Reefs	Healthy Reefs	
BZ4b.5 IDB BWS-Placencia Sewage Project Document	2010	IDB	IDB BWS PLC	
BZ4b.5 plj-Sewage-systemFeasibility2-2012-01Jan	2012	BWS	IDB BWS PLC	
BZ4b.6-Channel7_News_Contending_with_Coastal_Sewage_Sep-25-2016	2096	Channel 7 News Belize	Channel 7 News Belize	2020
BZ4b.7-MMM_1995_Sewage System Requirements	1995			
BZ4b.8-BWS-Annual-Report-2018	2018	BWS	BWS	
BZ4b.9-BWS-Annual-Report-2019	2019	BWS	BWS	
BZ4b.10-BWS-AGM-2020	2020	BWS	BWS	
BZ4b.11-2020 - BWS Solutions Presentation - FINAL - Stakeholders	2020	BWS	BWS	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Water Services Limited
Contact:	Dave Pascascio (Operations Manager);
E-mail:	dave.pascascio@bws.com.bz ; keith.hardwick@bws.com.bz ; william.lamb@bws.com.bz

4c

Healthy Reef Initiative

Collection Sheet Ecoaudit 2020 - Belize

Indicator:

	Status:	Final
Name:	Reduce upstream watershed pollution sources (agriculture, livestock, urban/tourism, industrial, rural, deforestation) through better management practices, action plans and regulations in each sector	
Description:	The high level of nutrients, pesticides and other agro-chemicals used can result in pollution downstream. Sewage also contains bacteria and viruses known to harm marine life, including corals. Wastewater(including sewage and industrial effluent) must be treated and controlled to reduce the nutrients and toxins that reach coral reefs.	
Theme:	Theme 4 – Sanitation and Sewage Treatment	

Ranking Criteria:

5 – “Better management practices”, action plans and/or regulations exist and are under implementation, addressing 80% of the pollution sources occurring in the watersheds (agriculture, livestock, urban/tourism, industrial, rural, deforestation -those which occur in an analyzed watershed- not all occur in all watersheds) covering at least 80% of watershed areas, with demonstrated water quality improvements
4- “Better management practices”, action plans and/or regulations exist for at least 4 of the 6 pollution sources (agriculture, livestock, urban/tourism, industrial, rural, deforestation) covering 50% of watershed areas, with some demonstrated water quality improvements
3- “Better management practices”, action plans and regulations exist for at least 2 of the 6 pollution sources (agriculture, livestock, urban/tourism, industrial, rural, deforestation) covering 30% of watershed areas, with some demonstrated water quality monitoring
2- “Better management practices”, action plans and regulations for 1 of the 6 pollution sources (agriculture, livestock, urban/tourism, industrial, rural, deforestation) covering at least 10% of the watershed area
1 – No documentation of actions that meet the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com
Organization:	
Contact:	Ed Boles
E-mail:	bzboles@yahoo.com

Grade:

Grade:	2020: 3-Fair	2016: 2-Poor	2014: 2-Poor	
Result:	<p>2020: Significant work has been made to reduce and monitor industrial and domestic effluent discharge particularly along the New River (BZ4c.7-9). Management plans to address other pollutant sources along the Belize River Watershed (BZ4c.6) has also been released. Effluent Limitation regulations (BZ4c.3&4) outline limits for effluent discharge for Plastics, Garment, Citrus, Fish, Poultry, Shrimp, and sugar processing. satisfying at least 2 of the six watershed pollution sources. Therefore, grading under this theme is now at 3.</p>			

Significant effort has been made in reducing pesticide use and the resulting run-off that likely occurs. All the shrimp farms (6) in 2012 and a large representation of the sugar cane area in northern Belize were involved in this effort using best management practices(4c.1). This watersheds impacted are the North Stann Creek, Stittee River, South Creek and the New River Watersheds and, this represents more than 10 % of the 16 major watersheds(4c.2, pg. 4) in Belize. Added to this are actions being taken to develop master plans for the management of water resources in Belize (3c.1.)

Observations:

Observations:

Stated above, much work and existing regulation addresses the reduction and limitation of upstream wastewater stemming for various sources. Of important note is the work currently being conducted at the New River Watershed and recent exacerbation of pollutant sources due to drought. A task force to address the issue was established and current efforts to actively reduce pollutant sources are being conducted. Two water quality assessments have been conducted on the watershed (4c.8&9). Additionally the recent abridged draft National Agriculture and Food Policy has also outlined steps for collaborative work to improve watershed management (4c.10). Lastly, the Governemnt has passed Envriomental Protection (Pollution from Plastics) Regulations (2020) and has taken initial steps to ban single use-plastics.

The geographic scope of impact of BMP activities is an estimation based on the watersheds associated with the approximated location of program activities known for sugar and banana agricultural location. Note that WWF BMP activities encompassed 51% of the MAR program area (4c.2, pg.2). And the Shrimp farm association was recently certified. This certification requires significant reduction in nutrient output.

Source:

Document/File name	Date	Institution	Location	
4c.1WWF MAR Ag and Env_Final report	2012	World Wildlife Fund	WWF-Belize	
4c.2-Boles_E-BelizeWatershedstatus200X	2009*	The Nature Conservancy	TNC	2016
BZ4c.3-Effluent-Limitations-Amendment-Regu	2009	Department of the	Department of	
BZ4c.4-Effluent-Limitations-Regulations	2003	Department of the	Department of	
BZ4c.5-Environmental Protection (Pollution Fr	2020	Department of the	Department of	
BZ4c.6-Final_BRW Management Plan	2018			
BZ4c.7-Boles 2019 Google Earth Assessment d	2019			
BZ4c.8-New River Watershed Assessment Rep	2017			
BZ4c.9-UF New River Report Final (1) (1)	2019	University of Florida		
BZ4c.10-Abridged-Revised-NAFP-2015-2030	2020	Ministry of Agriculture,	Ministry of	2020

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	Dr. Ed Boles
E-mail:	bzboles@yahoo.com

5a

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Standardized monitoring of coral reef health and information management (regional indicator)	
Description:	This indicator measures the efforts of researchers and managers to standardize monitoring methods, apply them in regular monitoring of representative sites (those selected based on non-biased sampling of different habitat types) and share the information in a publicly accessible and up-to-date database.	
Theme:	Theme 5 – Research, Education and Awareness	

Ranking Criteria:

5 – A regional standardized monitoring program of coral reef health and a database with routine, up-to-date and representative data both exist
 4 – A regional standardized monitoring program exists, and assessments have been performed for representative sites (at least once)
 3 – Representative data have been collected on coral reef health
 2 – Plans to develop a regional standardized monitoring program and database are well underway (draft documents exist)
 1 – No documentation of actions that meet the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 5-Very Good	2016: 5 - Very Good	2014: 4 - Good	2011: 4 - Good
Result	<p>2020:- HRI continues to make reef health data available (15a.12-14), and updating the HRI database (5a.11).</p> <p>2016:- HRI conducted monitoring in 128 and complemented with partner data from another 124 sites. HRI continues to populate the regional database with data it collects and has incorporated data from some partners using MBRS-SMP methodology that is compatible with data collected using AGGRA methods that HRI uses. This data was used to produce the 2015 Report Card of the MAR. The region receives a rank of 5 based on this.</p> <p>2013:-</p> <p>* There are two widely used and officially adopted monitoring protocols in the region (AGRAA & MBRS), these can be considered equivalent for basic monitoring purposes. AGGRA has maintained an online database that has been widely used for over 10 years. However, all of the regions' data are not being shared in one widely available database. HRI's new Reef Health database was launched in August 2013 and is being designed to accept both AGGRA and MBRS monitoring data. The total number of sites being monitored routinely is also less than half the approximately 320 sites needed to be fully representative on the regional scale (BZ5a.1, GU5a.1, MX5a.1, HN5a.1/Table 1/p.4). While we have demonstrated fairly consistent monitoring of some representative sites and some strategically selected sites, we have not yet achieved enough sites on a regular basis to be considered fully representative, thus this indicator ranks as a 4.</p>			

Observations:

Observations:	<p>2020:- HRI continues to make reef health data available via online platforms (5a.16). In addition to this, organizations have recently started identifying, tracking, and treating corals affected by the Stony Coral Tissue Loss Disease (SCTLD). The first sighting of this disease was recorded in June 2019 (5a.17). AGGRA has included a survey form to include sightings of SCTLD and/or Coral Bleaching (5a.16).</p>
----------------------	---

2016:- HRI continues to make reef health data available online via it's geoportal (HN5a.8, BZ5a.8, GU5a.9, MX5a.11). this is facilitated by data is entered in the HRI database (BZ5a.11) that includes some compatible data from partners.

* 2014:- The Atlantic and Gulf Rapid Reef Assessment program (AGRRA) (www.agrra.org-BZ5a.7, GU5a.7, HN5a.7, MX5a.10) maintains an active database of sites throughout the Caribbean, including the MAR, since 1999 (www.agrra.org). The Mesoamerican Barrier Reef System Project (MBRS) (BZ5a.6, GU5a.4, HN5a.6, MX5a.6) once had a functioning database, but this is no longer active. The two protocols are very similar and can be compared for key reef indicators. Conservation entities, as well as HRI have monitored sites using the AGRRA in the MAR region since 2006, creating comparable data. The AGRRA Manual includes a description of the process for selecting 'representative' sites and a suggested number of sites for each country / geomorphologic region in the Caribbean (Table 1/BZ5a.1, GU5a.1, MX5a.1, HN5a.1/p.4). This methodology was used by TNC to select 326 sites across the MAR, surveyed in 2006 and presented in an analyzed format in the 2008 Report Card, which shows all sites in the centerfold map (BZ5a.2, GU5a.2, MX5a.2, HN5a.2/pg 7-8 for map). All of these sites were randomly selected using this methodology in order to assure representativeness (BZ5a.1, GU5a.1, MX5a.1, HN5a.1/Table 1/p.4).

The 2012 Report Card can be found under HN5a.7, GU5a.8, BZ5a.10, MX5a.8 (Pg. 16 & 17). There is also an online map that shows the sites under constant monitoring, for the complete MAR and their values, in both IHRI and SIHRI (HN5a.9, BZ5a.9, GU5a.10, MX5a.12). HRI is refining its online database for entering, graphing and mapping data from both methodologies in one unified system (HN5a.8, BZ5a.8, GU5a.9, MX5a.11 (<http://www.healthyreefs.org/cms/es/geoportal/>)).

Source:

Document/File name	Date	Institution	Location	
BZ5a.1- AGRRA Protocols Version 5.5	Aug-12	AGRRA	AGRRA	2016
BZ5a.2- Report Card for the Mesoamerican Reef 2008	Jun-08	HRI	HRI	
BZ5a.3-Rapid reef assessment to identify resilient sites in the Mesoamerican reef (excerpt)	Jun-11	TNC	TNC	
BZ5a.4- Report Card for the Mesoamerican Reef 2010	Jul-10	HRI	HRI	
BZ5a.5-Data_Mar2012Report Card	Jul-12	HRI	HRI	
BZ5a.6- MBRS Synoptic Monitoring Manual	Nov-02	Mesoamerican Barrier Reef System project Synoptic	Mar Fund or World Bank website	
BZ5a.7-AGRRA Database	Jul-13	AGRRA	AGRRA	
BZ5a.8-Link_HRICREDIA database	2013	CREDIA-HRI-AGRRA	CREDIA-HRI-AGRRA	
BZ5a.9-HRI Interactive Map	2013	HRI	HRI	
BZ5a.10- Report_Card_For_MesoamericanReef_2012	2012	HRI	HRI	
BZ5a.11- HRI Reef Health Database	2014	HRI	HRI	2020
BZ5a.12- Report_Card_For_MesoamericanReef_2015	2015	HRI	HRI	
BZ5a.13-2018-MAR-Report-Card-Web	2018	HRI	HRI	
BZ5a.14-2020_Report_Card_MAR	2020	HRI	HRI	
BZ5a.15-Coral Disease Outbreak - AGRRA	2020	AGRRA	AGRRA	
BZ5a.16-Healthy Reefs Initiative - Mesoamerican Reef Data Explorer	2020	HRI	HRI	
BZ5a.17-Coral Disease Outbreak - Belize - AGRRA	2019	AGRRA	AGRRA	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Economic valuation of coral reefs	
Description:	Economic valuation is a tool that can aid decision-making by quantifying ecosystem services provided by coral reefs in monetary terms. Valuation also provides a tool for evaluating the costs and benefits of management and economic development options, with an emphasis on long-term benefits, which can help avoid short-sighted development.	
Theme:	Theme 5 – Research, Education and Awareness	

Ranking Criteria:

5 – A national valuation of coral reefs or valuation of selected ecosystem services associated with 50% of MPAs has been completed
 4 – A valuation of 2 or more MPAs has been completed
 3 – A valuation of 1 MPA has been completed
 2 – Assessments of coral reef economic contributions are currently being implemented
 1 – No documentation of actions that meet the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com
Organization:	WWF
Contact:	Nadia Bood
E-mail:	nbood@wwfca.org

Grade:

Grade:	2020: 5-Very Good	2016: 5 - Very good	2014: 5 - Very good	2011: 5-Very Good
Result:	2020: Coral reef valuation and report conducted in 2009 remains relevant in 2020.			
	2016: Coral reef valuation was conducted in 2009 remains relevant in 2016.			
	A national valuation of coral reef has been completed for Belize: "Coastal Capital: Belize-The Economic Contribution of Belize's Coral Reefs (2009)" (BZb.1/Methods/p.4)			

Observations:

2020 Eco-Audit Results: Belize

Observations:

The World Resources Institute conducted a study "Coastal Capital: Belize-The Economic Contribution of Belize's Coral Reefs (2009)" (BZb.1/Methods/p.4) that evaluated the average annual contribution of reef- and mangrove-associated tourism, fisheries, and shoreline protection services to the economy of Belize. The Coastal Capital Belize valuation looked at all coral reefs and all mangroves in the country (BZb.1/Key Findings/pg.V and BZb.1/table/pg.7). In particular, WRI evaluated fisheries benefits from all coral reefs, the tourism visitation to all coastal resorts and dive sites, and the shoreline protection provided by any and all coral reefs in the country (BZ5b.1 & BZ5b.2) This was a national level valuation, looking at the current economic contribution of all coral reefs in Belize. This value has been cited extensively in the media by HRI, WRI, WWF and others to support marine conservation.

Source:

Document/File name	Date	Institution	Location	
BZ5b.1-Working Paper-Coastal Capital: Belize-The Economic Contribution of Belize's Coral Reefs	Jan-09	World Resources Institute (WRI)	WRI	2016
BZ5b.2-Summary of Results: Coastal Capital: Belize-The Economic Contribution of Belize's Coral Reefs	Jan-09	World Resources Institute (WRI)	WRI	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	WWF
Contact:	Nadia Bood
E-mail:	nbood@wwfca.org

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Availability of understandable information on reef condition and threats	
Description:	<p>The public dissemination of information on reef condition and threats is essential to build an informed electorate that will support stronger reef protection regulations. This indicator measures the extent of these efforts through various media formats.</p> <p>Due to statistical limitations, we were unable to develop an indicator that specifically gauges impact. We encourage additional effort in this area. See "Data Gaps" on p. 31 (Full EcoAudit Document.)</p>	
Theme:	Theme 5 – Research, Education and Awareness	

Ranking Criteria:

5 – Documents presenting scientific findings on coral reef condition and threats geared toward a general audience are widely available (print, television, social media, radio and online)

4 – Documents presenting scientific findings on coral reef condition and threats geared toward a general audience are generally available (3 from the list above)

3 – Documents presenting scientific findings on coral reef condition and threats geared toward a general audience are available (for at least 1 of the above) and more are being developed (strategic plans or outreach)

2 – Scientific findings have been collated and there are plans to develop accessible products from this information

1 – No documentation of actions that meet the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 5- Very Good	2016: 5 - Very good	2014: 5 - Very good	2011: 5-Very Good
Result:	2020: NGOs continue to engage media to share results of studies, programs and reports. 2016: During the last 2 year, NGO continues to engage media to share results of their studies, programs and reports. Studies and report card results publicized in print, on television, radio, online and through social media.			

Observations:

Observations:	<p>2020: NGOs and other environmental agencies continue to engage the public through the use of various media platforms to present scientific findings and information on reef health. There has been an increase in the use of social media platforms by government (5c.19) and non-government agencies (5c.25). In addition to this, the HRI has consistently released MAR report cards for the region (5c.12-15).</p> <p>2016: Several NGO and HRI partners continue to use various media to present scientific findings and reef and information including Blue Ventures (BZ5c.9) and TIDE create enagement of communities through non-traditional, creative approaches continues to be successful in helping communities understand the threats to MPA's (BZ5c.10) HRI release of the 2015 Report Card this year also contributed to the effort.</p>
----------------------	--

The media in Belize is very open to reporting on reef related topics. The Reef Beat series (produced by Channel 7 and HRI) aired six episodes on the national news in 2010 (BZ5c.4). Several other examples of different media and publication types are noted below (BZ5c.1 (print), BZ5c.2 (television), BZ5c.3 (radio), BZ5c.4 (television), BZ5c.5 (print), BZ5c.6 9 (social media) and BZ5c.7(online/social media), including the 2011 environmental film of the year "Where have our sharks gone?" (5c.8) but there are many readily more available. Most of this outreach is developed by NGOs, and opportunities also exist to have more government and private sector collaboration in media outreach. The Belize Fisheries Department's weekly radio program on fisheries issues (5c.9) is a noteworthy example of government outreach.

Source:

Document/File name	Date	Institution	Location	
BZ5c.1-Fish Fish Fillet-snapper of "kyato"	Jun-11	Amandala Newspaper	Anandala Online	2016
BZ5c.2-Mesoamerican Reef 2010 report; Coral reefs in danger	Nov-10	Channel 5 NewsBelize	Channel5Belize.com	
BZ5c.3-Healthy Reefs Initiative Kicks Off Today	Nov-11	LoveFM Radio News	LoveFM Radio News	
BZ5c.4-Experts Discuss The State Of The Reef	Oct-10	Channel 7 NewsBelize	Channel7	
BZ5c.5-Corals fail to recover at a Caribbean marine reserve (Published)	Oct-11	University of Miami	University of Miami	
BZ5c.6-Healthy Reefs for Healthy People Facebook Page	NA	Facebook	Facebook	
BZ5c.7-Healthy Reefs Channel	May-11	You Tube	You Tube	
BZ5c.8-WCS Where Have Our Sharks Gone?	May-11	You Tube	You Tube	
BZ5c.9 Belize Fisheries Department - Radio Program	May-11	LoveFM Radio News	Love FM	
BZ5c.10_TIDE_Junior Freshwater_Cup	May-15	Toledo Insitute for Development and Technology	Amandala Newspaper	
BZ5c.11_BV_Lionfish_inBelize_LoveFm	Jun-15	Blue Ventures	Blue Ventures	2020
BZ5c.12-2020_Report_Card_MAR	2020	HRI	HRI	
BZ5c.13-Belize_2018_english	2018	HRI	HRI	
BZ5c.14-2018-MAR-Report-Card-Web	2018	HRI	HRI	
BZ5c.15-Launch Report	2020	HRI	HRI	
BZ5c.16-Belize and the Region Tackle the Stony	2019	You Tube	You Tube	
BZ5c.17-Belize's work on King Crabs - YouTube	2020	You Tube	You Tube	
BZ5c.18-Climate-Smarting Marine Protected Areas ar	2020	CZMAI	CZMAI	
BZ5c.19Fisheries Department - Belize _ Facebook	2020	Facebook	Facebook	
BZ5c.20-King Crab's role in our reefs - YouTube	2020	You Tube	You Tube	
BZ5c.21-PKG Stony Coral Tissue Loss Disease - YouTu	2019	You Tube	You Tube	
BZ5c.22-Punta Fuego Celebrates a Successful First Sea	2015	WCS	WCS	
BZ5c.23-Restoring herbivory_ King Crab mariculture p	2020	You Tube	You Tube	
BZ5c.24-Webinar_ Reef healthy and climate change _	2020	You Tube	You Tube	
BZ5c.25-Wildlife Conservation Society- Belize - YouTu	2016	WCS	You Tube	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

5d

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Interdisciplinary partnerships combine social and ecological research for management	
Description:	Humans are an integral part of an ecosystem, with social sciences being increasingly integrated into ecological research. This indicator measures the application of these social-ecological integrated studies to the improved management of coral reefs and coastal zones within the MAR region.	
Theme:	Theme 5 – Research, Education and Awareness	

Ranking Criteria:

5 – Findings of integrated social/ecological research have resulted in significant management action (e.g. a change in legislation) (can include both formal and informal partnerships)
 4 – Two or more formal interdisciplinary partnerships exist, which integrate social and ecological research, and have published results
 3 – One or more informal interdisciplinary partnerships exist, and they are currently implementing joint integrated social/ecological research; or one formal interdisciplinary partnership exists and has published results
 2 – Groups working on integrated social/ecological research have begun to plan joint work (work plans, research proposals or grant applications.)
 1 – No documentation of actions that meets the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 5-Very Good	2016: 5-Very Good	2014: 5-Very Good	Good
Result:	<p>2020:- TASA and reseachers have conducted various research that looked into the social-ecological aspect related to gillnet fishing. Published results (5d.7&8) and strong lobbying with other partnering NGOs have led to legislative change (7d.9) and a ban on gillnets.</p> <p>2016:- WCS and researchers conducted various research work that looked at social as well as ecological aspect of marine resources (Bz5d.6).</p> <p>WCS/EDF and MMAS have established interdisciplinary partnerships that integrate social and ecological research, have published results and have lead to significant management action / changes which continues to be rolled out to the rest of Belize (2d.1, 2d.2).</p>			

Observations:

Observations:

2020: Interdisciplinary studies continue between multiple partnerships with academic, NGO, and government entitites. More recently research and collaboration of the Coalition for Sustainable Fisheries has lead to a recent ban on gillnets under Statutory Instrument 158 of 2020.

2016: Through studies coducted by WCS (Pers.Communication- Alex Tewfik) and collaborative work lead by academic, research insititutions(BZ5d.6) multidisciplinary work continues in Belize.

Observations:

2014: Wildlife Conservation Society (WCS) and Environmental Defense Fund (EDF) developed the "Managed Access Socio Economic Form" (BZ5d.1) as a new socio-economic component of the new licensing process for the new managed access program at Glover's Reef Marine Reserve and the Port of Honduras Marine Reserve (BZ5d.4). The Ministry of Agriculture and Fisheries submitted the "Implementation of Managed Access in the Marine Reserves Network in Belize" to Cabinet (BZ5d.5) in order to approve the use of this new tool in Belize. The existing MPA legislation allows for restricted access, it only required the new managed access program to be designed and implemented. The government commitment is captured in media announcement (BZ5d.4.) which formally initiated the process in June 2011. There is no formal agreement among parties and the collaborative work persist without such agreement. CI's Marine Management Areas Science (MMAS) program includes formal partnership among social and ecological researchers. A list of publications and examples of management products is available at www.sciencetoaction.org (BZ5d.2). The document BZ5d.3 is the formal agreement that describes the work plan for a collaborative study (Marine Management Area Science Program, Center for Applied Biodiversity Science and Conservation International), and the results of these works described the human cultures, cultural contexts, cultural values and cultural roles related to human history, presence and activities in the communities of Placencia, Seine Bight and Sarteneja, as they relate to the use of the Laughing Bird Caye and Gladden Spit Marine Reserves. The results of this project have resulted in changes to marine managed areas (MMA's). First, this project brought the 'socio-cultural reality' of MMA processes to light in the context of the specific locations in Belize and aided the inclusion of the Pelican Cayes "fully-protected" zone within the South Water Caye Marine Reserve in 2009. This project set a precedent for the inclusion of socio-cultural factors into MMA design and implementation, based on primary field data collection.

Source:

Document/File name	Date	Institution	Location	
BZ5d.1 Managed Access Socio Economic Form	Jul-11	Fisheries Department/WCS	Fisheries Department/WCS	2016
BZ5d.2 CI_MMAS_Science-to-Action_People_and_Oceans	Jul-05	CI-MMAS/Multi-Belize partners	People and Oceans Publication	
BZ5d.3-Work Plan: Cultural Roles Related to Marine Management Areas in Belize	Jul-05	CI-MMAS/Multi-Belize partners	Marine Managed Areas: What, why...	
BZ5d.4-Catch shares	Jul-11	Channel 7 News	Channel 7 News	
Bz5d.5-CabinetPaperonManagedAccessMay 11 2011	May-11	Fisheries Department	Fisheries Department	
Bz5d.6-Granados-Dieseldorff, Pablo. The Mutton Snapper (Lutjanus analis) Spawning Aggregation Fishery	2013	Texas A&M University	Texas A&M University	2020
BZ5d.7Gillnet Report -Final	2019	TASA	TASA	
BZ5d.8Gillnet_Report_ Julio Benavides PhD	2019	TASA	TASA	
BZ5d.9Nov-6-Statutory-Instrument-Signed-into-Law-to-Ban-Gill-Nets-from-Marine-Waters	Jul-05	Government of Belize Press Office	Government of Belize Press Office	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

		Status:	Final
Name:	Voluntary eco-standards program for marine recreation providers		
Description:	Marine recreation providers depend on healthy marine ecosystems, especially reefs. Voluntary programs have been developed to help them be better stewards in their use of the reef for recreation. This indicator measures the degree of participation of marine recreation providers in programs that promote environmental sustainability.		
Theme:	Theme 6 – Sustainability in the Private Sector		

Ranking Criteria:

5 – A regional or national voluntary eco-standards program for marine recreation providersexists and more than 50% of all providers are participating
 4 – A regional or national voluntary eco-standards program for marine recreation providers is developed and more than 25% all providers are fully participating
 3 – A regional or national voluntary eco-standards program for marine recreation providers is developed and at least 10% of operators are participating
 2 – There has been some effort to create standards and at least 3-4 marine recreation providers are participating in these efforts (data collection, improved practices or strategic plans)

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com
Organization:	Belize Tourism Industry Association
Contact:	John Burgos
E-mail:	execdirector@BTIA.org

Grade:

Grade:	2020: 2-Poor	2016: 2-Poor	2014: 2-Poor	2011: 3- Fair
Result:	<p>2020:- There has been little action to develop additional voluntary eco-standards for marine recreation providers. Some steps have been taken recently by CORAL to develop Visitor Management Action Plan for Goff's Caye (6a.5). This indicator remains at a score of 2.</p> <p>2016:- Standards for SCUBA diver has been drafted but has not been adopted. This indicators remains at a score of 2.</p> <p>The Coral Reef Alliance (CORAL) has developed a regional voluntary eco-standards, "Voluntary Standards for Marine Recreation in the Mesoamerican Reef System" (BZ6a.1). In Belize, 26 marine recreation operators (BZ6a.2: PDF page 1 & pg.5) out of 238 total tour operators that report doing marine activities (BZ6a.3)(or about 10.9%) are applying the standard and participating in the program in 2009. However, in 2013, there was no documentation that operators continue to comply and maintain those standard and some attrition is expected. As result a score of 2 is given.</p>			

Observations:**Observations:**

2020: Though there has been no completed documentation, CORAL has recently placed a call to collaborate with the CZMAI to develop a Visitor Management Action Plan Report (6a.5). The report will developed aims to highlight good practices and high priority destination risks at Goffs Caye.

2016: The BTB has shared a draft SCUBA diver standards (BZ6a.4) that is expected to adopt many of the eco-standards listed in BZ6a.1 and be consistent with best practices from Certification Brands such as PADI. These standards are expected to be legislated. Diving is a significant part of marine recreation in Belize. Other important stakeholders include hotels (that offer marine recreation packages) boaters, snorkelers and the tour operators and guides. These stakeholders could promote reef management by adopting voluntary eco-standards.

CORAL-Belize reports working with marine recreational providers in San Pedro Town and Placencia to implement their regional voluntary eco-standards (BZ6a.1). There are 26 participants in the CORAL program based on (BZ6a.2) CORALs records, and there are approximately 238 marine recreational providers in Belize (BZ6a.3 for list of recreational providers provided by the Belize Tourist Board - the official licensing agency). The BTB reports that they are in the process of making this voluntary standard, a national one and Belize may see a major improvement in grade soon (Pers. Com. Arneid Thompson, Director of Quality

Source:

Document/File name	Date	Institution	Location	
BZ6a.1-Voluntary Standards for Marine Recreation in the Mesoamerican Reef System	May-07	Coral Reef Alliance (CORAL)	Coral Reef Alliance (CORAL)	2016
BZ6a.2-Participants_in_CORALMarine_eco-recreationProviders_Results	Jul-05	Coral Reef Alliance (CORAL)	San Pedro Town Office, Belize	
BZ6a.3-BTBMarineRecreational Operator Contact and Validity List (October-2011)withHRledits	Jul-05	CORAL Reef Alliance (CORAL)	San Pedro Town Office, Belize	
BZ6a.4-BZ-CP-DPC-5-20XX-Recreational Scuba Diving Services	Aug-14	Belize Tourism Board	Belize Tourism Board	
BZ6a.5-Request-for-Bid-CORAL-Visitor-Management-Belize-1	Jul-05	Coral Reef Alliance (CORAL)	Coral Reef Alliance (CORAL)	2020

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Participation of coastal hotels in eco-certification schemes	
Description:	Several eco-certification programs for coastal hotels have been initiated in the MAR area. If designed and implemented well, these programs have the potential to reduce negative impacts on coastal ecosystems and promote environmental sustainability. This indicator measures the industry's extent of participation in these programs.	
Theme:	Theme 6 – Sustainability in the Private Sector	

Ranking Criteria:

- 5 – Over 25% of coastal hotels participate in one of the recognized eco-certification schemes
 4 – 15 – 24% of hotels participate in eco-certification schemes
 3 – 5 – 14% of hotels participate in eco-certification schemes
 2 – Less than 5% of hotels participate in eco-certification schemes
 1 – No documentation of actions that meet the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com
Organization:	Belize Tourism Industry Association
Contact:	John Burgos
E-mail:	execdirector@btia.org

Grade:

Grade:	2020: 2-Poor	2016: 2- Poor	2014: 2-Poor	Poor
Result:	2020:- 10 hotels and tourism organizations possess eco-certification under Green Globe (BZ6b.2b) and Eco-Tropical Sustainable Tourism (BZ6d.4). The grade remaine at 2. 2016:- 10 hotels and tourism organizations possess eco-certification under Green Globe (BZ6d.2) and Eco-Tropical Sustainable Tourism (BZ6d.4) Eco-certifications programs 2013: The only active certification scheme is Green Globe, which has certified 2 of Belize's 370 ((2/370) X 100) (0.5%) coastal hotels.			

Observations:

2020 Eco-Audit Results: Belize

Observations:

2020:- There has been no documented action that indicates the development of either a national eco-certification or rating scheme for hotels.

2016: Draft of proposed

The BTB reports that they are developing a national rating system for hotels and is considering including criteria that match eco-certification schemes, but this has not been developed as yet. (Pers. Com. Laura Esquivel-Frampton, Director, BTB) .

Source:

Document/File name	Date	Institution	Location	
BZ6b.1-GreenGlobeStandard Criteria and Indicators	2013	Green Globe	Green Globe	2016
BZ6b.2-Green Globe Members (Nov2015)	2015	Green Globe	Green Globe	
BZ6b.3-Coastal Hotels of Belize-August 2012	2012	Belize Tourism Board	Belize Tourism Board	
BZ6b.4-Eco-tropicalRESortsDirectory-Belize2015	2015	Eco-Tropical Resort	Eco-Tropical Resort	
BZ6b.5-Eco Rating at Eco Tropical Resorts, Hotels, and Lodges	2011	Eco-Tropical Resort	Eco-Tropical Resort	
BZ6b.2b-GreenGlobeCertification_2020	2020	Green Globe	Green Globe	2020

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

		Status:	Final
Name:	Adoption of seafood eco labeling programs		
Description:	Several different seafood labeling programs that promote sustainability. The Marine Stewardship Council (MSC) is the most advanced and environmentally robust. Several local eco-labeling efforts also promote sustainable seafood. This indicator measures the effort to develop and adopt these programs in the MAR region.		
Theme:	Theme 6 – Sustainability in the Private Sector		

Ranking Criteria:

- 5 – There exists a national seafood eco-labeling program, and at least one fishery in the country is certified by the MSC
- 4 – There exists a national seafood eco-labeling program (within the MAR region), and at least one fishery has completed a full MSC assessment
- 3 – Better management practices have been developed and agreed upon for the seafood industry, and a lead agency is developing the eco-labeling program
- 2 – Better management practices have been developed, but not agreed upon, or no national lead agency has been identified to develop the eco-labeling program
- 1 – No documentation of actions that meet the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 2-Poor	2016: 2-Poor	2014: 2-Poor	Poor
Result:	<p>2020:- There are no eco-certification schemes applied on the national level for wildcaught fisheries. Two local programs have been identified for seafood ecolabelling however, both are pilot projects on a small-scale level. Grade remains at 2.</p> <p>2016:- There has been eco-certification of wildcaught fisheries. The Shrimp Growers Association has been successful in certifying their Shrimp produced from aquaculture production by the Aquaculture Stewardship Council.</p> <p>No evidence has been presented that eco-labeling program exists, although Better Management Practices (BMPs) have been developed and incorporated into legislation in Belize (e.g. size limits, gear restrictions, complete ban on bottom trawling). There is no agreed upon lead agency to manage the eco-labeling program.</p>			

Observations:**Observations:**

2020: Two programs have been identified in the local seafood production sector. 1) The Fish Right Eat Right Program is a market based incentive program designed to promote best practices in wild caught fisheries. This is a consumer based driven and the program targets restaurants and hotels in the local certification scheme (6c.6). 2) The National Fishermen Cooperative has recently implemented a pilot project in traceability (6c.7). This is in conjunction with TNC. The pilot project is currently being tested in hopes of a rollout for queen conch and other seafood products of the cooperative. Both projects are still in the initial piloting phase and none have been fully scaled up to a national level. Lastly, the recent release of the Oceans Economy and Trade Strategy (6c.8) outlines actions to promote ecolabelling and certification schemes in the seafood processing sector. Both programs have been highlighted as potential scale-up activities at the national level.

2016: The Shrimp Growers Association has been successful in certifying their shrimp produced from aquaculture production by the Aquaculture Stewardship Council (BZ6c.4). This includes 90% of shrimp produced in Belize and is a major achievement for Belize in reducing outputs into coastal waters.

No evidence has been presented that eco-labeling program exists, although Better Management Practices have been developed (BZ6c.1) and incorporated into legislation in Belize (e.g. size limits, gear restrictions, ban on trawling). See Section 7.0 (p.42) in BZ6c.3 for examples of fishery policy that has been informed by BMPs. MMAS/HRI produced a seafood guide pocket card for restaurants to promote adherence to closed seasons and size limits and protected marine life (BZ6c.2). The Belize Tourism Board reported an interest and was well-received as an official lead agency in developing such a scheme, but no program has formally been initiated.

Source:

Document/File name	Date	Institution	Location	
BZ6c.1-BMPmarine_guide_english (Pg 12 focuses on BMP's for Seafood consumption)	2006	CORAL	CORAL	2016
BZ6c.2-Science2Action_Seafood Guide	2010	Science to Action (MMAS/CI/HRI)	Science to Action	
BZ6c.3-The National Food and Agriculture Policy (2002-2020)	Apr-03	Ministry of Agriculture & Fisheries	Ministry of Agriculture & Fisheries	
BZ6c.4-ASC Press_Belize-Shrimp-Grower-Association	Apr-15	Aquaculture Stewardship Council	Aquaculture Stewardship Council	
BZ6c.5-Sustainable-shrimp-gain-for--priority-reef(Webpage)	Nov-15	WWF	WWF	
BZ6c.6-FRER_one page summary	2020	Oceana	Oceana	2020
BZ6c.7- ThisFish-casestudy-NFC-print	2019	National Fishermen Cooperative Society	National Fishermen Cooperative Society	
BZ6c.8- Belize Oceans Economy and Trade Strategy 2020	2020	Belize Fisheries Department	UNCTAD	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Government incentives for conservation and sustainable businesses	
Description:	Government tax and other incentives can provide an important stimulus for the private sector to adopt environmentally friendly practices and technologies. This indicator measures the degree to which each government in the MAR area has applied such incentives for conservation.	
Theme:	Theme 6 – Sustainability in the Private Sector	

Ranking Criteria:

5 – The national or provincial government provides incentives for four of the following: improvements in energy efficiency, improvements in the treatment of wastewater, reductions in waste production or recycling, alternative energy options, the adoption of four-stroke outboard engines, and land tax incentives for conservation

4 – Governments offer incentives for at least three of the above

3 – Governments offer incentives for at least two of the above

2 – Governments offer incentives for at least one of the above

1 – No government incentives were identified

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 1-Very Poor	2016: 1-Very Poor	2014: 1- Very Poor	Very Poor
Result:	2020:- No direct documented action that meets any of the four incentives listed. Grade remains at 1.			
	2016:- No documented action that meets the criteria to achieve a higher score. No evidence for any of the listed tax incentives for Belize.			
	No documented action that meets the criteria to achieve a higher score. No evidence for any of the listed tax incentives for Belize.			

Observations:

Observations:

2020:- BELTRAIDE has a number of investment programs for the development of small businesses in Belize (6d.3). A criterion for tax incentives is included in the description: "Preserve and possibly enhance the environment and respect the cultural heritage of Belize."; however, there are no direct tax incentives or other incentive programs directly linked to the adoption of environmentally friendly practices. Additionally, in 2019, the Directorate General for Foreign Trade released its National Trade Policy where policy objectives included: "To foster coherence between trade and environmental policies towards achieving sustainable development." . Policy prescriptions also listed included the promoting of sustainable agriculture, reviewing tariff and non-tariff measures to promote eco-friendly economic activities, and participating in international fora supporting environmentally-conscious trade development (6d.4 See page 57-58)

2016:- Within National Energy Policy Framework for Belize (BZ6d.2) economic incentives along with technical and

Key contact, Lejia M. Gideon, Deputy Executive Director, Belize Trade & Investment Development Service, was also asked to identify environmental incentives, but no incentives could be identified. These contacts included (in-person conversation on October 15, 2013).

Source:

Document/File name	Date	Institution	Location	
BZ6d.1-Personal Communication-Fwd_economic incentives2013	Oct-13	HRI	HRI	2016
BZ6d.2EnergyPolicyFramework(Belize)	Jul-12	Government of Belize-	Government of Belize-	
BZ6d.3-Investment Incentives - BELTRAIDE	2019	BELTRAIDE	BELTRAIDE	2020
BZ6d.3-National-Trade-Policy-2019-2030	2019	Directorate General for Foreign Trade Belize (DGFT)	DGFT	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Private sector assistance to MPAs	
Description:	Incorporating private sector assistance for local MPAs is an important component in their sustained success. This indicator assesses the degree of local business assistance as reported by MPA managers. Private sector assistance is evaluated based on the existence of financial, in-kind, or technical assistance.	
Theme:	Theme 6 – Sustainability in the Private Sector	

Ranking Criteria:

- 5 – At least 50% of marine protected areas have high levels of private sector support
- 4 – At least 50% of marine protected areas have at least moderate private sector support and at least 25% have high private sector support
- 3 – At least 50% of marine protected areas have at least moderate private sector support
- 2 – At least 50% of marine protected areas have at least low private sector support
- 1 – At least 50% of marine protected areas have at least no private sector support

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 3-Fair	2016: 2- Poor	2014: 2-Poor	Poor
Result:	<p>2020:- Based on the results from MPA management survey (BZ6e.2), 53% of MPA's received at least a morderate level of private sector assistance. This score has increase to grade 3.</p> <p>2016:- Based on results from MPA management surveys(BZ6e.1), 29% of MPA's received at least moderate private sector support. This indicators score remains at 2.</p> <p>Each MPA was ranked individually by its managing agency during the Belize Eco Audit national workshop (Belize City at the HRI Office September 14); (BZ1d.15). Based on results (BZ6e.1) overall, 72% of Belize's MPAs receive low private sector support (This includes 28% moderate + 44% low + 0% high) and thus, ranks 2. This has not changed since last data collection.</p>			

Observations:

Observations:	<p>2020:- Results from survey of MPA organizations (6e.2) showed an increase in assistance from private sector. Only 6% of MPAs indicated a high level of support from the private sector while 12% indicated none. It must also be noted that MPA organizations indicated a decrease of private sector assistance since the COVID-19 pandemic. This is directly linked to the sharp decline of tourism activity.</p>
----------------------	--

2020 Eco-Audit Results: Belize

2016:- Results from survey of MPA management organization showed that 29 % of MPA's received at least moderate support from the Private Sector. No MPA received high levels of support; 47 % received low level of support and 24 % received no assistance. Examples of private sector assistance stated by

This information was taken from the Belize Eco Audit national workshop (Belize City at the HRI Office September 14, 2011) (BZ1d.15). The results of this workshop (BZ6e.1) showed that a majority of Belize's MPAs receive low private sector assistance (44%), while 28% MPAs receive moderate assistance, 28% reported receiving no private sector assistance, and 6% received high level of assistance. Several notable examples of private sector assistance include the Hol Chan Marine Reserve, which receives support from dive centers, including tanks and maintenance of moorings. Glover's Reef MPA receives logistical and enforcement support from private resorts. South Water Caye Reserve has an advisory committee, which is private sector based, and serves the role as management support for the Fisheries Department.

Source:

Document/File name	Date	Institution	Location	
BZ6e.1-MPA Original Data Collection	17-Nov-15	HRI	HRI	2016
Z6e.2-MPA_Original Data Collection_Belize_202	2020	HRI	HRI	2020

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	Belize Fisheries Department
Contact:	Adriel Castaneda/ Alicia Eck
E-mail:	alicia.nunez@fisheries.gov.bz

Healthy Reef Initiative Collection Sheet Eco-Audit 2020 - Belize

Indicator:

	Status:	Final
Name:	Mapping of potentially resilient reefs to warming seas / coral bleaching (regional indicator)	
Description:	Corals are highly sensitive to changes in temperature, resulting in bleaching. However, some species appear to be more tolerant, and some individual corals appear better adapted as a result of past exposure to stresses. Reefs that are better suited to avoid or tolerate bleaching are termed "resistant." Reefs that are affected but then recover to their original state are termed "resilient." Factors that appear to improve the resilience of a coral reef include minimizing local stressors, maintaining good connectivity to unimpacted or resistant reef areas, and enabling coral larvae to move in and establish the coral population. This indicator measures the extent to which a regionally accepted map of potentially resilient reefs has been adopted and utilized in the region.	
Theme:	Theme 7 – Global Issues	

Ranking Criteria:

5 – Existence of an accepted regional map that identifies reefs most likely to be resilient and is integrated into two national level plans and into at least 50% of MPA plans in those countries
 4 – Existence of an accepted regional map that identifies reefs most likely to be resilient and is integrated into at least one national level plan and into at least 25% of MPAs in that country
 3 – Existence of a draft MAR regional map of reef resilience using a regionally accepted method and is under review
 2 – National work to develop regionally standardized resilience indicators is underway (data have been collected to identify resilient sites) and has been applied to create a regional map
 1 – No documented action that meets the criteria to achieve a higher score is available

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 2-Poor	2016: 2-Poor	2014: 2-Poor	2011: 2-Poor
Result:	2020:- No additional work has been done in this theme.			
	2016:- No additional work has been done for the region.			
	A draft regional map has been developed by TNC (2008/09)			

Observations:

Observations:

This work has stalled in last year or two. A map was produced from the same TNC/WWF/HRI data that was used in the 2008 HRI Report Card (BZ7a.1 & BZ7a.2/p.2). It combines several indicators into an index of resiliency, similar to the index of reef health - although the results were somewhat different. There were questions about the indicators and ranges used, but the discussion/review was never completed. The draft map exists, as does the DRAFT report (Rapid Reef Assessment to Identify Resilient Sites in the Mesoamerican Reef (2009) detailing the indicators, ranges and justifications (BZ7a.3, Only document front cover provided, since document not available for distribution). The report and map identify potentially bleaching resilient and resistant reefs in the region by examining factors such as live coral cover, coral colony size and age, abundance of bleaching resistant species, reefs that survived previous bleaching events, and areas with strong recruitment. The other elements of this project (connectivity and effective management) were not identified.

Additionally, there is the "Coral Bleaching Early Warning Alert System"(BZ7a.4), which solicits volunteers with the Coral Watch Program and Adopt A Reef to submit reports once a month for the sites they visit. These reports are monitored by ECOMAR and members of the Belize National Coral Reef Monitoring Network. When these reports indicate that there are partly bleached coral colonies, Coral Network members conduct scientific monitoring at more than 50 sites throughout Belize.

Source:

Document/File name	Date	Institution	Location	
BZ7a.1-Map potential resilient sites_MAR	2008	TNC	TNC	2016
BZ7a.2-Member's report on activities to ICRI Presented by The Nature Conservancy Reporting period January 2008 – December 2009	2008-9	TNC	TNC	
BZ7a.3-Rapid Reef Assessment to identify resilient sites in the Mesoamerican reef (report cover only - draft document)	2009	TNC	TNC	
BZ7a.4-ECOMAR-Coral Watch Program	NA	ECOMAR	ECOMAR	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative

Collection Sheet Eco-Audit 2020 - Belize

Indicator:

		Status:	Final
Name:	Engagement in international/regional treaties that support conservation		
Description:	The following international treaties and conventions address solutions to issues relevant to marine conservation in the MAR area. This indicator measures the number of ratifications for these treaties.		
Theme:	Theme 7 – Global Issues		

Ranking Criteria:

5 – At least 95% and higher score
 4 – Score of at least 85%
 3 – Score of at least 75%
 2 – Score of at least 65%
 1 – Score less than 64%

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 5-Very Good	2016: 5-Very Good	2015: 5-Very Good	Good
Result:	2020: No changes since last Eco Audit. Belize has ratified all nine treaties described in Table BZ7b.1, for a score of $9/9 \times 100 = 100\% = \text{GRADE 5}$			
	Belize has ratified all nine treaties described in Table BZ7b.1, for a score of $9/9 \times 100 = 100\% = \text{GRADE 5}$			

Observations:

Observations:	Belize has fully Ratified all nine treaties listed as important to marine conservation. These are provided in Table BZ7b.1 and described in the documentation below for each convention. Belize has ratified the United Nations Convention on the Law of the Sea (BZ7b.2), Convention For The Protection And Development Of The Marine Environment Of The Wider Caribbean Region(BZ7b.3), Oil Spills Protocol (BZ7b.10), the SPAW Protocol (BZ7b.4), the LBS Protocol (BZ7b.5), the RAMSAR Convention (BZ7b.6), the UNFCCC (BZ7b.7), the Convention on Biological Diversity (BZ7b.8) & the CITES Convention (BZ7b.9).
---------------	---

Source:

Document/File name	Date	Institution	Location	
BZ7b.1 Country Comparisons-International Treaties Most Relevant to Reef Management	Oct-11	Healthy Reefs Initiative	Healthy Reefs Initiative	2016
BZ7b.2-Status of the United Nations Convention on the Law of the Sea	Sep-11	United Nations Convention on the Law of the Sea	United Nations Convention on the Law of the Sea	
BZ7b.3-Convention For The Protection And Development Of The Marine Environment Of The Wider Caribbean Region	Jun-05	Caribbean Environment Programme	Caribbean Environment Programme	
BZ7b.4-SPAW Ratification Map	Jun-00	Caribbean Environment Programme	Caribbean Environment Programme	

2020 Eco-Audit Results: Belize

BZ7b.5-LBS Protocol Ratification Map	Oct-10	Caribbean Environment Programme	Caribbean Environment Programme	
BZ7b.6-RAMSAR Ratification List	Feb-71	Ramsar	Ramsar	
BZ7b.7-UNFCC Ratification List	Mar-94	UNFCC	UNFCC	
BZ7b.8-Convention on Biological Diversity Ratification List	Sep-03	CBD	CBD	
BZ7b.9- CITES Ratification List	Jul-74	CITES	CITES	
BZ7b.10-Oil Spills Protocol	Jun-05	Caribbean Environment Programme	Caribbean Environment Programme	

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	

Healthy Reef Initiative
Collection Sheet Ecoaudit 2020 - Belize

Indicator:

	Status:	Final
Name:	Adopt and expand a reward system for carbon sequestration and encourage a reduction in hydrocarbon extraction and dependency while promoting the use of alternative renewable energy sources.	
Description:	Justification-As human populations grow, so do the resource demands imposed on ecosystems. The environmental impacts of anthropogenic actions, which are processes or materials derived from human activities, are becoming more apparent. This indicator measures the application and progress of an incentive program of ecosystem services for carbon sequestration.	
Theme:	Theme 7 – Global Issues	

Ranking Criteria:

5 – An incentive program of ecosystem services for carbon sequestration exists with 10% of the MAR land area
4 – An incentive program of ecosystem services for carbon sequestration exists and it's being implemented within the MAR land area
3 – An incentive program of ecosystem services for carbon sequestration does exist but is not being applied
2 – There are plans to develop an incentive program of ecosystem services for carbon sequestration

Responsible:

Organization:	Healthy Reefs Initiative
Contact:	Nicole Craig
E-mail:	craig@healthyreefs.org
Organization:	HRI Consultant
Contact:	Kalene Eck
E-mail:	kaleneeck@gmail.com

Grade:

Grade:	2020: 4-Good	2016: 4-Good	2014: 4-Good	2011: 4-Good
Result:	<p>2020: An addition of 8,432 ha of forest within the MAR region has been added to the current carbon sequestration program. Therefore a total of 26,275ha is currently involved in the carbon sequestration program. The score remains at a 4.</p> <p>2016: there has been no expansion in area of forest within the MAR eco-region of Belize is currently involved in a carbon sequestration program. Score remains at 4.</p> <p>A total of 17,843 ha. of forest within the MAR eco-region of Belize is currently involved in a carbon sequestration program. This represents .000007 % of the area of Belize (22,960 Km sq.).</p>			

Observations:**Observations:**

An additional project has been added to the Voluntary Carbons Standards Program- Laguna Seca Forest Carbon Project (8,432ha)(7c.5). Additional research has been conducted in the valuation of mangrove and seagrass as potential carbon sequestration projects for the Turneffe Atoll Marine Reserve (7c.6). Additionally, in May 2019, Belize has announced the launch for the REDD+ Preparedness Project (7c.8) which seeks to reduce carbon dioxide emissions through a long-term forest based initiative. Through the preparedness project, the development of the Forest Reference Emission Level (FREL) for Belize (7c.7) was completed.

There are 3 projects in Belize that are part of a Voluntary Carbon Standards Program including Bodden Creek Ecological Preserve Forest Carbon project (3,980 ha.), the Bull Run Project (567.3 ha.) and the Rio Bravo Project (6,296 ha). Rio Bravo also manages an additional 7,000 ha approx. that did not qualify under the VCS program but continues to be managed for GHG. emission reduction by PFB

Source:

Document/File name	Date	Institution	Location	
7.c.1- PROJ_DESC_647_15JUN2011BoddenCreek	2011	Voluntary Carbon Offsets	Voluntary Carbon Offsets	2016
7c.2-PROJ_DESC_812_14MAR2012BullRun	2011	Voluntary Carbon Offsets	Voluntary Carbon Offsets	
7c.3-PROJ_DESC_852_01DEC2011RioBravo	2010	Voluntary Carbon Offsets	Voluntary Carbon Offsets	
7c.4-belizeCarbonseq1995report2	1995	Programme for Belize	Programme for Belize	
7c.5-Laguna Seca VCS CCB Project Description V	2016	Voluntary Carbon Offsets	Voluntary Carbon	2020
7c.6-Turneffe Atoll Blue Carbon 2018- 10-30-18	2018	TASA	TASA	
7c.7-belize_frel_final__report__2001-	2020	Ministry of Agriculture, F	UNFCCC	
7c.8-REDD+ Belize Launch	2019			

Approval:

Organization:	Healthy Reefs Initiative
Contact:	Melanie McField
E-mail:	mcfield@healthyreefs.org
Organization:	
Contact:	
E-mail:	